Maria BOȘTENARU DAN

The dual element water and the inclusion in architectural programs in the first half of the 20th century

Study on Rome, the relationship with the Romanian School in Rome, integrating the work of Richard Bordenache

Editura universitară „Ion Mincu”
București, 2024

Financial support for the printing and updating of the research has been granted under the project "Future on the past - From early 20th century architecture photography collection to database: digital humanities applied to investigate local seismic, flood, fire culture". This project was funded by the Executive Unit for the Financing of Higher Education, Research, Development and Innovation (UEFISCDI), following the PCE - Exploratory Research Projects 2021 competition, through PNCDI III, sub-program P4 Fundamental and Frontier Research, Funding Contract No. PN-III-P4-PCE-2021-0609.

Cover: Maria BOSTENARU DAN, Mara POPESCU, Roland VASILIU

Descrierea CIP a Bibliotecii Naţionale a României
BOŞTENARU DAN, MARIA
The dual element water and the inclusion in architectural programs in the first half of the 20th century : study on Rome, the relationship with the Romanian School in Rome, integrating the work of Richard Bordenache / Maria Boştenaru Dan. - Bucureşti : Editura Universitară "Ion Mincu", 2024

ISBN 978-606-638-355-4

72

Financial support for the printing and updating of the research has been granted under the project "Future on the past - From early 20th century architecture photography collection to database: digital humanities applied to investigate local seismic, flood, fire culture". This project was funded by the Executive Unit for the Financing of Higher Education, Research, Development and Innovation (UEFISCDI), following the PCE - Exploratory Research Projects 2021 competition, through PNCDI III, sub-program P4 Fundamental and Frontier Research, Funding Contract No. PN-III-P4-PCE-2021-0609.

Cover: Maria BOSTENARU DAN, Mara POPESCU, Roland VASILIU

Descrierea CIP a Bibliotecii Naţionale a României
BOŞTENARU DAN, MARIA
The dual element water and the inclusion in architectural programs in the first half of the 20th century : study on Rome, the relationship with the Romanian School in Rome, integrating the work of Richard Bordenache / Maria Boştenaru Dan. - Bucureşti : Editura Universitară "Ion Mincu", 2024

ISBN 978-606-638-355-4

72

To my beloved mother,
Magdalena Maria Boștenaru-Dan

Cuprins

Acknowledgements

I started the present work as a Vasile Pârvan Fellow at the Romanian School in Rome. I wanted this fellowship also because my doctoral research in architecture, carried out after two Marie Curie fellowships at the Istituto Universitario di Studi Superiori di Pavia, in Italy, and partly overlapped with a Marie Curie reintegration grant in Romania, was on interwar architecture in Romania and Italy. In this context I came into contact with the architecture of Richard Bordenache, a former Vasile Pârvan Fellow, and I wanted to be a fellow myself. I was not a little surprised to find the nephew of architect Richard Bordenache in Karlsruhe, where I obtained my Diplom degree (an integrated master's degree). Towards the end of the Marie Curie reintegration grant, I was co-opted to lead the m-WiSET (mobile Women in Science, Engineering, Technology) group of the Marie Curie Fellows Association. This started my research on inclusion, but my concerns were not confined to the contemporary period, and since our approach was to find role models, I extended the research in my own field of architecture to include pioneering women. The period of women entering the architectural profession coincided with this period, the first half of the last century. I'm now a principal investigator and I'm working again on the first half of the 20th century and disasters, and, one of the case studies in the project being Rome, I'm deepening the theme. My thanks go to my Marie Curie fellowship mentors: Prof. Gian Michele Calvi and Prof. Rui Pinho, the mentors in Italy, where this year we are celebrating the 10th anniversary of the Marie Curie Alumni Association, to the director of the Romanian School in Rome: Prof. Mihai Bărbulescu and to my PhD and postdoctoral mentor in Rome: Prof. Cristina Olga Gociman. Thanks to UEFISCDI for the opportunity to lead a team on a major project, *Future on The Past. From early 20th century architecture photography collection to database: digital humanities applied to investigate local seismic, flood, fire culture*, funded by the PCE competition - Exploratory Research Projects 2021, through PNCDI III, sub- program P4 Fundamental and Frontier Research, grant no. PN-III-P4-PCE- 2021-0609, and the team.

Foreword

"The dual element water and the inclusion in architectural programs in the first half of the 20th century. Study on Rome, the relationship with the Romanian School in Rome, integrating the work of Richard Bordenache", written by Maria Boștenaru Dan, is a remarkable contribution to the understanding of modern architecture through an interdisciplinary approach. This complex volume analyzes the cultural, social and natural influences on the development of European architecture, emphasizing the formative role of Rome and the Romanian School of Rome in shaping innovative directions in Romanian architecture. The volume also explores the impact of water as a natural and cultural element, as well as the challenges and contributions of women in architecture, highlighting the intersections between architecture, the environment and gender issues.

In the first part of the volume, Maria Boștenaru Dan sets the theoretical foundation of her research, emphasizing the relevance of the thematic area. Rome, known for its vast and influential architectural heritage, has been a center of training and inspiration for elites from all over the world, especially in the first half of the 20th century when it was striving to become a cultural center of the world by opening foreign institutes and academies. In this context, the Romanian School in Rome, founded on the initiative of Nicolae Iorga and the historian Vasile Pârvan in 1922, played an essential role in the formation of a generation of architects who contributed significantly to defining the modern architectural landscape in Romania. Thus the best graduates of the school of architecture in inter-war Romania, with the recommendation of the Historical Monuments Commission, had the opportunity to study in Rome for two years and then, after completing their studies in the Eternal City, to return to the country to contribute to the development of Romanian architecture.

As Maria Boștenaru Dan argues, Rome's influences were more than aesthetic; they were profoundly formative, allowing Romanian architects to develop a

vision that combined classical tradition with modernist innovation. At the same time the author aims to explore how this cultural and academic environment influenced the architectural thinking and practice of Romanian architects, with a particular focus on the contributions of Richard Bordenache. As a member of the Romanian School in Rome between 1931-1933, when the Romanian palace designed by the architect Petre Antonescu was inaugurated to house the members of the Romanian School in Rome, he became a promoter of the synthesis between Roman classical influences and modernist tendencies, thus contributing to the enrichment of the Romanian architectural heritage. Bordenache certainly remained influenced by the Roman architectural heritage, integrating classical and modern elements in his works. Finding himself in Rome at the very time when the last finishing touches were being made to the Romanian palace in Valle Giulia, the few archival documents relating to his stay show that he was professionally involved in the construction work. Certainly, his later restoration projects, such as that of the Romanian Peasant Museum, reflect a subtle synthesis between respect for Romanian architectural tradition and openness to modernist innovations. In this context, Maria Boștenaru Dan emphasizes how Rome served as a wellspring of ideas, where tradition and modernity were intertwined in a unique way, decisively influencing the careers of Romanian architects who benefited from a stay in the Eternal City.

Maria also emphasizes the role of Rome as a place of cultural and academic interaction, where Romanian architects had the opportunity to come into contact with fellows from other Academies and to draw inspiration from various architectural trends and tendencies in the capital of the Italian peninsula. The experience within the Romanian School in Rome was certainly essential for the development of a global architectural vision, which allowed Romanian architects to align themselves with the architectural trends of the world.

The main themes of the present volume are thus identified: the influence of Rome on Romanian architecture, the role of water as a dual element and the integration of gender issues in architectural programs. Each of these themes

is explored through a rigorous methodology that combines historical and cultural analysis with case studies and theoretical reflection.

The Werkbund Neighborhoods, presented as a forerunner of the Bauhaus, is an example of the analysis of cultural and artistic influences on modern architecture. This section highlights how architectural ideas and practices developed in Germany influenced the development of European architecture, including Romania. Through these neighborhoods, the author highlights the importance of the international context in shaping the national architectural identity.

Another important aspect of the research is gender issues in architecture, where Maria Boștenaru Dan explores the contributions of women architects in the interwar period. This analysis brings to the fore the challenges women faced in this male-dominated field, as well as the ways in which they were able to contribute to the development of modern architecture. The author emphasizes the importance of recognizing women in architecture and valuing their contributions. This analysis is contextualized within the broader framework of feminist movements and contemporary discussions on gender and inclusion.

The author emphasizes the importance of recognizing the contributions of women architects and the need to include a gender perspective in architectural studies. Through case studies and detailed analysis, Boștenaru Dan brings to the forefront the achievements of women in architecture, whether as patrons, designers, researchers or users.

The exhibition "Building on the Past: Romanian Women Pioneers in Architecture", organized in London in 2019, brought to public attention the significant contributions of women in Romanian architecture. This section of the book offers a critical perspective on how women have been marginalized in the history of architecture and highlights the importance of including this perspective in future research. The author argues that recognizing and valuing women's contributions is essential for a full understanding of architectural history and for promoting inclusive and equitable architectural practice.

The methodology used in this book is interdisciplinary, combining approaches from architectural history, cultural studies, gender studies and ecology. Maria Boștenaru Dan uses a wide range of sources, from archival documents to architectural project analysis and theoretical studies. This methodological diversity allows for a deep and nuanced exploration of the themes addressed, highlighting the complexity of the interactions between architecture, culture and environment.

Another important chapter of the book explores the role of water as a dual element in architecture, analyzing both aspects related to water as a source of danger (floods, erosion, climate change) and those related to water as cultural heritage (waterscapes, thermal baths, fountains). Maria Boștenaru Dan uses an ecological approach to explore these themes, emphasizing the importance of water in shaping urban and rural landscapes and in preserving architectural heritage. Through case studies, the author examines how architects have addressed water-related challenges, proposing innovative solutions for managing risks and capitalizing on the aesthetic and cultural potential of water. For example, the workshop "Water as hazard and water as heritage", organized at the Accademia di Romania in 2016, reflects contemporary concerns about climate change and natural resource management, highlighting the relevance of this theme for modern architecture. This part also highlights how water has been integrated into architectural programs and restoration and conservation projects. This holistic approach allows a deeper understanding of how natural elements can be used to enrich the architectural experience and contribute to the sustainability and resilience of the built environment.

The chapter on natural and man-made risks addresses the challenges of climate change, natural disasters and the impact of human activities on the built environment. Boștenaru Dan explores how architecture can respond to these challenges, proposing sustainable and resilient solutions for managing risks and protecting architectural heritage. The themes to be investigated on gender in climate change and anthropogenic hazards are thus raised, emphasizing the importance of integrating these issues into architectural research and practice. Also, the workshop "Water as hazard and water as heritage" is used as an example of an interdisciplinary approach to these themes, reflecting

contemporary concerns about the impact of water on architecture and the environment.

It emphasizes the importance of the origins of the European Union and free movement for the development of architecture and for promoting international collaboration in this field. The author also explores the place of architectural research and design for inclusion in the European Union's research and innovation programs, emphasizing the importance of these initiatives for promoting sustainable and inclusive architecture.

" The dual element water and the inclusion in architectural programs in the first half of the 20th century. Study on Rome, the relationship with the Romanian School in Rome, integrating the work of Richard Bordenache" is an essential contribution to the literature, offering a complex and nuanced analysis of the cultural, social and natural influences on modern architecture. Through her interdisciplinary approach, Maria Boștenaru Dan succeeds in highlighting the intersections between architecture, culture, gender and the environment, offering a comprehensive perspective on how these themes have shaped and continue to shape the contemporary architectural landscape.

Târgu Mureș, August 2024
Dr. Roxana Mihaly
"Gheorghe Şincai" Institute of Socio-Human Research in Târgu Mureş

Preface

I had the pleasure to work with Mrs. Maria Bostenaru Dan as a scientific researcher at the Department of History and Theory of Architecture & Heritage Conservation of the University of Architecture "Ion Mincu" in Bucharest, where I organized and catalogued, together with her and a group of young teachers, the Alexandru Tzigara-Samurcaș Archive. Later we both followed the path of the "Romanian School in Rome", known as the "Accademia di Romania", a place full of history and ideal for discussing academic issues. Mrs. Boștenaru focused on the research of a vital element in human culture and existence, that of water, and its dual manifestation, on the one hand as a danger and on the other as heritage. The theme, full of valences, was widely appreciated and was also presented and analyzed during an event hosted by the Accademia, organized by Mrs. Boștenaru, in which Romanian and foreign researchers, including myself, took the floor.

The role of water in academia illustrates a profound duality, reflecting its capacity to be both a source of disaster and a repository of cultural heritage. On the one hand, water manifests itself as a powerful force capable of triggering natural disasters with devastating consequences. Floods, hurricanes, droughts and water-borne diseases are among the many calamities associated with water (or the lack of it). Researchers are exploring our understanding of these disasters, their origins, impacts and mitigation strategies. In addition, the threat of sea-level rise due to climate change emphasizes the destructive potential of water, particularly in low-lying coastal areas. As a research topic, water as a source of disasters urges us to address urgent issues of resilience and adaptation in the face of these ever imminent threats.

At the same time, water reveals itself as an invaluable cultural and historical heritage that enriches human existence. The significance of water in cultural traditions and rituals is undeniable and often plays a central role in the identity and heritage of diverse communities. The study of the cultural significance

of water in academia helps to illuminate the intricate ways in which societies have forged links with this vital element for life. Moreover, the historical relevance of water becomes evident in its influence on human settlement patterns and trade routes. Archaeologists and historians, through their research, reveal the profound impact of water on the rise and fall of civilizations, the development of cultures and the preservation of historical records. The conservation of aquatic ecosystems and rich biodiversity further emphasizes the role of water as a heritage to be protected and cherished. In Romania, for example, the Danube is an example that serves as a source of disaster and cultural heritage. The Danube can cause devastating floods in certain areas, causing significant material damage. However, the Danube also has significant cultural importance in the country. The river has been a source of inspiration for literature, music and art. It has also been used for transportation and trade throughout Romania's history. The Danube is therefore not only a source of periodic threat, but also a vital element of Romania's cultural identity and historical heritage. These examples emphasize the complexity of how water influences societies and sustains its duality in contemporary academia. Ms. Boștenaru's theme is complex and relevant to the field of innovative research. Besides the duality of water, Ms. Boștenaru also looks at the role of women, in particular how women take different positions in the decision-making process when preventing or reconstituting water issues in the Romanian and Italian contexts.

Providence, in October 2023
Ciprian Buzilă, PhD in history of architecture
James Madison University

1 Introduction

Women are a vulnerable social group when it comes to safety from disasters, including floods. For this reason, their way of life has been taken into account when designing measures for prevention or reconstruction. In this work I look at issues related to water architecture for and by women. I considered women in three different roles according to decision and participation: women as patron (investor), women as landscape designer/architect and women as user. The aim of this work is to develop a decision tree for their different roles in the project. Women's needs should be included in water responsive architecture programs as well as in water responsive research programs (e.g. Horizon Europe). The mobility of architects and researchers contributes to the effect that few cultural differences between countries have been observed. As an expert, as an architect or as a researcher, the history of their involvement is rather short, from the beginning of the 20th century. Pioneering women in architecture began to make their presence felt from Art Nouveau and the Modern Movement onwards, but some early examples such as the Chateau Chennanceau, with the contribution of Katherine Briçonnet, are also included (Fig. 1.1).

There are two pillars: water as a hazard and how gender issues are taken into account in climate change adaptation (e.g. post-disaster reconstruction) and water as heritage, i.e. the design of leisure architecture vis-a-vis water objects such as thermal baths and aquariums. The European COST genderSTE network has promoted the consideration of gender issues in both structural change in particular areas, with a working group on cities and architecture, and a sub-group dealing with climate change. The first conference in the field took place in Rome in September 2014. I was visited by a landscape architect on the role of the landscape architect in preventing the effects of climate change. In this context, I worked on a Horizon 2020 program document on water issues. Gender aspects are now being taken into account, as can be seen in recent calls for projects. Several individual projects of network members are also addressing the issue.

Fig. 1.1: Architecture by the water in reality and in scale model: (a) on the Loire valley, with female designer: the Chennanceau castle (16th century), photo M. Bostenaru (tower by Katherine Briçonnet and scale model at Minieurope 2014). (b) one of the lakes in Bucharest: the Snagov palace by Henrietta Delavrancea-Gibory (Sion, 2009), and the scale model of the palace in Mogoșoaia with the female patron of the restoration Marta Bibescu. Photos: M. Bostenaru.

I mention the GIAClim project in Vienna on climate change and landscape architecture as well as my Vasile Pârvan project. In this one I tried to transfer from the GIAClim results to particular situations in Romania and Italy, namely how women occupy different positions in the decision tree when preventing or reconstructing in relation to water.

1.1 Relevance

I myself am a female mobile architect and the motivation for the research stems from the fact that the first Romanian female mobile architect was also mobile between Romania and Italy, as the undersigned Marie Curie scholarship holder, an architect to whom I have dedicated a study (http://virginiaharet.blogspot.ro/, Bostenaru, 2013). A second period of mobility between Romania and Italy concerns mobility in the art academies in Rome, where Virginia Haret studied, and the sites of mobility of female architects in this context. While the pioneering mobile architects were men, when the program was re-launched around 1990 the mobile architects were women (Bărbulescu et al, 2013). On the other hand, the previous mobility to Karlsruhe brought me to the place where women first studied in Germany.

1.2 Aims of the work

The research stemmed from a desire to learn lessons from today's architectural pioneers, as beautifully rephrased for my reintegration fellowship a few years ago: 'Building the Future on Lessons from the Past'. I also want to raise awareness of the works of these early women architects, which are sometimes threatened with demolition, and 100 years ago might not have been built because of discrimination.

In this work I present several ways of visualization and multimedia interaction with plastic language content. In the 2D option I use the surface, whose contour is transformed into a 3D line in this volumentric dimension.

Goethe was a resident in Italy in the 18th century (1786-88), and the light and colors of Italy inspired his works on color related to Itten's circle (Goethe, 1810). I have chosen to present his theory in the greatest detail (Bostenaru,

2016a). At the beginning of Modernity, one could still find the multilateral Renaissance scientist and artist. In Rome I visited the Casa di Goethe and I am preparing to draw a colorful map of the landscape we saw here, based on the views of the time and Nolli's plan. Turning to the plastic elements, a view of the Villa Borghese, home to the Romanian School in Rome, was drawn by Giacomo Balla in the dot technique (1910). The work is on display at the Galleria Nazionale di Arte Moderna which is also at Villa Borghese. During my stay I also visited the Infosphäre exhibition at the ZKM Center for Art and Media Karlsruhe. In preparation for the annual *Spazi Aperti* exhibition in Rome, also learning from the Galleria Nazionale di Arte Moderna, 3D line spaces could also be experimented with as an e-installation, or projected on a mirror, as in Michelangelo Pistoletto's work "The Visitors" (1968). The Galleria Nazionale di Arte Moderna displays a wealth of Art Nouveau works and is open to architecture teachers. Several Art Nouveau works in Italy are found in the north, in Lombardy, and belong to the Liberty style. I visited several in Milan and San Pellegrino terme in 2011 as part of a Reseau Art Nouveau invitation, when I also met the work. In my research in Italy I also include some Art Nouveau works by pioneering women architects such as Wivi Lönn from Finland/Estonia or Erika Paulas from Switzerland/Transylvania, but also works from that period by Romanians in Italy, e.g. the gardens of Villa Gamberaia near Florence, an example of working with nature.

The aim of the work is to mark the map of Rome (with some examples from Italy) and Bucharest as it was seen by these architects. Sub-scopes are:

- Creating a promenade of the traces of traveling architects, digitally and in real space. In real space there are a few attempts, but they don't carry their historical images.
- Evaluation of the change in the form of the urban space from today's point of view for the strategic design of landmarks as seen by architects. From these conclusions for conservation can be drawn. It is particularly interesting to see whether the landmarks determined the site for the academies in Rome.

There is a link between architecture and poetry as in participatory projects, e.g. in England "A place for words". Cooperation in disasters is also expressed in literature and architecture in a certain jargon.

1.3 Research framework in Rome

In December 2015 the Biblioteca Hertziana in Rome dedicated a conference to the professional travels of 20th century architects in Italy (http://www.biblhertz.it/fileadmin/user_upload/200_Aktuelles/Convegno_Tagung_Architekturreisen_04_0512015.pdf). In the early 20th century (1911 Exhibition) the area around the Villa Borghese was redesigned for art academies (Garano, 2006). But the villa itself was remodeled in Goethe's time, in the second half of the 18th century, by Antonio Asprucci, and the experiences of the scholars in Rome played a role. The area on the Corso, including the Antico Caffee Greco, was the place where artists met in Rome. By the time of Goethe and Weinbrenner, a German architect from Karlsruhe who traveled to Rome in the last decade of the eighteenth century (Schumann, 2008), there was already the French Academy (from 1666) adjacent to the Villa Borghese, but not on the present site. It was then in Palazzo Mancini, the Villa Medici having been bought by Napoleon. I explored which architects were here in an institutionalized setting in comparison, not least because next to the Corso, on the Pincio, is where Goethe himself was. And Nolli's plan, as the basis of the journey, was touched on at the conference. An original still exists in Roman antiquaries. The late career of the plan relates to the lessons on the periphery of "Agglo-Nolli" (Angélil and Hirschbichler, 2013) but also to Rowe's Collage City (Rowe and Koetter, 1984) and the Black Plan. In particular, American scholars such as Venturi considered Rome a pedestrian city, and the current generation considers it so too, as does guest architect Robert Mogensen. In Rome the peripheral version of the picturesque city followed Nolli in Garbatella. Two German scholars of the early 20th century took over, and Rolf Dieter Brinkmann, in a map into which the eyes were inserted. If the question now is whether Rome is still a place of pilgrimage for architects as it was in Goethe's time, when Romanticism gave a new answer to the search for the ruins of antiquity, then postmodernism has given a new slant. After ancient Rome, Baroque Rome

was seminal for the twentieth century, bringing many art historians, though Weinbrenner for example was drawn to classicism. From Karlsruhe, Otto Bartning also traveled to Rome. Bartning was impressed by the center-plan buildings of Italy as a model for churches like Weinbrenner. Weinbrenner's and Bartning's journeys were like Goethe's travels initiative, beyond the institutionalized framework of the academies. Windholz (2008) examined institutional education at the German academy, modeled after the French academy, which already existed. I began to investigate how the experiences of such initiative travelers are reflected. For example Villa Massimo is reminiscent of an artists' colony, and one can see where the connection to Weinbrenner's school of architecture is. Pasquali (2003) is dedicated to the architecture and landscape of academy villas.

2 Objectives[1]

This research is linked to European initiatives such as genderSTE (gender in Science, Technology and Engineering - a COST action) and MOMOWO (Modern Movement Women - a cultural project) which are dedicated to portraying women architects using a different framework than that used to create a portrait of a male architect. In my previous paper on Virginia Haret the aspects of Virginia Haret being a woman architect, what were the working conditions of a woman in the pioneering period, how a dual career (work-family) could be achieved, were not taken into account. In this work the conditions of what challenges are important for a woman architect are reached based on the relevant bibliography.

Of the architecture programs relevant to women architects I first deal with the most relevant: housing. Women architects have looked carefully at gender issues in this program, e.g. Margarete Schütte-Lihotzky when she designed the Frankfurt kitchen in such a way that less time was spent in the kitchen and more on other activities. Thus some of the examples shown are the women architects' own homes. Fig. 2.1. shows works by women architects at the Werkbund which I will detail below.

Even today, housing for women is a problem, as Birdsall (1992) points out. For example, in Cincinnati, where there are many single-parent families, a women's devolution center has been developed, inspired by women's literature. Historical examples based on social research are not lacking, such as Ottokar Uhl's B.R.O.T. complex in Vienna (Fig. 2.2), from the 1980s when the participatory method was in full devolution, and where different generations are building a new way of caring for children and integrating the elderly into the family. The houses in some European countries belonged to the so-called other Modernism and were designed for the middle class and had generous spaces and different parts of the floor plan, with main and

[1] This chapter is based on a presentation given at the EURAU 2016 conference in Bucharest.

secondary entrances. This is used today in conversion to smaller dwellings, as can be seen in an example presented at the Bucharest Annual Architecture Exhibition (http://www.anuala.ro/proiecte/2012/amenajari/da32/)

Also, in different religious cults, gender conformity of location plays a role (Orhun, 2010, Bellal and Brown, 2007), one more reason why in this work location has been chosen as an example program.

Fig. 2.1: Women architects and Werkbund neighborhoods: (a) Margarete Schütte-Lihotzky, Vienna, 1932, photo wikipedia, (b) Hana Kučerová-Záveská, Czech Republic, Baba Siedlung, Suk House 1932, photo wikipedia.

Fig. 2.2: B.R.O.T. building, architect Ottokar Uhl, Vienna, 1985-90. Photo M Bostenaru.

The main focus of the Modern Movement was on housing. New solutions to the social housing challenge were sought in Western Europe. In this part, neighborhoods called Siedlung were built on the periphery. The urban morphology was different in the center, instead of blocks of flats individual dwellings were built by repetition of so-called "Zeilen" (Uhlig et al, 1997), rows of housing. One such example is the Dammerstock Siedlung in Karlsruhe (Fig. 2.3). The Dammerstock Siedlung, unlike others of the same type, was designed by multiple architects, including Walter Gropius and Otto Haessler.

Fig. 2.3: Dammerstock Siedlung in Karlsruhe, 1929. Photos: M. Bostenaru.

In other European countries, e.g. Romania (Machedon and Scoffham, 1999) or Greece (Condaratos and Wang, 1999), the situation was different and has been called "other Modernism". Here the middle class adhered to the aesthetic principles of Modernism and multi-dwelling buildings were erected in block structure in the traditional fabric. In Romania, the Magheru Boulevard presents a number of individual buildings and protected groups of

such buildings in the city center. In Greece buildings were erected in the direction of the new means of transportation, the railway station, following a Tony Garnier typology. These wealthy residential buildings have appropriate floor plans, with main and secondary entrances, and generous spaces. In today's approaches they are sometimes subdivided into small units, following today's family structure. A special case is that of Portugal (Becker et al, 1997), where Cassiano Branco's buildings are blocks in tissue, but social housing. In 2005 the DOCOMOMO Association dedicated a conference to other Modernism (http://www.docomomo.com/pdfs/events/docomomo_conferences/082548_9thDICIstanbulandAnkara2006.pdf). In 2017 in Turin the final conference of the MOMOWO project took place, which recognizes that the period of DOCOMOMO's interest overlaps with the period of the pioneering of women in architecture, their entry into the profession, to which I contributed with a publication (Bostenaru, 2017).

2.1 Werkbund Neighborhoods, a precursor of the Bauhaus

The Werkbund Neighborhoods are a special case of Modernism's *Siedlung des Siedlung*. They were created as an architectural exhibition of the Werkbund Association, which still exists today. As an exhibition, they consist of different housing typologies that through repetition could form a *Siedlung* in itself, belonging to different architects. The housing units are experimental dwellings, responding to the challenges of the Modern Movement in terms of social problems (affordable housing, minimum size with maximum comfort), responding to hygienic problems (light and plumbing), etc. The problem of price was proposed to be solved by industrial production, although the Werkbund retains some connection with *Arts and Crafts*.

Werkbund neighborhoods in Europe today can be found in:

- -Eastern Europe: Poland, Czech Republic
- -German-speaking Western Europe: Austria, Switzerland and Germany.

The chronological order is as follows:

- -1927 Werkbundsiedlung Stuttgart, Germany, "Weißenhofsiedlung",
- -1928 Werkbundsiedlung Brno, Czech Republic "Nový Dům",
- -1929 Werkbundsiedlung Wroclaw, Poland "WUWA",
- -1932 Werkbundsiedlung Vienna, Austria,
- -1932 Werkbundsiedlung Neubühl in Zürich-Wollishofen, Switzerland,
- -1932/33 Werkbundsiedlung Prague, Czech Republic, "Baba".

Fig. 2.4 shows the geographical spread of Werkbund neighborhoods.

Werkbund also existed in countries that did not take part in the series. One such example from Eastern Europe is Hungary. The Hungarian Werkbund was founded twice, in 1913 and 1932. The first organization was called "Hungarian Art Work", the second "Union of Hungarian Workshops", and both considered themselves a national branch of the Werkbund. What both Werkbunds in Hungary had in common was that, in contrast to the German Werkbund, they were rather closed organizations with clear goals. Thus, their influence on architecture and industrial art was much smaller than in Germany. In fact, Werkbund members let their principles shine through in their work, even if there were differences and oppositions between them. Members of the first executive committee were Zs. Jónás, B. Lajta, B. Málnai, K. Neuschloß and J. Vágó (Fig. 2.5). It was also signed by Ö. Lechner, L. Kozma, B. Jánszky, etc. The members of the Hungarian Werkbund had different artistic concepts. Even Vágó, who led them, had these polarities, between national style and functionalism (Fig. 2.6). Vágó belonged to a group of few artists of his time who looked - according to the political dimension of the Werkbund - at economy and society. After the First World War he was a member, then president, of the national council for housing during the short-lived Republic of the Councils.

Fig. 2.4: Map of countries with Werkbund neighborhoods

Fig. 2.5: Buildings of the first Werkbund representatives: Béla Lajta building on Népszinház street, 1911, Jonás brothers Szénassy and Barczai building 1911, Málnai and Haasz social housing 1909-10. Photos: M. Bostenaru.

Vágó is of interest for my work as a native of Oradea and because after the failure of the republic he emigrated to Rome. The reason why the Hungarian Werkbund was founded twice is that in 1919 there was a socialist revolution and counter-revolution, which led to the emigration of the representatives of the Avant-garde. Most representatives of the pre-war generation of innovators had to leave Hungary. The centers of the Hungarian avant-garde became the cities of Pécs and Újvidék. Innovators moved to Vienna, Berlin and Weimar. Kassák took on the role of avant-garde organizer in Vienna, with the magazine MA (today) published from 1920 and later with "The Book of New Artists" (1922), a predecessor of Moholy-Nagy's Bauhaus publication.

Fig. 2.6: Buildings by Jozsef Vago in different countries (first Werkbund) Switzerland (designed during his stay in Rome: UN Palace, 1926), Italy (Rome: Hotel de la Ville, 1922), Romania (Oradea: Darvas La Roche Palace, 1909-1910) and Hungary (Arkadenbasar, Budapest, 1908). Photos: M. Bostenaru.

Fig. 2.7: Buildings by Farkas Molnar (second Werkbund) in Budapest, Pasaret neighborhood a neighborhood in Modernist style 1929 Photos: M. Bostenaru.

An improvement in the cultural climate in Hungary has been observed since 1925. Farkas Molnár (Ferkai, 2011, Fig. 2.7) returned to Hungary in 1925 and Lajos Kassák in 1926, but the decisive change was reached with the publication of the journal Space and Form (Tér és forma) 1928. Fréd Forbát returned only in 1933 after a stay in the Soviet Union. When the avant-garde returned the second Werkbund could be founded. Fig. 2.5-2.7 show buildings of the Hungarian Werkbund representatives.

The protection and monument listing of Modernist heritage is problematic, as these buildings are new and thus their heritage status is not deeply rooted. Developing criteria for early reinforced concrete buildings was one of the themes of our CA'REDIVIVUS project (Bostenaru and Pinho, 2006).

However, some Modernist buildings are on the UNESCO list, namely;

- Bauhaus Weimar and Dessau, Germany (1919-33),
- Zeche Zollverein in Essen, Germany (1928-32),
- Modernist neighborhoods in Berlin, Germany (1913-1934)
- Fagus workshops, Alfeld, Germany (1911),
- Rietveld-Schroeder-Huis in Utrecht, the Netherlands (1924-25),
- The reconstruction of Le Havre, France (1945-64),

- Tugendhat House in Brno, Czech Republic (1930),
- Hall of the Century Wroclaw, Poland (1911-13).

As of 2016 and Le Corbusier (17 sites in Argentina, Belgium, France, Germany, India, Japan, Switzerland, Belgium), Niemayer (Pampulha, Belo Horizonte, Brazil, 1940) (Fig. 2.8). For Europe is spreading it's in the same countries as the Werkbund neighborhoods.

All the sites mentioned until this year were individual sites. But beyond listing individual buildings or ensembles at a single geographic location, there have been initiatives to list multiple buildings by the same architect, successful in 2016. Such are the buildings of Le Corbusier and F.L. Wright, or in Hungary there is an application for Ödön Lechner. The Werkbund neighborhoods are different. First, they are urban ensembles of multiple buildings in the same place. By this the scale is different, from one building to an urban ensemble. I will talk about scales later. Secondly, in comparing countries, the theme of the work, I am dealing with a case like Le Corbusier.

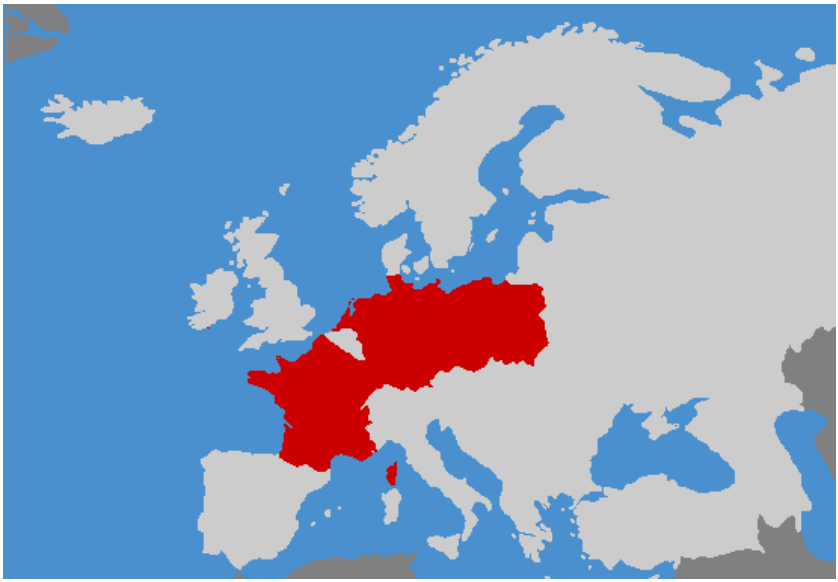


Fig. 2.8: Geographical spread of countries with protected Modernist heritage

2.2 Gender issues

The Modern Movement began to spread in the 1930s, the period when the first women architects began to build. For this reason, the Werkbund neighborhoods also included the work of pioneering women architects.

Margarete Schütte-Lihotzky (who later designed furniture in Frankfurt) and Ilse Bernheimer (who later designed furniture in Venice) contributed in the vicinity of the Werkbund in Vienna. A project by Iris Meder showed the network of these women architects in the context of the Modern Movement (Meder et al, 2015). The neighborhood is currently under restoration. Margarete Schütte-Lihotzky built a house, while Ilse Bernheimer, an artist, designed an interior. In Frankfurt, Margarete Schütte-Lihotzky designed the Frankfurt kitchen with a new purpose in gender studies. By redesigning the furnishings and size so that less movement was required during cooking, women's time management was changed and so was their work-life balance. The change was in the layout of the plan, for women by women (designers and users) as best seen in the Werkbund neighborhoods which are housing projects (Cosseta, 2000). By this not only women as designers but also women as users are considered. There were also women interior architects in Hungary at that time. Hanna Kucherova built in the neighborhood of Werkbund Bata in the Czech Republic. In Poland the situation for women is different. There are pairs of architects (female and male) who build together, instead of a female architect. A question mark is whether this was also the case in the Werkbund neighborhood.

In a united Europe, the European Union, many of the problems of the avant-garde's pioneering period are no longer as prominent as they were then. But at that time this work across borders was pioneering. The mobility of architects is a key element in comparing countries. Because of this mobility, the difference between the architecture of countries, including the work of women architects, is no longer so significant. This was in line with the avant-garde, which led after World War II to the so-called international style.

3 Methods

I conducted classical architectural research, with field surveys, archival research, bibliography consultation, and, after the data (photographs and plans of the buildings, biographies of the architects, a list of bibliographies for them) were collected, I did comparative research for all of them. For mobility I created network maps.

Orhun (2010) used *space syntax* to analyze house plans, a method also used in my research on traditional plan innovation from Art Nouveau to Modernism. The living area and the sleeping area each have their role, and the kitchen which has already been mentioned decides a function. In previous research on innovative plan parts (http://bostenaru.natkat.org, archived) the conceptual zone was also a key concept. In this research it applies to women's housing and for this reason archival research on the plans was essential.

The method of creating biographies of women architects is a qualitative sociological method. In this field the method has been demonstrated in the literature. Treadwell and Allan (2012) worked closely with Marie Curie role models by analyzing portraits of New Zealand women, both officially and in their own presentation.

The narrative bibliographies method is also used by Shepard Spaeth and Kosmala (2012) for women architects in Scotland across three generations. While younger subjects are closer in experience to Marie Curie fellows, older subjects are closer to pioneer women, and reflect how life might have been different. Also, a quote from a subject, who intended to be a scientist, brings them closer to the Marie Curie fellows. After a trip, this architect decided on architecture as a bridge between art and science.

Caven et al (2012) conducted a study on the career choice decision for women architects in the form of interviews and considering architects of different ages, including those who experienced the pioneering period up to the present day as the role models discussed. The interviews took place in the UK, Spain

and France, and differences in the visibility of women architects are argued in some cases by differences in social background, which include how much science is included in the architectural profession, lying between the technical and the arts, and the connection between the profession and the aristocracy. Pioneering women architects were part of intellectual, if not aristocratic, families, and this allowed earlier entry into the profession.

Another work of great importance is that of Fowler and Wilson (2004), republished in a special issue (Stead, 2012) on women architects. It used the same method of interviews with architects of different ages that we have seen, and looks at social background. Dual careers are also considered. But most interesting is how Bourdieu (2001) and The State Nobility (1996) analyze male dominance, which could be linked to the sociological background of aristocracy to enter the profession. Architecture is about public space and image.

Aspects of dual careers as addressed by Marie Curie's role models are considered, how the image passes through portraiture such as photography at work. The works themselves are critiqued, and the image put into context as Simone de Beauvoir saw the independent woman. And for the Marie Curie fellows, interviews were done to look at dual career choices and social integration in the educational workplace.

3.1 Water – Disaster and Heritage

During my stay in Rome, I worked on collecting photographic images from the photo libraries in Rome (Biblioteca Hertziana, the American Academy photo library, the MAXXI museum, the British School at Rome photo library, the photo library of the Institute of Art History in Florence) on urban disasters, including floods. This research is part of a broader framework, with foreign works also consulted, and has been put in dialog with the perception of the city through mapping, and thus with the way urban heritage is read. The details will be presented below, with its own methodology.

3.2 Research background

I was a member of the COST genderSTE Action, namely working group 3 II (climate change and energy) and an observer of the management committee of the Marie Curie Fellows Association. The Marie Curie Association of Marie Curie Fellows investigates the situation of contemporary women scientists, while as an architect the author has also extended her research to aspects related to the focus of genderSTE working group 3 (both cities and climate change). Pioneering women architects can serve as role models as now sought for the association. The Marie Curie Fellows Association created a brochure on role models of women scientists (http://mcfa.eu/site3/?q=women-science-working-group-mwiset, archived). Subsequently, the Marie Curie Alumni Association's Gender Equality for Mobile Researchers in Science working group was set up within the Marie Curie Alumni Association, and it too published a role models brochure (available from the association) The building dimension becomes more visible in the MCAA brochure, which also includes role models working in construction. As part of the Vasile Pârvan research we looked for historical role models of pioneering women architects and role models of pioneering women architects. As such, we have been in contact with former Marie Curie construction fellows on the research side, and with former fellows of the Romanian School in Rome, which hosted her, both for research and practice. The research will continue with the Humboldt models. As the number of women practicing architecture today has increased, this seemed a viable selection criterion. Mobility also influenced pioneering women architects and led to a global style at that time. To name just a few examples, Virginia Andreescu-Haret, the first Romanian woman architect, was mobile between Romania and Italy. Maria Theresa Parpagliolo Shephard, the first Italian landscape architect, between Italy and England. Lina Bo Bardi between Italy and Brazil (Fig. 3.1). Wivi Lönn between Finland and Estonia (Fig. 3.2a). Erika Paulas, also an architect of the Art Nouveau period, in Transylvania/Hungary in Switzerland (Fig. 3.2b and c). In addition to the buildings in the pictures Erika Paulas was also selected for the construction of the forestry settlement in Bistrița. Another early Hungarian architect was Ilona Preda from Transylvania (Bistrița) and another Szerén Erdélyi (from Budapest).

Fig. 3.1: Lina Bo Bardi: chair, photo Sabine von Fischer.

Fig. 3.2: (a) Wivi Lönn Estonia Theater in Tallinn (1913), photo M Bostenaru, (b) Erika Paulas School in Cluj (1902) photo M. Bostenaru (c) Hospital in Medias (1902) photo Alexandru Calcatinge

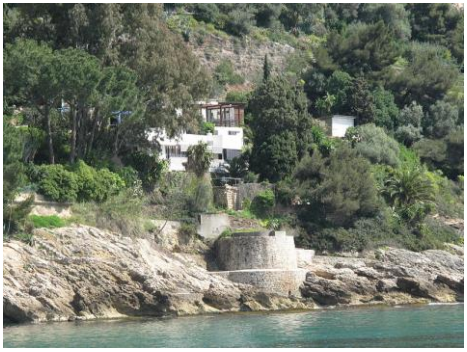


Fig. 3.3: France: Eileen Gray with her Romanian partner Jean Badovici - house E 1027 (1929) Roquebrune - Cap Martin. photo wikipedia

Fig. 3.4: Elsie Lazar Tătaru House, Cluj-Napoca, Romania. Photos: M. Bostenaru.

Fig. 3.3 shows perhaps one female architect's best-known building, Eileen Grey's house E1027. Fig. 3.4 shows a building by Gio Ponti's student Elsie Lazăr for Professor Tătaru in Cluj-Napoca, Romania (http://www.gioponti.org/it/archivio/scheda-dell-opera/dd_161_5948/villa-tataru). The plans (Domus 111) and the final design (Domus 136) were published in Domus magazine. The house has recently undergone restoration and extensions (https://www.weberbau.ro/romana/portofoliu/restaurare-vila-tataru.html). Elsie Lazăr, a pupil of Oskar Strnad (personal communication with Iris Meder), emigrated to Tel Aviv. Meder (2018) has written about the emancipation among the Jewish minority in Vienna that facilitated women's pioneering access to the profession of architect, landscape architect or interior designer. This article was written based on a plenary presentation at the closing conference of the cultural project MOMOWO. The MOMOWO (*MOdern MOvement WOmen*) project emphasized that the period of

modernist architecture was the pioneering period for women in architecture. It was coordinated by the Polytechnic of Turin, where the closing conference took place. I continued my research on pioneering women architects by attending this conference and also presenting in the cultural tourism section, as it was a presentation on the geographical spread and mobility of women architects, and for this I benefited from a mobility project, also funded by UEFISCDI, as the *Future on the past* project.

In the context of the later presentations in this volume, which begins with the Werkbund discussion that formed one of the foundations of Bauhaus, I collaborated, in preparation for a short mission, won but not realized due to the COVID19 pandemic, to Tel Aviv with Rebeka Vital. Bostenaru (2020) details how to make narrative maps (*story maps*), with the research taking place in the framework of the COST action "Writing urban places". The modernist White City of Tel Aviv (*White City of Tel Aviv - the Modern Movement*) is a UNESCO heritage site related to Bauhaus architecture (https://www.bauhaus-center.com/, https://www.bauhaus.org.il/about), as many Bauhaus architects were Jewish and emigrated there. Another architect born in Romania, in Câmpulung (Davidi, 2009), a city marked by a pre-modernist development, in the Neoromanian period, who emigrated to Israel where she became famous (Davidi, 2014) is Dora Gad, who also studied in Vienna. I hope to continue the collaboration in the future, also including elements from the *Future on the past* project, the resulting archival research developments in ontology from this project being the basis of a collaboration resulting so far with an invited presentation at the MOEBHIOS project, which is about Jerusalim by Raffaella De Marco.

Queen Marie was also an important figure for Art Nouveau, as she introduced the Jugendstil style of Darmstadt, a different kind of mobility between Germany and England and Romania, into the castle in Pelișor. The *coup de fouet* congress in Barcelona in 2015 was dedicated to women who mattered in Art Nouveau architecture.

3.2.1 Previous works

In the already completed postdoctoral work in geography, which continues previous work, a mapping concept was developed (Bostenaru and Armas, 2015a). A relationship between real and virtual space was created and tested in a workshop in Bucharest (AESOP, Becoming local, 2014).

In photography this specialized approach is commonplace, and one example in constitutes Piranesi's Rome in a project by Randolph Langenbach, a former *American Academy in Rome* fellow in architectural conservation: he photographed the urban landscapes of Piranesi's ruins with modern camera technology (Langenbach, 2008), as the ruins remained the same. Particularly after disasters this method was applied. And in 2015-16 Palazzo Altemps dedicated an exhibition entitled "La Forza delle Rovine" to the comparison between ruins caused by a disaster and ruins from the ancient world, and how they can be integrated into the landscape (Barbanera and Capodiferro, 2015). But in cartography it is rare. In the time of Piranesi, Goethe, and Weinbrenner, Nolli's 1748 plan (http://nolli.uoregon.edu/preface.html) generated much less attention (Verstegen and Ceen, 2014). Nolli's concept was pioneering in the way public buildings showed their interior plan on the map as public spaces. In contemporary approaches to strategic planning, it is very topical. The *Badische Landesbibliothek* in Karlsruhe, Germany, recently inherited a collection of books from a former employee of the Hertziana Library in Rome and presented them in an exhibition (https://www.blb-karlsruhe.de/blb/blbhtml/2016/italien.php) called *Bella Bibliotheca*, with an accompanying guide to what the *Grand Tour* meant for young aristocrats and artists on their *Grand Tour* of Rome.

I have dedicated strategic design research in the participatory approach (Bostenaru, 2007), and extended the concept. The first conceptualization was tested for Lisbon (Bostenaru and Panagopoulos, 2014), where the difference between before and after is real. Lisbon (in the same period in which Nolli, Piranesi created the images of Rome that Goethe saw) was hit by an earthquake and tsunami in 1755 that had European resonance, both in the natural sciences and in the humanities and social sciences. In this context I adapted the concept of the architectural path, a sequence of interest, into

today's map, comparable to a game of finding hidden treasures on a map of the past. Sergio Freire also investigates *Treasure Hunt* today in the Portuguese space (Santos et al, 2012). It is based on the guided tour concept. These books put Lisbon before and after the earthquake. The concept was also transferred to Bucharest's lost natural and cultural heritage as part of the collaboration with the Karlsruhe Institute of Technology. From the Karlsruhe period, the application for the city of Cologne before and after the bombing, images by August Sander viewed at the Canadian Centre for Architecture was developed and later translated into an ESRI GIS story map, mention in a competition.

At the Romanian School in Rome scholar Andrei Ciurdărescu has constructed a map of Rome based on a medieval map called *Mappa Mundi*, under the name "Neo Mappa Mundi". Of these, such as Fra Mauro in Venice (to remain in the Italian space Cattaneo, 2011) or Hereford (De Wesselow, 2013) in Imago Mundi - The international journal for the history of cartography can be cited. Other art academies have dedicated architectural visions to maps, for example at the *Villa Medici - Accademie de France in Rome* a plan of Rome with its actual vegetation by an architect. The relationship between my plans and the *Mappa Mundi* is that key buildings are also shown simplified. The concept is not only appropriate for the presentation of the plans as in Nolli, but also for the silhouette illustration of how, in the image of Lisbon, these simplified drawings bring it close to the *Mappa Mundi*. Between Nolli's map and the *Mappa Mundi* (e.g. the one for Venice) I can put Leonardo Bufalini's map of Rome (Maier, 2007), a Renaissance one, the first for Rome, and thus modified up to Nolli as from Nolli onwards.

Related maps to Nolli's are those of the 1960s by Caniggia (1986) and Muratori (1960), for Italian cities such as Venice but also Rome, building consistently on the ground floor plan material. In my approach for Bucharest, I used archival plans for the hazard/hazard study, and for the floor plans. Jeffrey Cody, a scholar at the American Academy in Rome, has dedicated his studies to Muratori (http://www.aarome.org/it/node/282937). The link to Nolli and Mappa Mundi are visible in the presentation.

During his trip to Italy Goethe also covered color theory through the study of Italian painting and his own painting. The author developed an educational concept that includes the digital part to draw, including color theory (Bostenaru, 2016a), and the overlay of *Vedute* with the relevant color of the area is involved in the work similar to *Mappa Mundi*.

3.2.2 Works completed[2]

For Rome, Nolli's earlier map is the starting point. For today's map several new concepts have been added that were explored in the framework of postdoctoral fellowships in geography, namely Guy Debord's psychogeography (1955) and Kevin Lynch's reading of the city (1960). Guy Debord's Derivé has been applied to Rome (for the periphery Willey, 2009, in Tesser, 2012). Marie Kraftseltze, a fellow at the Swedish Institute, worked with them and exhibited at *Spazi Aperti*. Wollen (2001) combines Guy Debord's Situationism with architecture. In tourism, where there are guided tours, as proposed in this work, there is an awareness of built heritage in which directed promenades are seen at the basis of Debord's research as a source (Smith, 2013). Tesser's (2012) research has served tourism research. Closer to our days, Walk-Scapes by former Karlsruhe graduate and student and lecturer in landscape design at ETH Zürich, Pia Fricker, were applied in a workshop in Helsinki (https://mycourses.aalto.fi/pluginfile.php/116963/mod_folder/content/0/AaltoLandscapeStudio2015_FINAL.pdf, archived), based on the strology that Burckhardt (2011), already initiated in the 1980s. Also, at other universities the art of promenade to explore aesthetics is applied in geography teaching (Bassett, 2004).

O'Neill (2009) sees exactly what today's digital world is, a revival of the situationist Debord as computerized exploration of viral spaces shortens the routes.

[2] This part refers to Bostenaru (2016b).

The two concepts of Lynch and Debord from the 1960s, when the participatory approach was also born, can be transmitted into strategic design. Some so called (by Lynch) features of the city will be better mapped in the mental map by exploring the city by walking around and transfer better thus. These were probably those also discovered by Weinbrenner. The map can be torn up, and the surroundings shown at a scale different from the path (another Lynch concept) that connects them. The exploded map communicates with the *Mappa Mundi*, precisely because of its strategic features, shown in silhouette or symbolically representing enlarged areas of the map. Thus, a tour can be designed in the footsteps of Weinbrenner and Goethe. It could be represented digitally in Adobe Director. By comparison, the views on Nolli's map are game media, also digital, and can be positioned after the reader of the study has explored the city based on the first, or visited a particular exhibition. Views represent features while *walkscapes* paths are encountered at nodes. Paths and nodes are presented by means of *Space Syntax* analysis (Hillier, 1999). *Space Syntax* is a method of mapping walk paths, the plan is appropriate for external and internal public spaces as in Nolli's plan. Digital representation can be as in the AESOP workshop. McGarrigle (2010) presents some urban games where the map of an imaginary space can be migrated to real space (such as Baghdad visited in New York). Advanced digital media such as e-installation (Munoz Morcillo et al, 2016) realize this with augmented reality glasses, but in Rome, where the before and after photography mode in the kind of reconstruction of ancient ruins represented by Piranesi is most widespread, the then and now map can be used with the medium of derive. It is worth mentioning the reference to Camilo Sitte who processed within the picturesque pedestrian city of Rome.

3.2.3 Methods

In the following I present some geographic applications in line with the proposed method that continue the work started to present the impact of the Lisbon 1755 earthquake by comparing before and after. In COST TU0801, formulas were developed to compare the semantic enrichment of urban 3D models (Bostenaru and Panagopoulos, 2014). GIS, Google Earth, CAD systems seek to cover the city in equal modes through digital representation, which in many cases is not feasible with the human resource available to create

the model. Instead, based on the mapping theories that will be presented, we proposed a concept in which parts of the topography of different importance are represented at different scales. These scales start from landmark buildings to the world scale. The concept is based on the multimedia guided tour presented below. In the traditional GIS system, the layers are at the same scale. Our proposal is to include each scale in a different layer/stratum and to link the layers by zooming (Bostenaru and Armas, 2015b). Multimedia systems such as the *Prezi* presentation system allow this zooming, but without georeferencing. Recent GIS applications allow fully digital story maps serving the same function.

3.2.3.1 Multimedia

As mentioned, the first application of the system was made using a multimedia authoring system, namely Macromedia Director 8. The disadvantage of such a multimedia system is that they produce files specific to certain operating systems, which may become unreadable for new ones. My application was produced in 2000 and is now museum good, similar to an exhibition on digital art conservation that included Director 7 movies, since the Shockwave plugin no longer works. Screenshots in Fig. 3.5 are based on the .exe file. The browser-based version however has the advantage of being scalable and independent of computer type (Mac, PC). Macromedia was subsequently acquired by Adobe who continue to develop the product. The mentioned Prezi presentation system is made with Macromedia (now Adobe) Flash which is the web adapted version of Director.

In the multimedia system we designed two sequences related to the maps: a guided tour and a quiz based on the current locations of the modeled historical landmarks (Bostenaru and Armas, 2015b, Cologne). The guided tour is based on the contemporary map, and a drawn tour route. When hovering the mouse over one of the nodes, a historical image of the visited place appears (Fig. 3.5a). The quiz is based on a historical map of the city. Contemporary images have to be drawn on the position of today's place on the historical map. The application was made for the city of Cologne in Germany. The dialog between the historical and contemporary map proved useful in the conversion of the application for the impact of the 1755 earthquake on Lisbon (Bostenaru and

Panagopoulos, 2014) where the state before and after the earthquake could be compared based on the landmarks in the city silhouette in ceramic azulejos. The multimedia system can contain references to the building plan or 3D building volume instead of historical images.

Fig. 3.5: Shockwave 3D concept.

3.2.3.2 GIS[3]

A first application concerns the mapping of natural disasters in the world. On a global scale, I mapped geo-referenced disasters presented at EGU (European Geosciences Union) sessions, researched in the Canadian Centre for Architecture archive, reviewed from the books "Illustrated history of natural disasters" (Kozák and Cermák, 2010) and the exhibition catalog "Images of disasters" (Wieczorek et al, 2014) as well as the studio papers from the course "Protection of localities against hazards" that I participated in teaching. I used ArcGIS online to do this mapping, after georeferencing with MSExcell with conversion to CSV for import. The georeferencing is able to treat localities and natural sites like rivers or mountains for example. In Fig. 3.6 shows the final map. In addition to creating a different shape for each disaster in the 5 databases, each database has a certain color. This gave the map a complexity that allows it to be included in the ESRI living atlas of the world. The web map

[3] This part presents some results published in the journal JULP in 2016.

can be viewed at http://www.arcgis.com/apps/Viewer/index.html?appid=6092a2d378404d6faab09b44a85f0aa2. Disaster ruins are ruins of the moment, said Constanze Baum (2008). They are created in a moment, and removed in reconstruction efforts. Exceptions include monuments such as the Carmo Convent in Lisbon. However, the images are preserved, and they form valuable databases of the impact of disasters.

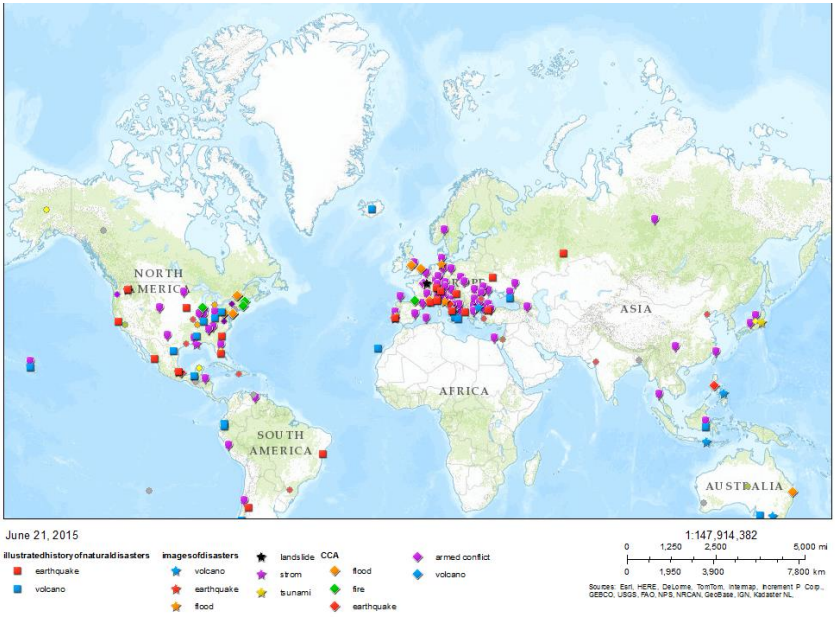


Fig. 3.6: Image map of all disasters.

The European Geosciences Union session "Natural hazards' impact on urban areas and infrastructure" was the first database used. The format of European Geosciences Union general assemblies, and of its predecessor European Geophysical Society had an open call for paper sessions for the scientific community. Within this framework since 1999 a session "Natural hazards'

impact on urban areas and infrastructure" was held with continued success. The first convener was Friedemann Wenzel from the then University of Karlsruhe. From 2002 to 2010 I was convener, and since then co-convener. An article presenting the overview from the beginning until 2010 was published (Bostenaru, 2011), also referring to the papers resulting from the session, as this was the format of the conference, with publications at the initiative of the session organizers. The article (Bostenaru, 2011) provides some statistics, but primarily here gives an overview of the geographical spread of the case studies, following the comments in 2015. This is presented in Fig. 3.7. Tab. 1 shows the raw data that has been worked with, as the georeferencing has been done for all types of geographical features, such as mountains, rivers, localities, countries, regions. ArcGIS online was used. The method was also used for the following maps. The raw data came from the session titles and summaries, not all of which are in the internet archive, some are Macromedia CD ROM for the 2000s. For this analysis only the location and type of hazard were considered, not when it occurred. In a later development I will include the time frame as in the DESURBS project. It is important to note that the data refer to the impact as such, which is rarely taken into account until today, and thus is a valuable database. Not all session contributions were case studies, some were general methodologies, and so geographical linkage was not easy to determine whether it could be. Some covered multihazard. In this case I considered the main hazard. To enrich the impact collection, I considered the following databases.

Because of the pandemic, in 2020 the General Assembly was held as Sharing Geoscience Online and no registration fee was required. However, the presentation format was text chat only with uploading of accompanying materials. The use of Sharing Geoscience Online led to the new EGUsphaere, which was widely used and many authors uploaded materials compared to previous years, when displayed materials could be uploaded a month after. From 2021 it is also possible to upload these materials one month before the presentation to encourage discussion. It was also possible in 2020 to subscribe to certain sessions and receive an announcement about uploaded materials and comments made.

Tabel 1 Table of disasters covered by the contributions presented in the session "Natural Hazards' Impact on Urban Areas and Infrastructure" at the European Geosciences Union general assembly

c	Tip	Loc	Tip
Cairo	Earthquake	Hamburg	Cave
Inca	Landslide	Murge (Apulia), Italy	Precipitation
Dresden/Sachsen	Flood	Andes, South America	Landslide
Oslo	Nuclear	Germany	Multirisk
Kocaeli	Earthquake	Naples	Cave
Japan	Frost	Murcia, Spain	Earthquake
Mazou (Zagros) Iran	Landslide	Hungarian Danube	Flood
Boumerdes, Algeria	Earthquake	Nankai, Japan	Earthquake
Bam, Iran	Earthquake	Russian Federation	Transportation
Himalaya	Earthquake	Bari, Italy	Flood
Borst, Zirovski	Nuclear	North Caucasus	Landslide
Albstadt, Germany	Earthquake	Kutahya, Tucia	Earthquake
Thessaloniki, Greece	Earthquake	Rhine-Maine area	Precipitation
Sofia, Bulgaria	Earthquake	Kilimli (Zonguldak)	Caves
NE Romania	Earthquake	Petroșani	Caves
Rostov-on-Don	Earthquake	Taipei	Multirisk
Yerevan		Galicia, Spain	Climate change
Bucharest, Romania	Earthquake	Targu Ocna	Multirisk
Istanbul	Earthquake	Kamchatka	Vulcan
Gees Maar (West Eifel), Germany	Vulcan	Trento, river Adige, Italy	Flood
Barcelona	Earthquake	Chichi, Taiwan	Earthquake
Crotone, Italy	Earthquake	Vesuvius, Italy	Vulcan
Mulhouse, France	Multirisk	Pisa, Italy	Liquefaction
Athens	Pollution	Bucharest, Romania	Earthquake
N Africa	Pollution	Honduras	Climate change
Kyoto		Venezuela	Climate change
City of Motril, Spain	Earthquake	Sofia, Plovdiv, Varna, Bulgaria	Earthquake
		Turnovo, and Blagoevgrad,	
Center East Iran	Earthquake	Bulgaria	Earthquake
Rome, Italy	Caves	Naples, Italy	Nuclear
Indonesia	Tsunami	MB	Flood
Gastein Valley, Austria	Multirisk	Ionian Calabria	Precipitation
Karaj	Flood	Switzerland	Flood
Indian Ocean	Tsunami	Hawaii	Multirisk
Jifara Basin, Libya	South Tyrol	Multirisk	
Budapest	Caves	Prahova Valley	Flood
Lisbon	Earthquake	Karlsruhe	Storm
Phang Nga, Thailand	Tsunami	Ash mounds Romania	Pollution
Italy	Landslide	Tulcea, Romania	Earthquake
L'Aquila	Earthquake	Ploiesti, Romania	Earthquake

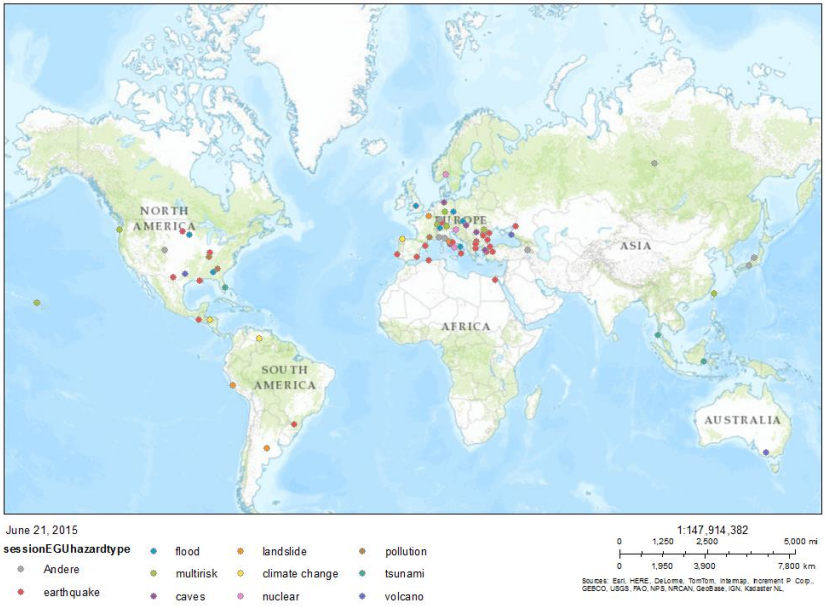


Fig. 3.7: Mapping of case studies covered by contributions to the session "Natural Hazards'Impact on Urban Areas and Infrastructure" at the European Geosciences Union general assembly

My contribution " *The 1834 Érmellék earthquake effects and the architecture of migration after war in Baroque times*" (https://meetingorganizer.copernicus.org/EGU2020/EGU2020-6825.html) was given as an example of how a discussion can be, including various updates of the posting materials, e.g. (https://blogs.egu.eu/geolog/2020/04/22/shareegu20-comments-on-your-display-presentation/, https://blogs.egu.eu/geolog/2020/05/22/shareegu20-commenting-and-what-happens-to-your-displays/) and was also of potential interest to the media. In the meantime, these comments can only be found in the archived version.

In 2021, the General Assembly took place online again, but there was more time to prepare to emulate the atmosphere in Vienna, for example and items

such as Sacher Torte. I wrote about the experience of cooking the Nice salad and Roastbeef Eszterházy at home to evoke the atmosphere in the "socially distanced" essays submittedto COST Actiun TU18126 "Writing urban places" where I was a member of working group 4 (https://writingurbanplaces.eu/socially-distanced-cooking-and-photography/). Roastbeef Eszterházy for Vienna was then submitted by the author to the Europe-wide cooking competition on the German alumni portal (https://www.alumniportal-deutschland.org/en/events-activities/contests/ eatingeurope) and was the winner of a cookbook. The topic is not so far removed from the topics of the General Assembly. For example, in 2019, at thelast pre-pandemic meeting before the pandemic that was the reason for these reflections, the event "*Water as hazard and water as heritage*" (EGU sponsored workshop in Rome, described later) was presented both in the session itself and in the “Geodiversity and Geoheritage” session. The session on geodiversity and geopatrimony was presented as the Splinter meeting showing the richness of food landscapes ingeopatrimony national parks (Bostenaru, 2020).

In 2021, the online conference format was twice as long. Events similar to plenary sessions were organized duringthe first week and events similar to parallel sessions during the second week. In 2021, previous years' displays became vPICO (virtual PICO - *Presenting Interactive Content*). The PICO format has existed since 2013 at EGUGeneral Assemblies as an alternative to traditional oral and poster presentations as something in between. In a PICO session there are first short 2-minute presentations, then there are plasma boards to present like a poster, multiple slides on touch screens. In the virtual PICO, there were presentations for the first 2 minutes, then the breakout rooms were enlarged like real screens. The PICO format in real conferences can be attractive for sessionsthat do not have the minimum number of papers to present an oral block (as shown above, to have an oral block of 6 presentations, double posters, and the number has increased every year due to the popularity of the conferencefor which only Austria Center Vienna has enough room, but always less for oral presentations to also provide networking opportunities). You are required to have presentations in an exact multiple of 20, if they are deliveredin person. Online interaction was not as

strong as in 2020. There was less material uploaded and comments were not as frequent. This could also have been due to limited participation with a registration fee this time.

Since 2022, EGU General Assemblies have been held in a hybrid format. In 2022, due to restrictions still in place, the General Assembly was postponed from April 3-8, as originally scheduled, until the end of May in the hope that a larger proportion of participants could join in person. About half of the participants attended and half online (those in person about half the number). Also due to restrictions, poster presentations were not allowed and as a result all had to be shorter presentations. Fees for online participation were reduced and the same online medium was used as in 2021, but for *lightning talk/* lightning discussions. In 2023, the EGU General Assembly was again held in a hybrid format, April 23-28 on-site in Vienna, Austria and online. However, only about 10% of the announced participants attended online. This time, oral and poster presentations were presented in both online and on-site presentations.

The Canadian Center of Architecture in Montreal is a unique institution encompassing all kinds of material related to the built environment. This includes photographs of the impact of disasters on the built environment, such as ruins but not only, as it also includes high water levels for floods or emergency design efforts such as tent cities after a disaster. In my research in Montreal, I considered fire, flood and earthquake (Fig. 3.8), thus both natural and anthropogenic hazards, as the *Future on the past* project is now pursuing. Other anthropogenic disasters include armed conflict (the Paris Commune or the effects of World War II on Cologne in August Sander's photograph). Giorgio Sommer has instead volcanic eruption photography, less rich as in Wikipedia repositories (Fig. 3.9). Giorgio Sommer's photographs of Pompeii are particularly relevant in the research context, as the EGU awards the Plinius Prize for interdisciplinary research in natural disasters bearing the name of the scholar, but also of the Roman admiral (water connection) who died in the eruption of Vesuvius in 79 that destroyed the cities of Pompeii and Herculaneum. On November 27 - December 2, 2011 I attended the conference 'Understanding extreme geohazards: the science of the disaster risk management cycle' in Sant Feliu de Guixols, Spain, as a European Science

Foundation (ESF) travel grant recipient (http://www.geohazcop.org/workshops/Sant_Feliu_2011/). There I learned about and applied for membership of the Network for Digital Methods in Arts and Humanities, a *ResearchNetworking Program* of the ESF, where the then coordinator was my colleague on the board of the Marie Curie Fellows Association. The event resulted in a booklet (http://archives.esf.org/fileadmin/Public_documents/Publications/Natural_Hazards.pdf) which was launched at the EGU General Assembly in Vienna in 2015, just before the Rome stay, and I participated in the previous postdoctoral fellowship in geography.

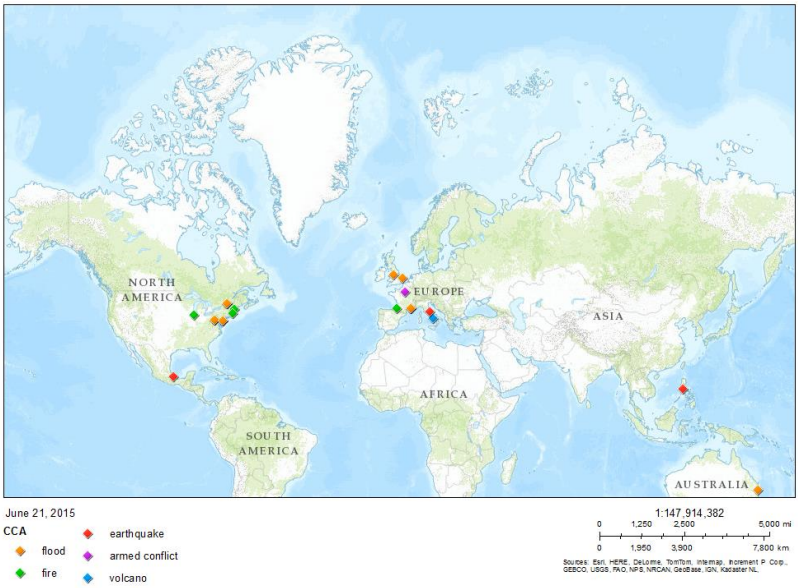


Fig. 3.8: Map of disasters for which images exist and have been investigated in the CanadianCentre for Architecture archive Map of disasters for which images exist and have been investigated in the CanadianCentre for Architecture archive.

I visited the site of Pompeii (Fig. 3.9) as part of the Vasile Pârvan scholarship in Rome. This was not the first timeI had seen Vesuvius (Fig. 3.9), as I enjoyed the view from Castel dell'Ovo at the opening of the 2006 *fib* conferenceat the Mostra d'Oltremare, where I also saw the work of pioneering architect Stefania Filo Speziale. I also recentlyread Robert Harris's (2003) Pompeii, which is particularly relevant to current research. On the one hand it is about Pliny, after whom a medal at EGU is named. On the other is an aqueduct. The novel glorifies the mode of water management in Roman times that was more efficient than contemporary American, and the aqueduct, where the precursors of the eruption are seen, will also be the one that saves the hero, and heroine, of the novel. The water has a central, positive place, while the element of disaster this time is not from the duality of water. In Lisbon theWater Museum, which I have charted for the COST Action Platform "Underground Built Heritage" (https://u4v.org/en/routes/418) consists of a series of such waterworks, including an aqueduct, and the Suceava Waterworks is a similar site. In 2023 I was nominated for the Plinius Prize, but the winner was a professor from Naples. In 2024 *the Le Vie dei Mercanti* conference, held in Naples and Capri, was on the topic of natural hazardsin the context of housing and UNESCO heritage. And Goethe in his *Italienische Reise*, which I read in Rome, where there is also a museum dedicated to him (Fig. 3.10), visited Pompeii and thus included the site in the *Grand Tour*, which one of my colleagues (Monica Omilescu) was researching at the Romanian School in Rome. After the trip from Italy, Goethe lived in Weimar, so the city where the historical Bauhaus was founded is also the cityof Goethe's classical period. The innovation of 20th-century architecture began in a city with a strong classical imprint. It is no coincidence that the 100th anniversary of the Bauhaus took place at the Goethe Institute, which promotes German culture abroad, even if the German academy in Rome is the Villa Massimo, an artists' colony, not the Goethe Institute. In the case of the Romanian School in Rome, this is a diplomatic representation which also constitutes the Romanian Cultural Institute in Rome. The Casa di Goethe also grants scholarships for research related to Goethe's cultural heritage and German-Italian relations in this context.

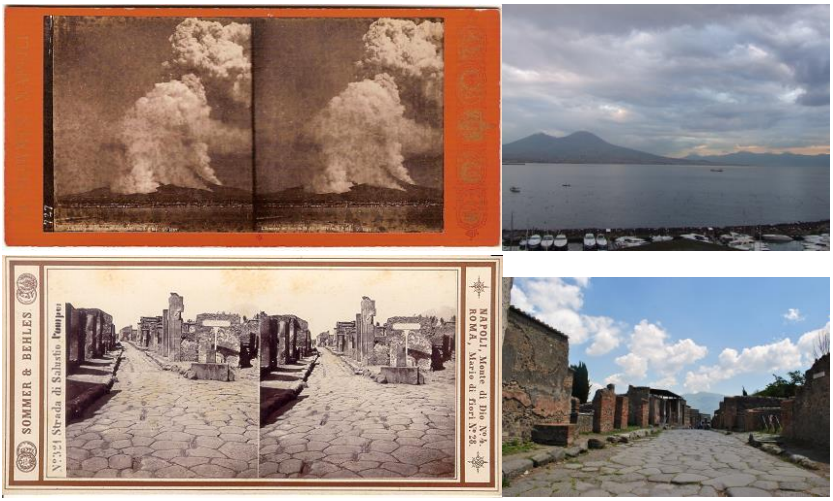


Fig. 3.9: Vesuvius volcano and the archaeological site of Pompeii in Giorgio Sommer's photograph and the author's photograph.

Fig. 3.10: Casa di Goethe Museum and statues of Goethe in Rome (statue in Villa BorgheseePark), both near Valle Giulia and in Bucharest (Herăstrău Park). Photos: M. Bostenaru.

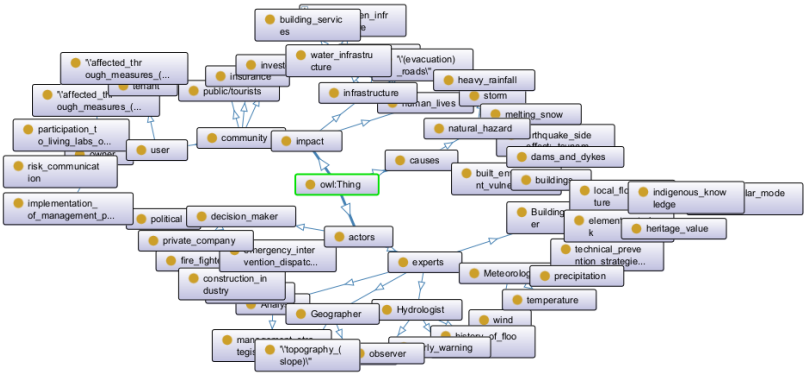


Fig. 3.11: Flood Ontology[4].

Other architectural photography archives don't have such a wealth of historical photography, and I also searchedthe Getty and ICCROM libraries. In this respect the CCA is unique. Further research on this database included the mapping and application of an ontology for classifying photography (Bostenaru, 2011), converted into an ORA network. As part of the *Future on the past* project I did this for the fire (Bostenaru et al, 2024).

The ontology for floods (Fig. 3.11), relevant for this research, took into account the exercise carried out in a training school of the COST Action TU0801 "Semantic enrichment for 3D city models for sustainable urban development". The summer school produced models for floods, forest fires and earthquakes. Within the *Future on the past* project, I have already extended in a review the publication resulting from a short mission to investigate such digital models for earthquakes. I also took into account how in the case of floods the urban/natural context determines part of the disaster resilience, and not only the building compliance.

[4] Also included in a paper submitted for a conference

To put the presentation in context, the landscape of ruin (Conțu, 2013), from Romanticism to the present day, wasinvestigated, as well as the literature on 19th century photography from which period most of the events in the archive are from (Hannavy, 2008). Le Roy et al (2011) also provide a good insight into how images of catastrophes can be interpreted, considering the strands of philosophy in which this can be placed. Ontology being both a philosophical concept and from computer science, this constitutes one of the pillars of the *Future on the past* project. Thus, the investigation brings together the foundations of natural science as in "Illustrated history of natural disasters" and the humanistic approach in "Images of disasters". Heidegger's phenomenology (Hopkins, 1993) links to the concept of local culture related to hazards, as we aim to investigate in phase 3 (year 2024) of *Future on the past* project and includes the investigation of "Pattern language" (Alexander et al, 1977) in the application of phenomenology (a philosophical current) as a research method in architecture and how this translates with its organization into hyperlinks in the digital humanities with more complex methods and techniques, including ontology (Jannidis et al, 2017), which was defined in phase 2 (year 2023) of *Future on the past* project. I will return to the findings on the contribution of Alexander et al (1997) to critical regionalism as a mirror of local culture but also to the democratization of architecture and urbanism through participatory, key to the present work. Also, digital humanities are a synergy between humanities and computer science, and by extending digital methods from humanities to arts, it addresses STEAM (*science, technology, engineering, arts, math*) as we will see in the research results.

During my stay in Rome, I continued research in architectural archives on the impact of disasters on architecture. Thus, in Rome, I conducted archival research at the American Academy in Rome and the British School at Rome. In the *digital humanities* center of the *American Academy at Rome* I also accessed the drawings of the Villa Gamberaia in Florence, discussed in this volume. The collection of Esther Boise van Daeman, the first woman archaeologist of ancient Roman architecture, includes photographs of the effect of the Tiber flood. In the British School at Rome, in addition to the flooding of the Tiber in Rome, there are photographs of the floods in Ravenna

and Chiusi, as well as the Veii in the 1966 floods that also affected Florence. Also on the Florence flood of 1966,the photo library of the *Kunsthistorisches Institut Florenz* (Florence Art History Institute) includes an online exhibition. Queen Mother Elena was active in the response to the flood. An exhibition at the Palazzo Altemps (Barbanera and Capodiferro, 2015), including images, films, fragments of ruins, from the passage of time, catastrophes or war, accompanied by a series of conversations at the Teatro Argentina. Subsequent to their stay in Rome most of these image archives have been transformed into *digital humanities* centers (Biblioteca Hertziana, British School at Rome) following the American Academy in Rome model. Closer to the Canadian Centre for Architecture, being also an architectural museum with a research component, is MAXXI, whose archives I have researched, but which is also the constructed work of a woman architect, as included in this work.There are similar efforts in Romania to make archives accessible, e.g. the Beldiman archive, in a similar way through the Museum of Contemporary Art in Bucharest. At the ZKM (Centre for Art and Media), a museum for contemporary, and digital, art in Karlsruhe, there is a residency program for archivists. At the MAXXI museum of contemporary architecture in Rome, designed by Zaha Hadid, the only woman to have won the Pritzker Prize alone, an exhibition on women in architecture in 2021-2022 (Mattogno, 2024) was also held at the MAXXI museum of contemporary architecture in Rome.

Conveying research through teaching by involving students in research was one of my goals. The Master of Urban Design at the University of Architecture and Urbanism "Ion Mincu" offers a course on "Protecting localities against risks". In the course students first learned about different types of disasters, categorized, then, after the first part was over, they had to write and present an essay on a chosen hazard case study. For the final grade they then design a project for a multi-hazard site in the center of Bucharest where the university is located,based on further disaster management courses. The case study essays have been archived and mapped in Fig. 3.12.They are in most cases, but not always, from the recent past. There is a focus on urban design issues, i.e. the urbandesign measures that can be taken for disaster management if it were to return.

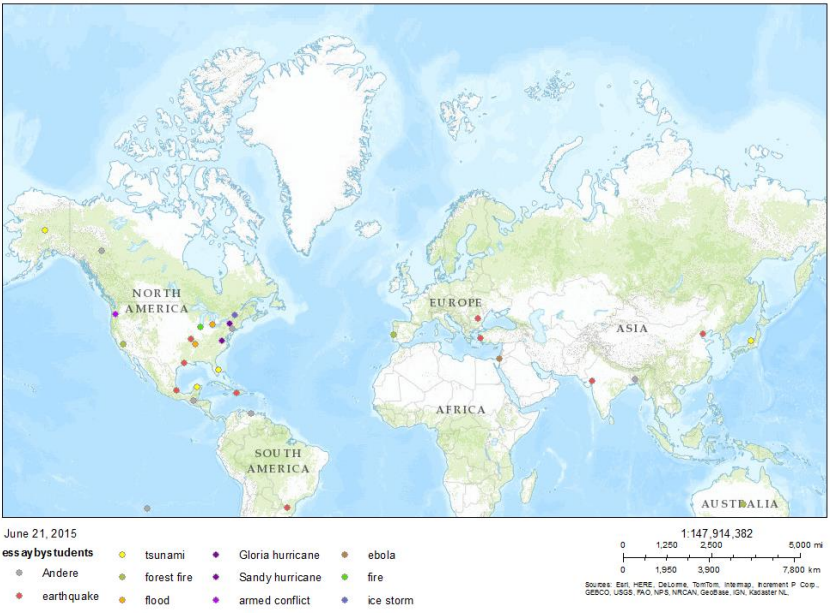


Fig. 3.12: Map of disasters for which essays were written in the course taught to students.

The purpose of the research was to enrich the session that I have been conducting for more than 15 years collectingcase study research on the impact of natural hazards. While the session has been mostly contemporary hazards (sometimes the most recent major disaster, such as the Bam earthquake, which made it to press statement), in the databases in books or archives, historical disasters are covered. This is an enrichment vis a vis what the DESURBS database of security incidents can offer. Student essays have also been a targeted initiative as well as the demandfor articles. Remarkable is the worldwide spread across all databases. Color and form code are given in the caption. These reports range from short session summaries, sometimes accompanied by a full article, to student essays forreview and essays from books. For CCA archival images this information needs to be composited. The information however has a high enough resolution for the DESURBS database and it would be helpful to extend the time period by bringing it

together and allowing growth such as the World Housing Encyclopedia (Brzev and Greene, 2004). The mapping shown highlights how GIS can contribute to risk monitoring and thus to cultural resource management. It is also an idea of how tools can be brought together to share knowledge and data from collected information similar to voluntary geographic information.

The second, multimedia application was made for the city of Cologne. In a webapp I converted the guided tour into an ESRI storymap that received a mention at the 2016 user conference competition. The storymap can be seen here http://arcg.is/1oD45LB and in Fig. 3.13. Bostenaru and Armas (2015b) showed a multimedia system conversion for Bucharest. From this I want to highlight an ArcGIS online map for the central area of Bucharest that demonstrates the cooperation between engineer and architect. The same map was made in ArcGIS and Google Maps, the latter can be found at https://drive.google.com/open?id=125PrLF33m3uunXSv8a_0vS8o6hU&usp=sharing. And the disaster map was also made in google maps (https://drive.google.com/open?id=1oET0aVLIh-l7Yb3IgQjBUO4zCK4&usp=sharing) using the same principles described, as well as a map of the works of the first female architect, included in the guided tour developed for her (http://virginiaharet.blogspot.it/). The area partly coincides with the area for which I programmed the GIS application, using ArcView and MS Access forthe database, linked to it, and for visualization, CityEngine. The different attributes of buildings can be mapped with the CityEngine extrusion, not only the height, but also for example the number of apartments to visualize thedensity (Fig. 3.14). For the link between the two ESRI products it was important to treat the georeferenced coordinate system carefully, differently than when working with a CAD system and doing an extrusion. Fig. 3.14already shows a combination between Google Earth and GIS, as analyzed in a form in Bostenaru and Panagopoulos (2014). Overlaying the Google Earth extrusion in the case of height representation the landmarks modeled with already with Sketchup for Google Earth benefit from a different level of detail. The architect- engineer urban route is the subject of a storymap as well. The google map has the advantage of KMZ files which are useful in the inSAR approach to terrain height change, useful to evaluate the performance of foundations which is a key criterion for these buildings.

Fig. 3.13: GIS story map

Fig. 3.14: Urban density with ESRI city engine, marking the cooperation between architectand engineer

These approaches are further developments of Nolli's eighteenth-century map (http://nolli.uoregon.edu/), which accomplished what I want, different scales for different categories of buildings. Public buildings are represented with their plan, so at a different scale. The participatory approach of the 1980s brought this difference in scale into the urban planning discussion by stipulating how to detail key areas of the city while others were to be shown only generally, and pilot projects were to be developed for these key areas. It is therefore as different from urbanregulation as traditional GIS layereas from the proposed concept. Earlier approaches such as the Mappa Mundi (Cattaneo, 2011) from the Middle Ages presented landmarks in a collage cut-out manner as we see in Guy Debord.

3.2.3.3 Teories of mapping

To better understand the philosophy behind what was shown, I looked at the theories of mapping, those based on exploring a map by walking along routes. The most innovative approaches to altering the paper map are fromthe 1960s, namely Guy Debord's Derivé (1955) (inspired by film set design such as the computer program Director), Kevin Lynch's City Image or How We Read the City (1966), and the urban morphology approaches ofMuratori (1960, 1963) and Caniggia (1986).

Guy Debord proposes to cut the map according to perception, and his approach has been the basis of the so-calledpsychogeography. Distances are perceived, not measured. Kevin Lynch proposed identifying landmarks, boundaries, zones, paths and nodes in the city, also according to perception. That's what I showed in the multimedia approach. Muratori looked at the complete ground floor plan of the area, and for Rome he exemplifiedwith the Pantheon-Piazza Navona area, which can be compared to Nolli. Venice and Florence are fully shown byMuratori and Caniggia.

Angelika Psenner from Vienna programmed a digital method based on them. Jeffrey Cole, a fellow at the American Academy in Rome, analyzed in detail in a presentation the influence of Nolli and Muratori on the strategic design of cities in the Orient. There is a difference, however, between Kevin Lynch's landmarks and Nolli's public buildings, and they do not always coincide. In

our approach presented in Bostenaru and Armaș (2015) we have focused on strategic buildings from the point of view of response to catastrophic events.

One researcher who has instrumentalized the promenade-based sciences was Burkhardt (2011). Based on this Pia Fricker from ETH Zürich has developed digital landscape approaches. And the extrusion of attributes on GoogleEarth has led to digital landscape architecture computer programs such as the one by Nadia Amoroso (Datappeal)(Amoroso et al, 2013). Story maps are the theoretical background we have seen.

Since the multimedia system allows better drawing as with pencil on paper, a proposal was made to further develop the GIS system based on the multiple layers proposed here. Sometimes a CAD system may be better, allowing the inclusion of objects at different scales in the drawings.

Recent developments make it possible to integrate CAD plans of buildings, such as those of the aforementioned parties, with urban plans, in GIS, in the so-called *geoBIM*, which I attended an ESRI course on. This also includes drone photographic images and 3D models created from them.

3.3 Architecture programmes

There are several initiatives addressing the gender dimension of research and/or architecture. This work tends to combine them.

Research on women's architecture from pioneering times to the present day has begun to spread. A few years agothere were some sessions at European Architecture History Network congresses (e.g. Guimaraes, 2010). Subsequently the COST genderSTE Action (2012) was established, which, in addition to two working groups onstructural change in research, included a working group on urban issues, including transportation and climate change, which is in line with initiatives such as WIRES (Women Initiative in Research and Engineering Summit)in the USA, the European Centre for Women and Technology, the gender summit series of conferences that has spread from Europe to North America, Africa and Asia. GenderSTE thus introduced the pioneering dimension in architecture, as seen at EAHN. The genderSTE Action organized the *Engendering Cities* conference in Rome in

2014, which was followed by a summer school in Istanbul on the topic. In 2016 the final conference took place in Madrid, including this dimension among others. The European Culture program funded “Women's creativity since the Modern Movement” (MoMoWo). Women architects from the pioneering period to the present were charted, thus extending what the IAWA database at the University of Virginia has been doing for some time. There has also been a Matrix conference series on the subject in Portugal. I participated in a UEFISCDI mobility project in the final MoMoWo conference, with the aforementioned presentation of the Romanian and Italian pioneers, whose mapping as a guided tour was part of the cultural tourism session. The number of publications increased, such as DonnArchitettura (Eccheli and Tamborrino, 2014), which brings together today's women architects and pioneers, the first in self-declaration and the last in analysis. Another comparative publication (Dümpelmann and Beardsley, 2015) brings together summaries of previously scattered research on pioneering women landscape architects.

The aim of the research being to analyze how architectural programs relate to women when building with water in their different roles, I am looking at women as investor/patron, designer and user. This approach originates from previous research on decision systems (Bostenaru, 2004b). Preliminary research on the role of women as patron is included in an investigation of the role of women in stories (Bostenaru and Kauffmann, 2011), with implications for the story map. That, too, was a cross-country comparative study like the one here. The research is closest to that in DonnArchitettura, because it attempts to so-called "build the future on lessons from the past", as in my reintegration grant, and tries to develop questionnaires on pioneers and questionnaires on today's mobile architects and their dimension of structural change. As mentioned, the roles thatwomen can take on are more diverse, concerning not only architecture by women, but also architecture for women, i.e. women's communities, women investors, or concerning women users in various gender roles. Women are bothsubject and object.

Early and mid-twentieth century architecture was a time of revolution in architecture, with changing ideas in aesthetics, technology, etc. It was during this period that women entered the architectural field, being able to get

licensed as pioneers. But obtaining licensure was a first step, dependent on the demands of society. Permission topractice once licensed was the second step, depending on the society at large and closer family circumstances. Many of these pioneer women were married to other architects or construction engineers.

Looking at the works of women architects in different countries, the differences are minor, because the global society started already in the first half of the 20th century: these women were mobile. In my research I also looked at some examples of women architects who are mobile today, namely those with a fellowship in architecture (Vasile Pârvan for the academies of art in Rome) as well as those with a fellowship such as Marie Curie. For Marie Curie fellows, role model booklets were created. This is one approach for analyzing contemporary women architects. For example, Heynen (2012) analyzes role models of Pritzker Prize-winning architects, including only 2 out of 37 laureates, only one independent, Zaha Hadid (Fig. 3.15). The explanation might lie in the fact that the role models for architecture have been masculine, based on Avant-Garde and authorial traits.

Burns (2012) also identifies the male model for the profession. Architecture turns out to be dominated by the malemodel in many countries (Shepard Spaeth and Kosmala, 2012 only see engineering more male dominated in Scotland; in England the percentage of female architects according to Matthewson, 2012, was also low 14% in 2005). A review of relevant international literature is part of the method, with the methods I have worked withcompared with international practice.

Contemporary women architects from Romania include Maria Cotescu (North Railway Station), Florica Vasilescu (Craiova Episcopal Palace), Cleopatra Alifanti (Academy of Economic Studies), Ioana Grigorescu (restoration of Sucevița Monastery), Eugenia Greceanu (restoration of Neamț Monastery), Elena Voinescu and Angela Filipeanu(new wing of the "Ion Mincu" University of Architecture and Urbanism). More details are included in the description of the London exhibition for which I was curator.

Fig. 3.15: Museums of female architects in Rome: (a) the MAXXI museum by Zaha Hadid, (b) the Macro museum by Odile Decq (Billek et al, 2012). Photos M. Bostenaru.

3.4 Case studies

Some of the previous research looked at the question of users along with the dimension of participation in architectural design. The dissertation looked at reconstruction after floods, earthquakes and red mud from the point of view

of participatory design, while another work, a book on participatory design (Bostenaru, 2007), included an analysis of women's involvement in such processes (in the Emscher area of Germany). Two of the case studies mentioned are in Romania and Italy. The Romanian post-flood reconstruction is from 1940, by architect Richard Bordenache, a former scholar of the Romanian School in Rome, for the village of Corbeni, Argeș, and extensive archival research was done. Details are included in this work in the following chapters. Rural participation such as networking among peasants was investigated (Bostenaru, 2015). The third case study investigated a similar approach today (reconstructions were also made after floods in Hungary through the Károly Kós Association) to traditional building and it was investigated to what extent the methodology from the German area, presented in the book on participation, is now characteristic for Eastern Europe. The landscape dimension, already investigated for climate change and gender issues, plays a role in design and patronage through women. Thus, Marta Bibescu has been active in the restoration of the Mogoșoaia Palace and its garden near Bucharest, a complex along the Colentina River lake wilderness as Le Notre forum has called it and representing Romania at the Minieurope exhibition in Brussels. Queen Marie commissioned the construction of a castle with an impressive garden in Balchik (today Bulgaria) where a pioneering female architect was also active building characteristic villas: Henriette Delavrancea-Gibory. Luiza Blaha, the Hungarian actress, had a villa built for her at Lake Balaton in Hungary. Elena Luzzatto, the first Italian woman architect, collaborated with Maria Theresa Parpagliolo Shephard, the first Italian woman landscape architect, on a military cemetery in Rome, after Maria Theresa Parpagliolo Shephard had also designed the green spaces for the Espozione Universale Roma (EUR 42). Virginia Andreescu-Haret, the first Romanian woman architect, built a casino at the Govora baths in the middle of the park.This approach is close to what we find in Italy. Elena Luzzatto designed a villa for Ostia, Rome's seaside resort. Le Notre investigation of the landscape was the basis for the comparison between Romania and Italy, as the LeNotre forum was previously held in Rome and considered the EUR landscape. Not only in line with the Le Notre investigation this water dimension is a tourism line linked to water heritage.

Water as a hazard, such as flooding, is one aspect of this research. Another aspect is water as heritage. Based on the author's diploma thesis, which looked at water as vulnerable habitat rather than water as a source of vulnerability, as hazard, this includes the communication between architecture and the waterscape. In Rome an aquarium was to open under the lake beneath the EUR park, as originally designed. This was put in the context ofother aquariums visited by the author such as Monte Carlo, Barcelona, Lisbon, Porto, Hannover, etc. This can also be expressed in the architecture of thermal baths, which have a tradition in Italy from the Roman period, butalso include some new developments from the Turkish period, Art Nouveau, Modernism and today (Meder, 2011). For Italy outstanding Art Nouveau thermal baths are those of Montecatini, Salsomaggiore and San Pellegrino terme, the latter being the subject of a Resseau Art Nouveau tour. For the inter-war period the subject of researchin Italy are the baths of the Cesena region, such as Castrocaro and Fratta, but also the Genoa area. In the *Future on the past* project, I visited the Cesena region to investigate totalitarian architecture, but not the baths, although in that area and the Po River delta was the subject of another cultural project, this time at my university: *Eau come patrimoine* (Peixoto and Cardielos, 2016.). The design of a thermal bath is gender sensitive, and has had a historical evolution. I have mentored student projects in this context and conducted interviews with contemporary architects (Bouratoglou et al, 2015). The mentoring methodology is presented in this work. The architect who designed the reconstruction in Hungary (Imre Makovecz) also designed some modern bathrooms, which were compared with historical ones - whether the layout has changed since women and men no longer bathe separately, for example. The Szechenyi Bath in Hungary is another water-related site at Minieurope, wherethe link between water and built heritage is emphasized in a landscape park. This part of the research included archival research to access floor plans. During my reintegration grant methods were developed to analyze floor plans based on function, following the decision tree methodology and more recently *Space Syntax*.For such public spaces *Space Syntax* is particularly suitable. Beyond bathroom architecture, an architecture that deals with water as a means of purification is that of spiritual spaces.

Some of the pioneering women architects designed churches and memorials (Fig. 3.16), and again some monasteries are places for women's communities. Such churches include Lina Bo Bardi's Igreja do Divino Espírito Santo do Cerrado Minas Gerais, Brazil, 1976. A contemporary woman architect who has designed churches is Ana Maria Goilav (a former Pârvan scholar). Relevant examples are also *beguinages* by the water in Belgium andthe Netherlands. So far, I have not investigated this type of architectural programs for women, as the research has focused on the modification of housing architecture programs for the modern woman in the 20th century (Pollak, 2005, Cosseta, 2000).

Fig. 3.16: Spiritual Spaces: (a) Romania Virginia Haret (Neoromanesque) Church in Ghencea 1927-34 with Jean Pompilian, photo M. Bostenaru (b) Italy Atillia Travaglio Vaglieri with Umberto Travaglio post-war church in Recco 1951 photo: wikipedia Davide Papalini (c) Germany Nina Libeskind contribution to the memorial site of Daniel Libeskind Jewish Museum Berlin 2001 (d) Spain Carmen Pinos with Enrico Miralles Igualda cemetery 1984 photo: wikipedia Mcginnly.

The cooperation between husband and wife can be seen in the case of Polish housing couples (Fig. 3.17). In fact,sometimes there is cooperation between engineer and architect. This made it easier to stay in the profession as a woman. Fig. 3.18 shows cemeteries of the first Italian female architect.

a. b.

c. d. e.

Fig. 3.17: Women as designers: pairs of architects in Poland: Barbara and Stanislaw Brukalski: their own house 1927 (a) and housing estate after the Viennese model WSM 1929-34 (b), Jadwiga Dobrzynska and Zygmunt Loboda single-family house 1932 (c); Helena and Szmon Sykus building in the center 1937 (d) and WSM housing estate (Warsawska spoldzielnia mieskaniowa) Rakowec side 1930 (e). All in Warsaw, Poland. Photos: M. Bostenaru.

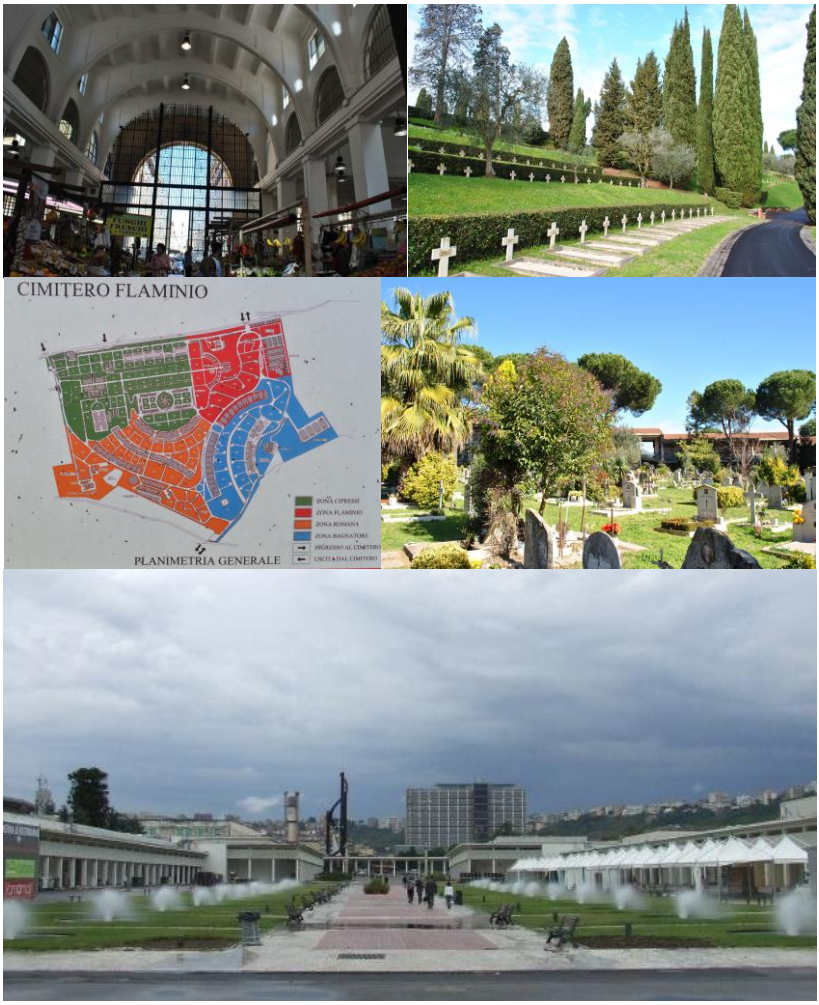


Fig. 3.18: Women as designers: women architects in Italy: Elena Luzzato, Piazza Alessandria, Rome, 1935 (a), Elena Luzzato with Maria Teresa Parpagliolo French military cemetery in Rome 1944 (b) Flaminio cemetery in Rome year (c) Stefania Filo Speziale, contribution to the Mostra d'Oltremare, Naples, 1937 (d), Photos: M. Bostenaru.

4 Results

My research looked at Art Nouveau and inter-war architecture in Europe, with a new contribution on Eastern Europe. The center of gravity of the research was disaster protection, first earthquakes, then floods. The gender dimension is new in this research. I researched pioneer women from Romania, Romania (part of today's territory of Bulgaria), Hungary (part of today's territory of Romania), Estonia and Poland in Eastern Europe, as well as Italy and Austria. Besides the mobility between countries, we see that borders were also mobile in this period of history. The patterns of society for women architects were different in these countries, in some of them women architects were married to construction engineers or other architects and also cooperated in the profession, sometimes signing works independently, sometimes together. This is worth comparing with today's practice, when, for example, Daniel Libeskind cooperates with his wife but is the main signatory. Another example is Enrico Miralles' office partners.

The inclusion of the cooperation with the Marie Curie Fellows Association led to the investigation of the situation today and in pioneering periods in these Eastern European countries. The role models booklet was presented at the EuroScience Open Forum in Dublin (2012) and Copenhagen (2014) and Manchester (2016) and at the Eurodoc conferences in Budapest (2014) and Cluj-Napoca (2015). GenderSTE links were realized at eurodoc conferences, and a stay in Hungary with a Domus fellowship allowed cooperation with Zsolt Mészáros on turn-of-the-century architecture and Pál Ritook on interwar architecture. During the inter-war period in Hungary the best-known building practitioner was Eszter Pécsi, a construction engineer who, among other things, designed a villa with the Bauhaus architect József Fischer. A park was named in her memory, and a commemorative plaque was placed in the so-called Szent István Park with its remarkable modernist architecture (Klein, 2022) (Fig. 4.1a). In interior architecture I mention Zsuzsa Bánki (Fig. 4.1b). Other female architects were Franciska Bettelheim (married Lédermann Lászlóné Lédermann) who designed a villa on Gellért mountain among others and Etelka Fleischl who designed a boat station on Margaret

Island in Budapest. In the province Marianne Várnay (Sternberg) designed buildings in Szeged in southern Hungary. Among the turn-of-the-century architects I dwell on Erika Paulas, who built in Transylvania (Bistrița, Cluj-Napoca, Fig. 3.2b and Mediaș, Fig. 3.2c).

We have in the past hosted a Short Term Scientific Mission on the role of landscape architecture for the COST Action "Climate change and migration" (Bostenaru, 2014). Within genderSTE working group colleagues in Vienna have a project on "Gender Impact Assessment in the Context of Climate Change Adaptation and Natural Hazards" (floods and mudslides, participatory design
https://forschung.boku.ac.at/fis/suchen.projekt_uebersicht?sprache_in=en&menue_id_in=300&id_in=9726).

The Marie Curie Fellows Association also has a working group on climate change preparing a project proposal, as in the gender working groups. In the genderSTE working group the research included improving the waste and water part for Horizon 2020, the water part. The gender dimension has been an important part of Horizon 2020 and in Horizon Europe the gender equality plan is mandatory for research organizations implementing projects. Women and water are part of other research programs, such as a 5-year program in Japan (http://wings.synfoster.hokudai.ac.jp/). In Japan there is a 5-year program to promote women in research that started in 2014 with a conference on multiple aspects of water at Hokkaido University. Water is an interdisciplinary issue, as seen at the Junior Summits in Stresa, organized by the European Science Foundation, which I attended in 2012 including the creation of the video materials (Bridle et al, 2013). Stresa, on the shores of Lake Maggiore, was also the place of exile of Queen Elizabeth of Romania.

Fig. 4.1: (a) Pecsi Eszter Park, (b) Szent István Park block with the Pecsi Eszter commemorative plaque, (c) Zsuzsa Kovács interior architecture of the house designed by Imre Vámos for Lienerth Aladárné, born Kormos Margit (1939) Photo M Bostenaru.

4.1 Water as a dual element

Water is a dual element: it gives life and destroys life. Destruction occurs when water is either too little or too much, as is the case today with climate change. In the COST genderSTE Action gender issues have been considered both at the level of science policy, such as structural change, but also in research-related areas in working group 3 on cities, which includes a sub-working group on climate change. The Horizon 2020 framework program has in particular included gender issues, such as the genderSTE network's suggestions on water in the framework program. Other projects within the genderSTE network included the Austrian GIAClim project on gender and climate change in landscape architecture.

On the other hand, the positive aspects of water relate to tourism and leisure. Water buildings, or buildings that include water, such as thermal baths (Fig. 4.2) and aquariums can be designed by and for women. Water as decoration (fountains) is also considered (Fig. 4.3). Milița Pătrașcu's mosaic fountain deserves special attention as it represents the cooperation between an architect and an artist in public space. Similar cooperations can be seen in garden architecture in Vienna, between (female) landscape architects and building architects (Meder and Krippner, 2014). Further reflections on female architects in landscape architecture can be read in Hallbrooks (2005).

Thaisa Way, a former fellow at the American Academy in Rome, simultaneously with me, and with whom I had a conversation, has written a book about women landscape designers in the U.S. (Way, 2009) The book deals with the educational and professional conditions under which it was possible to enter the profession. Notable is Beatrice Farrand's design for the Dumberton Oaks Gardens in Washington, which is today a center for the study of landscape architecture. The gardens follow an Italian model.

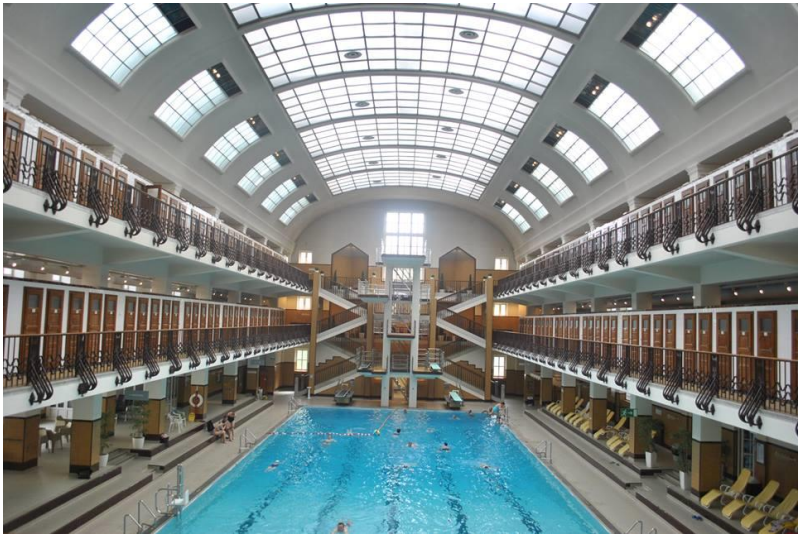


Fig. 4.2: Amalienbad - interwar thermal bath in Vienna. Photo: M. Bostenaru.

Fig. 4.3: The mosaic fountain designed by Milița Pătrașcu in front of the royal railway station, from the interwar period, and together with the neo-Romanesque Minovici villa during restoration and in operation. Photos: M. Bostenaru. Plan from the archives of Bucharest City Hall.

My diploma thesis was the water museum. In this approach I also looked at water as a dual element between heritage and vulnerability, but the vulnerability of water, not the vulnerability caused by water, but water as a living environment, a habitat for biodiversity, namely an aquarium. But water museums around the world tend to become museums of water infrastructure. I visited and charted the water museum in Lisbon (https://u4v.org/en/routes/418), but, also in the Portuguese space, I had the opportunity to visit, funded by the *Future on the past* project, the *levadas* of Madeira (Fig. 4.4), a picturesque and efficient irrigation solution on the UNESCO tentative list, at the conference I attended there, CEES 2023, being also a *key note lecture* about the water systems of the Atlantic island.

I am a member of the ICOMOS (*International Council on Monuments and Sites*) *International Scientific* Committee *on the Analysis and Restoration of Structures of Architectural Heritage* (ISCARSAH). Although there is a committee on hazard protection, this committee also deals with hazards and I joined a sub-group on the relationship between the structure of historic monuments and climate change, where I am contributing to the part on the architecture of Modernism for a *white paper*. A preliminary version will be presented at the meeting of this committee in Bucharest, which I am helping to organize.

Fig. 4.4: *Levadas de Madeira*. Photos: M. Bostenaru.

4.1.1 Research topics on gender in climate change

On February 23-24, 2016, an online conference on gender mainstreaming in Horizon 2020 and climate change proposals took place. I present here some of my contributions based on the Vasile Pârvan research project.

I submitted a contribution to an exhibition commemorating the 1966 Florence flood of 1966, on sandbags (in Bernburg, Germany 2013) and post-flood reconstruction. A competition for a similar exhibition was from MoMoWo on women's own homes.

One feature that I noticed, and which I covered earlier, was the mobility of women in that period, which led to the internationality of style. And in the Marie Curie Fellows Association, we also dealt with this in the m-WiSET group that I co-led.

We've always seen climate change linked to energy and the like, and disasters being an effect of it. Water is also a source of energy, through water mills, then hydropower plants, which are positive examples, but also micro-hydropower plants which damage nature. The Vidraru hydropower plant stopped the floods on the Argeș river, similar to the Corbeni hydropower plant that I investigated for the reconstruction of Richard Bordenache. And I also treat mobility, but in a positive way. But mobility can affect climate change negatively through emissions. So, promoting women's mobility in research needs to be treated carefully.

A gender component has been introduced in H2020 proposals, for example also in security projects. I have written a few words about water-related projects, because women in some countries may swim more difficult because of their clothing, but on the other hand they tend to spend more time at home and protect the house from flooding with their traditional knowledge. In H2020 projects, a 40% gender minority participation was requested. In Romania, women are well represented in research, the European Commission report shows.

Looking at women in leadership roles, at a conference at New Europe College, which we reviewed for Web Ecology magazine (Bostenaru and Gheorghe, 2015) it was stated that in the UK flood protection in NGOs tends to be led by women as they care more. Ecology from a climate change point of view is well seen by Anna Kaijsera & Annica Kronsell in Climate Change through the lens of intersectionality. Intersectionality is now a team in the COST VOICES action on the power of young women's voices, in which I am participating. I believe in writing in ecology journals about landscape measures to prevent flooding as an effect of climate change.

In June 2016 I organized a workshop in Rome to which I also invited contributions on the connection between agriculture and water, trying to draw conclusions also for gender. I think that agriculture issues reflect well climate change, and that landscape research is very important in this respect. I was also at a conference on climate change in the Middle Ages, when this was the way to record, which was held at the German Historical Institute.

I also investigated how relevant it is to use methods such as *Space Syntax* to map paths in public space, which should be defined as safer. Similar research has been done for paths in the indoor space of the home. In fact, regarding housing, this is the most researched theme as designed by women in modernist architecture, in other architectural programs the gender component is not so evident.

In 2015 I organized a conference on gender at the annual *eurodoc* conference, and my co-organizer, Carole Chapin, looked at how to differentiate gender in different languages (masculine, feminine and neuter, e.g. even weird in Hungarian). It is also worth looking at how Germany attempts gender equality in different public texts, e.g. WissenschatlerIn. Recently the use of the gender-neutral pronoun for those who identify as neither feminine nor masculine has been introduced in English. Formulations in climate change texts and related statements are also important (e.g. at COP21).

In 2024 a book was published on this theme of sustainability, climate change, and the role of gender/women's politics (Franco et al, 2024). While this publication is about disasters caused by climate change, such as the floods in

this book, and how to avoid them, including through nature-based solutions, the project within which the research is framed also aims to study the effects of earthquakes, the perception of which, and as a consequence the possibilities for intervention, depend on gender (Sigbjörnsson et al, 2018).

4.1.2 Workshop *Water as hazard and water as heritage* EGU topical event s2016/255

For an informed collection of views on the topic, I organized this workshop, the abstracts of which have been published (Boștenaru and Dill, 2018). In a changing climate, hydrological and meteorological water hazards are causing more and more losses. Watercourses generate other types of hazards, as alluvial soils increase vulnerability to earthquakes through the Mexico City effect. On the other hand, water itself is a vulnerable habitat. To address the latter theme, living museums including aquariums are being designed to raise awareness on how to protect the ecological diversity of water and water sites. Protecting water sites can also sometimes protect against water hazards, as landscape architecture has recently begun to recognize. Floodplains are an alternative to dikes. This would already be enough to emphasize the dual role of water, but the duality continues. Thinking of sustainability, one has to think of Chinese philosophy/mythology. Water (or lack of it, such as drought) destroys life as a hazard, but it also donates life. This symbolism of life-giving water is linked to water as heritage, to the culture of building in the neighborhood of water. The architecture of river and coastal landscapes emphasizes this. Leisure architecture is linked to this and includes architectural structures such as baths.

The event took place in the conference hall of the Romanian School of Rome, at the Villa Borghese (Fig. 4.5). The event took place on June 13-14, 2016. Four participants from the Romanian School of Rome, including myself, the organizer, took part. The theme of the workshop was related to the Vasile Pârvan research project. The workshop took place as a collateral event to the exhibition *Spazi aperti* (Open Spaces), which brings together scholars from foreign academies in Rome. The *Spazi aperti* event is part of the international culture month (June) of the foreign academies in Rome, in the framework of

which the workshop was also announced. The poster part was part of the exhibition. Thus, they could be seen during the whole period of the exhibition, starting from the opening which took place on June 10. It included a British participant (Mark Kelly) who could not be present in person. The workshop was advertised along with other *Spazi aperti* events on all publicity channels (press release, news letter, Facebook event page, banners, web page (Fig. 4.6). The EGU logo as sponsor of the participation of young researchers from abroad appeared on all these materials. The workshop organizer also helped to organize the exhibition. The program and rationale of the event were translated into Romanian and Italian for better dissemination. A youtube interview is also planned. An own event page has been created on google sites and constantly updated (see screenshot Fig. 4.6, http://sites.google.com/site/egutopicalevent/home). This site was also announced on the EGU website. Participant Prof. Beniamino Murgante created a common album for real-time photos. A group photo was taken.

The event's poster depicts the duality of water against the backdrop of the villa of a Romanian princess in Italy (Ioana Ghika and the Villa Gamberaia in Settignano near Florence), which was revolutionary in landscape design by introducing water instead of vegetation and was presented at the workshop. The villa was photographed after the 1966 flood in Florence, which was commemorated at the time, as a heritage part of a then awe-inspiring feature. In Florence, a summer school on water forms between danger and heritage was organized in autumn 2016 by the German Art History Institute (KHI), and this was new since the proposal was submitted. In the foreground is an image of flood protection measures in Bernburg, Germany, in 2013. The poster appeared on the site and was emailed. Subsequently, in 2019, similar events on water were held at other academies in Rome, namely the American - *Water and Culture: A View from Rome* - (https://www.aarome.org/events/water-culture-view-rome, review in Bostenaru, 2019) and the Swiss Institute: *Acqua Roma - Nourisher of Life and Bearer of Meaning* (https://www.istitutosvizzero.it/de/conferenza/acqua-roma-2/).

Fig. 4.5: Photos from the event: M. Bostenaru.

Fig. 4.6: Screenshot of the website

The organizing committee of the workshop was enlarged and in addition to the organizer (Maria Bostenaru Dan), the curator of *Spazi aperti* (Roxana Mihaly) and two people who helped with the guided tours Ciprian Buzilă and Eva Pietroni participated. After the workshop the organizer had to attend an interview at the Joint Research Centre of the European Commission, Ispra (Varese), where a co-organizer of the EGU sessions works, during which time Ciprian Buzilă, former Pârvan Fellow, organized the guided tours. At the interview I reported about the organization of events. The scientific committee prepared a list of questions for the participants to answer in their contributions, approved the selection of presenters and fellowship winners.

The program consisted of presentations in the morning and an informal part after lunch. The presentations were in chronological order from antiquity to the present day, with the contemporary part including risks and hazards. The historical part included the heritage part, with a focus on landscape, as the Romanian research project also revealed the exchange of experience in landscape between Romania and Italy, like the poster. Thus, Daniela Calciu presented a US seminar that took place in Europe and served as the motivation for the workshop. Discussion of the papers (20 minutes each) took place informally during the coffee break so that participants got to know each other. Participants agreed to communicate further, became facebook friends and a non-public E- Mail list was provided. Some, not all, also distributed the presentations. When not presented, it is due to the rights to historical images. The afternoon included a visit to the exhibit and poster portion, a discussion of the materials presented by Ciprian Buzilă, a book launch and a presentation of the installation in the neighboring museum by Eva Pietroni, which had to be shown on Tuesday because the museum is closed on Mondays. The book launch concerns digital methods, including GIS related to floods, while Eva Pietroni's project is a digital project of the Tiber Valley archaeological site. Three of the book's authors were present: organizer Maria Bostenaru Dan, Daniela Calciu and Beniamino Murgante. The Director of the Romanian School in Rome welcomed the event and the contributions from archaeology, of which there were two more. Beniamino Murgante launched the invitation to organize a session of papers in the framework of the ICCSA conferences he organizes. Participants came from many disciplines, 19 in total. They came mainly from Romania, Italy, the United States and the United Kingdom. I underline that the events were attended by two Marie Curie alumni outside the organizers. I believe that I have achieved an international and interdisciplinary event with high quality contributions, taking place on the former site of the 1911 exhibition in Rome, transformed into the valley of the academies (Valle Giulia). The author is also happy to have finally organized it, after a successful but unrealized selection at the EuroScience Open Forum in Munich in 2006.

4.1.3 Human-made hazards

I would like to draw attention to the danger to which these sites designed by women are exposed, where the danger is not the water, but the speculation that has led to different ways of using the land. The Venice Architecture Biennale 2016, which I visited, included this kind of crisis in *Reporting from the front*. Some of the pioneer women's water-related buildings have been demolished (a water castle by Virginia Haret, a Balchik villa- style house by Henrietta Delavrancea-Gibory, Fig. 4.7) Fig. 1.1 shows how, on the contrary, some of these architectures have become icons of their time for today's landscape.

Some of today's women's architecture is endangered. It was like that during the design period (Erika Paulas won the competition in Bistrița but the forestry forest was not built according to her plans) and the witnesses of women's architecture continue to be erased (alterations to the Govora casino by Virginia Andreescu-Haret, the demolition of the Prager villa by Henrietta Delavrancea-Gibory, the only one in Bucharest in Balchik style, and several others in Balcic).

This is not a unique situation. The *World Monuments Fund* has a project to protect Sri Lanka's first female architect, who studied in the UK, whose landmark buildings have been demolished in numerous cases without proper documentation (https://www.wmf.org/project/minnette-de-silva-project).

Fig. 4.7: Villa Prager by Henrietta Delavrancea-Gibory, built in 1936, demolished in 2009. Photos: M. Bostenaru, plan from the Bucharest municipal archives.

4.2 Women in different roles in architecture

As an architect and former scholar at the Accademia di Romania in Rome, Italy, my research project is about women and water, namely the architectural works of pioneering women architects. The aim was to draw conclusions for today's design. A research question is to what extent women have the power to participate in decisions about their living environment.

In the participatory design decision tree, which I developed, I have women as designers, as users and as investors. In terms of the research problem, it is interesting to see whether women are seen as the object or subject of the research, i.e. affected by climate change or leading measures against climate change. As subject they are touched by pre- disaster preventive actions, as object by post-disaster actions, i.e. they are affected and perhaps react in a way that becomes pre-disaster in a cyclical way.

4.2.1 Women as patrons

As investors, even if I want to address the cost-benefit issue in this decision tree, I consider the aspect of women as patrons to be important. At Balchik, where Henrietta Delavrancea Gibory built by the water (Fig. 4.8a) and at the villa Gamberaia near Florence, which served as a model for Italian landscape architects of the 20th century, the Queen of Romania and a Romanian princess were patrons. At the Mogoșoaia palace near Bucharest Marta Bibescu was the patron of the restoration of the water gardens (Fig. 1.1). Does water constitute a danger and does the heritage dimension outweigh the related dangers? This is a question that arises at all these sites. The 50th commemoration in 2016 of a major flood in Florence was an occasion during the Vasile Părvan Fellowship to reflect on this. But at the same time water is a vulnerable habitat, and the landscape design at EUR in Rome considered this when designing an aquarium that could only now be completed to show the vulnerability of water, of this heritage, which can make its environment vulnerable (Fig. 4.14).

Lessons can be learned from the history of the profession for the role of designers today. In the case of the pioneers, the role of patrons (investors) and architects/designers as well as users was restricted to aristocratic women. Thus, I mention Marta Bibescu (Fig. 1.1b), Princess Ioana Ghika for the Gamberaia gardens in Florence (Fig. 4.9), whose plans are available as drawings by Edward Lawson at the American Academy in Rome, and Queen Maria for the gardens in Balchik (the construction work on the palace in Balchik was carried out by the Italian firm Fabro Agostino) (Fig. 4.8a). Thus there are Romanian patrons also in Italy. I mention in the outskirts of Florence, Settignano and Fiesole respectively Princess Ioana Ghyka and Queen Mother Elena who have patrons of the gardens of their villas: Gamberaia and Sparta. Princess Ghyka was personally involved in the design of the water parterre. Maria Teresa Parpagliolo, the first Italian landscape designer, took the villa Gamberaia as a model for the early design (Dümpelmann, 2004).

Fig. 4.8: The patronage of Queen Maria of Romania, Pelișor castle interior and plan, Balchik castle and landscape plan (Sion, 2009) Photos: M. Bostenaru, plans from the National Archives of Romania.

Fig. 4.9: Villa Gamberaia with parterre d'eau designed by Ioana Ghyka, Settignano, Florence, around 1900 (Osmond, 2014), photo M Bostenaru.

Fig. 4.10: Villa Sparta, Florence, designed by Cecil Pinsent for Queen Elena, Queen Mother of Romania, later intervention by Pietro Porcinai photo wikipedia Sailko

Later Pietro Porcinai, whose father was a gardener at Gamberaia and so grew up with it, did the same. Pietro Porcinai (2011), one of Italy's most important landscape architects of the Italian landscape of the 20th century, also designed some elements at Villa Sparta after the original design by Cecil Pinsent (2013) (Fig. 4.10).

Fig. 4.11: The Kissing Gate, part of Constantin Brâncuși's sculptural complex in memory of World War I, for the Women's Association. Photo D. Bostenaru.

Another example of female patronage is the ensemble of Constantin Brâncuși in Târgu Jiu, the sculptor whose anniversary was in 2016, the year of the fellowship's conclusion (which was also Marta Bibescu year) (Fig. 4.10). The National League of Women, led by Arethia Tătărăscu, commissioned the work after the war. Since 2024 the ensemble has been included in the UNESCO World Heritage List.

Among contemporary architects Phyllis Lambert, founder of the Canadian Centre of Architecture, whose director of studies worked during the Vasile Pârvan fellowship at Villa Medici - French Academy in Rome, and also organized a reunion of all the academy fellows, was awarded the Golden Lion at the 2014 Biennale for her sustained support of Mies van der Rohe. Farnsworth house is a remarkable creation.

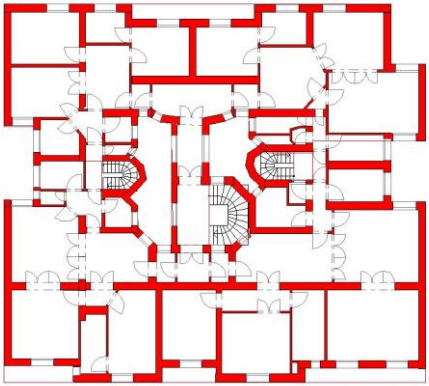
4.2.2 Women as designers

Victor Asquini was an Italian architect who immigrated to Romania and was active in designing technical guidelines to combat earthquakes. Virginia Haret was a Romanian architect who studied in Italy and built thermal baths (Haret, R.S. 1976, Feuerstein, M.; Bliznakov. M. 2000) (Fig. 4.12, 4.13).

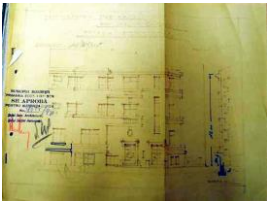
Fig. 4.12: Map of Virginia Haret's work in Bucharest. Drawing by Virginia Haret of the old church in Curtea de Argeș for the BCMI magazine. Photograph of the church, M. Bostenaru.

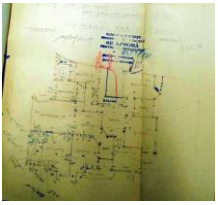
a. b.

c.

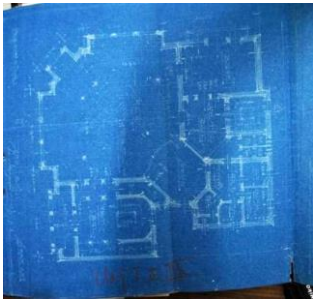


d.





e.



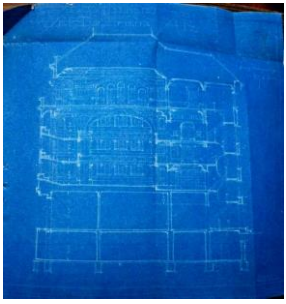


Fig. 4.13

Fig. 4.13: Women as designers: Virginia Haret: intervening buildings (casino in Govora, Romania - a - and building next to a demolished one in Bucharest, Rosetti-Solești house, 1928 - b -), pioneering buildings (first reinforced concrete building in Bucharest, 1922 - c), own house in Bucharest, 1931 (d), the most significant building, the "Tinerimea Română" palace in Bucharest 1924-27 (e). Photos: M. Bostenaru. Archive drawings (d) from the Bucharest City Hall, (f) from the National Archives. Drawing (c) by M. Bostenaru.

Virginia Haret also took part in international congresses, including the one in Rome at the Accademia di San Luca (in 1935). Horia Maicu was a Romanian architect who studied like Virginia Haret in Italy outside the framework of the Romanian School in Rome.

In the context of the connection between tradition and innovation, the way she treats landscape may be an influence of Italian training, in which case I studied the work of a pioneering landscape designer such as Maria Teresa Parpagliolo (Dümpelmann, S. 2004), who designed the landscape for the Esposizione Universale Roma (Fig. 4.14). Or Stefania Filo Speziale, an early landscape designer, who was involved in another exhibition, the Mostra d'Oltremare in Naples, with its famous fountains (Tamborrino; M.; Eccheli, M. G. 2014) (Fig. 3.18). In this context, the way Maria Teresa Parpagliolo treated memory is important, because she designed with Elena Luzzatto (Fig. 3.18), the first Italian architect, a military cemetery in Rome (Speckel, A.M. 1935). Elena Luzzato also built a block on Viale Romania. Memory considerations are also important in reconstruction after any kind of disaster, whether earthquake or flood.

Fig. 4.14: Villa d'Este in Tivoli, which served as a model for the EUR landscape, Maria Teresa Parpagliolo, EUR landscape, Rome. Photos: M. Bostenaru.

Fig. 4.15: Women as designers: Romania: Henrietta Delavrancea-Gibory: (a) typical villa in Balchik, the one in Queen Maria's garden (Pavilion of the Guilders, 1936), (b) villa of similar style (Cantuniari, 1937) in Bucharest. Photos: M. Bostenaru. Archive drawings from the Bucharest City Hall, technical fund.

Tradition and innovation are also present in the works of another Romanian woman architect who built on the waterfront: Henrietta Delavrancea-Gibory (Sion, M. 2009) (Fig. 4.15). Returning to the issue of the decision tree that I am developing, I can emphasize again that women in the case of waterfront design can be architects, users, passive audience or investors. Women as designers, architects or landscape architects, can exercise their profession if the society as a whole and the family environment allowed. For example in Poland the pattern is different and there are pairs of architects (Fig. 3.17).

The relationship between women and designing to and with water is thus a power relationship (see also Sang et al, 2014, Fowler and Wilson, 2004). In politics today we need to learn how to make this craft accessible, including entry into the profession. Among women designers I mention Maria Teresa Parpagliolo, the first Italian landscape designer who designed the Esposizione Universale Roma (EUR) 1942 landscape (Dümpelmann, 2004) and envisioned an aquarium under the lake (Fig. 4.14). This aquarium is now being built. An

aquarium is a living museum thus giving a new dimension to water. It is not water as such that determines the vulnerability to extremes given by climate change, but water as a vulnerable element. The value of the habitat is presented in the museum to make people aware of the need to protect it, given its vulnerability today. Ideas in people's heads protect better than legislation (Tom Koenigs, Mayor of the German city of Frankfurt am Main). More about pioneering women in Italian architecture can be read in Tamborrino and Eccheli (2014).

For architecture and interior architecture I have considered beyond the examples from Romania and Italy and Hungary, which can be emphasized for pioneering already from Art Nouveau (Erika Paulas) as well as in Estonia (Wivi Lönn). Studies on changing building plans began to be conducted when women began to be considered distinct from their domestic and child-care roles, but there are as yet no studies on water inclusive architecture. Among the many innovations to improve women's homes and show new feminine directions in this context is the kitchen. Margarete Schütte-Lihotzky is the author of the Frankfurt kitchen. In Llewellyn (2004) several studies in this direction are shown. Looking at dwellings, I designed one containing a water mirror (Fig. 4.16).

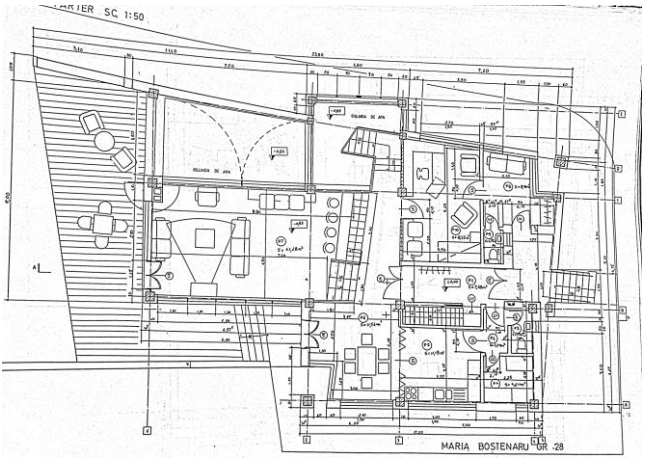


Fig. 4.16: Own project with a water mirror in the living room.

4.2.3 Woman architects' own homes

From the field and archival studies in this work, the women architects' own houses are exemplified (Fig. 4.17- 4.19). These buildings are in Bucharest and were first built in the neo-Romanesque style (Virginia Haret later also built a functionalist house with her husband).

Fig. 4.17: Henriette Delavrancea-Gibory's (1897-1987) own house, built in 1925, Mihai Eminescu Street, Bucharest. Photo: M. Bostenaru, plans, Bucharest municipal archive.

Fig. 4.18: Virginia Andreescu Haret's own house (1894-1962), built 1926, Spătarului entrance, Bucharest. Plans from the Bucharest City Hall Archives, photo M. Bostenaru.

Fig. 4.19: Ada Zăgănescu's own house (1889-1975), built 1927, Dealul Mitropoliei, Bucharest. Neighborhood plans from the Bucharest City Hall archives. Photo: M. Bostenaru. Works by Ada Zăgănescu can be consulted at https://scandip130arh.uauim.ro/category/autor/ada-zaganescu/

4.2.4 Women as researchers

Finally there is another role of women as experts different from that of practicing architects. It is that of research, which I first touched on when I talked about Horizon 2020. The Marie Curie Fellows Association (MCFA and MCAA) have produced booklets about women as role models. Some relate to water issues, not design, but the composition of water: its chemistry and the ecology of its habitat. As with women architects, who have so often been mobile, mobile female researchers are helping to bridge cultural differences between countries. In the case of research this means that newly learned methods from one country can be applied in another. In the case of architecture, this has led to a unification of style and thus of the cultural differences given by regionalism. It is in line with the EU's cohesion policy. In this framework, international meetings on water have been organized, such as the Junior Summit "Water" by the European Science Foundation at Lago Maggiore in Italy in 2012, bringing together researchers from different disciplines on the theme of water, including an overview of architecture in research and on site.

4.2.5 Women as users

Richard Bordenache was a Romanian architect who was a scholar of the Romanian School in Rome (Lăzărescu, G. 2002) who rebuilt the village of Antonești in Argeș County after the flood of July 10-12, 1941. At that time, after 3 days of heavy rain, a natural dam was formed on the Argeș river from the logs washed away by the floodwaters, and only very few households were left standing in the village. The architect's link with the commune is also demonstrated by the existence of his own dwelling, a cula, in the commune. The director of the Village Museum, ethnologist Gheorghe Focșa, was also part of the committee sent to assess the damage and draw up an action plan to build houses for 40 people. Prisoners (during the war) also worked on the construction, thus saving funds. This explains the social characteristics of the village. After the creation of the Vidraru dam, the risk of flooding was reduced, although there are also historical disasters related to dam failures. The county archives in Pitești also provide data about this dam, also consulted by foreign researchers (Štanzel, 2017).

I analyzed this reconstruction in extensive modes, considering the life of the architect, his urban works, his writings, and archival documents on the reconstruction, which also includes costs. Different from the urban works, which show the influence of the Italian palace, the rural works in this village reconstruction are inspired by the traditional Romanian dwelling and are in a neo-Romanesque style. Fig. 4.20 shows a portion of the site plan with some typical dwellings. Fig. 4.21 and 4.22 show two such typologies. The dwellings were personalized not only by typology, but also by painted drawings (e.g. "Peacock House").

The archival files contain not only plans, sections and façade drawings, as seen in these images, but also costing estimates (Fig. 4.23), these being economic housing, built during the war, like social housing today.

Fig. 4.24 shows the public buildings. The model village was provided with a cultural center, on the model of the Siedlung, the Bauhaus quarters, of today's Germany, which today has been replaced by a newly built church.

For Horizon 2020 and Horizon Europe - the New European Bauhaus -, education, including following the Bologna process, but also for Richard Bordenache's village I consider women as users.

I also have an example of a German project from IBA Emscher Park entitled "Frauen planen, bauen, wohnen" (women plan, build, live) and my results are based on mature participatory methods such as those developed at the IBA (International Building Exhibition) Emscher Park in Germany, which show all layers of earlier public participation from the 1960s (Häußermann, H.; Siebel, W. 1993). The same is true for the passive public.

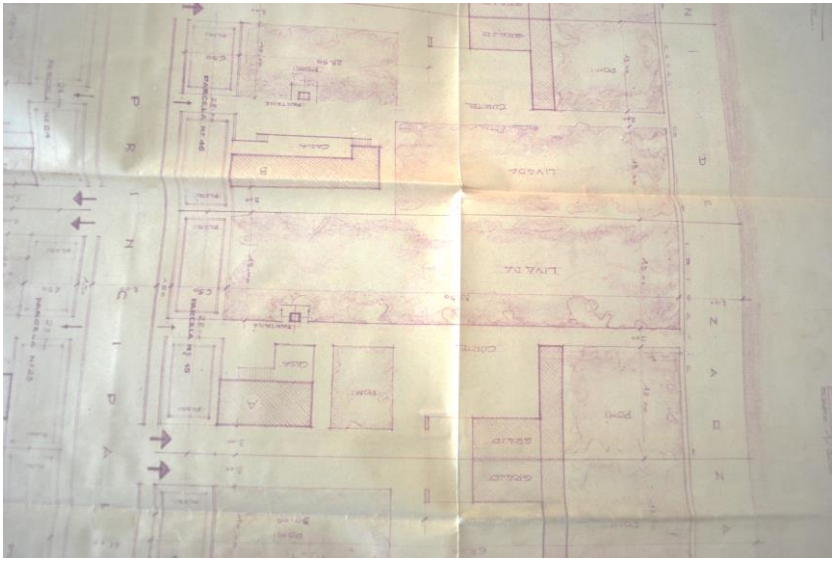


Fig. 4.20: Situation plan of the model village Antonești, commune Corbeni, Argeș. National Archives, Argeș County, Pitești.

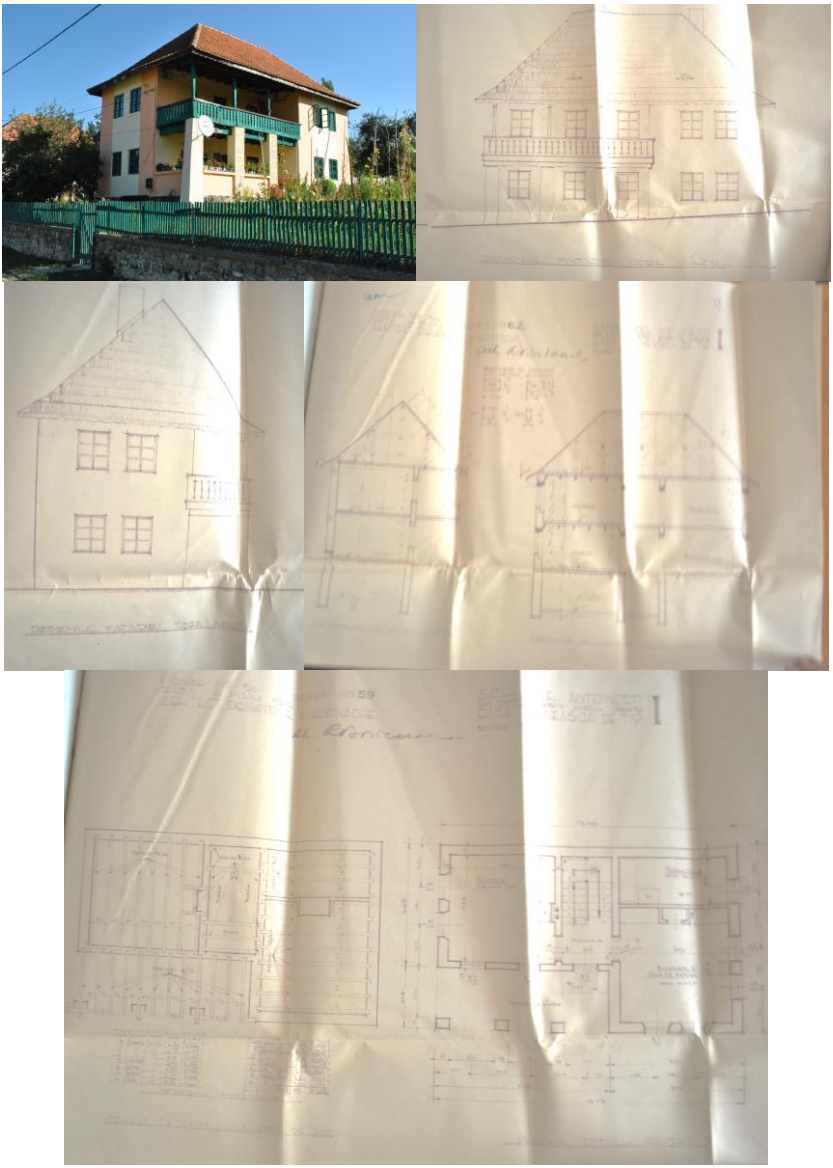
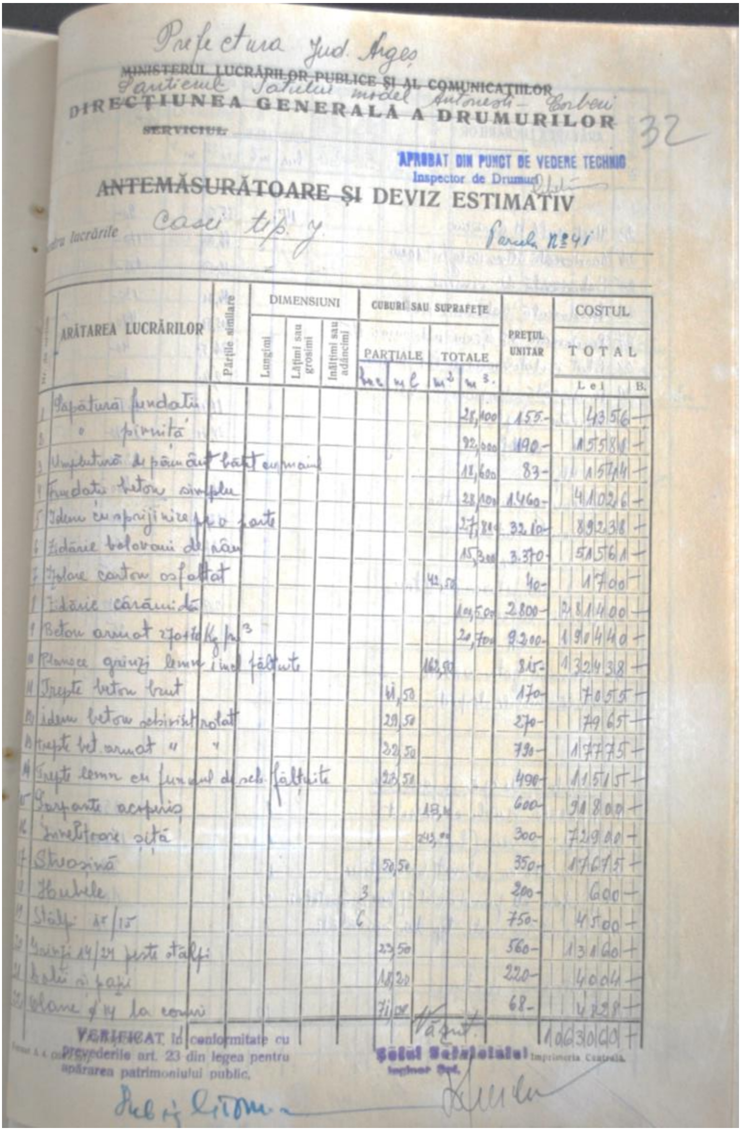


Fig. 4.21: Type 'I' house in the model village of Antonești. Authorization drawings from the county archives of Pitești. Photo: M. Bostenaru.

Fig. 4.22: Type F house in the model village of Antonești. Authorization drawings from Pitești county archives, photo: M. Bostenaru.



Prefectura Jud. Argeș

MINISTERUL LUCRĂRILOR PUBLICE ȘI AL COMUNICAȚIILOR

Șantierul Satului model Antonești – Corbeni

DIRECȚIUNEA GENERALĂ A DRUMURILOR

SERVICIUL

32

APROBAT DIN PUNCT DE VEDERE TECHNIC
Inspector de Drumuri

ANTEMĂSURĂTOARE ȘI DEVIZ ESTIMATIV

pentru lucrările Casei tip. y Parcela Nr. 41

Nr.	ARĂTAREA LUCRĂRILOR	Părțile similare	DIMENSIUNI Lungimi	Lățimi sau grosimi	Înălțimi sau adâncimi	CUBURI SAU SUPRAFEȚE PARȚIALE buc	m l	TOTALE m²	m³	PREȚUL UNITAR	COSTUL TOTAL Lei	B.
1	Săpătură fundații								28,400	155.-	4356	-
2	" pivniță								92,000	190.-	15580	-
3	Umplutură de pământ bătut cu maiul								18,600	83.-	1544	-
4	Fundații beton simplu								28,100	1.460.-	41026	-
5	Idem cu sprijinire pro parte								27,800	3210.-	89238	-
6	Zidărie bolovani de râu								15,300	3.370.-	51561	-
7	Izolare carton asfaltat							42,50		40.-	1700	-
8	Zidărie cărămidă								101,500	2800.-	284200	-
9	Beton armat 270 Kg/m³								20,700	9.200.-	190440	-
10	Planșee grinzi lemn incl. fălțuite							162,90		815.-	132438	-
11	Trepte beton brut						41,50			170.-	7055	-
12	idem beton cu						29,50			270.-	7965	-
13	Trepte bet. armat " "						22,50			790.-	17775	-
14	Trepte lemn cu .... de sch. fălțuite						23,50			490.-	11515	-
15	Șarpante acoperiș							153,00		600.-	91800	-
16	Învelitoare							243,00		300.-	72900	-
17	Streașină						50,50			350.-	17675	-
18	Hublele					3				200.-	600	-
19	Stâlpi 15/15					6				750.-	4500	-
20	Grinzi 14/24 peste stâlpi						23,50			560.-	13160	-
21	.....						18,20			220.-	4004	-
22	..... la coamă						71,00			68.-	4828	-
											1063000	-

Văzut

VERIFICAT în conformitate cu prevederile art. 23 din legea pentru apărarea patrimoniului public.

Șeful Serviciului
Inginer Șef.

Imprimeria Centrală

Fig. 4.23: Estimates for the calculation of costs in the model village Antonești.Pitești County Archives.

Fig. 4.24: Public buildings in the model village of Antonești. Situation plan from the county archives in Pitești. Photos: M. Bostenaru.

If IBA Emscher Park is a contemporary example from the West, Fig. 4.25 shows some examples of how women as users find themselves in the East (Hungary) in relation to water and leisure architecture (a and d) or in the East-West comparison in terms of architecture for women's communities opening up the possibility of accommodation for spiritual vacations. Spaces such as thermal baths have evolved over time, from Roman and Turkish baths through Art Nouveau to today's design.

a. 
b. 
c. 
d.

Fig. 4.25: Women as users: (a) an actress's villa (Blaha Luiza) in Balatonfüred, Hungary; (b) a monastery: church, main building, accommodation buildings, Érd, Hungary (c) a beguinage, Bruges, Belgium; and (d) different spaces of a thermal bath: swimming pool - mixed - and thermal bath - separate, as well as plans for the Gellért bath in Budapest, Hungary. Photos: M. Bostenaru.

I guided such a design (Bouratoglou, J. et al, 2015). To this end, public spaces flow in the communication between accommodation and enclosed spaces, between different spaces and the bathroom, and the bathroom must be analyzed to assess the private domain of women. The main programs touched are housing, school buildings, spiritual spaces and thermal baths. These programs were chosen because of the different relationships between the adjacency of rooms where there are different functions in this case due to gender. For the example buildings, plan analysis was performed using archival sources. If we consider spiritual spaces designed by women (such as the church in Brazil by Lina Bo Bardi, the cemetery in Barcelona by Carmen Pinos and Enrico Miralles, Nina Libeskind's contribution to Daniel Libeskind's Jewish Museum)

or for women's communities such as monasteries, we see that certain flows in the functional courses in public spaces are taken into account.

But they do not consider water, which is present in religion as a means of purification (Noah's flood, baptism, etc.). This is why I have addressed non-religious purification spaces such as baths. The program has existed since Roman times, hence my focus on Italy, but it was also present under the Ottomans, under a different religion, and from Art Nouveau in the 20th century, when women architects started working as designers. Eyelash separation and flows are important for thermal baths. Sometimes this extends to the urban scale of the landscape, with healing parks in the resorts. Note that even today women work in pairs as in inter-war Poland.

Victor Asquini was an Italian architect who immigrated to Romania and was active in designing technical guidelines to combat earthquakes. Virginia Haret was a Romanian architect who studied in Italy and built thermal baths (Haret, R.S. 1976, Feuerstein, M.; Bliznakov. M. 2000) (Fig. 4.12). Virginia Haret also participated in international congresses, of which I mention the one in Rome at the Accademia di San Luca (in 1935).

Horia Maicu was a Romanian architect who studied like Virginia Haret in Italy outside the framework of the Romanian School in Rome. Richard Bordenache was a Romanian architect who was a fellow of the Romanian School in Rome (Lăzărescu, G. 2002) and rebuilt the village of Antonești in Argeș County after a flood in the 1940s. I analyzed this reconstruction in extensive modes, considering the life of the architect, his urban works, his writings and archival documents on the reconstruction, which also includes the costs. Different from the case of the urban works, which show the influence of the Italian palace, the rural works in this village reconstruction are inspired by the Romanian traditional dwelling.

4.3 1.1 *Building on the past*: Romanian pioneering women in architecture[5][6]

Socialist women, all from Romania, will also be featured. Examples include female architects, landscape architects, architectural patrons, conservators restorers, as well as works in architectural theory, such as the books and events presented. The architectural theory dimension links to the women in the author's research studies. All the women presented here were proposed by myself for an exhibition at the London Festival of Architecture in June 2019, organized by the Romanian Cultural Institute and the Forum of Romanian Architects and Urban Planners, presented at the headquarters and supported by the Rațiu Foundation/Romanian Cultural Centre (http://www.icr-london.co.uk/article/building-on-the-past-pioneer-romanian-women-in-architecture-1510.html), following a public call, and a selection of them has been included in the exhibition. More than half of the proposals were realized by the authors.

4.3.1 Proposals

This subchapter presents proposals of representative women in Romanian architecture from different eras: Predecessors:

- Princess Marta Bibescu (influenced the restoration of Mogoșoaia Palace by G. M. Cantacuzino and P. Ruppolo).
- Queen Maria (she contributed to the interiors of Pelișor, Balchik and Bran palaces (Fig. 4.26a), as well as to the Balcic palace garden, wrote the book "My Country" about Romania's heritage),
- Princess Ioana Ghyka (garden of the Villa Gamberaia in Florence, Italy, including the water parterre) (Fig. 4.26b),
- Queen Mother Elena (she influenced the garden of Cecil Pinsent's

[5] Exhibition, London Festival of Architecture, Romanian Cultural Center, June 19-28, 2019. Organized by LFA, RAUForum and ICR London

[6] Many thanks to the RAUForum team led by Iulia Frățilă, including Ana Becheru and Iolanda Costide, and ICR London especially Gabriela Mocan, the Rațiu Foundation for hosting the event and the London Festival of Architecture for including it in the program.

villa Sparta, and the interiors of the castle of Săvârșin),

- Erika Paulas (architect around 1900 of the hospital in Mediaș, and of a school in Cluj Napoca) (Fig. 4.26c),
- Ilona Preda (architect around 1900),
- Arethia Tătărăscu (patron of Brâncuși's ensemble in Târgu Jiu),

Many of these were what in the exhibition will become 'influencers', but I have earlier called them 'patrons'. Such an approach is described in Friedman (2007), for interwar architecture though).

Fig. 4.26: (a) Bran Palace. (b) The water terrace of the villa Gamberaia. (c) School in Cluj. Photos: M. Bostenaru.

The inter-war period:

- Virginia Haret (the most representative building Tinerimea Romanian Palace, Fig. 4.27a, new research including lesser-known buildings in Sinaia and Giurgiu), a work that builds on earlier research in the Timbrules of Architecture,
- Henriette Delavrancea Gibory (Prager villa, demolished) (Fig. 4.27b),
- Maria Cotescu (Viilor neighborhood in Bucharest, Breaza and Poiana Țapului train stations Fig. 4.27c, Grivița workshops, book about Petre Antonescu),
- Lucia Dumbrăveanu (ARO Palace in Bucharest, villa in Predeal),
- Ada Zăgănescu (own house, Bucharest),
- Elsie Lazăr (Tătaru House, Cluj Napoca, as a student of Gio Ponti),

Fig. 4.27: (a) Romanian Youth Palace. (b) Villa Prager, (c) Poiana Țapului railway station. Photos: M. Bostenaru.

Socialist period:

- Ioana Grigorescu (restoration of Dealu Monastery in Targoviste),
- Rodica Mănciulescu (restoration of St. Michael's Church in Cluj Napoca),
- Cleopatra Alifanti (architect ASE building, Bucharest) (Fig. 4.28a),
- Margareta Dâmboianu and Ana Keszeg (architects of the "Balta Albă" neighborhood, Bucharest) (Fig. 4.28b),
- Irina Rosetti (architect of the train stations in Predeal - Fig. 4.28c - and Tulcea),
- Sofia Ungureanu (architect of a building in Roman Square, Bucharest),
- Eugenia Voinescu (architect of the new building of the "Ion Mincu" University, Bucharest),
- Angela Filipeanu (landscape architect),
- Paraschiva Iubu (architect of the National Opera and The Dalles Hall together with Octav Doicescu, Faculty of Electrical Engineering and Mechanics at the Polytechnic, all in Bucharest),
- Silvia Granet (one of the architects of a hospital in Onești),
- Alice Lepadatu (another architect of Onești hospital),

Fig. 4.28: (a) ASE building. (b) Balta Albă neighborhood. (c) Predeal railway station. Photos: M. Bostenaru.

Contemporary women:

- Iulia Stanciu (Mies van der Rohe finalist for the new headquarters of the Bucharest Order of Architects) (Fig. 4.29a),
- Silvia Demeter (conservator-restorer of the village resort Valea Zălanului, under the auspices of ASR Prince Charles, Mureșenilor facades in Brașov, Fig. 4.29b),
- Oana Bogdan (architect of The Cosmopolitan building in Brussels, Belgium),
- Solange d'Herbez de la Tour (architect of the Hurmuzescu House in Mangalia, a district of Paris, France, founder of the International Union of Women Architects),
- Sevghin Cherim (architect of St. Mary's Church in Drumul Taberei, Bucharest) (Fig. 4.29c),
- Eliza Yokina (interior architecture of the Simbio restaurant in Bucharest, book Dreams about houses),
- Livia Andreea Ivanovici (organizer of novembARH, East Centric Architecture Triennale),
- Julia Anna Gospodarou (renowned architectural photographer),
- Cristina Olga Gociman (architect, Bucharest, teacher),
- Ana Maria Zahariade (professor, author of numerous books),
- Cerasella Crăciun (landscape architect of the Promenada Garden in Bucharest, professor).



Fig. 4.29: (a) The headquarters of the Romanian Order of Architects. (b) Restoration of the Mureșenilor facade, (c) St. Mary's Church in Drumul Taberei Photographs: M. Bostenaru.

4.3.2 Exhibition

The exhibition at the London Festival of Architecture marks the 8th Romanian participation in the festival. A competition was launched in March 2019 to propose role models in the architectural profession. 75 entries were submitted to the competition, including the proposed pioneers Virginia Andreescu Haret, Henrietta Delavrancea- Gibory and Ioana Grigorescu. The latter three were included on the exhibition's presentation panel alongside the concept. A jury consisting of members of the organizers, namely the London Festival of Architecture, the Forum of Romanian Architects and Urban Planners and the Romanian Cultural Institute in London, chose 8 winners and further recommended the inclusion of 4 influencers and 2 names from British practice. RAUForum's own endeavor, founded in 2015, was to look for new names in the selection of designs to be exhibited. It also sought to display women at all stages of their careers. The curator was chosen given the large number of submissions, which showed a deep knowledge of the role of women in architecture. The eight winners are:

- Eliza Yokina proposed by Isabela Elena Prodea
- Maria Cotescu proposed by Maria Bostenaru Dan
- Anastasia Stan proposed by Alina Balatchi
- Ana Maria Zahariade proposed by Ioana Teodora Florea
- Silvia S. Demeter Lowe proposed by Monika Soos
- Livia Andreea Ivanovici proposed by Corina Fodor
- Oana Maria Bogdan proposed by Antonela Draghici
- Lucia Dumbrăveanu proposed by Maria Bostenaru Dan.

The winners' photos were projected on all these panels. Each panel included the photo and biography of the nominator and the motivation behind proposing the winner as a role model. For the winner, a photo, a biography and, as a rule, each of the three projects submitted were included. These projects were described in short text and numerous photos, with a hero photo.

For Eliza Yokina, chosen as one of the co-founders of De-a arhitectura, the following projects were presented: Simbio (Fig. 4.30a), Dreams about houses (Yokina, 2011) and Limanul.

Two projects were chosen for Maria Cotescu, chosen as known for the buildings of the Romanian Railroad in the modernist period: the Griviția workshops (Fig. 4.30b) and the Viilor housing complex, along with academic works including contributions to the journal Simetria (Cotescu, 1940) and the book on Petre Antonescu (Cotescu and Antonescu, 1963). I am grateful to Studio Zona for their contribution about the development of the Viilor housing.

For Anastasia Stan, an emerging architectural designer based in the UK, organizer of architectural workshops for children at RIBA, the following projects were chosen: the Cave di Pomice Science Park, Playmaps (an educational tool) and an essay entitled "What urbanism can learn from".

Ana Maria Zahariade, an expert in the history and theory of architecture and a 2003 Herder Laureate, has contributed an impressive number of books and the overview of the first 6 issues of this journal (Zahariade, 2013- 2018). Her books include collections of essays (Symptoms of Transition, Zahariade, 2009), contributions to catalogs on modernist architects (Horia Creangă, by Lascu et al 1992 and Marcel Janco, 1996), the catalog of the Venice Biennale 1996 (Zahariade, 1996) and two monographs "Dacia 1300 - My Generation" (Sandqvist and Zahariade, 2003), and "Architecture in the Communist Project" (Zahariade, 2011).

Silvia Demeter-Lowe, a conservation architect who also works for His Royal Highness Prince/now King Charles, has contributed to the following projects: the restoration of the Mureșenilor façade in Brașov, the Zălanului Valley (Fig. 4.30c), the Prince's vacation residence and the Meschendorf International Workshop.

Livia Andreea Ivanovici, architect, curator, editor at Arhitext magazine and co-founder of NovembARH, contributed with graphic info supported by

images about #NovembARH, A57 (Business strategy and communication for architecture) and the East Centric Architecture Triennale (Fig. 4.30d).

Oana Bogdan, an architect based in Brussels, member of the UNESCO Commission of Bruges, contributed with these three projects: COOP (photo Luca Beel), Campus UNESCO (photo Stijn Bollaert) and The Cosmopolitan (Fig. 4.30e). For these projects it was also possible to submit plans and axonometric sketches, as required by the curatorial concept.

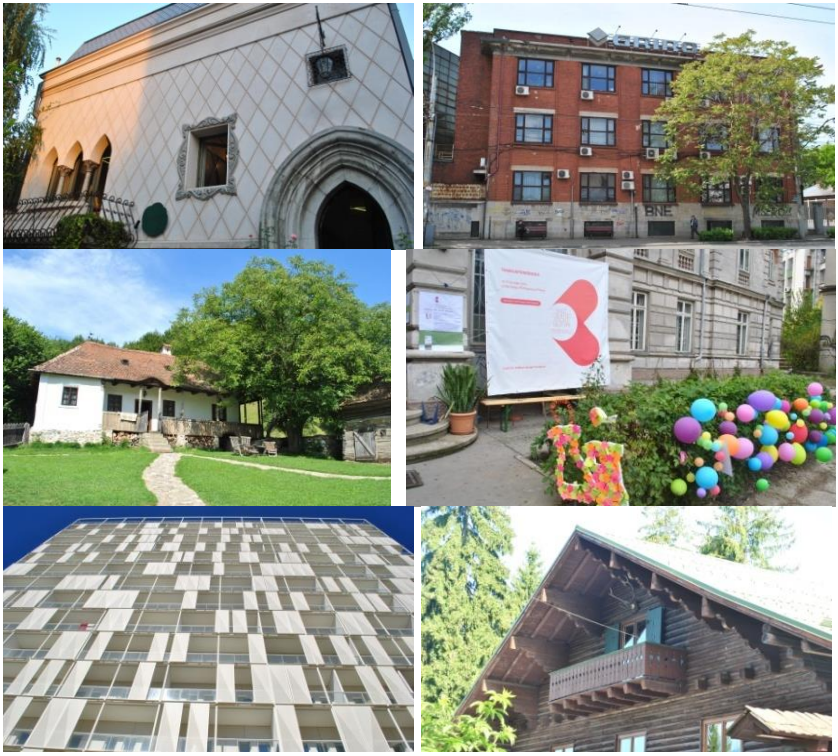


Fig. 4.30: (a) Simbio, (b) Grivița Workshops, (c) Valea Zălanului, (d) East Centric Architectural Triennial, (e) The Cosmopolitan, (f) Villa in Predeal. Photos: M. Bostenaru.

For Lucia Dumbrăveanu, the promoter of modernist architecture in Romania, wife of architect Horia Crangă, the following projects were chosen: the ARO Palace, the manifesto of Modernism, the Dr. Petru Groza villa in Deva (photo Dorin Frățilă) and the Victor Groza villa in Târgu Mureș (photo Roxana Mihaly), a villa in Predeal (Fig. 4.30f).

The four proposed influencers are:

- Queen Maria of Romania,
- Princess Marta Bibescu,
- Solange D'Herbez de la Tour,
- Julia Anna Gospodarou.

For Queen Maria of Romania, I presented two projects: the Golden Room of the Pelisor Palace in Sinaia, Romania and the gardens and building of the Balchik Palace in Bulgaria (Fig. 4.31a). Both are linked to the Queen's heart, where she wanted to rest and where she finally does. The buildings and gardens bear the influence of the Queen, who traveled a long way to her adopted homeland from Britain.

For Princess Marta Bibescu we have presented only one project, the Mogoșoaia Palace (Fig. 4.31b), on which she left her mark during the restoration works at the turn of the century.

Solange d'Herbez de la Tour is recognized as the founder first of the French Union of Women Architects and then, in 1963, of the International Union of Women Architects. In addition, she had an intense architectural design activity, of which the Hurmuzescu house in Mangalia (Fig. 4.31c), built before she left the country going into exile, is noteworthy, as well as concept drawings (the Olympic flame and a typology of residential blocks called the 'butterfly') and the ZAC de Amandiers de Paris. I am grateful to Adrian Mahu and Magic Print for permissions to use images of works from abroad (Mahu, 2012), as well as to the University of Architecture and Urbanism "Ion Mincu" for reproducing the painting by Stephan Eleutheriades, another Romanian architect in exile, of the Hurmuzescu House.

Julia Anna Gospodarou, a graduate of the Institute of Architecture "Ion Mincu" and currently an architectural photographer based in Greece, has been recognized for her contribution to fine art photography. Featured works included her book "From basics to fine art" (Gospodarou and Tjintjelaar, 2015), as well as a selection of four black and white photographs in her own style.

Doina Petrescu and Andreea Ailenei from the British practice were present in the exhibition. Doina Petrescu, a lecturer at the University of Sheffield, contributed two works: a book on "The social (re)production of architecture" (Petrescu and Trogal, 2017) and the award-winning Paris project "R-urban". Andreea Ailenei has contributed two projects to the architectural practice Fletscher Priest, namely #8 First Street and Axis Square.

The exhibition was opened on the evening of June 19 with a round table discussion with the participation of Jane Duncan OBE - former RIBA President, Azlina Bulmer - RIBA Director for International Regions and Prof. Doina Petrescu - School of Architecture, University of Sheffield. The first two speakers outlined RIBA initiatives to involve women more in the profession today, while Doina Petrescu spoke about the divisive transition from education to profession. The opening was joined by the Romanian Ambassador. Extended thanks go to panel designer Ionuț Gârneață and event photographer Eugen Brodner.

Works in progress include a story map, which gives them a geographical dimension. A first map of the locations of the buildings in the exhibition has been produced as a Google Map in Fig. 4.32. The works include works from abroad, not only from Romania, and from several places in Romania. The presented works were mostly personally visited by the author to be experienced on site. Here I present these personal photographs and not those in the exhibition by professional photographers.

Fig. 4.31: (a) Balchik Palace, (b) Mogoșoaia Palace, (c) Painting of the Hurmuzescu House. Photo. M. Bostenaru.

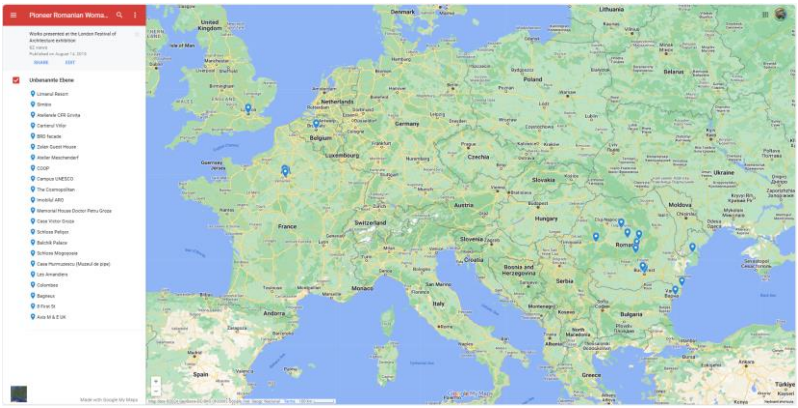


Fig. 4.32: : Map of the exhibition buildings (author M. Bostenaru). Available at https://t.co/OJvL2Pcf6G

4.3.3 From pioneering women to contemporary women

This subchapter showed how research in non-governmental organizations led first to my postdoctoral research in Rome, and then was followed up with a mobility project and an exhibition in London. The exhibition is closely linked to the postdoctoral research, the works in both cases being realized in collaboration with the Romanian Cultural Institute. However, a shift in focus over time should be noted. The work in the NGO focused on contemporary women in research, and it was only the involvement in the COST action that gave it an architectural focus. After the exhibition, several 'Europe at work'

stories were completed on Europeana.eu, including such role models. Vasile Pârvan's postdoctoral research mainly focused on women in architecture in the inter-war period, when women started to pioneer architecture with completed studies different from the 'patrons' or 'influencers' mentioned. It was the time frame that I also dealt with during my PhD. In the exhibition, my own contributions, Maria Cotescu and Lucia Dumbrăveanu were also from this period. Apart from that, however, the exhibition ended up bridging the gap and going back to contemporary role models (some contemporary women architects in Rome were also identified in the postdoctoral research) in architecture this time. Also noteworthy is that not only architects who built, but also architectural theorists were considered, which is in line with the interest of women role models in research. Thus, work outside academia, from NGOs to cultural institutes, has led to a solid research approach in tackling this topic about which more should be done.

4.4 Education and inclusivity

On October 15, 2004, a conference on "100 Jahre Frauen an deutschen technischen Universitäten" (100 Years of Women at German Technical Universities) was held at the University of Karlsruhe, Germany, now Karlsruhe Institute of Technology, to celebrate the matriculation of the first female student in a technical science. The University of Karlsruhe was born out of Friedrich Weinbrenner's school of architecture (a result of the architect's stay in Rome and gaining experience from architectural lessons) and the school of building. However, women are underrepresented in architectural practice to this day.

Women in architectural education can be put in the context of the image of women in the pioneer period of architecture, i.e. between 1908-1920. Stratigakos (2001) writes about the image of female architects during that period. She starts with Emilie Winkelmann who became in 1908 the first woman architect to open an office in Berlin. The image looked at the body, which was supposed to be sturdy and strong, not typically feminine, as seen in photographs. Smitheram (2012) looked at the same issue of how the female architect's body appears in the media and the image in portraits in editorials. Gender in this sense contributes to professional identity. The second concerns

thinking, which has to be abstract, analytical, mathematical, spatial, types that we now call types of intelligence. These are related to contemporary disciplines (Science Technology Engineering Mathematics). But as we have seen from Shepard, Spaeth and Kosmala (2012) that the mixture of art and science may seem attractive to choose the profession of architecture, Heynen (2012) praised these traits as masculine. The educational obstacle in these types of intelligence may be directly related to the type of education and the separation of feminine and masculine in schools, which persists to this day in some countries (e.g. Japan, personal communication with Mikiko Hayashi, an architecture graduate from a women's university and former Marie Curie scholar, but also in the USA there are women's colleges, e.g. Wellesley College, where the author completed her Italian studies online, or former women's schools such as James Madison University in Virginia, the state with the women architects archive). Thirdly women's temperament is related to the architect's activities such as building site negotiation, where interaction takes place with male subordinates. While considering the post-war period (1945-1980), Figueroa (2012) looks at the new image of women in different roles, including site superintendent, which plays a role in fascination and intimidation as displacement from the traditional role. Baydar (2007) looks at a similar issue of women in the new Turkish Republic. Fourthly, he refers to the social norms that govern the image of the architect. The female architect is seen as the lady of the house, and as such the first field of activity becomes the individual single-family house, in the first instance the own house, as we have seen in the three examples given. However Virginia Haret was also active in the state school office and thus revolutionized education. Elena Luzzatto, the first Italian architect, also worked for the state designing schools.

4.4.1 Architectural education and design and design for architecture education programs

Architects like aristocrats without formal training, such as Queen Maria or Princess Ioana Ghyka who designed gardens, or Marta Bibescu in the restoration of the Mogoșoaia Palace, I have called them patrons. The garden designed by Princess Ioana Ghyka at the villa Gamberaia in Florence served as an example for the contemporary Italian architecture of pioneers Maria

Teresa Parpagliolo and Pietro Porcinai (Dümpelmann, 2002), who then shaped the open spaces of the E42 (EUR) exhibition in Rome, a rare role for a woman in fascist Italy. Also in Florence, in Fiesole, the garden of Villa Sparta, owned by another member of the Romanian royal family, Queen Mother Elena, was designed by Cecil Pinsent, also inspired by the Gamberaia villa.

Another case that is different for the female architect refers to spaces dedicated to women, such as girls' schools, relevant to their education for a particular profession. Such is the Central School for Girls in Bucharest (Fig. 4.33) by Ion Mincu. Fig. 4.34 shows a school by architect Socolescu at Câmpulung Muscel in Romania, contemporary with the Central School for Girls. In the framework of COST action CA19112 "Women on the move", currently in progress, we have developed a database, accompanied by a map, of women's commemorative landmarks (https://www.womenonthemove.eu/landmarks-exhibitions/), being even in the "Memory and Identity" working group that focused mainly on them. In the analysis of this database we found that often the memorialization of migrant women is in buildings that have to do with care (schools, hospitals), these are features related to preconceptions about the role of women, for example in education. For example, in Bucharest there are schools named after Elena Văcărescu or Maria Rosetti, and in Satu-Mare after Eliza Leonida Zamfirescu (Fig. 4.35). Fig. 4.36 shows a school in Koekelberg, Brussels-Capital Region, designed by the Romanian architect Oana Bogdan, who emigrated to Belgium, a school that was one of the three projects included in the exhibition curated by me in London in 2019.

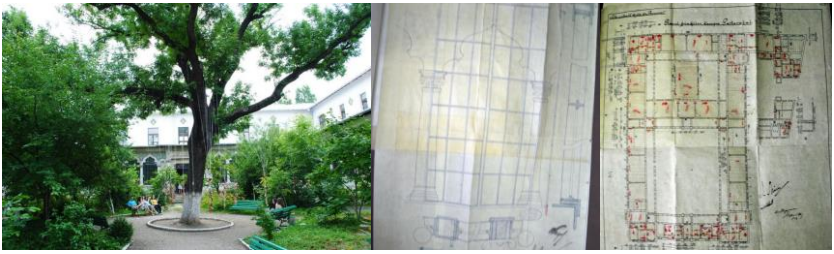


Fig. 4.33: Central School for Girls, arch. Ion Mincu, 1890, Bucharest. Photo: M. Bostenaru, plans, National Archives of Romania, Ministry of Education, containing an amphitheater by Haralamb Georgescu, Richard Bordenache.

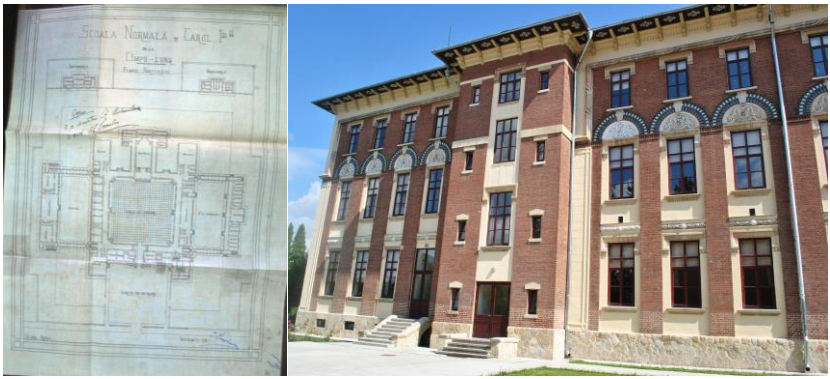


Fig. 4.34: Ion Socolescu: Carol I School in Câmpulung Muscel 1895. Photo by M. Bostenaru, plans, National Archives of Romania, Ministry of Education.

Fig. 4.35: (a) Elena Văcărescu School in Bucharest (b) Maria Rosetti School in Bucharest. Photo M. Bostenaru.

Fig. 4.36: UNESCO Koekelberg Campus, by Oana Bogdan. Photo M. Bostenaru.

4.4.2 Architectural and design education between art and science

In 2015 as a fellow of the Romanian School in Rome I experienced this interaction between art and science by communicating with the Swiss Institute in Rome, which has set as the theme of Studio Roma exactly this interaction (http://istitutosvizzero.it/it/eventi/calendario/eventi-roma/ripensare-le-pratiche-arti-scienze-e-sperimentazione). The so called project research was also touched. Starting from Stratigakos (2001) Troiani (2012) analyzed the image of Zaha Hadid, the only independent architect to win the Pritzker Prize (in 2004). Fig. 4.37 shows a housing project in Vienna, and Fig. 4.38 shows education buildings for the Vienna University of Economics (WU Wien) by Zaha Hadid and Carmen Pinos, whom I presented in this work on cemetery design. These are a different kind of schools, for higher education..

Fig. 4.37: Housing by Zaha Hadid, Spittelau, in Vienna 2005. Photo: M. Bostenaru.

Fig. 4.38: Higher education buildings today: (a) WU Vienna Zaha Hadid building, (b) Carmen Pinos building. Photos: M. Bostenaru.

4.4.3 Experience reviewing in the virtual architecture studio through blogs[7]

Since 2012, Jill Bouratoglou and Lia Dikigoropoulou's Advanced Design Workshop at New York City College of Technology has been open for online reviews from around the world. I have participated with one student's review per semester since Spring 2013 and this subchapter aims to give a review of the pedagogical experience.

Since around 2000 virtual teaching has become popular in Germany. Brückner (1998) wrote a diploma thesis on knowledge communities. For this purpose, Thomas Brückner studied both pedagogy and computer science. Pioneering work was done by Russel (2001) with the so-called Netzentwurf

[1 7] This part combines and reinterprets parts of contributions to Argument journal from 2015 and 2016.

(networked architecture project). A server was designed for discussing projects. The initiative now no longer exists, as Google provides the basic tools to do the same. One such initiative is the one reviewed here. Even in classical psycho-pedagogical training computer-assisted teaching is promoted, as seen in Bostenaru (2016a). For landscape, Fetzer (2014) and Nothelfer (2008) developed the concept of distance learning. Nothelfer's (2008) concept was experimented at the Karlsruhe Institute of Technology in the formation of Masters on the conservation of historic buildings. These were all pioneering works. Today MOOC (*Massive Open Online Course*) are much more widespread. I participated in the ESRI MOOC to learn GIS basics. At the Marie Curie Fellows Association meeting in London in 2015 one of the guest speakers (Chris Armbruster from Module Machine International, Europe PubMed Central) talked about alternatives to teaching MOOCs versus research. We can look at such virtual mobility alternatives by considering European networks such as COST and ERASMUS (Blended Intensive Programmes). In COST networks a short stay can be coupled with a virtual co-op for a publication, while in Erasmus networks such as ANDROID (for disaster resilience) or Le Notre for landscape architecture distance teaching is offered. For example, Le Notre offers landscape teaching for members.

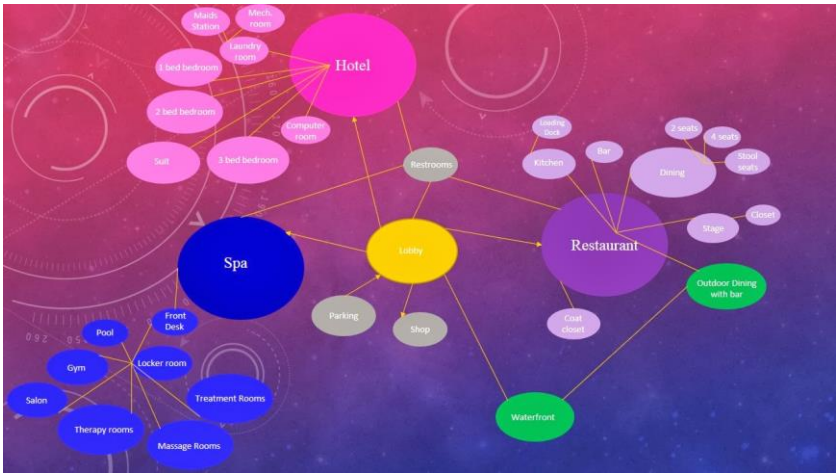
Returning to the teaching of architecture, Holland (2006) presented how a virtual environment for teaching architecture can be created, in the same way as the game Second Life, in 3D. Strojan et al (2002) looked at globalization in architectural teaching from a Slovenian perspective. Wake et al (2002) see virtual design as a wayfor students to prepare for later professional life and how to talk to clients. Numerous conferences support this perspective. Kvan (2001) looked specifically at pedagogy in virtual design workshops, whichI have in this work. One of the main challenges seen by Kvan (2001) is the way reviews are done. At the Fernuniversität Hagenin Germany, there is a master's degree in distance learning of how distance learning can be supported by computers.

Participating in the review work was an enjoyable experience, to see a different method of teaching in which successive steps were dealt with in successive lessons. In this way creation was scientifically supported. An

example was the application of quantitative methods to design. Distance learning pedagogy was considered, animating written information in addition to virtual panel sessions. The presence of reviewers from all over the world made it possible to discuss both the previous examples and the design from a multicultural perspective, including diversity of origin, and New York is a multicultural environment.

The programs were diverse but remarkable in their broad scale. When I did the spa reviews, I was in Budapest and could see examples of the spa there. The multimedia center was connected to the Museum of Art and Media,where I studied. When reviewing art school, I was in Rome in contact with art academies. The reviewer's contribution could be close given the contact with the previous ones. I was also able to comment on written presentation skills. Quantitative evaluation was also possible from a distance. Of the reviews Fig. 4.39 and 4.40 are images from reviews relevant to the topic of the work, namely from Spring 2014: Grace Dubon: Hotel with spa http://gracydubon.blogspot.it/.

The Advanced Design Workshop takes place in the Department of Architectural Technology at New York City College of Technology under the acronym ARCH 3610 ARCHITECTURAL DESIGN VI (6th semester). It is a required discipline. It includes lecture and studio hours. The subject of design are complex buildings. Emphasis is on the relationship to the site. Research papers (10%), 2D and 3D drawings, studio and final layouts for program development, design and presentation are required. It is a skills and abilities training course. These online reviews took place before the pandemic period.



I like the scheme overall, it clearly shows the main functions. Maybe you could however differentiate according to size/importance. Right now your main functions are differentiated by colour, they do not need to have the same size as well. Also, I see that restaurant, spa, hotels, are the categories, and you link them to the functions in the programme - in my view the functions in the programme should be within these circles, and maybe identify what is central to spa (ex. pool). Also the connection, well identified with two direction arrows sometimes, needs thinking of. The hotel is linked over the lobby to the spa I suppose and I don't see this link. Maybe worth to look at what is private/public in a next step.

Fig. 4.39: Functional diagram of a spa hotel, Grace Dubon, and author's comment in online review.

With the COVID19 pandemic, online teaching has taken on a new dimension, including the design workshop. Digitalization in education has led to more inclusiveness. It has also enabled virtual mobility. Digital education (learning, training and assessment) is a working group of the European Education Area as part of the Digital Education Action Plan (2021-2027). It explicitly states the inclusive and accessible purpose of this type of education (https://education.ec.europa.eu/focus-topics/digital-education/action-plan).

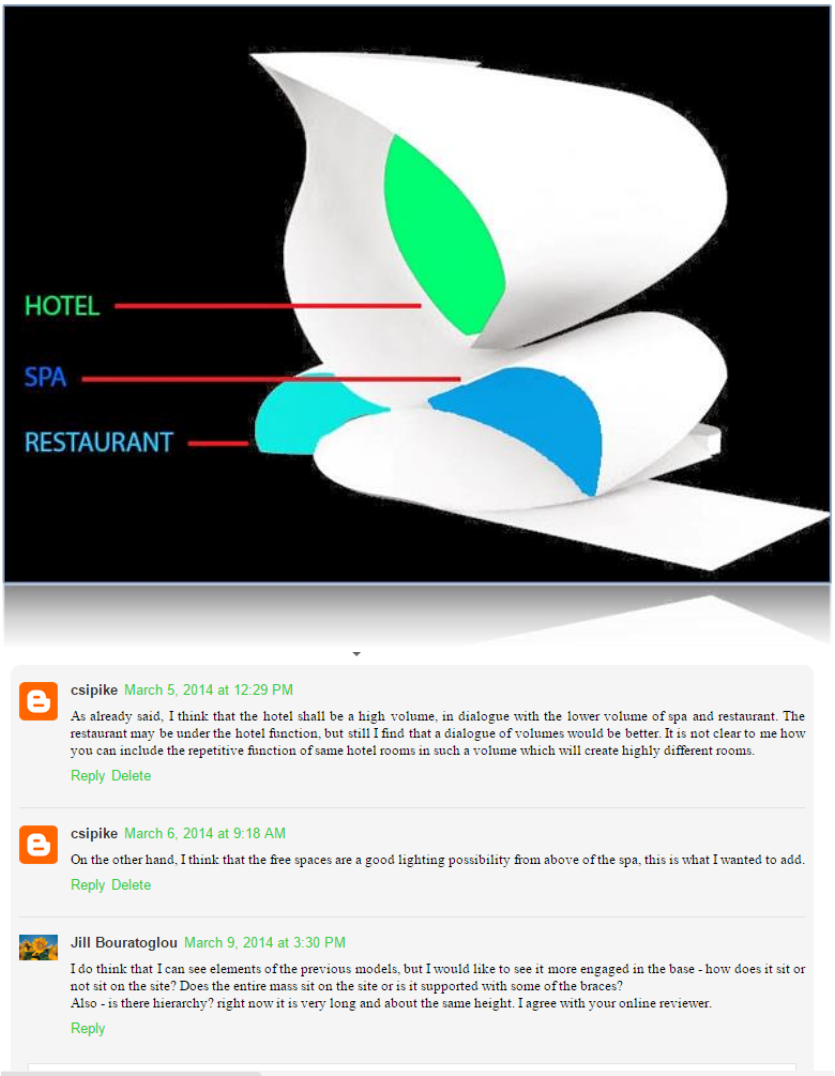


Fig. 4.40: Grace Dubon. Spa hotel. 3D rendering. "csipike" is Maria Bostenaru.

Because of the IT component, Action 13 of the Digital Literacy Action Plan also includes women's participation in STEM (*science, technology, engineering, mathematics*). Women are still underrepresented in these fields today, not only in the pioneering period studied for architecture, and in some countries the degree in architecture is in engineering. In the case of digitization, which is also one of the research dimensions of the Bologna process, there is an intersection between computer science and the humanities, which are increasingly included in research under the New European Bauhaus, whichwe will talk about, namely the *digital* humanities. On the other hand, women's participation in STEAM is also promoted, with A for *arts*. Thus, the arts dimension is integrated. I talked about this on knowledge through art and not through science, and I will also talk about creative and cultural industries at the New European Bauhaus.

In this sense, and in line with the inclusion of architecture in Rome's cultural institutes for arts and humanities, the role of women in architecture, which is at the intersection between art and engineering, and through the history of architecture, and the humanities, should be promoted. The *Future on the past* project seeks this digital humanities dimension of architecture, through the research area SH 5_12 Computational Modeling and Digitization in the Cultural Sphere. It thus continues the initiative NeDiMAH *Network for digital methods in artsand humanities*, in which I was in the steering committee on behalf of Romania, and is part of the *Digital Research Infrastructure for the Arts and Humanities* DARIAH (https://www.dariah.eu/), a distributed infrastructure with the legal form of ERIC (*European Research Infrastructure Consortium*) for digital arts and humanities, part of the *European Strategy Forum on Research Infrastructures* ESFRI, which can be linked to the New European Bauhaus, which I will talk about.

4.4.4 National funding for inclusive solutions

The inclusion of disadvantaged groups was part of research projects funded by the FFCSU (Fund for the Financing of University Scientific Research) at the University of Architecture and Urbanism "Ion Mincu" in the field G. Strategic research and research development on the pillar Inclusive design and

development of solutions for communities at risk. Inclusion is thus coupled with risk resilience, as in this work. Projects already completed are:

- MERSI Mobility, Equity, Resilience, Inclusive Spaces in 2022 (https://www.uauim.ro/cercetare/ffcsu-2022/mersi/),
- MERSI+ Mobility, Equity, Resilience, Inclusive Spaces in the Existing Built Environment in 2023 (https://www.uauim.ro/cercetare/ffcsu-2023/mersi-plus/).

Given the specificity of architecture education related to architecture programs, these projects also considered inclusive spaces for education not only through education in inclusive spaces, but also through educating future architects to design inclusive spaces, not only educational.

From 2024 is the 8th pillar of the Institutional Development Funds (IDF) competition: supporting the participation and access of students with disabilities to the educational process. Strand 1 (increasing social equity with a view to social inclusion and increasing access to higher education) is present from the outset in these competitions andsocial equity is also a criterion for additional funding alongside research. Within the projects in Area 1, access tohigher education is targeted at students from disadvantaged backgrounds, in particular from rural areas and small towns (population under 10000 inhabitants). The University of Architecture and Urbanism "Ion Mincu" carried out

- in 2023 the EduInclu(de)Patrimoniu project - "Inclusive Heritage Education" (https://www.uauim.ro/cercetare/eduincludepatrimoniu/) with a focus on localities in the Sibiu area, where the university has a branch for two study programs, as well as the Vernacular Architecture Study Center in Dealu Frumos, a locality with a fortified Transylvanian Saxon church.
- in 2019-2022 the project series We design the future together (VIP, VIP Access, VIP 2022 https://www.uauim.ro/cercetare/vip-2022/), covering localities all over the country.

which aimed to make arts education accessible, including through digitization.

Alina Elena Voinea is a participant in the series of online conferences organized by Raffaella De Marco in the framework of the Marie Sklodowska Curie MOEBHIOS action (MOEBHIOS - *Multi-attribute values' OntologiEs to improve Built Heritage InformatiOn assessment in cluStered territories*) and in which I participated as invited speaker in 2023 with the presentation of the *Future on the past* project - in progress (Alina Elena Voinea at the 2024 edition). The MOEBHIOS project creates ontologies for digital representation (the project takes place in theDAda Lab in Pavia, the design lab, including digital) for the semantic enrichment of 3D models (as in the COSTaction "Semantic enrichment of 3D city models for sustainable urban development", the first COST action in which I participated) with information on multicultural areas, of conflict in this case of Palestine, but also related to a common heritage, even religious, and thus related to the Saxon heritage analyzed by Alina Voinea, which is remarkable for its fortified UNESCO churches. Thus, the contribution from Romania to the conference series covered two key dimensions that can be related to the MOEBHIOS project: the author's contribution was about the digital dimension and the use of archives, being included in the history part, and Alina Voinea's contribution looked at the multiculturality part, at the inclusion in terms of ethnic differences in Transylvania. Voinea (2022) publishes these results of a PhD, on a topic of ethnic multiculturality in Transylvania and its relation to the built background about which other PhDs have been completed at our university (Panasiu, 2007, but also Popescu, 2013, postdoctoral researcher in the *Future on the past* project even for the Art Nouveau reference period). In thefuture we intend to continue with joint research.

The Institutional Development Funds are the third pillar of higher education funding in Romania in addition to the basic funding (based on the number of equivalent students) and the additional funding. Additional funding comprises a number of criteria: C1. Teaching/learning, C2. Scientific research / artistic creation / sports performance, C3. International Orientation, C4. Regional orientation & social equity.

4.4.5 From the Bologna process to inclusive and connected European higher education

I started this work from the experience and the conclusions of the mobility stages of the elite of inter-war Romania at the Romanian School in Rome. The conditions for participation in mobility placements, whether at postgraduate level, as in this case the equivalent of research internships such as the Marie (Sklodowska) Curie ones today, or at the levels of the previous bachelor and master cycles in higher education, are now different, facilitated by the *European Higher Education Area* (https://ehea.info/), and that of research linked to the European Research Area *ERA European Research Area* (https://european-research-area.ec.europa.eu/), a system of research programs, proposed since 2000 and supported by the European Research Framework Programs. Moreover, mobility has also gained support and institutional framework in pre-university education. *The Bologna Follow Up Group* has strategy cycles (currently 2021-2024) including a task force to enhance synergies between the European Higher Education Area, the higher education dimension of the European Education Area (https://education.ec.europa.eu/) and the European Research Area (ERA). Its aim is cooperation in areas such as research-based education, academic and scientific freedom and the pursuit of sustainable development goals. Inclusiveness is represented by the working group on the social dimension, which promotes the inclusion of under-represented and vulnerable groups. The women in this work are not a minority, but are nevertheless often under-represented and vulnerable, as are many minority groups.

Migration for example can be a reason for social exclusion. I talked about the COST Action COST *Women on the move*, dedicated to the recognition of migrant women, a category twice at risk. Often migration has been to pioneer higher education where they were not yet admitted to their country, but this education has had lifelong effects. Such cases are Virginia Haret-Andreescu analyzed in this book (whose holdings at the Academy Library have been included in the COST action database, as well as the peripheral street in Cisnădie where she is memorialized), the first architect, or Eliza Leonida-Zamfirescu, the first engineer, whom I included in the street about Bucharest, also relevant to geo-sciences, with which I collaborated at EGU.

Lifelong learning, including special pedagogical programs, adult education, is linked to this social dimension (long-term studies, studies after a period of interruption). The European Education Area covers not only pre- university education as non-university education, but also education for all, i.e. adult education, and vocational education in addition to school education. The European Education Area has a working group on equality and values in education and *training*. Vocational education includes the green transition and the working group on schools the sustainability dimension. In this context for research there are *career restart* programs within the Marie Sklodowska Curie actions, also useful for women who have had a period of child-rearing or caring for theelderly, thus linked to the family. Mentoring is part of social inclusion, as a summer school on mentoring was organized in July 2024 a sub-group of Gender VOICES for which we made a mapping on mentoring, including disadvantaged groups such as Roma or Hungarians in Romania and presented at the EUMENT-NET gender mentoring conference in Constanța in September 2024, with financial support from the *Future on the past* project.

The Bologna Follow Up Group also formulated the values according to which inclusiveness should be valued. In the communiqué of the 2015 inter-ministerial meeting in Yerevan, in the framework of the Bologna process, the following was formulated

> ""By 2020 we are determined to achieve an EHEA where our common goals are implemented in all member countries to ensure trust in each other's higher education systems; where automatic recognition of qualifications has become a reality so that students and graduates can move easily throughout it; where higher education is contributing effectively to build inclusive societies, founded on democratic values and human rights; and where educational opportunities provide the competences and skills required for European citizenship, innovation and employment. We will support and protect students and staff in exercising their right to academic freedom and ensure their representation as full partners in the governance of autonomous higher education institutions. We will support higher education institutions in enhancing their

efforts to promote intercultural understanding, critical thinking, political and religious tolerance, gender equality, and democratic and civic values, in order to strengthen European and global citizenship and lay the foundations for inclusive societies." (https://ehea.info/media.ehea.info/file/20170524-25-Gozo/73/4/BFUG_MT_NO_54_6_FundamentalValues_762734.pdf)

The European Higher Education Area is closely linked to the Bologna process. The Bologna Process is a seriesof ministerial meetings and agreements between European countries. In 2012 this meeting took place in Bucharest and the overall series of research conferences that I will talk about. The Bologna Process created the European Higher Education Area, under the *Convention on the Recognition of Qualifications concerning Higher Education in the European Region* (*https://www.coe.int/en/web/higher-education-and-research/lisbon-recognition- convention),* a convention developed by the Council of Europe together with UNESCO, signed in Lisbon in 1997and which started to be adopted in 1999. It constitutes the legal framework for the recognition of higher education qualifications in the European and North American regions (thus also for the New York curriculum that I have presented). Romania was among the first signatories. The possibility to study abroad was recognized as an essential element of European integration with the creation of the Council of Europe in 1949. The Convention stipulates that study periods abroad must be recognized unless there are substantial differences. For this reason, the European Credit *Transfer and Accumulation* System (ECTS - European Credit Transfer and Accumulation System), an instrument of the European Higher Education Area, was introduced. A network of mobility and academic recognition centers was also created.

The Lisbon Equivalence Convention excludes any discrimination on grounds of gender, race, color, disability, language, religion, political opinion, national, ethnic or social origin. The European Higher Education Area was launched on the 10th anniversary of the Bologna Process at the inter-ministerial conference in Budapest and Vienna with the Budapest-Vienna Declaration in 2010. A country joins by ratifying the Council of Europe's

Treaty on European Culture (https://www.coe.int/en/web/conventions/full-list?module=treaty- detail&treatynum=018).

The Treaty on European Culture promotes the mutual recognition of cultural diversity. Facilitating mobility is oneof the main objectives. A key instrument in this process is the Erasmus program (now Erasmus+ https://erasmus-plus.ec.europa.eu/ro) has been in existence for 35 years, since 1987, but the first European education action program, including joint initiatives by universities, was more than 50 years ago, in 1973. It is managed by the European Commission (the EU's executive body) and implemented by the *European* Education and Culture Executive Agency (EACEA) and at national level. At the Gothenburg Social Summit in November 2017, the European Commission proposed the European Universities initiative. From 2024 onwards, collaborative Erasmus+ projects can be proposed within the European Universities as a matter of priority, as the European Universities are also an Erasmus+ call, in line with the Europe for Universities strategy.

A travel mobility solution to get to know other local cultures/experience diversity when moving from high school to university or in professional life is DiscoverEU, an Erasmus+ program, which encourages discovering Europe with a rail travel passport. Several routes are proposed, including the New European Bauhaus route (https://youth.europa.eu/discovereu/new-european-bauhaus-routes_en), which includes sites in Romania, including Bucharest.

Academic Cooperation Association is a Brussels-based association of national agencies active in higher education.Romania is not represented by members. In 2022-2023 its activities were co-funded by Erasmus+, and in 2023- 2024 it ran (the final conference took place in Zagreb) the so called The *Inclusion ACAdemy* (https://aca-secretariat.be/post_project/the-inclusion-academy/) with national partners and associated partners active in the field of inclusivity and diversity. It consists of a series of trainings on inclusiveness and widening of international programs to support HEIs in the implementation of the horizontal priority of inclusiveness (inclusive mobility andcommunication) and diversity of the Erasmus+ 2021-2027.

Fig. 4.41: (a) Piazza Maggiore, Bologna (b) University of Bologna: Library. Photos: M. Bostenaru.

In 1988, the *Magna Charta Universitatum Europaeum* was signed in Bologna, in Piazza Maggiore (Fig. 4.41a), on the occasion of the 900th anniversary of this first university in the world, by the University of Bologna (Fig. 4.41b) and the *European Rectors' Conference* (now *European University Association*). Subsequent progress meant the initiation of the Bologna Process, starting in 1999.

It is time to explain the linking of the academic topics in this work to one's own biography. Such a non-neutral approach is called *positionality* (Miyamoto and Ruiz, 2022).

The concept is appropriate in a book about Rome, a destination of artistic pilgrimage about which, however, Maurer (2024), an art historian, has written a book about how it is inhabitable (the subject of this work), part ofa literary genre, called *Romtexte*, a genre in which he quotes (Maurer, 2024, p. 59) to Mosebach (2018). The two German authors talk about "My Rome" in the same way that, also for a German writer, Jan Koneffke, there is "My Bucharest", in a series in the German-language weekly TVR1 German-language program Akzente, and in which he also talked about the interwar architect Marcel Iancu.

My first mobility grant was in 1996 under the Tempus II program (https://cordis.europa.eu/programme/id/ET-TEMPUS-2) Tempus II was a program of trans-European cooperation in higher education that ran from

1994 to 1998. It was formulated as a response to the needs of Central and Eastern European countries for economic restructuring through the priority area of education. The first program was the earlier Tempus I, started in 1990, just after the fall of the Iron Curtain. Tempus III followed. The core of the program were the JEP (*Joint EuropeanProjects*) programs. At that time the Institute of Architecture "Ion Mincu" had such cooperations with Karlsruhe, Nottingham, Liege. I participated in an exchange in Karlsruhe (mentioned for the introduction of pioneer women's education). It was not the first professional trip abroad. I had previously participated in a *Cross School Project* with FH Regensburg, also in Germany. In 1996 ECTS did not yet exist and the higher education institution in Romania where I was studying was not yet recognized at the European level, and therefore not yet recognized as a university in Germany. I wrote about the differences between this experience and my mobility as a doctoral student between Germany and Italy in an article in Sciece magazine (https://www.science.org/content/article/scientific-world-club).

In 1997 I returned to Karlsruhe to enroll as a regular student. Only some of the exams were recognized, I was enrolled a year and a half behind, and I had to take differences in the art history discipline in the first years. Once the Institute of Architecture "Ion Mincu" became the University of Architecture and Urbanism "Ion Mincu", the colleagues who went later had all their studies recognized. The interwar mobility at the Romanian School in Rome was different, however, it was similar to the Marie Curie doctoral research mobility described above, because they were research mobilities. In Italy for a longtime there were no research doctorates (now resulting in *dottore di ricerca*), these were introduced in 1980, but graduates, following the historical pattern, had the title of *dottore* following *laurea* (licentiate). The Bologna process also includes the reorganization of higher education into three cycles: bachelor (short), master and doctorate. This makes early stage research part of learning, such as the Marie Curie fellowships for doctoral students.

I recently participated in "The future of higher education - Bologna Process Researchers' Conference" in Bucharest, co-organized by UEFISCDI, in preparation for the 2024 Ministerial Meeting for the *Bologna Follow Up Group*

to be held in Tirana, Albania. The last conference was also in Italy, but in Rome in 2020, at which the volume (Noorda et al, 2020) launched on the occasion of the 20th anniversary of the Bologna Process was presented (https://bolognaprocess2019.it/). The series of conferences in Romania resulted in volumes related to the *European Higher Education Area* (Curaj et al, 2012, Curaj et al, 2015, Curaj et al, 2019, Curaj et al, 2020). The first volume discussed the national reforms following the adoption of the Bologna Process, in preparation forthe inter-ministerial meeting of the Bologna Process held in 2012 in Bucharest. In Romania it was fully introduced by the 2010 accession deadline. The conference was structured around the priorities of the Bologna Process, with one of the strongest sections on "Accessibility, Inclusion, Completion and Engagement - responding to the needsof students and society". In Germany, for example, the Bologna Process's focus on employability is criticized fortaking away the academic freedom that university study used to mean in comparison to *Fachhochschule* (disciplinary higher education) and thus leading to a school-like education. There has even been a decrease, due to the strict program, in student mobility compared to previous, longer study programs. Some Romanian universities have an office for inclusion, equity and equal opportunities (e.g. University of Bucharest) or strategies for diversity, equity and inclusion (e.g. Polytechnic University of Timișoara). Babeș-Bolyai University has adopted a European strategy on inclusive mobility (https://inclusivemobility.eu/). This concerns accessibility for students with disabilities and how they can participate in mobility programs (study or internship placement abroad). I will also come back in the book to how to pay attention to the needs of women in higher education or research to have dual careers, family/personal/professional synergy and at the same time benefit from mobility. Universities and other institutions in Romania can also sign the Charter of Diversity (https://www.cartadiversitatii.ro/), part of the European Platform of Charters of Diversity (http://ec.europa.eu/justice/discrimination/diversity/charters/index_en.htm), thus promoting non-discrimination and equal opportunities. Thus, it has joined European initiatives such as Creating Equitable Societies (https://eudiversity2024.eu/ro/), which include the European Diversity Month in May, a counterpart of the RomeInternational Month of Diversity, between the European institutes. Another related initiative joined are the European

Capitals of Inclusion and Diversity (a *prize/award*). These are more related to the New European Bauhaus that I will talk about, given the urban dimension, related to the built environment. They are awarded in 2024 for the third time for promoting diversity and inclusion in terms of gender, racial or ethnic origin, religionor belief, disability, age, LGBTIQ identity. In the first award in 2022, a municipality in Romania also won bronze, namely Grădinari in Caraș-Severin county, for the integration of the Roma community, one of the categories, alongside municipalities with less or more than 50,000 inhabitants. There is also a public vote. In 2023 this 3rd award was for promoting LGBTIQ equality.

4.5 From the German Bauhaus to the New European Bauhaus, a scholar's perspective on Italy and Europe

I first encountered the concept of sustainability when I was studying in Germany and trying to improve my language skills, in 1996, the year when the UN Habitat II report on human settlements in Istanbul was published. I asked my German teacher, who was elderly and unfortunately I don't remember his name, what *Nachhaltigkeit* (the German word for sustainability) means. He took a napkin, and tried to pin it to the wall. He said, "look, it doesn't stick, it falls. But, if I wet it (said and done), and try to catch it, it gets stuck. Which means *es hält nach* (in Romanian it holds on after, meaning it holds on to the wall even after I've taken my hand and I'm no longer holding it)". This "keeps after" means that the effect lasts, it is key to the concept of sustainability. Sustainability comes from English, where it originates from *sustain*, and this *sustain* is nothing but the same putty that "holds up" on the wall, but not under any conditions, but if it is held together by wetting. Sustainability means that the effect of attaching the napkin to the wall lasts longer than as long as I hold it by hand, it is a lasting effect, due to the wetting support, it is the water that holds it there. Water in this context is neither hazard nor heritage, but a key to sustainability, as we see today at urban level in the so-called blue-green infrastructure.

4.5.1 Richard Bordenache's contribution

The workshop on "Water as hazard and water as heritage" took place at the Romanian School in Rome, where Vasile Pârvan and Richard Bordenache were scholarship holders. On his return to Romania he carried out restoration work, in line with the architectural history, conservation and relief training there, as well as design. I have already featured the model village of Antonești in Corbeni commune, Argeș county, built after the flooding of the Argeș river in 1940. Another project, this time for a single house, links him to the Romanian School in Rome. He designed the house of Ana Tzigara-Berza, daughter of Alexandru Tzigara-Samurcaș (Fig. 4.42).

Ana Tzigara-Berza, a painter, daughter of Alexandru Tzigara-Samurcaș, was a scholarship student at the Romanian School in Rome between 1933-1935. There she met and married Mihai Berza, historian and secretary of the School (1936-38), and stayed with him in Italy until 1938. At that time (1929-1940) the director of the school was Emil Panaitescu, historian, a former pupil (1923-24) of the school when the founder, Vasile Pârvan, was the director. The Emil Panaitescu fonds, which I consulted in search of Richard Bordenache's work, is kept at the National Archives of Romania, Bucharest headquarters (Fig. 4.43, 4.44). Richard Bordenache, who graduated in architecture in 1929, was a student of the school between 1931-33, contemporary with Mihai Berza.

Fig. 4.42: Ana Tzigara-Samurcaș house designed by Richard Bordenache. Photo: Maria Bostenaru.

Some of Richard Bordenache's student work, as well as that of his son (Richard Bordenache Jr.), can be viewed at https://scandip130arh.uauim.ro/category/autor/richard-bordenache/. After two and a half years as a scholar, he stayed as a host there during the winter to prepare the first exhibition of the scholarship holders (collection of works) in the context of the first exhibition on the occasion of the inauguration of the new palace in Valle Giulia (Fig. 4.45), where today there are several academies of various countries on the site of the former international exhibition of 1911, an exhibition on the occasion of the 50th anniversary of the Italian state (a similar exhibition led to the creation of the Cinquantannaire Park and Arch in Brussels, Fig. 4.46) During this period he married the Italian archaeologist Gabriella Battaglia.

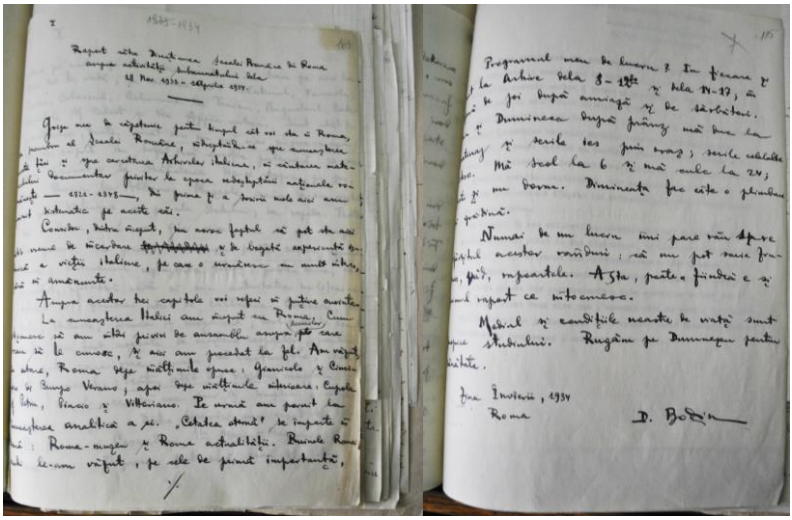


Fig. 4.43: Report (first and last page) of Richard Bordenache in the Panaitescu file, National Archives of Romania.

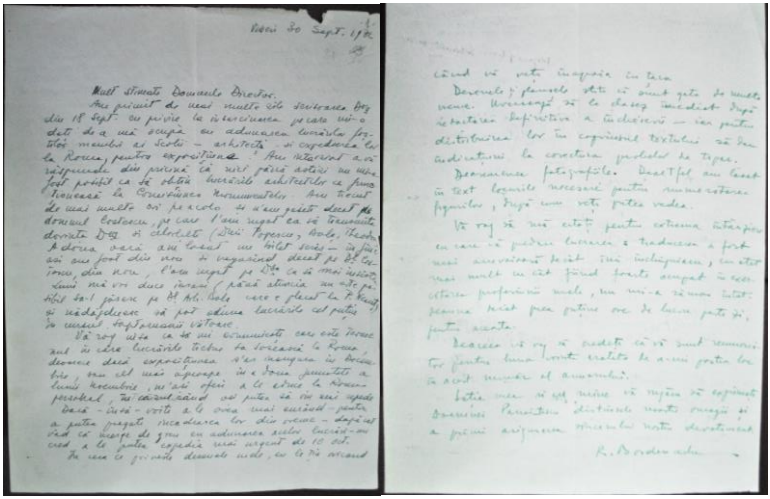


Fig. 4.44: Letter (first and last page) by Richard Bordenache about his work at the *Accademia di Romania in Rome*.

Fig. 4.45: *Accademia di Romania a Roma* (Romanian Academy in *Rome*). Photo: M. Bostenaru.

Fig. 4.46: The *Cinquantannaire* Arch in Brussels (a) in the park, left foreground with the automobile museum, (b) chocolate model in the *Chocolate village* on the outskirts of the Brussels-Capital Region (Brussels, like Rome, is added to the name of capital), in Koekelberg, near the basilica, where Oana Bogdan's UNESCO Campus is also located, included in the London exhibition I wrote about. Photos: M. Bostenaru.

Fig. 4.47: Romanian Peasant Museum. Photo: M. Bostenaru.

Richard Bordenache did not only cross paths with Alexandru Tzigara-Samurcaș in his career when designing the house for Ana Tzigara-Berza. Richard Bordenache also intervened on the building of the Romanian Peasant Museum (Fig. 4.47), originally designed by Nicolae Ghika-Budești, with whom Virginia Haret worked on the aforementioned publication.

The Romanian School Palace in Rome is located on the site of the former Hungarian pavilion (Székely, 2009 and 2022) and was designed by architect Petre Antonescu. The overall volumetry has been preserved, although the only pavilion in the exhibition still standing today is the *British School at Rome*, vis a vis. Although Petre Antonescu often designed in a neo-Romanesque style, this palace has a classicizing eclectic style.

The tradition of collecting the work of scholarship holders for an exhibition is a tradition that was resumed after the communist period. Meanwhile, the Romanian School in Rome, which was among the founding members of the International Union of Institutes of Archaeology, History and Art History in Rome (https://www.unioneinternazionale.it/), was rejoined the union in 2005 after the resumption of the scholarship program in 1999. Since 2003 the

exhibition *Spazi Aperti* has been organized, in which spaces other than the exhibition space, especially in the basement of the building, are open to the exhibition activity of the scholarship holders invited not only from the Romanian School of Rome, but also from the other member institutions of the Union and related events. In this way, the Romanian School of Rome differs from other institutions that organize exhibitions only for their own fellows. In 2016 the *Spazi Aperti* exhibition took place during the International Culture Week in Rome, then in its second edition. The aforementioned conference "Water as hazard and water as heritage" was a collateral event of this edition, with posters integrated in the exhibition. In connection with the event, I was also a volunteer at the *Spazi Aperti* exhibition, and, for a more effective communication related to the collection of works I produced, I then completed a course in intercultural communication in Karlsruhe and thus obtained, together with other achievements such as language learning, volunteering and staying abroad as a Marie Curie scholar in Pavia, the certificate of international competence of the *Karlsruhe Institute of Technology*, my *alma mater*. The event was presented at the DAAD seminar for German alumni at the University of Pasau, resulting in another certificate in intercultural communication. Also, during my stay in Rome, I enrolled in courses at FernUni Hagen and have now completed my third micro-course in intercultural communication. After attending the DAAD Alumni Seminar Germany, I became a member of DAAD Alumni. The challenge to this community in 2024 was the inclusive *future*, i.e. they were looking for innovative ideas for better education - a way to impact society and the environment.

Since the Rome institutes of these countries offer scholarships in the arts and humanities, such exhibitions are in the tradition of art schools. For example, also the art school in Karlsruhe (Staatliche Hochschule für Gestaltung Karlsruhe, Fig. 4.48) where Richard Bordenache's nephew Andreas Bordenache studied, organizes such exhibitions, called "Rundgang" (circuit), and in 2001 I participated in this Rundgang with a scenographic work from the studio directed by Daniel Libeskind, which I made as a guest student and which was also included in the publication (Voigt et al, 2010).

Richard Bordenache's son, Richard Bordenache Jr. emigrated to Karlsruhe where he participated mainly in competitions, but also contributed to landscape designs (kept in the SAAI archives at the *Karlsruhe Institue of Technology*) and won the Weinbrenner Plaque (Fig. 4.48). It bears the name of Friedrich Weinbrenner, the architect who designed the planned, fan-shaped city of Karlsruhe for the Count of Durlach. This Count sent Friedrich Weinbrenner to study in Rome almost contemporaneous with the period when Goethe initiated the movement that later became known as the *Grand Tour* (Schumann, 2008). The *Grand Tour* had the gift of making it possible to explore Italy, including the heritage of antiquity, which became the inspiration for the Renaissance, and later the ruins (including those in Piranesi's engravings of the time of the two) became the model for Romanticism. Richard Bordenache Jr.'s reliefs for the Castle of Corvin (https://relevee.uauim.ro/m421/) and Enisala fortress (https://relevee.uauim.ro/158/) can be found in Calotă (2016).

Fig. 4.48: (a) Staatliche Hochschule für Gestaltung, Karlsruhe. The house (b) with the Weinbrenner plaque (c) designed in Durlach by Richard Bordenache Jr. Photo: Maria Bostenaru.

4.5.2 Architects' study trips to Rome

Rome was the capital of the greatest empire in history and became a place of pilgrimage for architects (Fig. 4.49, Bostenaru, 2021). After 2000, with the resumption of fellowships also in Eastern European academies, a series of lectures entitled "Grand Tour del Terzo Millenio" (Grand Tour of the Third Millennium) was created in 2011. In the same vein, in December 2015 at the Biblioteca Hertziana at a conference on twentieth-century architects' training trips to Italy, including academies (Kappel and Wegerhoff, 2019), a dialogue

with contemporary 2015 architecture scholars at the Biblioteca Hertziana on the question of whether it is still appropriate for architects to make a pilgrimage to Rome in the third millennium. Among these architects was Mark Andrew Kelly, who was also present at the event 'Water as Hazard and Water as Heritage'.

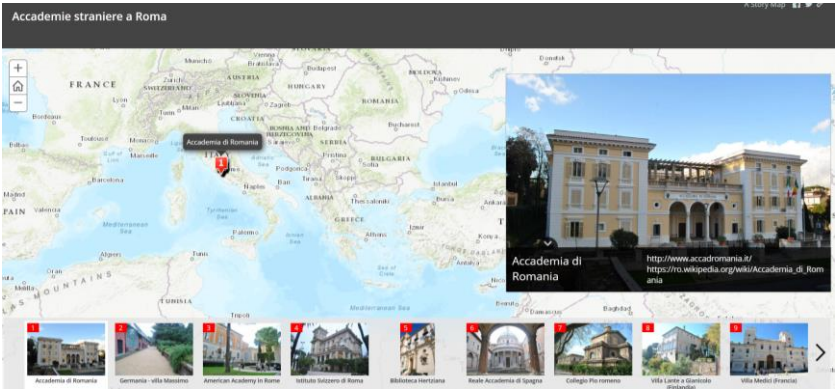


Fig. 4.49: Story map with academies in Rome (author M. Bostenaru), available at https://arcg.is/0HWPKP

4.5.3 The origins of the European Union and free movement within its territory

After the collapse of the Roman Empire, Charles the Great founded the Holy Roman Empire of the German Nation, and the kings were crowned first in Rome and then in Aachen (Fig. 4.50). After the apparitions of Our Lady of Banneux (Fig. 4.50), France, near *Dreiländerpark* (Park of the Three Countries: Germany, Belgium, Netherlands, Fig. 4.50), said to be the Virgin of the Nations, not far from Aachen, Hitler's rise to power and World War II soon followed. After the war, in 1957, the seeds of the European Union were sown through the European Economic Community, whose founding members included Germany, Italy, France and the BeNeLux countries under the Treaty of Rome. The Treaty of Maastricht (Fig. 4.50), together with Aachen and Banneux in 1993, led to the status of the European Community.

Fig. 4.50: (a) The healing spring and the promenade of nations at Banneux. (b) The chapel of the Carolingian kings in Aachen, the first German UNESCO World Heritage Site. (c) Maastricht. (d) Where these three countries meet. Photo: Maria Bostenaru.

Today we have in Brussels a new multi-state capital of the European Union, and a new place where states are represented as in Rome, but not in the arts but in research, not only in the humanities. Each country has an Office for Science and Technology in Brussels (Fig. 4.51), liaising with the European Commission, and they also have a Union (Informal Group of RTD Liason Offices https://iglortd.org/) Unlike the cultural representations in Rome, the scientific representations in Brussels do not each have their own building, but occupy offices in office towers, all in the European quarter, but sometimes several countries in the same building, as can be seen from the map. However, the formal framework is different, for Finland and Hungary for example being part of the embassy, in Romania part of the Ministry of Research, for Italy they are 2 *research performing organizations*, for Germany linked to the *research funding organizations*.

As part of the *Future on the past* project, I was a participant and organizer of a Marie Curie Alumni Association Research Management Group meeting, awarded at the association's 10-year anniversary conference in 2024, and now as an employee at the Department for Research Management at the University of Architecture and Urbanism "Ion Mincu". The meeting was held at KoWi in Brussels, KoWi (*Kooperationsstelle EU der Wissenschaftsorganisationen* - EU Cooperation Office of German Research Organizations) being the German Science and Technology Office in Brussels, with another branch operating in Bonn, the former capital. The other postdoctoral researcher in the *Future on the past* project, Adrian Ibric, was a *stagiaire* at the Romanian Office for Science and Technology in Brussels (ROST), visited in connection with this action. I also had a meeting with the Hungarian science attaché.

On the occasion of the *Heritage Days*, I visited the Brussels-Luxembourg train station with an introduction to the European Quarter and the Place Luxembourg/Luxemburg Square. In the framework of *Heritage days 2024*, dedicated to postmodern heritage, the European Quarter as such, various places in the European Quarter, and Schumann train station, as well as places of the Hungarian Presidency, the President of the Council of Europe at the time (the new *House of Hungary*, the residence of the Ambassador) auf could be visited, as it was formed in the post-war period, once Europe was united.

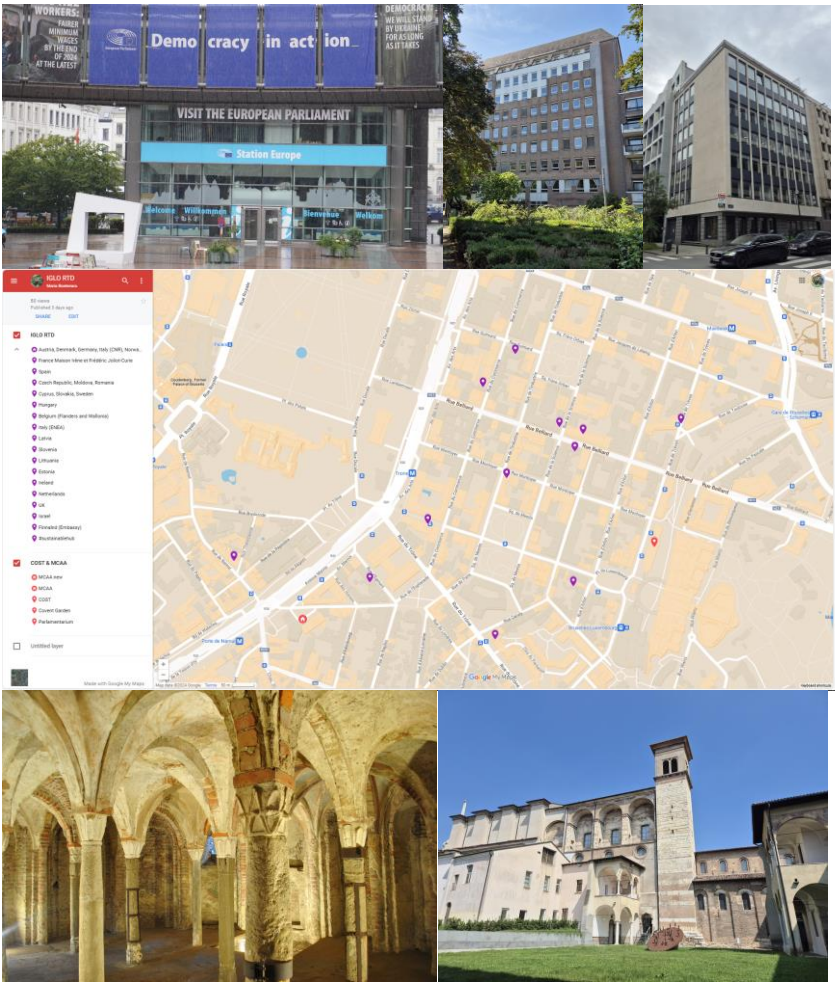


Fig. 4.51: (a) European Parliament in Brussels (b) Headquarters for Austria, Denmark, Germany, Italy (CNR), Norway, Poland, Switzerland, at Trône 98 (c) Headquarters for Romania, Moldova, Czech Republic (d) IGLO RTD map, interactively accessible at https://www.google.com/maps/d/edit?mid=1EoXNmGBWMXh_ugy2d0QNoC80VE3mYYw&usp=sharing, Longobard (Lombard) buildings at (e) Pavia (crypt of St. Eusebio) and (f) Brescia (UNESCO heritage of the church of San Salvatore seen from Santa Maria in Solario). Photos and map: M. Bostenaru.

Rome is participating in a similar initiative called *Open House*, which also includes the academies of otherwise inaccessible countries, and I was also a guide to this initiative. The initiative is *open*, meaning open like the *Spazi Aperti* (open spaces) of the Romanian School in Rome.

In this work I have also talked about contemporary women in research, starting from my work in the Marie Curie fellowship associations (alumni), mobility grants awarded by the European Commission to explore other countries, which took me to Pavia (Fig. 4.51), the Lombard (Longobard) capital of the period of the collapse of the Roman Empire. The most significant Longobard UNESCO heritage, however, does not include the buildings in Pavia, but, in addition to those in the independent duchies of Spoleto and Benevento, also Brescia (Fig. 4.51), and the Lombards paved the way for Charles the Great, being pagans who defeated the late Roman Empire but Christianized themselves.

Brussels was also the capital of Art Nouveau, celebrated in 2023, from where it spread throughout Europe (launched by the 1897 World Fair, which took place after the construction of the Maison Autriche and Hotel Tassel in 1893 by Victor Horta), and with Art Nouveau came the stylistic break with tradition, as the name implies, in some countries, others seeking vernacular origins in Romantic Nationalism or other similar trends (e.g. Neo- Romantic).

4.5.4 The place of architectural research and design for inclusion in EU research and innovation programs

In the context of today's European Union, the President of the European Commission has taken the initiative for the "New European Bauhaus". The Bauhaus has become European. And it is responding to new challenges, the challenges of the Third Millennium. These have been identified, with the launch of the new contemporary funding program framework with Horizon Europe in 2020, one year after the anniversary, as "beautiful, sustainable, together". If in the days of the historic Bauhaus the challenges were about industrialization, today they are about sustainability and inclusion. Beauty is a desideratum since the time of Vitruvius, but the historical Bauhaus also redefined beauty by seeking a new place for craftsmanship and a new role for

ornament, or even the lack of it and beauty in proportion. In this sense, this work lays the desired foundation in the current *Future on the past* project to build the future by looking at the past, namely to design the future of buildings directly or indirectly influenced by the historical Bauhaus through the perspective of the *New European Bauhaus*: more sustainable through disaster resilience, keeping the beautiful in this intervention, and more inclusive in architecture, but also in architectural research, whether related to history or sustainability.

The new European Bauhaus has 3 phases:

- Project phase (2020-2021): co-design. The concept phase was finalized with the publication of the so-called Delivery (https://new-european-bauhaus.europa.eu/about/delivery_en), which also includes the four main thematic emphases: returning to nature, regaining a sense of belonging, supporting vulnerable places and groups (integration, accessibility, social cohesion), shaping a circular industrial ecosystem & supporting *lifecycle* thinking.
- The realization phase (2021-2023+): referred to the historical Bauhaus movement, the initiatives of the New European Bauhaus (NEB) are to span several levels "from local to global, participatory and transdisciplinary". It has taken up the four main thematic emphases with the aim of implementing them. For participation the *New European Bauhaus* has developed its own instruments, different and evolved at the European level from what had been common in Western Europe in the last decades of the 20th century. These instruments are: the New European Bauhaus Award, the NEB Laboratory, the New European Bauhaus Festival, the funding of lighthouse projects.
- Spread/dissemination phase (2023-2024+). Experiences should become a source of inspiration both in Europe and beyond. Thus, to create lead markets for a new way of living in buildings, in line with the environment and climate.

Inclusivity but also resilience to the destructive forces of nature is part of the thematic emphases, nature becomes a response to its dangers. The participatory dimension in the realization phase is taken up in the dissemination phase in the spirit of strategic design. In Bostenaru (2007) I described how in strategic design the pilot projects of action plans, which apply the strategy punctually and demonstratively, not as in traditional urban developments by regulation, become by spreading routine and best practice.

A COST Action on Cultural Sustainability (https://www.cost.eu/actions/IS1007/), carried out between 2011 and 2015, was the first COST Action funded in the field of heritage, since when there have been many more.

4.5.5 *Studies in tectonic culture* by Kenneth Frampton - a review highlighting local culture: how the natural material responds to the challenges of nature

Harry Francis Mallgrave begins his preface to this seminal work by Frampton by saying that in Phillip Lopate's novel "The Rug Merchant" (1988) the main character attempts to write a doctoral thesis on Gottfried Semper and, failing, never recovers, in order to explain the difficulties of architectural theory. It's an example of architecture reaching literature.

In his introduction "Reflections on the scope of tectonic", Kenneth Frampton goes back to when the scope of tectonics was born. Viollet le Duc (1872) was the first to change the view of tectonics that had existed since the Greeks by introducing the logic of construction. But he never used the term space, as August Schmarsow (1894) later did. That was the birth of the concept of space in architecture, which has remained an integral part of architecture ever since. Kenneth Frampton recognizes that the study of tectonic culture aims to mediate the priority of space with the constructive and structural patterns through which it is realized. The 'tectonic and tactile' character is ' "scenographic and visual, although none of these attributes deny its spatiality'. He identifies three vectors: 'topos', 'typos' and 'tectonic' and emphasizes the independence of tectonicity from style but not from site and type. Searching the etymology, it comes from "carpenter" or "builder"

(Greek), which later become architekton. "Tectonic comes from the art of joinings". The word is not new from Frampton. Karl Bötticher wrote in 1843-1852 three volumes on *Die Tektonik der Hellenenen* (The Tectonics of the Hellenists), distinguishing between *Kernform* and *Kunstform*, i.e. what we today call container and content, or structural skeleton and ornamentation. In Bötticher's work, the *Kernform* are the wooden rafters, and the *Kunstform* the "the petrified beam ends in the triglyphs and metopes of the classical entablature". Such a discourse was taken up again in essays searching for the poetics of concrete material at the beginning of the 20th century, when an origin in wood was also sought, for example in István Medgyaszay. Bötticher's theory was taken further by the seminal work of Gottfried Semper (1860), who distinguished between lightweight and mass: tectonic/stereotomic (stereotomic meaning 'solid' and 'cut' in Greek and considered to be load-bearing masonry): 'constructive mass and tensile frame', as Frampton calls it. Semper's theory was supported by the German language, hence by Frampton, where *Wand* is the wall in skeletonized construction, and *Mauer* the heavy wall of artificial or natural stones superimposed one on top of the other. Although already possible with timber, this type of separation became apparent with reinforced concrete, which allowed three types of relationship between structure and space: the structural plane (with heavy load- bearing walls separating into functional units), the free plane (where the two are distinct) and the Raumplan (where spaces are connected, within a structural framework), the latter introduced by Adolf Loos, who also drew inspiration from Mediterranean architecture. On a personal note, this is also supported by the German language, where there is the word 'Massivbau' for materials such as brick/stone and reinforced concrete, as distinguished from wood and metal. Semper later wrote a work on the materials themselves, the *Stoffwechsel* theory, in which he differentiated between wood, brickwork and textiles, which are tensile materials, and masonry, brick, beaten earth and reinforced concrete, which are compressive materials. However, early twentieth century architects identified the possibility of reinforced concrete to build skeletal, wattle and daub infill timber construction. Other interrelationships exist, such as that noted by Frampton that masonry ties are a form of braiding. Finally, a note is made about the durability of materials, such as that mud falls into the earth and wood is ephemeral, whereas stone

stands the test of time. Aspects such as topography and corporeal metaphor are included. Finally, Frampton notes that Semper's theory has its roots in the emerging science of ethnography. In fact, Ákos Moravánszky (2018), another architectural theorist who studied Semper and also Medgyaszay's early reinforced concrete theory, emphasized ethnographic influences in early twentieth-century Central European architecture as well. Bötticher's *Kernform* and *Kunstform* evolved at Semper into the technical and symbolic aspects of construction, which were then recounted by Frampton as 'representational and ontological aspects of tectonic form'. In philosophy, ontology is the study of the nature of being. Today it has gained use in computer science, where it is used as the basis for object-oriented software by formally representing concepts in a domain and the relationships between them. Frampton relates to Semper and finds that the earthwork, frame and roof are ontological, and the hearth and infill wall are representational, symbolic. It is therefore the ontological part that reflects the overlapping of registers (Bostenaru, 2005). Sandaker (2010) wrote an ontology of the space of structures at a conference where there was a session devoted to this work by Frampton. Hendrik Berlage also distinguished, in his 1904 lecture, between the constructive and non-constructive parts of the spatial enclosure. "In a 1973 essay entitled ‘Structure, Construction and Tectonics’, Eduard Sekler defined the tectonic as a certain expressivity arising from the statical resistance of constructional form in such a way that the resultant expression could not be accounted in terms of structure and construction alone." By linking tectonics to ontology, which is a philosophical concept, Frampton arrives at Heidegger's phenomenological work “On the Origin of the Work of Art” (1956, in Poetry, Language, Thought) in which he reflects on the relationship between material and form, whether this relationship originates in the work-ness of the thing or in the work-ness of the work of art and "conceives architecture as having the capacity not only of expressing the different materials from which it is made but also revealing the different instances and modes by which the world comes into being: ‘the temple-work, in setting up a world, does not cause the material to disappear, but rather causes it to come forth for the very first time […] The rock comes to bear and rest and so first becomes rock; metals come to glitter and shimmer, colors to glow, tones to sing, the world to speak. All this comes forth as the work sets itself back into

the massiveness and heaviness of stone, into the firmness and pliancy of wood, into the hardness and luster of metal, into the lighting and darkening of color, into the clang of tine and into the naming power of world'." Tectonics expresses the different states of durability and the way things arise and sustain themselves. I notice in Heidegger that he also considers sound space, not just tactile space. Finally, in his introduction, Frampton turns to the topic of tradition and innovation, a topic also relevant to materials, since some, such as reinforced concrete, have been innovative materials, but sometimes they have performed in extreme conditions worse than traditional ones, such as wood.

The second chapter is also a general one, reflecting on the Anglo-French origins of the tectonic form from the Greeks and Goths. Frampton begins by quoting Francesco Dal Co (1990): "Ornament is the secret that Baukunst keeps to allow the Tekon to display the values of which he is guardian", going out of Mies, who said that architecture begins when two bricks are joined 'carefully', which Dal Co says must be prolonged over time. Frampton reviews Pugin and his reliance on English Gothic, and his rejection of new materials at the time, although he did introduce iron. Tectonically significant was Labrouste's "ossiferous", as Frampton calls it, iron skeleton in the Bibliothèque de Ste.-Geneviève, Labrouste's light masonry and reinforcement of the Bibliothèque de Ste.-Geneviève, which would be continued by the tectonic representative Villet-le-Duc and the reinforced concrete pioneer Auguste Perret. " Throughout the two volumes of his 'Entretiens' Viollet-le-Duc encourages the dynamic assembly of different materials, techniques, and resources, in order to evolve an effective and engaged mode of building for the given moment". As with Mies, the emphasis is on "carefully", thus avoiding mere juxtaposition of materials. His theories, like Semper's, appear in the Amsterdam work Bourse de Berlage. " For Viollet-le-Duc, statical logic and the rationality of the constructional procedure were inseparable." Finally, Frampton cites passages from Viollet-le-Duc's work that refer to the "truth" of construction in the material "construction is the means, architecture is the result," with which we return to Heidegger's origin of the artwork and truth and today's approaches to conservation and authenticity (e.g., the Nara document). " "In 1890, some seventeen years before Francois Hennebique's

decisive reinforced concrete patents of 1907, the engineer Paul Cottancin perfected his own reinforced masonry system known as ‘ciment armé’" Cotanncin's patent lapsed in 1914; it called for a permanent brick formwork in place of Hennebique's temporary wooden frame, another link between reinforced concrete and wood as materials. In Contancin's system, the wire reinforcement acted in tension and the cement infill in compression independently, thus avoiding a weakness that persists to this day in the bond between metal and concrete. The first architectural history to explain "the origin of the tectonic form in terms of the materials available, the structural systems employed, and the state of craft production" was by the engineer Choisy (1873). Although Le Corbusier (1923) for *Vers une Architecture* was inspired by Choisy's isometric drawings, they represented a better load-bearing structure than skeletals, such as the timber frame, for example. Frampton credits Auguste Perret as Choisy's disciple, but he also influenced architects of the "machine age", from Le Corbusier to Louis Kahn. " Choisy seems to have anticipated reinforced concrete as the sole technique that would prove capable of overcoming the age-old schism and fusing into a single entity the two great lines of Western building culture" (which are timber construction and masonry): "space form was inseparable from the mode of construction and […] subcomponents were presented as set pieces derived from the influences of climate, material and cross-cultural interaction".

The third chapter is also general, dealing with the emergence of tectonics with the two concepts of structure versus ornament introduced by German architects and theorists. " “In the Hegelian system, art comprises a dichtonomy consisting of the idea and its material embodiment. Subject to the changing nature of the dominant form, the history of art passes throught the same three successive stages of symbolic, classical and romantic." With the discussion of the Germans, Frampton returns to the ontological-representational duality and its synonyms (e.g., basic form and art form) that we saw at the beginning. For example, Schinkel's "'*Lehrbuch*' contains many examples of differently articulated structural assemblages rendered in different materials. In the main, these sketches have an ontological rather than a representational character, i.e. the tectonic system itself is emphasized rather than the envelope of its form", i.e. the basic form predominates over the

artistic form. I could add to this that in the 19th century the perception of the artistic expression of the illustrations that today are viewed from a technical point of view was different. The Gothic cover reverses the basic form and the artistic form: the latter is inside. Frampton quotes from Schinkel's rare theory (1862) in 'Das Prinzip der Kunst in der Architectur' (from Aus Schinkel's Nachlass , vol. II, p. 208):

"1. To build (bauen) is to join different materials into a whole, corresponding to a definite purpose.

2. This definition, encompassing a building in both its spiritual and material aspects, clearly demonstrates that purposiveness is the fundamental principle of all building.

3. The material edifice, which now presumes a spiritual aspect, is here the subject of my consideration.

4. The purposiveness of every building can be considered under three aspects: these are:

a. Purposiveness of spatial distribution or of the plan;

b. Purposiveness of construction or of the joining together of materials appropriate to the plan.

c. Purposiveness of ornament of the decoration."

Goethe and Schinkel met once (Philipp, 2011). On the *Lehrbuch* can be read in Peschken (1979).

In contrast to the architects of the early twentieth century, who sought the best expression for a particular material, Schinkel emphasized in this work the use of the best possible material and emphasized the quality of craftsmanship with which the materials are combined. Frampton returns to the analysis of Bötticher's work and analyzes the ontological status of structure and the representational status of ornament. The representational is assimilated to the Greek and the ontological to the Gothic. On a personal note, the Greeks transposed wood, which lends itself to skeleton, into masonry, while Gothic realized a skeletal structure from masonry. A philosophical influence on Bötticher came from Schopenhauer: 'architecture could only express its

essential form and significance through the dramatic interaction of support and load (*Stütze und Last* [in German])', thus advocating sincerity in architecture ('beauty was [...] the explanation of mechanical concepts'). Not only was the central form mechanistically necessary, which had to be expressed as such, but also the artistic form, the ornament or the shell, had to be expressed as a separate part. Such an expression was conceived in the Secession architecture of Otto Wagner and those influenced by his language, for example the architect József Vágo from Oradea. "Structural form could only acquire symbolic status by virtue of its capacity to engender analogies between tectonic and organic form". Bötticher argues for new materials, in this case iron, saying that stone reached its peak in the Gothic, and iron would be better suited to cover large openings. A new material brings "in its train a new world of art-forms". He believes that " the tectonic expressivity of such an unpreceded system will have to model its representational form on some kind of reinterpretation of the principles of Hellenic architecture. […] anticipates the semiotic transformations of Jugendstil in its crystallizing phase, particularly […] Otto Wagner" (Principles of the Hellenic and Germanic Modes of Building). Semper introduced the seminal role of the "carpet wall" (*Wand* and *Gewand*), proposing instead of Vitruvius' *utilitas, firmitas, venustas* (1) the hearth, (2) the earthwork, (3) the frame/roof and (4) the enclosing membrane, giving "primacy to tensile frame and infill instead of compressive earthwork and load bearing mass", and Frampton sees in the vertical succession the stereotomic, topographic and ephemeral. The new European Bauhaus also proposes a new triad in place of Vitruvius: *beautiful* (common), *sustainable* (which also includes resilience derived from safety, and is related to tectonics), *inclusive* (which may correspond to Vitruvius' functional, useful, as it is the use of a space by a community). "Semper assigned certain tectonic crafts to each of the four elements: textiles pertained to the art of enclosure and thus to the side walls and roof, carpentry to the basic structural frame, masonry to the earthwork, and metallurgy and ceramics to the hearth.". (*Der Stil in den technischen und tektonischen Künsten, oder praktische Aesthetik*) In the *Stoffwechsel* theory, he observes the transformation through mythicism of initially tensional constructions into compressive petrified forms (wood into stone in Greek). Nomadic textile forms were transformed into a permanent material when bricks became

"dressing", which we can also see in relation to the flat and jagged by Deleuze when he distinguishes between nomadic and sedentary. Otto Wagner pushed Semper's theory further: ‘a new style must depend of necessity on a new means of construction' (Benedetto Gravagnuolo, 'Gottfried Semper, architetto e teorico', 1987). Wagner was, according to Frampton, the heir to Schinkel, Bötticher and Semper. "New purposes must give birth to new methods of construction and by this reasoning also to new forms" (Wagner, 1896/1988), so that a new *Kunstform* derives from a new " Werkform [German for work form], as inorganically articulated structural invention" (Schwarzer, 1993). Otto Wagner applied Semper's theory of tiling and nailing to the Postsparkasse.

The following chapters are dedicated to the analysis of tectonics in the works of several architects: to Frank Lloyd Wright, where he identifies the so-called "text-tile" tectonics, to the reinforced concrete pioneer Auguste Perret and the so-called "classical Rationalism", to Mies van der Rohe and the avant-garde, to Louis Kahn vis a vis modernism, to Jorn Utzon and the tectonic metaphor in transcultural form and, finally, in the articulations of Carlo Scarpa.

In the postscript, Frampton writes about the trajectory of tectonics in the 20th century, followed by an epilogue.

4.5.6 Bauhaus approach from Modernism to Contemporaneity - a vision for the *Future on the past* project

In the context of the current project, however, exploring the European Commission's trends takes on a different dimension. 2019 marked the anniversary of the Bauhaus, founded in 1919 by Walter Gropius (Fig. 4.52). In 2013 on the occasion of attending the *Digital Landscape Architecture* conference in Bernburg near Dessau (Buhmann et al, 2013) I had the opportunity to visit historical sites, but also to be an eyewitness to the flooding of the Elbe at that time and in that area (Thieken et al, 2016), flooding that I reflected on at the event organized at the Romanian School in Rome. Since 2013, the Triennale of Modernism has been held in Berlin,

Weimar and Dessau, the last two being the birthplaces of the Bauhaus (https://www.triennale-der-moderne.de/).

In 2019 I was invited to contribute on the reflection of Bauhaus in Romania, through the work of Rudolf Fränkel, a German-Jewish architect with works in Bucharest. In 2022, a chapter was contributed to the project and the book was launched at a new edition of the Triennale in the *BHROX bauhaus reuse* pavilion. "BHROX bauhaus reuse (Fig. 4.52) is a transdisciplinary center and participatory urban laboratory built with reused Bauhaus Dessau façade elements from the 1976 post-war renovation, provided by the Bauhaus Dessau Foundation, founded by *zukunftsgeraeusche* (noises of the future) in cooperation with the Berlin Charlottenburg-Wilmersdorf district."

Fig. 4.52: (a) The historic Bauhaus building in Dessau.(b) The BHROX bauhaus reuse pavilion where the Bauhaus celebrated its anniversary in 2019 during the first edition of the Modernism Triennale. (c) Bauhaus temporary archive in Berlin. (c) Ice cream in Bauhaus colors on the anniversary at the Goethe Institut in Bucharest in 2019 (Bauhaus Imaginista exhibition https://e-zeppelin.ro/baubau-bauhaus-100-bucuresti/ Photos: M. Bostenaru.

The Triennale, as a festival of architecture (like the London Festival of Architecture, which I described how I attended), is linked to the Valle Giulia tradition, but also to a number of other contemporary festivals, such as the East-Centric Triennale, described in this work, the Lisbon Triennale (without its own building, taking place both at the Belem Cultural Center and at MAAT, the architecture museum, both recent constructions, Fig. 4.53), which also tutors Open House Lisbon, from the same movement as Open House Roma, which I participated in as a guide of the Romanian School in Rome during my stay and which in 2022 focused on circularity, and the Milan Triennale, which has been held since 1933, when the palace was inaugurated (Fig. 4.53), in Milan, and before that had several editions in Monza as a biennial. The Milan Triennial is, however, recognized by the Paris Exhibitions Bureau as an exhibition, like the 2015 Milan Triennial, is more than a festival. Italy has been participating in world exhibitions since 2000, since the one in Hannover, which I had the opportunity to visit, where it had a pavilion dedicated to Italy and the scientist Alexander Volta, so a pavilion about architecture and research. The first time I went to Pavia in Italy as a Marie Curie Fellow, I stayed in the dormitory named after this scientist from Pavia.

The 2015 Milan Triennale will be entitled *Inequalities - How to* mend *the fractures of humanity.* Commissioner- general and Triennale president Stefano Boeri said that these are something other than diversity (https://www.bie-paris.org/site/en/news-announcements/triennale-di-milano-2/xxiv-triennale-milano-international-exhibition-presented-to-international-representatives), the one I talk about in the EDI label alongside inclusion, and aims to bring together diverse disciplines, experiences, cultures and perspectives. According to the President of the Milan Triennale, this theme aligns with its long-standing commitment to cultural diplomacy. This links it once again to Valle Giulia's developments with the cultural institutes of various countries, such as the Romanian School in Rome, which are outposts of cultural diplomacy (Mihaly, 2019), their gardens being called, together with those of embassies, "the gardens of diplomacy" (Pasquali, 2003).


a. b.


b.


c.

Fig. 4.53: Venues of the Lisbon Architecture Triennale 2022 (a) Belem Cultural Center and (b) MAAT Museum (c) Milan Triennale Pavilion in Sempione Park, in Novecento Italian (interwar) style, designed by Giovanni Muzio (1931-33). Photos: M. Bostenaru.

In fact, they are even diplomatic territories, of the respective countries, on the territory of the Italian state, their employees having diplomatic car matriculation numbers and being on mission on Italian territory. But as this work is also about resilience to the hazard side of water, let's not forget disaster diplomacy (Kelman, 2012, https://www.disasterdiplomacy.org/) The Milan Triennale 2025 invites artists, architects and researchers to propose solutions to reduce income, social and gender inequalities as a result of the attention given to this by culture.

The Triennale recognizes the evaporation of the concept of globalization, and while there is geographic mobility, as I address in this work, social mobility can be reduced for reasons of racial, religious or cultural difference. In 2019 the Milan Triennale in Milan was entitled *Broken Nature: Design Takes on Human Survival*, which dealt with the theme of the planet's resources destroyed, as Pope Francis addressed in *Laudato Si'* in 2016, also linked to the UIA (International Union of Architects) congress in 2002 with the title *Resource architecture*, and also addressed the disaster dimension, for example through proposals for the delayed reconstruction after the L'Aquila earthquake. This was the first edition of the triennial on the theme of reparation, to be continued until the one in 2025 (https://triennale.org/en/magazine/radical-repair-inequalities-architecture), and both taking up facets of this work.

The Bauhaus anniversary was also celebrated in Bucharest at the Goethe Institute (Fig. 4.51). The film "Bauhaus Spirit: 100 Years of Bauhaus" (Germany, 2018, by Niels Bolbrinker&Thomas Tielsch) was also shown, cross- referencing the historical Bauhaus with its social utopia and the contemporary challenges that architects are trying to respond to, before the *New European Bauhaus*. At the New Europe College, the challenge of the seismic resilience of buildings from this period was discussed, with examples from the architecture of Marcel Iancu and Tiberiu Niga. Disaster safety and resilience are current challenges to this architecture, along with the energy challenges covered by the *Green Deal*.

The anniversary of the historic Bauhaus has also led to numerous publications about the women of the Bauhaus, including Theresia Enzensberger's

Blaupause, Novel by Theresia Enzensberger (2017) about how a Bauhaus student's ideas are stolen from her, named after a way of reproducing sketches in tracing drawings.

NEB Lab (New European Bauhaus Lab) is a co-creation space of the New European Bauhaus community started in December 2023. One such co-creation lab on trans-European Modernism is the *European Triennial of Modernism* (ETOM) resulting in a festival as well. The motto of the project is "*Diverse Modernism | Modern Diversity*" and has as its central pillar the very inclusion in the context of trans-European heritage, including not only architectural, urban, infrastructural and public space heritage, but also modern ideas of emancipation, equality and democratic participation (after https://new-european-bauhaus.europa.eu/get-inspired/inspiring-projects-and-ideas/european-triennial-modernism-etom_en). Non-profit organizations can join as partners, subject to volunteering, e.g. space or *know-how*, and for-profit organizations as friends. Romania is among the partners and among the challenges are the relationship between Modernism in East and West, with a focus on partners in Central and Eastern Europe, as well as resilience and reuse of heritage. *BHROX bauhaus reuse* is the main coordinator. In Germany, the conferences *Zum aktuellen Umgang mit den Bauten der Moderne* (Contemporary approach to the buildings of Modernism) were already being held through DOCOMOMO. The New European Bauhaus also has its own (architecture) festival among its instruments.

At the conclusion of the author's Marie Curie reintegration grant, which continued the theme of the fellowship and proposed a decision system for prioritizing consolidation interventions on Modernist buildings in several European countries, taking into account the vulnerability given by the fact that the structural solution failed to respond sufficiently robustly in the context of architectural innovation of that period, an article was written in the European Commission's journal containing the results of the projects with the title *Building the future on lessons of the past*. The phrase is repeated in the exhibition in London, which I curated, entitled *Building on the Past: Pioneer Romanian Women in Architecture*.

How *the Future on the past* project responds to the three dimensions pursued by the New European Bauhaus is as follows:

- Beautiful (exactly: enriching, inspired by art and culture, beyond the functional) - The challenge is great, if we think of Adolf Loos and ornament is the crime, beauty as a result of responding to function, but in ideal proportions. Thus, not only the technical side is taken into account in research, and in European projects the role of the humanities and social sciences in combating disasters has been emphasized, compared to the beginning of the millennium, when contemporaneous with the Marie Curie fellowships of the author's Marie Curie the heritage character was not sufficiently taken into account.
- Sustainable (in harmony with nature, the environment and our planet) - The *New European Bauhaus* responds to the *European Green Deal*. Nature can include natural hazards, but also the protection of a vulnerable habitat, as in the encyclical *Laudato Si'*. Particularly in the case of water, the subject of this research, water is a dual element between hazard but also heritage, the heritage dimension being also enriching architecture through water frontage or thermal baths, and supporting the green deal through blue green infrastructure, but also natural habitat, which I tried to demonstrate in my diploma project on a water museum, which, other than those focused on water supply, included an aquarium.
- Inclusive (encouraging dialog between different cultures, disciplines, gender and age identities) - International competence requires intercultural communication, a prerequisite for geographical mobility, within Europe, through free movement, and beyond. Multi-, inter- and trans-disciplinary research is also needed in this area. So, inclusion is not only about gender, but also about culture (replacing ethnicity, as culture has many dimensions, and is also reflected in built heritage), and disciplines are also a dimension of culture, in the research, academic environment.

Co-creation approaches with the inclusion of social sciences and humanities for increasing the disaster resilience of architectural and archaeological sites, especially in the case of climate change, have been introduced since Horizon 2020, before the *New European Bauhaus* initiative, in projects funded by EASME, which in Horizon Europe was taken over by EISMEA (European Innovation Council and SMEs Executive Agency) and CINEA (The European Climate, Infrastructure and Environment Executive Agency). The co-creation approach is one of the possible participatory design approaches, which has been growing in Western Europe since the student movements of 1968 (Bostenaru, 2007), but in Eastern Europe is now recovering after years of totalitarianism.

The interwar architecture that is the object of this research relates as Modernism or as "other Modernism" to this architecture. The period of Modernism was an effervescent period of the so-called -isms (expressionism, new construction/*Neues Bauen*, organic architecture, new objectivity/*Neue Sachlichkeit*, functionalism, constructivism, futurism, rationalism, neoplasticism/De Stijl, Amsterdam school, Catalan modernism, minimalism, international style, structuralism, homeland style/*Heimatschutzarchitektur*, dadaism, etc.) contemporary to the Bauhaus. In a short period of one or two decades there was much experimentation in the arts including architecture, and sometimes the experiments in artistic/architectural language were a step ahead of the technical progress in which they were pinning their hopes. The globalization of styles throughout Europe and beyond, which was not entirely new (Gothic, Baroque and other historical trends also had manifestations throughout the continent) and which also had regional accents, was matched by the globalization of construction techniques in concrete, glass and steel. These materials are today proving largely unsustainable: glass facades require air-conditioning installations and the current trend is to achieve NetZeroHouses that generate their own energy and through passive house concepts where air conditioning occurs naturally, by conforming. Reinforced concrete is also unsustainable because of the carbon dioxide embedded in its production and hardly recyclable, which is why European research programs are looking for natural material or even metamaterial solutions that lead to reduced concrete production. The current project, *Future on the past*, seeks

to learn lessons from the aforementioned regional component of the Modernist currents, those "other Modernisms", by proposing retrofit solutions due to the mismatch between the technical solutions adopted in the constructions of the first half of the 20th century and the demands of natural disasters, which can lead to reduced safety. In the case of earthquakes, it is a question of pre-seismic code construction and lessons from the local seismic culture of vernacular buildings. In the case of floods, which are the subject of this book, it is about the contribution of nature-based solutions for sustainability, inclusivity and resilience in combination with the *New European Bauhaus*, as called for in a recent European Commission call for innovation projects.

Also, Modernist buildings contemporary to the Bauhaus are not old enough to be universally recognized for their architectural value (e.g. as monuments), this being more prevalent in the case of load-bearing masonry buildings, thus with traditional structural materials rather than concrete and metal. I wrote that there are few Modernist buildings protected as UNESCO World Heritage earlier in this work. Historic reinforced concrete, whether of the first generation Hennebique type, or constructions in pre-code frameworks, as is the case of the protected built area "Bulevardul Modernist" in Bucharest (mainly Bulevardul Magheru and its surroundings), deserves to be protected as a witness to the history of the technique. The history of building technology can be seen as part of the history of science. In German, a distinction is made between *Baugeschichte* (building history) and *Arhitecturgeschichte* (architectural history), the former being more common in the names of dedicated institutes. Rarely, however, does a building or architectural site enjoy protection for the quality of its structural solution. With the current challenges of carbon mitigation in reinforced concrete solutions, the preservation of buildings with such structural solutions requires new approaches. The Venice Charter of 1964 allowed interventions in historic sites with new material strengthening solutions (such as the *Carta del Restauro*, formulated in the framework of the Athens Charter in 1931, in the midst of Modernism), if traditional materials proved inadequate. Concrete preservation solutions must be chosen with similar care, for example by so-called metamaterials, which are both materials and structural solutions at the same time.

4.5.7 Local culture, the dual elements of nature and the *Future on the past* project

The current project has the acronym *Future on the past*. Future can be seen in the approach proposed by the *New European Bauhaus*. Past is the interwar architecture, in its diversity, including *Other Modernisms*, contemporary and intertwined with Bauhaus, that I am investigating. *The Future on the Past* project seeks to revive the local culture related to disaster resilience that has led to characteristics of *Other Modernisms* within the global stream of Modernism (and similar for Art Nouveau), as for example investigated at the DOCOMOMO conference in Ankara in 2006 (https://docomomo.com/ankara-2006/). The *Other Modernisms* approach started the inclusive approach of "*Diverse Modernism | Modern Diversity*", which is also included in the mentioned EDI (equity/equality, diversity, inclusion) labels. Local culture (which is officially referred to as local seismic culture only in the case of earthquakes) can be seen in the context of inclusivity and cultures, given that the study is European. A recent PhD work has compared the seismic culture of the 2016 central Italian earthquake series in Umbria with the flood-related culture after the York floods in the UK (Sprega, 2021). In the project we are also trying to define this culture for wildfires, especially since I have answered an ICOMOS questionnaire on fire resilience, which also takes into account indigenous knowledge.

Previously I have investigated the local culture transmitted or not through the migration of the Danubian Slavs from Upper Swabia to Satu-Mare county during the baroque period, the baroque being, as I said, a global movement with regional characteristics. This local culture I followed not only at the level of baroque churches, architecture with architects, but also at the level of vernacular architecture in the villages where the Swabians settled, also realizing an analysis of historical social networks, thus related to the human component, as in inclusiveness studies (Bostenaru, 2019). This architecture has also been investigated in terms of earthquake resilience, with the Érmellék earthquake being recorded shortly after the settlement, the presentation of which I discussed in the section on the EGU virtual conference in 2020. Field trips in South Tyrol, with observation of intangible heritage customs, including discussions at EURAC with the group for the

study of minorities, however, revealed a common Austrian heritage and can be linked to Panasiu's (2007) study of the Banat Savabars, who immigrated later than the Saarlanders, through the intercession of Empress Maria Theresa and not the Count of Károlyi. I aim to extend the study of disaster-resilient local culture to floods related to modernist heritage, as seen in the interaction of architecture with water in this volume, and to fires, where research to date has been even more sparse. Fire is the opposite element to water. Among the styles of *Other Modernisms* that I have listed, a few promote local culture in architectural style and materials, even in the first half of the 20th century, ex.:

- *Heimatschutzarchitektur* (patriotic style). It is a protective architecture of the place of origin, and incorporated Art Nouveau elements as well as historicizing ones.
- Organic architecture, an architecture according to biological principles, in accordance with building materials, where building and nature are in harmony. Architecture and nature are not only in harmony in terms of the landscape, but also in responding to nature's challenges. In the case of my study on water this refers to the dual element, but the other elements of nature, which are constituent elements of the landscape in Eastern culture, are also dual elements: fire, earth, air as well as water, leading to fires, geological hazards, meteorological hazards as well as floods. Architecture in harmony with nature is resilient to disasters.
- Critical regionalism is a post-war trend (e.g. Jorn Utzon), a reaction to the international style. International Style is a generalization of the principles of modern architecture. It has often been considered only this Modernism, but as we have seen, there are *other Modernisms*. The term was introduced into architectural history by Kenneth Frampton (1993) and is related to his own theory of tectonic architecture (Frampton, 2001). Frampton (1993) enunciates six points related to resistance to universalization: 'culture vis-a-vis nature: topography, context, climate, light and tectonic form'. Although the term tectonic comes from seismology, and local culture was first linked also to local seismic culture, the tectonic feature of architecture refers to structure and material in

general, and in response to climate, as critical regionalism showed long before the *European Green Deal* and the research challenges for climate change resilience. As we see Frampton (1993) links culture to nature. Contextualism was another post-war stream of reaction to international style and functionalism. Critical regionalism was later attributed to Alvar Aalto's buildings capitalizing on the Finnish tradition, but the term was borrowed from Alexander Tzonis, who proposed a dwelling in Athens inspired by buildings on Greek islands. But Greek island buildings have also inspired classical modernist architecture, with both Adolf Loos and Le Corbusier attracted by the unadorned, whitewashed, plaster language of the Cyclades, which they discovered on the CIAM IV cruise when the Athens Charter was drawn up. *The Future on the past* project also addresses both vernacular origins in the Mediterranean space (see also Jiménez-Vicario et al, 2022 and Lejeune and Sabatino, 2010) and in the Romanian space, as architects such as Horia Creangă in his writing and opera and Duiliu Marcu in his opera, as well as in the cul-de-sac towers of the neo-Romanesque villas (e.g. Villa Minovici) expressed the origins of their own architecture of the kula-s. Even Le Corbusier since the Art Nouveau hometown of Chaux de Fonds found inspiration in Romanian kula (Bing, 2017). Kar (2021) analyzed the relationship between critical regionalism and Alexander et al's (1977) *pattern language*. Starting from Caniggia (1979), which I have discussed in the mapping approach in this work, and the Italian school, Kar (2021) analyzed the anchoring in the vernacular, but also a generative typology for critical regionalism useful in urban design. And the “patterns” of Alexander et al. (1977) propose generative typologies, based on a computer-based logical language, starting from the vernacular to answer environmental questions. In Bostenaru (2007) I analyzed the work of Alexander et al. (1977) from the point of view of participatory, building then in Bostenaru (2004a) on it for application to disaster management, in the specific case for earthquakes. Thus, the work of Alexander et al. (1977) is relevant for inclusiveness through the democratic values of urban

design through participatory design, but also for the sustainability dimension of the New European Bauhaus through the potential for decision making in disaster resilience, also addressed in this work.

4.5.8 From gender equality to inclusiveness in European initiatives by the Commission, the UN and professional associations

The desire for inclusiveness evolved naturally from actions to promote gender equality. From gender equality in research teams for which there have been calls for projects to achieve gender equality, Horizon Europe has moved on to making a gender equality plan mandatory in public institutions, and research projects are required to pay attention to the gender dimension in research content.

Inclusivity is a sociological term (Sciortino, 2021, Luhmann, 1997). In this context, it takes on a dimension of the sociology of architecture (see participatory as one of the approaches in Bostenaru, 2007) or the sociology of urbanism (Schäfers, 2006). The co-creation labs proposed in the projects within the New European Bauhaus application are a tool of inclusion through participatory. Participationism refers to the participation of the users in the decisions of shaping the urban and architectural space.

In this work I developed this decision tree on women as investor/patron, designer/architect/landscape architect and user. Gender equality in the research team corresponds to gender equality of designers while gender equality in innovation content corresponds to gender equality of users. This is logical, especially since the *New European Bauhaus* is not about projects focused on research as such, but about innovation projects, demonstrated in pilot applications of co-creation of built spaces, thus with a strong participatory dimension and importance given to users.

4.5.8.1 1.1.8.1 Inclusion promoted by professional associations in relation to European funding programs

Also, if I turn my attention to the Marie Curie Fellows Association's (former/alumni) NGO outreach to women researchers, while in the Marie Curie Fellows Association the group focused on m-WiSET (mobile Women in Science, Engineering, Technology), in the Marie Curie Alumni Association (MCAA) the group was established as GEMS (Gender Equality for Mobile Researchers in Science) but transformed into GEDI (Gender, Equity, Diversity, Inclusion https://www.mariecuriealumni.eu/groups/genders-equity-diversity-inclusion-gedi) to include other disadvantaged groups such as people with disabilities, ethnic minorities, other gender minorities. The Association allows access to Coursera courses, which include certificates in this field.

Initially, the approach in the m-WiSET and GEMS groups was to find *role models*. It is a qualitative sociological approach. In the GEMS group, as presented at the Marie Curie Alumni Association's 10th anniversary conference, the approach was extended to the classical sociological, i.e. quantitative, questionnaire survey approach. To this end, the *family task force* cooperated with the association's science policy group and the COST ReMO (*Researcher Mental Health*) action to see the beneficial action of a realistic (extended) family life option for mobile fellows. I have recently applied to become a member of a working group, with Romania already represented, in a new COST action to be launched at the end of the year on *Climate change and mental health*. Thus, I could continue the so far approach of *well being* through nature-based solutions, from offices to the quality of increasing resilience, including in case of migration due to climate change, both aspects on which I have been cooperating with Thomas Panagopolos from Portugal.

Returning to the influence of the built environment, recently at the UrbanEye festival the film "How we live alone" (directed by Daniel Schwartz, production 2020, Canada) was screened, with a focus on loneliness that also impacts on the politics of housing, which in the post-COVID context also becomes *home office* space, and as such influences the mental health of researchers, if they

work in isolation, especially in a new country. The aim of the session was to develop good practice guidelines.

The *role models* approach and even on specificity in architecture was followed by the partial project "M* 1:1 - *hidden views and female perspectives in architecture" of the Faculty of Architecture Karlsruhe within the *Gender equity 1* project funded by the University of Excellence funds of the Karlsruhe Institute for Technology (https://www.arch.kit.edu/fakultaet/5522.php, running 2021-2023). Although women have been able to study at technical universities since the turn of the century, female students were a minority until the 1960s. And although there are now more than half as many female students as male architecture students in Germany, the so-called *leaky pipeline* emerges during their careers, they do not reach leading positions. *Role models* present successful female architects in this case.

Science diplomacy was one of the themes of the Marie Curie Alumni Association conference at the conference held in Cordoba in 2023, along with sustainability. It was the first year that there were sessions of lightning presentations (such as at EGU after the pandemic, and also allowing for hybrid presentations), and even lightning presentations related to environmental sustainability. Here is a link between inclusivity and hazards, including water hazards, as in this work. Sessions on this theme continued in 2024 and are something new from previous poster sessions that mirrored the bottom-up panels in MSCA proposals. And the 2022 conference was themed on sustainability, namely post-pandemic workplace sustainability. At this session I won the prize with a contribution on greening offices, the result of a short COST *Researcher mental health* short mission.

In the 10th anniversary issue of IRRADIUM, 4 pillars were highlighted: innovation, collaboration, excellence and inclusiveness: "our vision: we envision an inclusive and sustainable research environment that enables knowledge to benefit society". The conference discussed the future of the Marie Sklodowska Curie actions in Framework Program 10, and a questionnaire was also distributed. The evaluation of the implementation of the Marie Sklodowska Curie actions in Horizon 2020 revealed, according to ACA (Academic Cooperation Association) that the institutional programs

should be made more inclusive and open to under-represented countries, for example through the *hop on* scheme, which does not exist in the first pillar of the Horizon Europe Framework Program, for the *widening* countries (those that had a low participation rate in FP7 and Horizon 2020). Widening countries are in general the new members of the European Union, but also some old members, e.g. Portugal and Greece, which are very successful in obtaining *widening* funds. Under the *hop-on* scheme, in consortia that have won a grant in Horizon Europe, a *widening* country can join later, following a competition, and the amount awarded for project implementation is supplemented to cover its additional activities and their management. In the case of postdoctoral fellowships there are so-called *ERA fellowships* for the European Research Area. These have recipients in countries with low research and innovation performance (*widening*) and are awarded in descending order of score after the Marie Sklodowska Curie Postdoctoral Fellowships. In addition, those who have obtained the *Seal of excellence*, for a score above 85%, can also apply for grants in this context in widening countries, if they have an appropriate scheme. In Romania there was such a scheme under the PNRR, implemented through MCDI, a funding instrument through UEFISCDI is foreseen in the PNIV and the special appreciation of *Seal of Excellence* in postdocs is also covered in the Education Law of 2023.

And for COST Actions (COST *Cooperation in Science and Technology* is governed by an association and funded through an agreement from the Horizon Europe program https://cordis.europa.eu/project/id/101052416 and there have been similar funding schemes before), an obligation to co-opt participants from so-called *inclusiveness target countries ITC* (https://www.cost.eu/about/strategy/excellence-and-inclusiveness/) has been introduced. Thus, in order to apply for funding, half of the proposal sponsors must come from inclusiveness target countries, there are conference grants for early-stage researchers that can be poster only for ITC. I coordinate such grants under COST Action CA19117 *Researcher mental health*.

The aim of inclusiveness and widening actions in the funding programs is to encourage *brain circulation* (brain circulation to peripheral areas with low intensity research) instead of *brain drain*. In the case of ERC (*European*

Research Council) grants, the highest funding at the level of pillar 1 of Horizon Europe, such initiatives are not implemented linked to the institution where the implementation takes place, excellence being the only criterion. However, similar to the *Seal of excellence*, there are national funding instruments, such as *ERC-Like* in Romania, for projects that have passed the ERC second phase.

EDI (Equality, Diversity, Inclusion) is also a working group of the European Geosciences Union (https://www.egu.eu/structure/committees-and-working-groups/edi/), the sponsor of the workshop held in Rome and the organizer of the annual meeting where we had the hazards sessions. In the current project we have continued organizing sessions, with the new team, and these are now labeled EDI. Also, at the European Geosciences Union there is a tradition of promoting women in geosciences. One of the sessions was organized by the myself (https://meetingorganizer.copernicus.org/EGU2017/session/23685), with the support of the Marie Curie Alumni Association, and wrote an article about others (Bostenaru and Mihaly, 2021). Also, as a follow-up to the role model brochures of the two associations, the former chair of the natural hazards group at the European Geosciences Union, Ira Didenkulova, obtained support from the Humbold Foundation for a networking initiative also with the Marie Curie Alumni Association group. The former chair of GEDI, currently acting chair, has for several years now led sessions at the European Geosciences Union and was involved in the session organized by me.

The International Union of Architects Congress held in 2023 in Copenhagen had as its theme "Sustainable Futures

- Leave No One Behind" and thus inclusion as part of global sustainability, as I will address in the next paragraph. The publication "Design for inclusivity" (Mostafa et al, 2023), part of the Springer *Sustainable Development Goals* Series of books, as well as the *UIA: World Congress of Architects*, a 6-volume series resulting from the Copenhagen conference, which also includes

- "Design for Climate Adaptation" relevant to the water hazard part (adaptation through indigenous knowledge, which links to the local culture and vernacular part of this work, adaptation through

architectural technology, and finally adaptation through behavior change, thus user behavior change),

- "Design for Resilient Communities", relevant to the inclusivity and hazard part as in this work (resilience to global crisis, including housing),
- "Design for Partnerships for Change", also relevant for inclusivity and democratization of the architectural process through participatory participation.

Inclusivity includes the categories of gender, then race, ethnicity, minority, then (dis)ability, then neurodiversity, then age, then poverty and socio-economics, then non-human living beings, and finally intersectionality.

Congresses of the International Union of Architects (https://www.uia-architectes.org/en/architecture-events/world-congresses-of-architects/) are held every 3 years, and the 2023 theme is the most explicit on inclusion, but the inclusion of diversity, of that *other*, has existed in the past. Thus,

- in 2021, online for Rio, the theme was *All the worlds. Just one world.* (with a special focus on environment and climate, seeking to reduce intra-urban inequalities, a theme we will revisit at the Milan Triennale in 2025),
- in 2014 in Durban, the theme was *Architecture otherwhere*, a convergence of points of view, so that all voices can be heard: other regions, other contexts, other social structures, other practices (such as at DOCOMOMO Ankara),
- 2005 in Istanbul was the *Grand Bazaar of Architectures*,
- in 2002 in Berlin the theme was *Resource Architecture*, having already then the component of sustainability, in close connection with cultural heritage, history and regional identity (local culture as I call it in this work), to see *disposability*,
- in 1990 at Montreal was *Cultures and Technologies.*

4.5.8.2 Inclusion as part of sustainability at a global level

At a global level, these criteria are found in the so-called SDGs (*Sustainable Development Goals* or UN *Global Goals*) and I list from the 17 goals SDG 1 –

No poverty, SDG 5 - Gender equality, SDG 10 - Reduced inequalities, SDG 11 - Sustainable Cities and Communities, SDG 13 - Climate Action, to list those relevant to this research. These were adopted in 2015 at the United Nations (UN) General Assembly as the 2030 Agenda. As can be seen, gender equality is also desirable separately from reducing inequalities in general. SDG 11 targets inclusive, safe, resilient and sustainable cities and communities. In this goal there is inclusion in general, beyond the two equality-related SDGs mentioned, and beyond that safety and resilience which relates to responding to hazards, in the particular case of water in this work as SDG 13 on climate action. On this climate action I mentioned the *Cluster 6 Destination 1* call on nature-based solutions and the *New European Bauhaus* for more sustainable, inclusive and resilient communities. By their own definition of sustainability, the SDGs contribute to the sustainability dimension of the *New European Bauhaus*.

In addition to the UN 2030 Agenda, hazard resilience was also included in the Sendai Framework for a long-term optimization plan, another UN document adopted with specific reference to disaster risk reduction also in 2015 and with the 2030 target date.

In 2021 and ICOMOS adopted a guiding document between cultural heritage and sustainable development goals (Labadi et al, 2021), which emphasizes inclusion wherever appropriate. As this work is dedicated to contemporary approaches to heritage architecture, this is particularly relevant.

4.5.8.3 1.1.8.3 Inclusion, companion of sustainability at the Venice Biennale

The inclusion of minority groups requires a two-pronged approach, historical and through the perspective of recent migration as well as the mobility possible through free movement in the European space. Historically constituted minorities are recognized in Romania. Their artistic representation was the subject of an installation at the 2015 Venice Art Biennale, Hungarian pavilion, entitled *Sustainable Identities (*https://artsandculture.google.com/story/sustainable-identities/agVBnvbt-LWJKw, Fig. 4.54). The installation by artist Szilárd Cseke, curated by Kinga

German (German, 2015; one of the identities discussed in an essay in the publication is gender identity), shows movement, balls that move like a group of migrants. The concept of sustainability as applied to museums, according to the Ludwig Museum website (http://velenceibiennale.ludwigmuseum.hu/2015/sustainableidentities/catalogue/), which (Fig. 4.54) has since 2015 been in charge of organizing Hungary's participation in the Venice Biennale, is based on the 1987 Brundtland report 'Our common Future' (https://sustainabledevelopment.un.org/content/documents/5987our-common- future.pdf), which defined the role of sustainable development more than three decades ago. However, the concept of inclusion also emerges from here, as it is about a *common* future of *ours*, which is aligned with the *togetherness* of today. The Hungarian Pavilion, designed by Géza Maróti in 1909 in the Szecessió (Hungarian Art Nouveau) style, is one of the pavilions analyzed by Székely (2009) on the temporary architecture of universal exhibitions, and the Venice Biennale both a festival, like the Triennials mentioned above, and a universal architectural exhibition, like the 2011 Rome Biennale. Géza Maróti also designed the pavilions in Milan (which burned down, the only remaining structure from the expo being the aquarium, Fig. 4.55) and Turin. In 2015 there was a new World Expo in Milan (the 3rd), with the theme *Feeding the Planet, Energy for life (Nutrire il pianeta, energia per la vita)* (Fig. 4.55). The Milan exhibition was no longer conceived with an aesthetic focus, as a display space, but as a forum for discussion. Although the *New European Bauhaus* starts from the value of the beautiful, the emphasis here was on the inclusive, through discussion, participation, which was also evident in the premiere award for Riken Yamamoto's work with communities, praised by Alejandro Aravena, the president of the jury, former curator of the 2016 Venice Architecture Biennale *Reporting from the front*, which I visited, and which also covered the issue of disasters. The chosen theme also reflects contemporary challenges, also embraced by the SDGs (SDG 2 Zero hunger and SDG 7 Affordable and clean energy respectively) in the very same year.

The Biennale of Architecture also gives an international dimension to an Italian city, in this case Venice, as the national academies do to Rome.

Perhaps this was one of the reasons why Nicolae Iorga established a second Romanian institution in Venice, awarding scholarships like the one in Rome (Fig. 4.54, Mihaly, 2020). In 2021 the very theme of the Venice Architecture Biennale in 2021 centered on inclusivity, under the title *How will we live together*? And for the 2019 visit of Pope Francis to Romania the motto was "Let's walk together". At a time when a large number of homes have to be designed for people living alone, and the church prays for the sick, suffering or lonely, inclusivity takes on a different dimension from that promoted by MCAA GEDI of the healthy work-life balance. Sometimes mobility does not allow for family formation. Pope Francis launched in 2015 at COP 21 in Paris (UN Conference on Combating Climate Change) and the Encyclical *Laudato Si'* in 2015, which calls to action to protect the planet and led to a course supported by the European Commission. The motto of Pope Francis' visit to Romania in 2019 was "Let's walk together", also on the theme of inclusion. Thus, visits in 3 places: Bucharest, Șumuleu Ciuc and Blaj, promoted the inclusion of national minorities (Hungarian in Șumuleu Ciuc and Roma in Blaj), as well as between Christian denominations (especially Orthodox, Roman Catholic and Greek Catholic). It is worth noting that one of the many replicas of the chapel of Our Lady of Banneux that I mentioned in the previous pages was built as the Major Archiepiscopal Sanctuary (rank to which it was raised since 2014 from place of pilgrimage) Greek-Catholic Cărbunari, Blaj, Alba, built in 1937 by the Assumptionist monk Father Peter Adhémar Mercks himself.

The European Commission was present for the first time at the Venice Biennale in 2023, on the 60th anniversary of the Venice Charter, launching a call for a new Venice Charter "The Venice Charter for our Global Commons", in view of the threats of climate change here, in the context of the *New European Bauhaus*. Bauhaus of the Seas (https://bauhaus-seas.eu/) is a New European Bauhaus Project, but there is also a NEB Lab specifically related to the Danube, which addresses the dimensions of the *New European Bauhaus* from the point of view of the waters related to the spaces we live in. The Vatican was present for the first time at the Venice Art Biennale in 2024, with Pope Francis traveling to inaugurate the pavilion.

Fig. 4.54: Venice Biennale: (a) (b) *Sustainable Identities* installation at the Venice Biennale 2015. (c) Hungarian Pavilion at the Venice Biennale. (d) Ludwig Museum, organizer of Hungary's participation in the Venice Biennale, photo from 2011, during the exhibition of Bauhaus master *Laszló Moholy-Nagy. The Art of Light* (https://www.ludwigmuseum.hu/en/exhibition/laszlo-moholy-nagy-art-light(e) The Romanian Pavilion. (f) Romanian Cultural Institute in Venice. Photos: M. Bostenaru.

Fig. 4.55: (a) The Milan Aquarium in Art Nouveau style, a pavilion at the 1906 Milan World Fair, which was not dismantled after the 1906 World Fair. It is the 3rd oldest aquarium in Europe,.(b) Urban agriculture (including green walls) to feed the planet and photovoltaics for energy at the German and American pavilions at Expo 2015 in Milan. Photos: M. Bostenaru.

The theme for the 2025 Architecture Biennale is *Intelligens. Natural. Artificial. Collective.* Many countries have already held competitions for their national pavilions, most notably Finland's, where the text calls for solutions for " human and/or non-human inclusivity, well-being, sustainability and diversity" (https://www.archdaily.com/1011886/open-call-curatorial-concept-for-the-pavilion-of-finland-at-the-2025-biennale-architettura-in-venice). This responds to the collective call.

4.5.8.4 Identity vis-à-vis geographical mobility, intersectionality of multiple identities

The other dimension, migration, is now addressed by the COST Action *Women on the move*. From a historical perspective, both monuments and urban landmarks (such as street names) commemorating women migrants in history, often pioneers, and other useful aspects for their research, such as archival documents, databases, bibliographical sources and many others, are looked at (https://www.womenonthemove.eu/). I am a member of the Memory and Identity working group, contributing mainly to the landmarks map. I also contributed a map for Bucharest, which includes Marta Bibescu and Queen Mary, and Virginia Haret is included in the dataset (to be published together with an explanatory article on the Open Research Europe platform). This very identity and memory in the context of migration was also the subject of *Sustainable identities*, the Venice pavilion.

A new COST Action in which I am participating is VOICES *Making Young Researchers' Voices Heard for Gender Equality.* Central to the approach of this networking initiative is the concept of intersectionality. Thus, several identities are taken into account, which, in the understanding of this work, can be in addition to the promotion of women and those related to a particular (minority) culture. The place of *role models* in the Marie Curie Associations approach is taken by mentoring. We have analyzed some mentoring models for this purpose in preparation of the summer school in Bilbao, the capital of the Basque minority, presented at the conference in Constanța, also a meeting place of minorities in Dobrogea, including Turkish, Tatar and Lipovene. It is interesting to see that while in Italy they are institutional and run by territorial administrative bodies, in Romania and Hungary they are more NGO-driven and in Germany they are more academic.

5 Discussion of the results

The main part of the work deals with women as experts in the design process, as architects. But architecture influences women both as users and as investors-patrons. As such, women design architecture that is more appropriate for women. Specific architecture programs where this is visible include housing, but also public programs such as spiritual architecture. I looked more deeply at the education program as this has effects on career choice and eventual choice of profession as a designer, but collective rather than individual housing may also be important (see Choi, 2004, but also the collective housing of artists and architects at the academies in Rome that I researched which is different from mobility such as Weinbrenner's in 1792 or Virginia Haret's in 1920). The decision tree I developed proved useful for investigating such quality of life. For feminist institutions there are new programs, such as the *Casa della Donna* in Rome or the Women's Museum in Merano, included in an association of such museums, to give only the examples that I have personally visited.

Looking at the differences between women's architecture in different countries in the European context, it becomes clear that these differences are small. At the beginning of the twentieth century architectural styles became international, and women, even then, were mobile. Favro (1992) writes about Julia Morgan who was mobile on different continents, from her native California to finding another country (France) where she could take the professional exam at the turn of the century. A similar career was had by Erika Paulas, an architect who practiced in Transylvania, then Hungary, now Romania, who studied in Switzerland but took the exam in Budapest. While Julia Morgan had female clients, the works signed by Erika Paulas were not always implemented, for example the one in Bistrița demonstrates the prejudice against women.

Today there are centers for feminist studies at universities, and an organized way to promote more women in science. European calls such as GERI (Gender in Research and Innovation) were one example. But the unique link between artand science still calls for the promotion of art education, and the kind

of emotional intelligence and personality of women can contribute to this. Considering Australian women architects between 1888 and 1970 Willis (2012) noted the changes in opportunities in the post-apolic period and the breaking down of some barriers. Raluca Niculae (2014) also wrote a PhD on this change in opportunities in Romania.

Historically shaped differences do exist however. Roan & Stead (2012) compared Australia and Sweden for the representation of women in professional bodies today and the effects of different education between science and the arts which are still visible as Caven et al (2012) show. Education in science tends to be more formalized than that in the arts, where faculty only transforms someone into what they already are, to draw conclusions from the Swiss Institute seminar in Rome. In fact, a future analysis between the way the architectural profession is seen as engineering or art is necessary to link these differences. And the present study is based on looking at the representation of mobile architects in Rome of different nationalities: how scholarships are given and what is required, between creation and historical analysis. The architecture of the academies/institutions is also relevant, between the art colony, the restoration of a historical building or a new building for this program. Most of the art academies were built in the interwar period, hence new research on this dimension on the previous work on the Italian interwar period.

Modern digital maps are still traditional in a sense, and fail to totally transform working with collages and drawings. Software such as Adobe Director, from the same family as Flash for Prezzi can be a visually innovative presentation. I look for new ways of representation for new ways of design seeking to evoke the memory of historical times. Old ways on paper are transformed into digital representation, and that means not only scanning, but also adapting content for the new medium. It also gives content to the connection between previous journeys.

The multimedia system is more reminiscent of a paper drawing than a GIS system and is therefore more suitable for this work. However, a CAD system may also be appropriate by embedding one drawing into another. One goal for future work is to allow zooming between scales, as in the Nolli and

Caniggia/Muratori maps, and in the GIS system, up to geoBIM. This would further develop the concept of the geography postdoctoral work.

The mobility of architects today is one of several, with mobility being supported in the research by the European Commission. How this change influences the work is a further investigated aim. Women are also one of the marginalized groups, along with many minorities, including cultural ones. For this reason, local culture is important for inclusive, resilient and beautiful design, in the sense of the *New European Bauhaus* and in a new interpretation of the Vitruvian triad.

Several directions for future research emerged. Some concern public participation as seen at IBA Emscher Park, but also protests against demolitions in Romania. These belong to different generations. Another question concerns the power given to women. In Italy this is linked to exhibition architecture, like in Rome or Naples. Fascism did not promote women, but Maria Teresa Parpagliolo managed through connections to design for such a built exhibition, as is common in German-speaking areas, both pavilion and landscape, but in Romania it is little known, despite the universal exhibitions. The practice of architecture was also linked to belonging to an elite, either aristocratic or intellectual. Pioneer women architects were especially active in the first part of the 20th century. This period began to mark a higher mobility of architects, and thus the differences between countries due to cultural differences were reduced. A similar phenomenon can be seen in terms of restoration approaches to building consolidation.

Future research will look at lessons from history for teaching, building the future on lessons from the past. Another strand is how the issues considered are relevant to the Horizon Europe program, in particular the *New European Bauhaus*, and following the lessons from Horizon 2020. This concerns in particular those constructions that consider water, such as blue-green infrastructure, and specifically the landscape design part. A methodology needs to be developed from what has been concluded in these two countries, which can be applied to other countries. In the pioneering period the differences between East and West were not as significant as today.

6 Conclusions

The origins of the women who became architects played an important role, asfamily cooperation influenced their education and later the practice of the profession. Mobility also played an important role, as lessons were learned from another country, helping to establish independence, and to spread the lessons of influence towards an international style.

The first architectural program in which women's architecture materialized was housing, for women clients and for women themselves. Another program where future women architects could be educated was educational programs, which is why women have been active in this, or are commemorated in the naming of schools. The results have been important in shaping mobility programs for women architects, seen either as artists or as researchers by delivering role models validated by history. Several EU programs are addressing the issue of women and architecture/architecture such as COST Actions or the European cultural project MoMoWo. National projects, for example in Austria, address both historical and contemporary models, too. This research presents national projects to be integrated into the wider internationalframework, such as the careers of women architects.

While in terms of disasters both Romania and Italy are affected by floods, in terms of (cultural) tourism lessons can be learne from Italy in Romania. The needs of women need to be included in architectural programs that react to the presence of water, both on the avoidance and inclusion side. The time period for this study started with the interwar period, when lessons from Italy started coming to Romania through the mobility of architects. Women architects have been present before. The coupDeFouet conference on the Art Nouveau European Cultural Route in Barcelona in 2015 was dedicated both to women who mattered in Art Nouveau and to the representation of women, thus touching on the pillars of this research. Queen Maria, whom I mentioned, started to bring Art Nouveau to Romania before the interwar castle and garden in Balchik. Another female architect of the Art Nouveau period who was mobile was Wivi Lönn, from Finland to Estonia, where she built. And in Romania one of the first female architects from Hungary was Erika Paulas,

who studied in Zürich and then built in Transsylvania at the turn of the century. For this reason, further study is needed to extend the time period with Art Nouveau, when pioneering was punctual. From the point of view of historical development, beit the historical development of sites and buildings, with a focus on the relationship to water, or the historical roles of women in the profession, conclusions can be drawn for research today. Structured approaches include those from the *Le Notre* landscape forum in Bucharest (2015) and Rome (2013). Rome considered the EUR site mentioned, while in Bucharest the forum considered the Colentina lakeside wilderness, continued from Bucharest with Mogoșoaia, and including the northern neighborhood of villas where several women architects have built.

The genderSTE conference in Rome in September 2014 drew attention to the difference between places for (communities of) women and places designed by pioneering women. The decision tree approach allows for both categories to be included. In Horizon 2020 gender issues have been considered separately, especially the issue of safety in connection with a factor that can be danger in public spaces. New tools need to be developed in this regard. Conforming rivers to react to flood hazard is also a landscape architecture issue. For both private space issues and safety analysis, SpaceSyntax and GIS/geoBIM can beused. Other than the natural water hazard is the demolition hazard shown in the contribution. Increasing the value of buildings through tourism can combat this by increasing the economic value. For this reason, the work of these women architects should be documented and preserved.

So, both human-made and natural water hazards need to be taken into account, and both water is a vulnerable habitat and the architecture that people have built next to it. There are legislative approaches, but their implementation needs to be improved, and lessons must be learned from the early pioneers. Some of the challenges of the pioneering period still exist today. While the historic Bauhaus responded to some challenges, such as the need for housing that the mass of the population could afford, by using technology for industrial production, today the challenges are related to sustainability, including those related to rational energy use and production and resilience to disasters, especially climate change. While in the first case, technology (from the history of building science and engineering) could

provide a competent answer on the basis of tectonic studies, as in the *Grand Tour of* the Greeks andRomans in ancient times, today the answer comes from the integration into thecontext, the contribution of the landscape, of nature-based solutions, as an exhaustible or renewable resource, as the case may be. In both cases, ontology must be taken into account in the definition, philosophical or digital, of the elements of intervention.

The approaches and evolution of pioneer architect women were compared with today's situation, drawing conclusions for design, and testing applicability in teaching. A methodology (decision tree and the role of women in it) was developed and methodologies already developed by colleagues for particular cases in other countries were tested. Research on pioneering women architects exists in many countries, including those investigated, but the gender specific dimension was not always seen. Given the author's emphasis, this research investigated to what extent mobility was possible and helpful in this context. The in-depth progress of the research is subject of continuation. Women's needs are included in the definition of the architectural program, especially in the functional connections. For this the study of space and plan are important, not only facade and style, and such research is rare. From the architectural program of a single building this can be extended to the design of the city or the city's neighborhoods: the residential and the leisure neighborhood. There needs to be a greater awareness of pioneering women's architecture and the role it played for structural change. Architecture from the first half of the 20th century, particularly inter-war architecture, is often not considered old enough to be historic (listed as a monument, although there are already UNESCO sites from that period) and women's architecture even more so. The global dimension of mobility may lead to women's networking during this time. A first exhibition took place in 2014 at the Architecture Biennale (Meder et al, 2015) and presented such networks from Central and Eastern Europe, including the woman architect Margarete Schütte-Lihotzky, but more can be done for those investigated in this research.

7 Bibliografie

Alexander, C., Ishikawa, S., Silverstein, M., Jacobson, M., Fiksdahl-King, I., Angel, S. (1977). A pattern language: Towns, buildings, construction. New York: Oxford University Press.

Amoroso, N., Hudson-Smith, A., Phillips, M., Speed, C., and Willis, K. (2013). Concept for workshop: Patch-Scape – Pads, Pods, Phones and Spatial Data, in: Peer reviewed proceedings of Digital Landscape Architecture 2013 at Anhalt University of Applied Sciences, edited by: Buhmann, E., Ervin, S. M., and Pietsch, M., Wichmann, Berlin, 330–341.

Angélil; M. and Hirschbichler, M. (2013). Abecedarium zur Peripherie, Ruby Press, Berlin.

Barbanera, M. and Capodiferro, A. (2015). La forza delle rovine, Electa, Milano.

Bărbulescu M., Turcuș V., Damian I. M. (2013). Accademia di Romania in Rome 1922-2012, Accademia di Romania, Roma.

Bassanini, G. (1995). Tracce silenziose dell'abitare. La donna e la casa, Franco Angeli, Milano.

Bassett, K. (2004). Walking as an Aesthetic Practice and a Critical Tool: Some Psychogeographic Experiments, Journal of Geography in Higher Education 28 (3), pp. 397-41.

Baum, C. (2008). Ruinen des Augenblicks. Die bildliche Repräsentation des Erdbebens von Lissabon im Kontext eines Ruinendiskurses im 18. Jahrhundert, in Lauer, G. and Unger, T. (eds.): Das Erdbeben von Lissabon und der Katastrophendiskurs im 18. Jahrhundert, Wallstein, Göttingen.

Baydar G. (2007) Room for a Newlywed Woman Making Sense of Gender in the Architectural Discourse of Early Republican Turkey, Journal of Architectural Education 60(3): 3-11.

Becker, A., Tostões, A., Wang, W. (coord.) (1997). Architektur im 20. Jahrhundert – Portugal, Prestel, München.

Bellal T. and Brown F. E. (2007). Spatial structure of the m'zabite home: family and gender, Journal of Architectural and Planning Research, 24(1): 1-22

Billek, F., del Gallo, P., des Simosi, P. (2012). Roma in millenio 32 progetti in architettura Hoepli.

Bing, J. (2017). Le Corbusier and the Romanian Cula. Journal of the Society of Architectural Historians, 76(2), 146–153. https://www.jstor.org/stable/26418988

Birdsall C. T., Kay Clifton A., Wood M. F. (1992). Action research in planning housing for women, Journal of Architectural and Planning Research 9(2) Special Issue: Women's Voices in Architecture and Planning: 149-157.

Bonnevier, K. (2007). Behind straight curtains, Axl Books.

Bostenaru Dan, M., Crăciun, C., Ibric, A. (2024). Decision Systems in Disaster Management with Application to Fire. In: Rodrigo-Comino, J., Salvati, L. (coord.) Fire Hazards: Socio-economic and Regional Issues. Cham: Springer.

Bostenaru Dan, M., Mihaly, R. (2021). Gender and diversity in geosciences related Union session at the European Geosciences Union General Assembly in Vienna 2019-2021, GeoPatterns, VI: 43-46.

Bostenaru Dan, M., Vital, R. (2020). Bauhaus stories, Lucrările conferinţei de cercetare în construcţii, economia construcţiilor, urbanism şi amenajarea teritoriului, 18: 5-12.

Bostenaru Dan, M. (2019). Conference review: Water and Culture: A View from Rome, 17-18 April 2019, American Academy of Rome, Geopatterns, IV, 51-54, https://doi.org/10.5719/GeoP.4/7

Bostenaru Dan, M., Dill, A. (coord.) (2018). Water as hazard and water as heritage: Report of the European Geosciences Union Topical Event in Rome, 13.-14. June 2016, Karlsruhe: KIT Scientific Publishing.

Bostenaru Dan, M. (2019). Arhitectura vernaculară a șvabilor sătmăreni, Argument 11: 165-180.

Bostenaru Dan, M. (2017). Pioneer woman architects in Romania and Italy. In: Seražin, H., Franchini, C., Garda, E. (eds.). Women's Creativity since the Modern Movement (1918-2018). Toward a New Perception and Reception, pp. 616-628.

Bostenaru Dan, M. (2016a). Computer assisted artistic education, Argument 8/2016: 99-111.

Bostenaru Dan, M. (2016b). Architecture travels to Rome, Logos Universality Mentality Education Novelty Proceedings of the World LUMEN Congress: Logos Universality Mentality Education Novelty - LUMEN (WLC 2016), 12-17 April 2016, lasi & Suceava, Romania, Article no: 16, pp. 128-134, http://dx.doi.org/10.15405/epsbs.2016.09.16

Bostenaru Dan, M., Armas, I. (2015a). Earthquake impact on settlements: the role of urban and structural morphology, Nat. Hazards Earth Syst. Sci. 15: 2283-2297.

Bostenaru Dan, M., Armas, I. (2015b). Die Einwirkung von Katastrophen in der Vergangenheit: Eine digitale Darstellung für die Spuren des 1977 Erdbebens auf das Magheru Boulevard in Bukarest und ihre Wechselwirkung mit Darstellungen für die Stadt Köln In Fekete, A.; Grinda, C.; Norf, C. (im Druck) Macht Schaden klug? Überlegungen zu Wissen, Erfahrung und Lernen im Umgang mit Risiken. Integrative Risk and Security Research p. 23-27.

Bostenaru Dan, M., Gheorghe, D. (2015). Workshop summary: "Floods, state, dams and dykes in modern times: Ecological and socio-economic transformations of the rural world", Web Ecol., 15, 29–31, https://doi.org/10.5194/we-15-29-2015

Bostenaru Dan, M. (2015). An application of the Green Revolution game, Open Journal of Ecology, 5 (6), 57387.

Bostenaru Dan, M. and Panagopoulos, T. (2014). Digital modeling of the impact of the 1755 Lisbon earthquake. "Ion Mincu" Publishing House, Bukarest, 2014, http://openarchive.icomos.org/1476/

Bostenaru Dan, M. (2014). Conferința "Urban adaptation to climate change: the role of Landscape Architecture", Arhitext 1/2014 p. 22-23.

Bostenaru Dan M. (2013). Virginia Haret – The First Woman Architect in the World, Review of European Studies 5 (5): 172-186.

Bostenaru Dan, M. (2011a). The use of ontology for digital conservation of architecture works after catastrophes, Journal of Applied Engineering Sciences, 1/14 (2): 11-18.

Bostenaru Dan, M. (2011b). The session series on “Natural Hazards’ impact on urban areas and infrastructure”, Reviews in Environmental Science and Bio/Technology, 10 (1): 9-24.

Bostenaru Dan, M., Kauffmann, M. (2011). Leadership Role Models in Fairy Tales - Using the Example of Folk Art and Fairy Tales, and Novels Especially in Cross-Cultural Comparison: German, Russian and Romanian Fairy Tales, Review of European Studies, 5 (5): 59-72.

Bostenaru Dan, M. (2007). Von den Partizipationsmodellen der 1970er Jahre zu Kommunikationsformen Ende des Xxten Jahrhunderts in Architektur und Städtebau, Göttingen: Cuvillier.

Bostenaru Dan, M., Pinho, R. (2006). ‘CA’REDIVIVUS’: A Project on the Preservation of European Historic Reinforced Concrete Housing Buildings –

The Concept, în: Proceedings of the 8th NCEE, San Francisco, USA, April 2006, Paper 197.

Bostenaru Dan, M. (2005). (Ne)sinceritatea în expresia exterioară: structuri spaţiale în arhitectura de avantgardă, Construcţii civile şi industriale VI (69), 30-35.

Bostenaru Dan, M. (2004b). Multi-criteria decision model for retrofitting existing buildings, Natural Hazards and Earth System Sciences, 4, 485–499.

Bostenaru Dan, M. (2004a). Review of retrofit strategies decision system in historic perspective, Nat. Hazards Earth Syst. Sci., 4, 449–462.

Bouratoglou, J., Dikigoropoulou, L., Dubon, G., Boştenaru Dan, M., Dóczy, P. (2015). Research by design in the architecture of spa-s. Argument, 7: 279-295.

Bötticher, C. (1852). Die Tektonik der Hellenen, Potsdam. Available at https://doi.org/10.11588/diglit.5139

Bridle, H., Vrieling, A., Cardillo, M., Araya, Y., Hinojosa, L. (2013). Preparing for an interdisciplinary future: A perspective from early-career researchers, Futures, 53: 22–32.

Brückner, T. (1998). Ein WWWbasiertes Lernsystem zum Thema Internet (Diploma work). University of Karlsruhe.

Brzev, S., Greene, M., 2004. World Housing Encyclopedia – summary, EERI, Oakland.

Buhmann, E., Ervin, S. M., Pietsch, M. (coord.) (2013). Peer Reviewed Proceedings of Digital Landscape Architecture 2013: at Anhalt University of Applied Sciences Paperback – 5 Jun. 2013, Berlin: Wichmann.

Burckhardt, L. (2011). Spaziergangswissenschaft. In: Warum ist Landschaft schön? Eds.. Ritter and Schmitz. Martin Schmitz Verlag, Berlin, pp. 257–300.

Burns K. (2012). The Woman/Architect Distinction, Architectural Theory Review, 17 (2-3): 234-244.

Calotă, I. (coord.) (2016). Documente de arhitectură din România- serie nouă, vol. 3 Cetăţi din provinciile istorice. București: Editura Universitară "Ion Mincu".

Caniggia, G. (1986). Lettura di Firenze – Strukturanalyse der Stadt Florenz, in Malfroy/Caniggia: Die morphologische Betrachtungsweise von Stadt und Territorium –L'approche morphologique de la ville et du territoire.ETH, Lehrstuhl f. Städtebaugeschichte, Zürich.

Caniggia, G. & Maffei, G. L. (1979 [2001]). Architectural composition and building typology interpreting: Basic buildings. Florence: Alinea Editrice.

Cattaneo, A. (2011). Fra Mauro's Mappa Mundi and Fifteenth-Century Venice, Terrarum Orbis 8, Brepols.

Caven V., Navarro-Astor E., Diop, M. (2012). A Cross-National Study of Accommodating and "Usurpatory" Practices by Women Architects in the UK, Spain and France, Architectural Theory Review 17 (2-3): 365-377.

Choi J. S. (2004). Evaluation of community planning and life of senior cohousing projects in northern European countries, European Planning Studies 12 (8): 1189-1216.

Choisy, A. (1883). L'Art de bâtir chez les Byzantines, Paris: Librairie de la Société anonyme de publications périodiques. Available at http://catalogue.bnf.fr/ark:/12148/cb30239328q

Clark, Roger H. (2004). Precedents in Architecture: Analytic Diagrams, Formative Ideas, Partis. John Wiley & Sons; 3rd edition.

Clarke, E. (2013). Cecil Ross Pinsent. An English Architect in the Italian landscape. An infinity of graces, New York: W. W. Norton & Company.

Condaratos, S., Wang, W. (1999). 20th century architecture: Greece, Prestel, München.Verstegen, I. and Ceen, A. (2014). Giambattista Nolli and Rome: Mapping the City before and after the Pianta Grande, Studium Urbis.

Conțu, M. (2013). Ziduri. Gânduri. Zvonuri. Șoapte. Povestea ruinei, arhitext 1/2013.

Cosseta, K. (2000). Ragione e sentimento dell'abitare. La casa e l'architettura nel pensiero femminile tra le due guerre. Milan: Franco Angeli.

Cotescu, M. (1940). Detaliul, Revista „Simetria", 2 /1940: 63-64.

Cotescu, M., Antonescu, D. (1963). Arhitect Petre Antonescu. Clădiri, construcții, proiecte și studii. Bucharest: Editura Tehnică.

Curaj, A., Deca, L., Pricopie, R. (2020). European Higher Education Area: Challenges for a New Decade, Cham: Springer.

Curaj, A., Deca, L., Pricopie, R. (2019). European Higher Education Area: The Impact of Past and Future Policies, Cham: Springer.

Curaj, A., Matei, L., Pricopie, R., Salmi, J., Scott, P. (2015). The European Higher Education Area. Between Critical Reflections and Future Policies, Cham: Springer.

Curaj, A., Scott, P., Vlasceanu, L., Wilson, L. (2012). European Higher Education at the Crossroads. Between the Bologna Process and National Reforms, Dordrecht: Springer.

Dal Co, F. (1990). Figures of Architecture and Thought: German Architecture and Culture, 1880-1920, New York: Rizzoli.

Debord, G. (1955). Introduction to a critique of urban geography, in: Situationist International Anthology, edited by: Knabb, K., Bureau of Public Services, Berkeley, CA, 5–8.

De Wesselow, T. (2013). Die ursprüngliche Positionierung der Hereford-Karte, Imago Mundi: The International Journal for the History of Cartography 65 (2), pp. 180-206.

Dümpelmann, S. (2004). Maria Teresa Parpagliolo Shephard (1903-1974). Ein Beitrag zur Entwicklung der Gartenkultur in Italien im 20. Jahrhundert, Weimar: VDG.

Dümpelmann S. (2002). Maria Teresa Parpagliolo Shephard (1903-74): Her Development as a Landscape Architect between Tradition and Modernism, Garden History 30(1): 49-73.

Dümpelmann, S., Beardsley, J. (coord.) (2015) Women, Modernity, and Landscape Architecture. London: Routledge.

Eccheli, M.G., Tamborrino, M. (coord.) (2014). DonnArchitettura. Pensieri, idee, forme al femminile. Milano: Franco Angeli.

Favro, D. (1992). Sincere and good: the architectural practice of Julia Morgan, Journal of Architectural and Planning Research 9(2) Special Issue: Women's Voices in Architecture and Planning: 112-128.

Ferkai, A. (2011). Molnár Farkas. Budapest: TERC.

Fetzer, E. (2014). Knowledge Building in Landscape Architecture: A pedagogical action research study with international online seminars, Kassel: Kassel University Press.

Feuerstein, M., Bliznakov. M. (2000). New Acquisitions: Women Architects in Romania, IAWA newsletter, International Archive of Women in Architecture Virginia Polytechnic Institute and State University, 12, 1-4.

Figueroa, N. I. (2012). Hard Hats and Aprons: Pioneering Female Architects Portrayed by the Press in Puerto Rico, Architectural Theory Review 17 (2-3): 260-279.

Fowler, B., Wilson, F. (2004). Women Architects and Their Discontents, Sociology, 38 (1): 101–119.

Frampton, K. (1993). Toward a Critical Regionalism: Six points for an architecture of resistance. În: Docherty, T. (coord.). Postmodernism. A Reader. London: Routledge.

Frampton, K. (2001). Studies in Tectonic Culture. The Poetics of Construction in Nineteenth and Twentieth Century Architecture. Cambridge MA.: MIT Press.

Franco, I. B., Umama Mehreen, S., Joshi, A. (eds.) (2024). Gender Aspects of Climate Change and Sustainable Development. A Global Overview. Springer Singapore. https://doi.org/10.1007/978-981-97-1192-5

Friedman, A.T. (2007). Women And the Making of the Modern House: A Social and Architectural History, New Haven: Yale University Press.

Garano, S. (coord.) (2006). Valle Giulia 1911-2011: la valle delle accademie tra storia e progetto. Palombi Editori.

German, K. (coord.) (2015). Sustainable Identities. Budapest: Ludwig Museum and Office of the National Commissioner of Hungary.

Gospodarou, J. A., Tjintjelaar, (2015). From basics to fine art. Black and white photography – architecture and beyond. Athens: Julia Anna Gospodarou (e-book).

Gravagnuolo, B. (1987). Prefazioni: Gottfried Semper, architetto e teorico. In Semper, G. Architettura arte e scienza: scritti scelti, 1834-1869, Napoli: CLEAN.

Hallbrooks, M. (2005). The English Garden at Stan Hywet Hall and Gardens: Interpretation, Analysis, and Documentation of a Historic Garden Restoration, Hortitechnology, 15(2): 196-2013.

Hannavy, J. (coord.) (2008). Encyclopedia of nineteenth-century photography, New York, London: Taylor & Francis Group.

Haret, R. S. (1976). Virginia Sp. Haret (Andreescu) prima arhitectă care a activat în România (1894-1962), Arhitectura XXIV (5/162): 33-41.

Harris, R. (2003). Pompeii, New York: Random House.

Häußermann, H.; Siebel, W. (1993). Wandel von Planungsaufgaben und Wandel der Planungsstrategie – Das Beispiel der IBA Emscher Park. Arbeitskreis Stadterneuerung an Deutschsprachigen Hochschulen; Institut für Stadt- und Regionalplanung der TU Berlin: Jahrbuch Stadterneuerung 1993: Beiträge aus Lehre und Forschung an deutschsprachigen Hochschulen, 141–151.

Heidegger, M. (1986). Der Ursprung des Kunstwerkes, Ditzingen.

Heynen, H. (2012). Genius, Gender and Architecture: The Star System as Exemplified in the Pritzker Prize, Architectural Theory Review 17 (2-3): 331-345.

Hillier, B. (1999). Space is the Machine: A Configurational Theory of Architecture, Cambridge: Cambridge University Press.

Holland, M. C. G. O. (2006). The Virtual School of Architecture and Design in WIT TRANSACTIONS ON THE BUILT ENVIRONMENT, Digital Architecture and Construction.

Hopkins, B.C. (1993). Heidegger's Concept of Phenomenology. In: Intentionality in Husserl and Heidegger. Contributions to Phenomenology, 11.

Internationale Bauausstellung Emscher Park GmbH (IBA) (coord.) (1991). Frauen Planen Bauen Wohnen. Katalog zur Ausstellung der Internationen Bauausstellung Emscher Park. Dortmund: Montania.

Jannidis, F., Kohle, H., Rehbein, M. (coord.) (2017). Digital Humanities. Eine Einführung, Heidelberg: Springer.

Jiménez-Vicario, P.M., Mestre-Martí, M., Ródenas-López, M.A. (2022). Mediterranean Islands' Vernacular Architecture and the Origin of Modern Architecture. În: Bartolomei, C., Ippolito, A., Vizioli, S.H.T. (coord.). Digital Modernism Heritage Lexicon. Springer Tracts in Civil Engineering, Cham: Springer.

Kappel, K., Wegerhoff, E., Bibliotheca Hertziana, (coord.) (2019). Blickwendungen: Architektenreisen nach Italien in Moderne und Gegenwart = Shifts in perspective: architects' travels to Italy in modern and contemporary times, München: Hirmer.

Kar, Z. E. (2021). A generative typology for critical regionalism: An urban design perspective, M.S. - Master of Science, Ankara: Middle East Technical University, https://hdl.handle.net/11511/91530.

Kelman, I. (2012). Disaster Diplomacy: How Disasters Affect Peace and Conflict. Abingdon: Routledge.

Klein, R. (2022). Modernes Neu-Jerusalem‘ am Donauufer. Neu-Leopoldstadt in Budapest: Architektur, Gesellschaf und Geschichte. În: Gleiter, J. H., Schlusche, G., Sonder, I. (coord.). Osteuropäische Moderne – Beiträge jüdischer Architekten und Architektnnen, Berlin: Universitätsverlag der TU Berlin.

Kozák, J., Cermák, V. (2010). The Illustrated History of Natural Disasters, Springer, Dordrecht.

Kvan, T. (2001). The pedagogy of virtual design studios, Automation in Construction 10: 345–353.

Labadi, S., Giliberto, F., Rosetti, I., Shetabi, L., Yildirim, E. (2021). Heritage and the sustainable development goals: policy guidance for heritage and development actors. ICOMOS Open Archive. https://openarchive.icomos.org/id/eprint/2453/

Langenbach, R. (2008). The Building of a Symbolic Image: The Juxtaposition of Giambattista Piranesi's Vedute Di Roma with Photographs Taken 250 Years

Later. In: 16th ICOMOS General Assembly and International Symposium: 'Finding the spirit of place – between the tangible and the intangible', 29 sept – 4 oct 2008, Quebec, Canada. http://openarchive.icomos.org/137/

Lascu, N., Zahariade, A. M., Iliescu (Bocăneț), A., Radu, F. (1992). 1892-1992. Centenar Horia Creangă, Bucharest: UAR.

Lăcraru, R., Bostenaru Dan, M., Lăcraru, M., Dușoiu, C. (2014). Virginia Andreescu Haret architecture tour. Bucharest: OAR.

Lăzărescu, G. (2002). Şcoala Română din Roma, Bucharest: Ed. Fundaţiei Culturale Române.

Le Corbusier (1923). Vers une architecture, L'Esprit Nouveau.

Leichtle, B. (1994). Partizipatives Bau-Planen. Möglichkeiten kooperativen Handelns im Planungsprozeß am Beispiel zweier Wohnprojekte. – Dissertations-Druck Fakultät für Architektur Universität Karlsruhe.

Lejeune, J.-F., Sabatino, M. (2010). Modern Architecture and the Mediterranean. Vernacular Dialogues and Contested Identities; Abingdon: Routledge.

Le Roy, F., Wynants, N., Hoens, D., Vanderbeeken, R. (2011). Tickle Your Catastrophe! Imagining Catastrophe in Art, Architecture and Philosophy, Ghent: Academia Press.

Llewellyn, M. (2004). Designed by women and designing women: gender, planning and the geographies of the kitchen in Britain 1917–1946. Cultural Geographies 10: 42–60.

Lopate, Ph. (1988). The Rug Merchant, New York: Penguin.

Luhmann, N. (1997). Die Gesellschaft der Gesellschaft. Frankfurt am Main: Suhrkamp.

Lynch, K. (1960). The image of the city, MIT Press, Cambridge, MA.

Machedon, L.; Scoffham, E. (1999). Romanian Modernism: The Architecture of Bucharest, 1920-1940, Cambridge MA: MIT Press.

Mahu, A. (2012). Arhitecții și exilul. Onești: Magic Print.

Maier, J. (2007). Mapping Past and Present: Leonardo Bufalini's Plan of Rome (1551), Imago Mundi: The International Journal for the History of Cartography 59 (1), pp. 1-23.

Mattogno, C. (2024). Good News: Women in Architecture. Journal of the Society of Architectural Historians, 83 (2):258–260. https://doi.org/10.1525/jsah.2024.83.2.258

Matthewson G. (2012). "Nothing Else Will Do": The Call for Gender Equality in Architecture in Britain, Architectural Theory Review 17 (2-3): 245-259

Maurer, G. (2024). Rom: Stadt fürs Leben, Hamburg: Rowohlt Buchverlag, ediția a 2-a.

McGarrigle, C. (2010). The construction of locative situations: locative media and the Situationist International, recuperation or redux?, Digital Creativity 21 (1): 55-62.

Meder, I. (2012). Badefreuden: Eine Reise zu den außergewöhnlichsten Bädern in Mitteleuropa, Vienna: Metroverlag.

Meder, I., Charbonnier, A., Krizenecky, S., Ruff, G. (coord.) (2015) Lifting the curtain: Architekturnetzwerke in Mitteleuropa Central European Architectural Networks, Salzburg: Muery Salzmann.

Meder, I., Krippner, U. (2014). Viennese Modernism and Landscape Architecture, in Crăciun, C., Bostenaru Dan, M. (coord.): Planning and Designing Sustainable and Resilient Landscapes, Dordrecht: Springer.

Meder, I. (2018). Women Designers and Architects in Early Twentieth Century Vienna. În: Seražin, H., Franchini, C., Garda, E. (coord.): Women's Creativity

since the Modern Movement (1918-2018). Toward a New Perception and Reception, Ljubljana: ZRC Publishing House, p. 50-57.

Mihaly, R. (2020). L'identità nazionale nel contesto delle prime partecipazioni degli artisti romeni alla Biennale di Venezia/National Identity in the Context of the First Participations of Romanian Artists at the Venice Biennial, Anuarul Institutului de Cercetări Socio-Umane »Gheorghe Şincai« al Academiei Române, 23: 114-122.

Mihaly, R. (2019). La costruzione identitaria di un'élite culturale: Accademia di Romania 1922-1948, Roma: Edizione Nuova Cultura.

Miyamoto, B., Ruiz, M. (2022). Reflections on positionality, in Miyamoto, B., Ruiz, M. (coord.): Art and Migration: Revisioning the Borders of Community, Manchester: Manchester Scholarship Online, https://doi.org/10.7765/9781526149718.00025.

Moravánszky, Á. (2018). Stoffwechsel. Materialverwandlung in der Architektur, Berlin: Birkhäuser, https://doi.org/10.1515/9783035608199

Mosebach, M. (2018). Wiedersehen mit Rom, Sin und Form, 3/2018, 293-307.

Mostafa, M., Baumeister, R., Thomsen, M. R., Tamke, M. (2023). Design for Inclusivity. Proceedings of the UIA World Congress of Architects Copenhagen 2023, Cham: Springer International.

Muñoz Morcillo, J., Faion, F., Zea, A., Hanebeck, U.D. and Robertson-von Trotha, C.Y. (2016). e-Installation: Synesthetic Documentation of Media Art via Telepresence Technologies, in: Bostenaru Dan, M., Crăciun, C. (2016): Space and time visualization, Cham: Springer International.

Muratori, S. (1960). Studi per un operante storia urbana di Venezia. Istituto Poligrafico dello Stato, Libreria dello Stato; Roma.

Muratori, S. (1963). Studi per una operante storia urbana di Roma. Consiglio Nazionale delle Ricerche, Roma.

Niculae R. (2014). Paradigma feminină în arhitectura din România, 1989-2014, teză de doctorat, Universitatea de Arhitectură și Urbanism “Ion Mincu”.

O’Neill, S. (2009). The Interactive Spectacle and The Digital Situationist, in P Turner, S Turner & E Davenport (eds), Exploration of Space, Technology and Spatiality: Interdisciplinary Perspectives. Information Science Reference, Hershey, pp. 155-166.

Noorda, S., Scott, P., Vukasovic, M. (2020). Bologna Process Beyond 2020. Fundamental values of the EHEA. Bologna: Bononia University Press.

Nothelfer, U. (2008). Landschaftsarchitekturausbildung—zwischen Topos und topologischem Denken: medienpädagogische Grundzüge eines webbasierten Fernstudiums, orientiert an signifikanten Lern- und Lehrerfahrungen in der Landschaftsarchitekturausbildung seit ihren Ursprüngen. Lübeck: Der Andere Verlag.

Orhun D. (2010). The relationship between space and gender in traditional homes across Turkey, Journal of Architectural and Planning Research 27(4): 340-355

Osmond, P. (coord.) (2014). Revisiting the Gamberaia: An Anthology of Essays, Florența: Centro Di.

Panasiu, G. (2007). Habitatul rural ca expresie a multiculturalității în Banatul istoric românesc din timpul administrației austriece 1718-1867, teză de doctorat, Universitate de Arhitectură și Urbanism “Ion Mincu”, București.

Pasquali, M. (2003). I giardini della diplomazia. Ambasciate e accademie straniere a Roma. Florența: Electa – Mondadori.

Peixoto, P.; Cardielos, J.P. (2016). A Água Como Património. Experiências de Requalificação das Cidades com água e das Paisagens fluviais, Coimbra: Imprensa da Universidade de Coimbra.

Peschken, G. (1979). Das architektonische Lehrbuch, Berlin: Deutscher Kunstverlag (Habilitationsschrift TU Berlin 1974, 184 Seiten).

Petrescu, D., Trogal, K. (eds.) (2017). The Social (Re)Production of Architecture. Politics, Values and Actions in Contemporary Practice, Londra: Routledge.

Philipp, K.J. (2011). Schinkel, Karl Friedrich (1781–1841). In: Beyer, A., Osterkamp, E. (eds) Goethe Handbuch. J.B. Metzler, Stuttgart. https://doi.org/10.1007/978-3-476-00206-8_74

Pollak, S. (2005). Leere Räume. Weiblichkeit und Wohnen in der Moderne. Special edition.

Popescu, M. (2016). Arhitectura Vernaculară în Spații Multiculturale din Europa Centrala și de Est, București: Editura Universitară "Carol Davila".

Roan A., Stead N. (2012). A “New Institutional” Perspective on Women's Position in Architecture: Considering the Cases of Australia and Sweden, Architectural Theory Review 17 (2-3): 378-398.

Romitti, I. (2011). Pietro Porcinai: l’identità dei giardini fiesolani; il paesaggio come "immenso giardino". Florența: Edizioni Polistampa.

Rowe, C., F. Koetter (1984). Collage City. Cambridge, MA: MIT Press.

Russell, P. (2001). Creating Place in the Virtual Design Studio, CAAD Futures.

Sandaker, B. (2010). An ontology of structures space. In Cruz, P. J. S., ed Structures and Architecture. Leiden: CRC Press, pp. 11-14.

Sandqvist, T., Zahariade, A.M. (2003). Dacia 1300 – my generation. București: Simetria.

Sang, K., Dainty, A., Ison, S. (2014). Gender in the UK architectural profession: (re)producing and challenging hegemonic masculinity. Work, employment and society 0(0): 1–18.

Santos, T.; Mendes, R.; Rodrigues, A.; Freire, S. (2012). Treasure Hunting in the 21st century: A Decade of Geocaching in Portugal, Proceedings of the European Conference on Information Management; 2012, p. 273.

Schäfers, B. (2006). Stadtsoziologie. Stadtentwicklung und Theorien - Grundlagen und Praxisfelder. Wiesbaden: VS Verlag für Sozialwissenschaften | Springer Fachmedien Wiesbaden GmbH.

Schinkel, K. F. (1862). Aus Schinkel's Nachlass, Berlin : Verl. d. Königl. Geheimen Ober-Hofbuchdruckerei. Available at https://www.digitale-sammlungen.de/view/bsb10258769?page=%2C1

Schmarsow, A. (1894). Das Wesen der architektonischen Schöpfung: Antrittsvorlesung, gehalten in der Aula der K. Universität Leipzig am 8. November 1893, Leipzig: Karl W. Hiersemann. Availble at https://doi.org/10.11588/diglit.49891

Schumann, U. M. (2008). Friedrich Weinbrenners Weg nach Rom: Bauten, Bilder und Begegnungen ; [Katalog zur Ausstellung ... im Rahmen der 19. Europäischen Kulturtage 2008 im Museum für Literatur am Oberrhein Karlsruhe, 7. April bis 1. Juni 2008]. Karlsruhe: Info-Verlag.

Schwarzer, M. (1993). Ontology and Representation in Karl Bötticher's Theory of Tectonics, Journal of the Society of Architectural Historians, 52(3), 267–280. https://doi.org/10.2307/990835

Sciortino, G. (2021). A Blueprint for Inclusion: Talcott Parsons, the Societal Community and the Future of Universalistic Solidarities. Am Soc 52: 159–177.

Semper, G. (1860). Der Stil in den technischen und tektonischen Künsten oder praktische Ästhetik: ein Handbuch für Techniker, Künstler und Kunstfreunde (Band 1): Die textile Kunst für sich betrachtet und in Beziehung zur Baukunst, Frankfurt am Main. Available at https://doi.org/10.11588/diglit.1299

Shepard Spaeth M., Kosmala M. (2012). Identification Through Disidentification: A Life Course Perspective on Professional Belonging, Architectural Theory Review, 17 (2-3): 216-233.

Sigbjörnsson, R., Ragnarsdóttir, S., Rupakhety, R. (2018). Is Perception of Earthquake Effects Gender Dependent?. In: Rupakhety, R., Ólafsson, S. (eds) Earthquake Engineering and Structural Dynamics in Memory of Ragnar Sigbjörnsson. ICESD 2017. Geotechnical, Geological and Earthquake Engineering, vol 44. Springer, Cham. https://doi.org/10.1007/978-3-319-62099-2_18

Sion, M. (2009). Henrieta Delavrancea Gibory - Arhitectura 1930-1940, Bucharest: Simetria.

Smith, P. (2013). Walking-Based Arts: A Resource for the Guided Tour?, Scandinavian Journal of Hospitality and Tourism 13 (2): 103-114.

Smitheram J. (2012). Regulation and Transformation: A Content Analysis of the Representation of Women in Architecture New Zealand, 1998–2008, Architectural Theory Review, 17 (2-3): 299-316.

Speckel, A. M. (1935). Architettura moderna e donne architette, «Almanacco della donna italiana», 120-134.

Sprega, A. (2021). Understanding local disaster culture to build resilience. The case of the historic centres of York and Amatrice: PhD. Thesis, York (UK): University of York, Archaeology. Disponibil: https://etheses.whiterose.ac.uk/29626/

Štanzel, A. (2017). Wasserträume und Wasserräume im Staatssozialismus. Ein umwelthistorischer Vergleich anhand der tschechoslowakischen und rumänischen Wasserwirtschaft 1948–1989, Paderborn: Vandenhoeck & Ruprecht.

Stead, N. (2012). “Resigned Accommodation” and “Usurpatory Strategies”: Introduction to a Special Issue on Women in Architecture, Architectural Theory Review, 17 (2-3): 191-198.

Stratigakos, D. (2001). Architects in Skirts: The Public Image of Women Architects in Wilhelmine Germany, Journal of architectural education 55(2): 90-100.

Strojan, TZ, Mullins, M. (2002). The identity of place in virtual design studios, Journal of Architectural Education, 56 (2).

Székely, M. (2022). EGY KIÁLLÍTÁS KÉPEI Az 1911-es római nemzetközi kiállításmagyar képzőművészeti pavilonjának fotódokumentumai. In: A haza építőkövei. Tanulmányok a 19. századi építészet köréből Sisa József tiszteletére, Budapest: ELKH, pp. 465-478.

Székely, M. (2009). Magyar müvészet a világkiállításokon 1896-1918 között, teză de doctorat, ELTE, Budapest.

Tamborrino; M.; Eccheli, M. G. (2014). Donnarchitettura. Pensieri, idee, forme al femminile, Milano: Franco Angeli.

Tesser, E. (2012). Gente di Roma: an exercise of dérive by Ettore Scola, Current Issues in Tourism, 15 (6): 577-590.

Thieken, A. H., Bessel, T., Kienzler, S., Kreibich, H., Müller, M., Pisi, S., and Schröter, K. (2016). The flood of June 2013 in Germany: how much do we know about its impacts?, Nat. Hazards Earth Syst. Sci., 16: 1519–1540.

Treadwell S., Allan N. (2012). Limited Visibility: Portraits of Women Architects, Architectural Theory Review, 17 (2-3): 280-298.

Troiani I. (2012). Zaha: An Image of "The Woman Architect", Architectural Theory Review, 17 (2-3): 346-364.

Uhlig, G., Cleffa-Rudolph, A., van Gool, R. (1997). Die Stadt in der Zeile. În den 20er Jahren Zeilenbau und Heute, În Badisches Landesmuseum Karlsruhe der 20er Jahre Neues Bauen, Gropius, Haesler, Schwitters und die Dammerstock-Siedlung în Karslruhe, Karlsruhe: Info Verlag, pp. 177-182.

Viollet le Duc, E. (1872). Entretiens sur l'architecture, Paris: A. Morel. Available at http://catalogue.bnf.fr/ark:/12148/cb31590251p

Voigt, A., Aharoni, S., Birken, J., Krell, A., Zappe, J. (coord.) (2010). The Daniel Libeskind Research Studio: Staatliche Hochschule für Gestaltung, 1999 – 2003, Karlsruhe: Staatliche Hochschule für Gestaltung Karlsruhe.

Voinea, A. E. (2022). Valori identitare transmisibile în arhitectura rurală săsească din Transilvania, Cluj-Napoca: Presa Universitară Clujeană.

Wagner, O. (1988). Modern Architecture A Guidebook for His Students to This Field of Art. Introduction and translation (of 1896 work) by Harry Francis Mallgrave, Santa Monica, Los Angeles: Getty Centre for the History of Art and the Humanities. Available at https://www.getty.edu/publications/virtuallibrary/0226869393.html

Wake, WK, Levine, SL (2002). Complementary virtual architecture and the design studio, Journal of Architectural Education 18-22, 56(2).

Way, T (2009). Unbounded Practices: Women, Landscape Architecture, and Early Twentieth Century Design, Charlottesville, VI: UVa Press.

Wieczorek, A., Schenk, G. J., Juneja, M., Lind, C. (coord.) (2014). Mensch . Natur . Katastrophe: Von Atlantis bis heute, Reiss-Engelhorn-Museen, Schnell & Steiner, Mannheim.

Willey, D. (2009). A Walk about Rome: Tactics for mapping the urban periphery." Architectural Theory, Review (Melbourne: Routledge) 15 (1).

Willis J. (2012). Aptitude and Capacity: Published Views of the Australian Woman Architect, Architectural Theory Review, 17 (2-3): 317-330.

Windholz, A. (2008). ET IN ACADEMIA EGO Ausländische Akademien in Rom zwischen künstlerischer Standortbestimmung und nationaler Repräsentation 1750 – 1914, Regensburg: Schnell + Steiner.

Wollen, P. (2001). Situationists and Architecture, New Left Review 8, March-April.

Zahariade, A.M. (coord.) (1996). Romania '96, 6a Mostra Internazionale di Architettura, Biennale di Venezia, Forgotten Balance-Timișoara 1991-1996, Bucharest: Simetria.

Zahariade, A.M. (2009). Symptoms of transition. Bucharest: Arhitext.

Zahariade, A.M. (2011). Architecture in the communist project: Romania 1944-1989. București: Simetria.

Zahariade, A.M. (coord.) (2013-2018). Studies in History&Theory of Architecture: Vol. 1 Printed in red, Vol. 2 Indigenous Aliens, Vol. 3 De urbanitate, Vol. 4 Marginalia, Vol. 5 Marginalia, Vol. 6 Politics, București: Editura Universitară „Ion Mincu".

Yokina, E. (2011). Vise despre case. București: Igloo.

*** (1996). Marcel Iancu centenary, 1895-1995. București: Simetria.

*** 100 Jahre Frauen an deutschen Technischen Hochschulen. "Technik: Ohne Frauen, keine Zukunft!" Symposium am 15.10.04 an der Universität Karlsruhe (TH).

*** Casele de vis ale Reginei Maria - Castelul Balcic, Muzeul Național Peleș, 2013

Domus 152 Agosto 1940 Casa sul mare di Sicilia Lina Bo C Pagani p. 30-35

Domus 136 Aprile 1939 Villa in Romania (arch. E. Lazar) p. 37-41

Domus 111 Marzo 1937 Due progetti per la villa del Prof. Tataru a Cluj in Romania p. 12-14

Narrative CV

Maria Boștenaru-Dan, Dr. Dipl.-Ing. is a research scientist gr. III at the Department for Research Management of the University of Architecture and Urban Planning "Ion Mincu" (IMUAP) in Bucharest, Romania. She is currently the principal investigator of an exploratory research project in the humanities. She graduated with an engineering degree in architecture with a focus on urban planning from the University of Karlsruhe, Germany. She received her doctoral degree in architecture from IMUAP. She was a German Research Foundation (DFG) Fellow at the Alma Mater and received two Marie Curie fellowships (both as a early stage and experienced researcher) at the Istituto Universitario di Studii Superiori di Pavia, Italy. She had a European-funded postdoctoral fellowship ingeography at the University of Bucharest and a postdoctoral fellowship in architecture at the Accademia di Romania in Rome. On the North American continent she received a support grant from the Canadian Center for Architecture. Her return to the home country was funded by a Marie Curie European reintegration grant. She holds university certificates from Karlsruhe in multimedia, project management, international competence and knowledge of Germany. She is an expert evaluator for European and national research funding agencies, too.

Rezumat

Aventura mea cu femeile în arhitectură a început în 2011. În timp ce scriam raportul bursei mele de reintegrare în România, am primit un telefon de la Radio România Actualități care m-a rugat să fac o prezentare a Virginiei Haret, prima femeie arhitect din România. Am făcut o scurtă trecere în revistă a realizărilor Virginiei Haret și, la momentul respectiv, a trebuit să amân o vizită la Casa Rosetti a acesteia. Din păcate, o lună mai târziu, clădirea a fost demolată. O soartă similară a avut și Vila Prager a Henriettei Delavrancea-Gibory în 2009, dar în acest caz am fost avertizată la timp și am reușit să fac fotografii. Împreună cu colegii, am inițiat o petiție pentru reconstrucția vilei, care a fost înlocuită în schimb cu un bloc de clădiri mai înalte, demonstrând vulnerabilitatea acestui sit de patrimoniu. Există o lipsă de considerație specifică pentru patrimoniul femeilor arhitecte, iar atunci când Erika Paulas a făcut primul ei proiect pentru o clădire din Bistrița, în jurul anului 1900, era chiar inacceptat faptul că o femeie ar putea face acest lucru.

În 2013, am pregătit cercetarea inițială pentru un tur ghidat despre Virginia Haret în cadrul unui proiect al Ordinului Arhitecților din România, coordonat împreună cu Răzvan Lăcraru (Lăcraru et al, 2014).

Din perspectiva sociologiei arhitecturii și a urbanismului, subiectul femeilor pionierat în arhitectură poate fi abordat în două moduri: cu metode cantitative și statistici sau cu metode calitative și studii de caz. Noi am optat pentru studii de caz și prezentarea unor modele de rol pentru profesie.

Îmi place această abordare a femeilor în profesie, care le vede atât ca subiecte, cât și ca obiecte de cercetare. Am folosit-o mai întâi în calitate de coordonator al grupului Asociației Marie Curie Fellows m-WiSET (Women in Science, Engineering, Technology), apoi în cadrul Asociației Marie Curie Alumni și în cadrul inițiativei Humboldt Network a lui Ira Didenkulova. În prezent, există o bază de date http://www.therolemodels.net care include femeile mobile din domeniul științei. Efortul a fost însoțit de evenimente de prezentare ale

membrilor MCFA și, respectiv, MCAA, inclusiv sesiuni la EuroScience Open Forum din Dublin, Manchester și Copenhaga, precum și un eveniment Eurodoc la Budapesta și unul la Cluj-Napoca, precum și o sesiune la Adunarea Generală a Uniunii Europene de Geoștiințe de la Viena.

Ulterior, m-am alăturat acțiunilor COST (Cooperare științifică și tehnologică). Implicarea în Acțiunea COST și faptul că Virginia Haret a studiat și ea în Italia, și pe cont propriu, deoarece Academia Română din Roma nu fusese încă înființată la acea vreme, m-au determinat să fac cercetări despre femeile arhitect de pionierat, cu un ochi și asupra schimbărilor climatice și a apei. O bursă Vasile Pârvan în Italia a făcut posibil acest lucru. Deși accentul a fost pus în principal pe România și Italia, am extins contextul la exemple cunoscute în întreaga Europă, continuând astfel cercetarea în cadrul burselor Marie Curie și de doctorat privind arhitectura în perioada interbelică. În cadrul cercetării mele, am examinat femeile în calitate de patroni, proiectanți și utilizatori. În acest proiect, care este o continuare a studiului de caz de la Roma, trecerea actuală de la gen la incluziune este, de asemenea, luată în considerare în contextul tendințelor europene spre sustenabilitate. Ambele aspecte sunt abordate în Noul Bauhaus european, o versiune actualizată ideală a Bauhaus-ului original situat în perioada interbelică, asupra căruia se concentrează această cercetare.

Abstract

My adventure with women in architecture started in 2011. While I was writing the report of my reintegration grant in Romania, I got a phone call from Radio România Actualități asking me to make a presentation of Virginia Haret, the first Romanian woman architect. I made a fast review of Virginia Haret's achievements, and at the time I had to postpone a visit to her Rosetti house. Unfortunately, one month later the building was demolished. A similar fate happened in 2009 to the villa Prager of Henrietta Delavrancea-Gibory but in that case I was warned in time and managed to take photos. Together with colleagues we started a petition for the reconstruction of the villa, but instead a high-rise block of flats replaced it, clearly showing the vulnerability of this heritage. There is a lack of specific consideration for the heritage of women architects and when Erika Paulas did her first plan for a building in Bistrița around 1900, it was even hardly accepted that a woman should be able to do this.

In 2013 I worked out the initial research to a guided tour on Virginia Haret in the framework of a project of the Romanian Order of Architects, coordinated together with Răzvan Lăcraru (Lăcraru et al, 2014).

From a sociology of architecture and urbanism point of view, one can approach the topic of pioneer women in architecture twofold: using quantitative methods and statistics or using qualitative methods and case studies. We opted for the case studies and presenting role models for the profession.

I like this approach to women in the profession, looking at them as both subjects and objects of research. I used it first as a group co-coordinator of the Marie Curie Fellows Association m-WiSET (women in science, engineering, technology), then within the Marie Curie Alumni Association and in the framework of a Humboldt networking initiative of Ira Didenkulova. Now there is a database http://www.therolemodels.net encompassing mobile women in science. The effort was accompanied by events presenting the MCFA and respectively MCAA members, among which I mention EuroScience Open

Forum sessions in Dublin, Manchester, and Copenhagen as well as an Eurodoc event in Budapest and one in Cluj-Napoca, and a session at the European Geosciences Union General Assembly in Vienna.

Later I joined COST (cooperation in science and technology) actions. The COST action involvement and the fact that Virginia Haret also studied in Italy, and on her own, since the Romanian Academy in Rome had not yet been founded at the time, motivated me to do research on pioneer women architects, with an eye also on climate change and water. A Vasile Pârvan fellowship in Italy made this possible. Although the focus was on Romania and Italy, I extended the context to known examples across Europe, this way continuing my research from the Marie Curie Fellowships and from the doctorate about architecture of the interwar time. In my research I looked at women as patrons, designers, and users. In the present project, which is a continuation of the Rome case study, the current shift from gender to inclusivity is also considered in the context of the European trends towards sustainability. Both these aspects are contemplated in the New European Bauhaus, an updated ideal reprisal of the original Bauhaus situated in the interwar period which on which this research is focused.

Riassunto

La mia avventura con le donne nell'architettura è iniziata nel 2011. Mentre stavo scrivendo il rapporto della mia borsa di studio per il reinserimento in Romania ho ricevuto una telefonata da Radio România Actualități che mi chiedeva di fare una presentazione di Virginia Haret, la prima donna architetto rumena. Feci una rapida rassegna delle realizzazioni di Virginia Haret, e all'epoca dovetti rimandare una visita alla sua casa Rosetti. Purtroppo, un mese dopo l'edificio fu demolito. Una sorte simile è toccata nel 2009 alla villa Prager di Henrietta Delavrancea-Gibory, ma in quel caso sono stata avvertita in tempo e sono riuscita a scattare delle foto. Insieme ai colleghi abbiamo avviato una petizione per la ricostruzione della villa, che è stata invece sostituita da un blocco di edifici più alti, a dimostrazione della vulnerabilità di questo patrimonio. Manca infatti una considerazione specifica per il patrimonio delle donne architetto e quando Erika Paulas fece il suo primo progetto per un edificio a Bistrița intorno al 1900, era persino poco accettato che una donna potesse farlo.

Nel 2013 ho elaborato la ricerca iniziale per una visita guidata su Virginia Haret nell'ambito di un progetto dell'Ordine degli Architetti della Romania, coordinato insieme a Răzvan Lăcraru (Lăcraru et al, 2014).

Dal punto di vista della sociologia dell'architettura e dell'urbanistica, il tema delle donne pioniere dell'architettura può essere affrontato in due modi: con metodi quantitativi e statistiche o con metodi qualitativi e casi di studio. Noi abbiamo optato per i casi di studio e per la presentazione di role models per la professione.

Mi piace questo approccio alle donne nella professione, che le vede sia come soggetti che come oggetti di ricerca. L'ho utilizzato prima come coordinatrice del gruppo dell'Associazione Marie Curie Fellows m-WiSET (donne nella scienza, nell'ingegneria, nella tecnologia), poi all'interno dell'Associazione Marie Curie Alumni e nell'ambito di un'iniziativa di rete Humboldt di Ira Didenkulova. Ora esiste un database http://www.therolemodels.net che comprende le donne mobili nella scienza. L'impegno è stato accompagnato da

eventi di presentazione dei membri dell'MCFA e rispettivamente dell'MCAA, tra cui cito le sessioni dell'EuroScience Open Forum a Dublino, Manchester e Copenaghen, nonché un evento Eurodoc a Budapest e uno a Cluj-Napoca, e una sessione all'Assemblea generale dell'Unione europea delle geoscienze a Vienna.

In seguito ho aderito alle azioni COST (cooperazione scientifica e tecnologica). Il coinvolgimento nell'azione COST e il fatto che anche Virginia Haret abbia studiato in Italia, e da sola, dato che all'epoca l'Accademia di Romania a Roma non era ancora stata fondata, mi hanno spinta a fare ricerche sulle donne architetto pioniere, con un occhio anche al cambiamento climatico e all'acqua. Una borsa di studio Vasile Pârvan in Italia ha reso possibile tutto ciò. Sebbene l'attenzione fosse rivolta soprattutto alla Romania e all'Italia, ho esteso il contesto a esempi noti in tutta Europa, continuando così la mia ricerca nell'ambito delle borse Marie Curie e del dottorato sull'architettura nel periodo tra le due guerre. Nella mia ricerca ho esaminato le donne come mecenati, progettisti e utenti. Nel presente progetto, che è una continuazione del caso di studio di Roma, l'attuale passaggio dal genere all'inclusività è considerato anche nel contesto delle tendenze europee verso la sostenibilità. Entrambi questi aspetti sono contemplati nel Nuovo Bauhaus Europeo, una ripresa ideale aggiornata del Bauhaus originale situato nel periodo tra le due guerre, su cui si concentra questa ricerca.

Lista ilustrațiilor