

Advances in Science, Technology & Innovation
IEREK Interdisciplinary Series for Sustainable Development

Nabil Mohareb · Alessio Cardaci ·
Sreetheran Maruthaveeran · Nicola Cavalagli *Editors*

Cities' Identity Through Architecture and Arts

Second Edition



Advances in Science, Technology & Innovation

IEREK Interdisciplinary Series for Sustainable Development

Editorial Board

Anna Laura Pisello, Department of Engineering, University of Perugia, Italy

Dean Hawkes, University of Cambridge, Cambridge, UK

Hocine Bougdah, University for the Creative Arts, Farnham, UK

Federica Rosso, Sapienza University of Rome, Rome, Italy

Hassan Abdalla, University of East London, London, UK

Sofia-Natalia Boemi, Aristotle University of Thessaloniki, Greece

Nabil Mohareb, Faculty of Architecture - Design and Built Environment,
Beirut Arab University, Beirut, Lebanon

Saleh Mesbah Elkaffas, Arab Academy for Science, Technology, Egypt

Emmanuel Bozonnet, University of la Rochelle, La Rochelle, France

Gloria Pignatta, University of Perugia, Italy

Yasser Mahgoub, Qatar University, Qatar

Luciano De Bonis, University of Molise, Italy

Stella Kostopoulou, Regional and Tourism Development, University of Thessaloniki,
Thessaloniki, Greece

Biswajeet Pradhan, Faculty of Engineering and IT, University of Technology Sydney,
Sydney, Australia

Md. Abdul Mannan, Universiti Malaysia Sarawak, Malaysia

Chaham Alalouch, Sultan Qaboos University, Muscat, Oman

Iman O. Gawad, Helwan University, Egypt

Anand Nayyar , Graduate School, Duy Tan University, Da Nang, Vietnam

Series Editor

Mourad Amer, International Experts for Research Enrichment and Knowledge Exchange
(IEREK), Cairo, Egypt

Advances in Science, Technology & Innovation (ASTI) is a series of peer-reviewed books based on important emerging research that redefines the current disciplinary boundaries in science, technology and innovation (STI) in order to develop integrated concepts for sustainable development. It not only discusses the progress made towards securing more resources, allocating smarter solutions, and rebalancing the relationship between nature and people, but also provides in-depth insights from comprehensive research that addresses the **17 sustainable development goals (SDGs)** as set out by the UN for 2030.

The series draws on the best research papers from various IEREK and other international conferences to promote the creation and development of viable solutions for a **sustainable future and a positive societal** transformation with the help of integrated and innovative science-based approaches. Including interdisciplinary contributions, it presents innovative approaches and highlights how they can best support both economic and sustainable development, through better use of data, more effective institutions, and global, local and individual action, for the welfare of all societies.

The series particularly features conceptual and empirical contributions from various interrelated fields of science, technology and innovation, with an emphasis on digital transformation, that focus on providing practical solutions to **ensure food, water and energy security to achieve the SDGs**. It also presents new case studies offering concrete examples of how to resolve sustainable urbanization and environmental issues in different regions of the world.

The series is intended for professionals in research and teaching, consultancies and industry, and government and international organizations. Published in collaboration with IEREK, the Springer ASTI series will acquaint readers with essential new studies in STI for sustainable development.

ASTI series has now been accepted for Scopus (September 2020). All content published in this series will start appearing on the Scopus site in early 2021.

More information about this series at <https://link.springer.com/bookseries/15883>

Nabil Mohareb • Alessio Cardaci •
Sreetheran Maruthaveeran •
Nicola Cavalagli
Editors

Cities' Identity Through Architecture and Arts


Second Edition

A culmination of selected research papers from the 4th version of the international conference on Cities' Identities Through Architecture and Arts (*CITAA*) in a collaboration between IEREK and the University of Pisa, Italy (2020).

 Springer

Editors

Nabil Mohareb
Department of Architecture
School of Sciences and Engineering (SSE)
The American University in Cairo (AUC)
Cairo, Egypt

Sreetheran Maruthaveeran 
Department of Landscape Architecture
Faculty of Design and Architecture
Universiti Putra Malaysia
Serdang, Selangor, Malaysia

Alessio Cardaci
School of Engineering
University of Bergamo
Bergamo, Italy

Nicola Cavalagli
Department of Civil
and Environmental Engineering
University of Perugia
Perugia, Italy

ISSN 2522-8714 ISSN 2522-8722 (electronic)
Advances in Science, Technology & Innovation
IEREK Interdisciplinary Series for Sustainable Development
ISBN 978-3-030-99479-2 ISBN 978-3-030-99480-8 (eBook)
<https://doi.org/10.1007/978-3-030-99480-8>

1st edition: © Springer Nature Switzerland AG 2021

2nd edition: © The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Switzerland AG 2022

This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Cover illustration: Toka M. Frihy

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Scientific Committee

Alessio Cardaci, Università degli Studi di Bergamo (University of Bergamo), Bergamo, Italy
Amanda Al Chami, Beirut Arab University, Beirut, Lebanon
Angela Fiorelli, La Sapienza University of Rome, Italy
Chiara Pepi, University of Perugia, Perugia, Italy
Emanuele Garda, Università degli Studi di Bergamo (University of Bergamo), Bergamo, Italy
Fatima Belok, Beirut Arab University, Beirut, Lebanon
Hazem Aysh, Beirut Arab University, Beirut, Lebanon
Ilaria Pigliautile, University of Perugia, Perugia, Italy
Marco Filippucci, University of Perugia, Perugia, Italy
Mourad S. Amer, IEREK—International Experts for Research Enrichment and Knowledge Exchange, Cairo, Egypt
Nabil Mohareb, The American University in Cairo (AUC), Cairo, Egypt
Nicola Cavalagli, University of Perugia, Perugia, Italy
Saada Hassan Khaled, Beirut Arab University, Beirut, Lebanon
Said Maroun, Beirut Arab University, Beirut, Lebanon
Sima El Cheikh, Beirut Arab University, Beirut, Lebanon
Sreetheran Maruthaveeran, Universiti Putra Malaysia, Seri Kembangan, Malaysia
Yasser Mahgoub, Galala University, Suez, Egypt

Preface I

The town has men and architecture. Its identity is therefore intimately linked to the material nature of the buildings and the actions of those who live there. The city is the human elements of geography, a complex place of cultural, economic and social integration. Each city is unique, irreplaceable and not reproducible; each urban place reveals its spirit through its *forma urbis* and its *genius loci*. The spirit of a city is constructed and develops with time; it is always in constant evolution and transformation. It is very important to know how the citizens see their cities and how they physically or mentally compare it with the ideal city in their own perceptions. A good city makes good citizens, and good citizens make a good city.

The International Conference CITAA “Cities’ Identity Through Architecture and Arts” is a series of meetings, held annually. It is sponsored by IEREK (International Experts for Research Enrichment and Knowledge Exchange), an institution that deals with the exchange of knowledge and research enhancement through the organization and management of conferences in all fields of knowledge. The first two conferences were held in Cairo, Egypt, from 2017 to 2018. The third and fourth conferences were held in the town of Pisa, Italy, through collaboration with the local university.

This volume brings together the contributions of the most recent edition that was held at the University of Pisa on 14 and 15 December 2020. It is divided into four major chapters, dealing with the themes of the conference: Part 1—Formation and identification of the city; Part 2—Contemporary arts: visual arts and visualization of the city; Part 3—Regulation, integration and sustainability of identities; Part 4—Conservation and sustainability of Cultural Heritage.

The conference covers a broad spectrum of issues related to the city. The conservation of cultures and the approach of the city through design and planning processes, the various ideologies, the identities of a more sustainable city. It explores different approaches that have been developed in architecture and contemporary art; the transformation of cities and urban cultures and the search for new approaches between art and architecture. The volume contains research papers which include several case studies. It presents many solutions to activate the concept of responsibility of architecture and the arts on the development of our cities. This is an important initiative, which presents a new approach dependent on the available characteristics of cities. and in his art and architecture.

The interdisciplinary nature of the conference allowed researchers from around the world to debate cultural, historic and economic issues of the town from different viewpoints. not merely technical-scientific but also humanist-social. The book proposes a collective and comprehensive solution which is universally applicable, because it includes contributions from authors, or rather conference participants, from three different continents of the world. A unique opportunity to share your thoughts with leading academics and professionals in the architectural, arts and planning fields. The materials in this book are intended for both researchers and a heterogeneous audience that have an interest in critically examining all new publications available in the field.

Before inviting you to read the chapters, we wish to thank in particular the editors of this book as well as all the authors and co-authors of the chapters. Together, they have provided unique and increasingly valuable materials for the academic community.

Bergamo, Italy

Alessio Cardaci

Preface II

It seems that the term identity rises and becomes a debatable issue on different levels each time there is a shifting paradigm in architecture, arts, or even a significant change in daily lifestyle habits and sociocultural aspects. The shifting paradigm could be an influence from outside the city or a movement within the indigenous society. The dilemma of searching or maintaining the local identity is not a fundamental element related to old cities alone or associated with one of Global North or Global South categorisation of cities. While this is a global phenomenon, it does address local anxiety.

A notable example of external influence is the immigration crisis in European and US cities. Some cities declared themselves to be ‘sanctuary cities’ to retain their identities from numerous immigrants who bring their own identities to the new places (A. Bell & de Shalit, 2021). The local example is much clearer in cities that expand rapidly to accommodate more citizens, for example, Cairo, Amman and others. Most of the new urban neighbourhoods were led by developers who either use a uniform look erasing the sense of local identity or using alien architecture to prompt modernity, leading to kaleidoscope patterns within one city.

Previous and other points have led to a series of questions rather than answers that have been raised and are still debatable in various academic and non-academic publications. I think the fundamental question is whether or not a city can have an identity. If yes, what are the elements of such an identity? Is it related to tangible and/or intangible influences that shape the sense of belonging to the local citizens and the feeling that a particular place claims to be different from others? When defining a specific identity, is there a scale barrier, in other words, an identity linked to the national, regional, urban, neighbourhood or even a specific street scale? Is this a shared sense of identity that could be identified, measured, analysed and interpreted? Are the tangible aspects that provide the protective envelope for everyday social and cultural activities that give a sense of identity to the place, or vice versa? Time is a significant factor when considering the meaning of identity in a place. The time factor could affect various age groups living in the same place differently; the time spent in a particular place affects the degree of attachment to that place, leading to a different sense of belonging and judging identity differently. Further questions are always controversial: who formulates the identity of the city (daily activities) or the container (tangible features like architecture and arts), and when it is formulated.

If the above questions are valid, then cities with an extensive history form a dilemma, for what layer of history should be regarded as the primary source of identity? Can the city pose a multilayer of identities? Furthermore, if the city is not an introverted environment, do all actors make reference to the same identity when addressing their city? Furthermore, is there a difference between the perception of local citizens of the identity of their city compared with the perception of foreigners, such as a tourist? Does this shape the local development plan? The latter matter is vital if having different versions of identities. Is there a gap between the vision of the authorities and the citizens of cities regarding the current and future notion of the city’s identity? Who is responsible for identifying, maintaining and developing a city’s identity?

Cumulative parameters/lenses define the identity of the city. Therefore, defining the term identity, its components, and various meanings to each stakeholder, each social level, each part of the city are the key to understanding if the city could be designated with a particular identity/identities or not, and how to preserve this identity if needed.

This book is based on selected key articles from a recent IEREK International conference on the identity of cities through the lens of architecture and the arts. It is not limited to any particular city but extends to the Middle East, Asia, Europe and North and South America cities.

Cairo, Egypt

Assoc. Prof. Nabil Mohareb, M.Sc., Ph.D.

Reference

A. Bell, D., & de Shalit, A. (2021). Introduction: cities and identities. *Critical Review of International Social and Political Philosophy*, 1–10. doi:[10.1080/13698230.2021.1881737](https://doi.org/10.1080/13698230.2021.1881737)

Acknowledgments

We would like to thank the authors of the research papers that were selected for addition in this book. We would also like to thank the reviewers who contributed with their knowledge and constructive feedback in hopes of ensuring the manuscript is of the best quality possible. A special thanks goes to the editors of this book for their foresight in organizing this volume and diligence in doing a professional job in editing it. Finally, we would like to express our appreciation to the IEREK team for supporting the publication of the best research papers submitted to the conference.

Contents

Formation and Identification of the City	
The Influence of Climate on the Planning and Architecture of the Medieval Islamic City of Mosul, Iraq	3
Muntasser Saleh Kadhim Al-Hamlawee, Ayman Abdulkarim Mahmood Al-Samarrai, and Baraa M. Ibrahim Al-Hilali	
Historical and Urban Identity Issues in Smart Cities Projects for Small Towns	13
Marco Negri and Gabriele Lelli	
Urban and Architectural Identity of Mosul. An Analytical Background for City's Reconstruction	23
Domenico Giuseppe Chizzoniti, Flavio Menici, and Tommaso Lolli	
European Imprint on the Urban and Architecture of the Ottoman Empire's Port Cities: The Case of Alexandria	35
Amira Nagy Elsemellawy	
Identifying the Character-Defining Elements in the Traditional Houses of Chettinadu Region, Tamil Nadu, India	57
Seetha Rajivkumar and Thirumaran Kesavaperumal	
The Identity in Comic Strips in Egypt	73
Ayah Elarief	
Contemporary Arts: Visual Arts and Visualization of the City	
Diaspora, Praxis to Modern-Day Globalized Contexts	85
Pakinam Zeid	
Building a Cultural Identity. A Focus on Catalonia, Spain, and the Works of H Arquitectes	97
Andrea Crudeli	
Logos and Visual Identities in Documenting Architectural and Cultural Heritage and Preserving the Attributes of Saudi Cities	103
Razan Erqsous	
Co-design as Play: Junk Sounds and Architecture in Urban Space	121
Guido Robazza and Matt Smith	
Investigating the Relation Between Culture and Architecture: The Case of Rasem Badran's Style of Architecture	141
Hazem Abu-Orf and Sulaiman Wafi	

The Urban Plan of Lúcio Costa and the Infiltrated Cerrado: Phenomenology of a Performative Body in the Capital of Brazil	153
Thaís P. Khouri	
Regulation, Integration and Sustainability of Identities	
Evaluation of Ecovillage Movement as an Alternative Approach to Sustainable Preservation of Traditional Patterns: Case of Marmariç, Turkey	165
Cansu Saçan Bombar and Müjgan Karatosun	
The Importance of Urban Regeneration in Cities' Identity: Industrial Heritage Potentials of İzmir	187
Gülnur Ballice, Gizem Güler Nakıp, and Eda Paykoç Özçelik	
Revitalization of a City's Core: Visually Marking National and Orthodox Christian Identity Through the Institutional Buildings in Novi Sad	201
Natalija Stokanović	
The Interconnectedness of Pueblo Arts and Architecture and Its Significance in the Sustainable Regeneration of the Northern New Mexico's Cultural Landscape	217
Selena Bagnara Milan	
Co-Producing Risk Management to Enhance Resilience and Protect Heritage in Vulnerable Populations of the Colca Valley, Peru	225
Carlos Zeballos-Velarde, Cynthia Butron-Revilla, and Gabriela Manchego-Huaquipaco	
Optimization of International Rating System Evaluation for Adaptive Reuse Projects	239
Hadeer M. Helal, Ibrahim Maarouf, and Dina Mamdouh Nassar	
Life Between Monuments, Local Identity, and Global Tourism in the Neighborhood of San Lorenzo in Florence	251
Francesco Alberti	
Conservation and Sustainability of Cultural Heritage	
Pier Paolo Pasolini's Film <i>The Walls of Sana</i> (1971). A Preservationist's Vision and Its Legacy	267
Yvonne A. Mazurek	
Importance of Sustainability and Preserving Cultural Heritage in the City of Samarra—Iraq (Heritage Houses as a Model)	279
Ibrahim Hussein Khalaf Al-Jubouri, Baraa Mohammed Ibrahim AL-Hilali, and Afrah Abdullah Jasim	
The Role and Potential of Adaptive Reuse of Heritage Buildings in the Multi-Dimensional Upgrade of the Mid-Europe Township Pécs, Hungary, as an Example	287
Liu Sha Sha and Zhao Tian Yu	
The Adaptive Reuse of Cultural and Historical Heritage as an Asset in City of Riga Branding. Case of Hanzas Perons	295
Lolita Ozoliņa and Žanete Eglīte	

Reforming Significance of Historic Buildings with Energy Efficiency Studies: Methodological Framework for Indo-Saracenic Buildings in Jaipur, Rajasthan	309
Shweta Choudhary, Satish Pipralia, and Nand Kumar	
Identifying the Role of Heritage and the Concept of Transformation	321
Parima Sharma	

Formation and Identification of the City



The Influence of Climate on the Planning and Architecture of the Medieval Islamic City of Mosul, Iraq

Muntasser Saleh Kadhim Al-Hamlawee,
Ayman Abdulkarim Mahmood Al-Samarrai,
and Baraa M. Ibrahim Al-Hilali

Abstract

Mosul is a city located in northern Iraq and is characterized by a fluctuating climate. Rather, it combined more than one climate (Mediterranean, desert, and tropical climate), as the temperature rises in summer, it falls in winter, heavy rain falls, and sometimes snow, and it blows different winds from wet, dry, and hot. It is cold, and from all sides, which greatly affected its planning and architecture since ancient history, through the Middle Ages, which we resonated, right up to the present time. Therefore, a specific type of material, method of planning, narrow roads, compactness of buildings and houses, and surfaces with basements as well as flat surfaces were used, and we built Domes domed The face of the ribbed conical, and the construction of minarets with a cylindrical body to disperse the wind, and despite the treatments taken by the architecture in planning and architecture, the climate did what worked in the mosques of Mosul and their effects.

Keywords

Climate • City planning • Mosul • Architecture • Medieval Islamic

1 Introduction

There is no planning or architecture without knowing the general appearance of the region or region to be exploited, or without knowing the natural geographical factors affecting everything, it is necessary to study the region from the

M. S. K. Al-Hamlawee · A. A. M. Al-Samarrai
College of Archeology, University of Samarra, Samarra, Iraq

B. M. I. Al-Hilali (✉)
College of Education, University of Samarra, Samarra, Iraq
e-mail: baraa.m@uosamarra.edu.iq

climate side and the impact of its elements, especially in the aspect of urban planning (Lamba, 1970), and from this came the architecture of the city of Mosul in its planning and architecture (general engineering) it is in line with the city's climate. Before delving into the city's buildings and the role of the local climate in them, the climate must be studied in detail (Al-Janabi, 2010).

The climate is the average measurement of temperature, wind, humidity, snow, and rain in a place over the years, and the city of Mosul and its adjacent areas are hotspots, with annual temperature rates rising to over 45 degrees Celsius in the summer and they are thus not very different from cities Central and southern Iraq (Al-fahal, 1962). As for the winter season, the temperature drops to below zero, and thus it does not differ from the governorates of northern Iraq. Great in its climate from season to season, and from year to year it is volatile and extreme. On this basis, man began to calculate this climate for an account in this city since ancient times, adapting himself and using all preventive means to create a suitable atmosphere for a comfortable and healthy life (Al-Janabi, 2010).

2 The Aims of the Study

Shedding light on the creativity of the Muslim engineer at that time. Employing architectural elements in the face of climate factors. Also attempting to know the damages caused by climatic factors to Islamic buildings, despite the fact that there are many attempts to reduce damages by engineers and builders. As well as, show various climatic factors imposed on the engineers to adhere to certain forms of domes and minarets.

From this the buildings came in their engineering to work to reduce the temperatures in the summer and keep them from falling in the winter, since the people left the caves in the mountainous region after the receding of the ice in the era of plasticine, and the start of the art of planning and

architecture motivated by the climate, and houses appeared in villages Like “Al-Arbajiyya and Hassounah”, which is located near the city of Mosul (Al-fahal, 1962), and the oldest houses were oval shaped, built with stones and mud, and the first houses were devoid of windows and openings except for a small opening that leads to the interior of the house representing the entrance (Zarzis, 2010). Perhaps the houses are free from openings and windows.

The architect had planned for the winter only during its construction, especially after we learned that he was expelled from caves and caves in the mountains because of the snow, that is, the temperature drop, so he tried to keep the temperatures inside the house, perhaps his lack of awareness and weakness in engineering and planning, but the appearance of openings and windows in the homes later on is to realize and his sense of high temperatures in the summer, so he needs to be ventilated in addition to light (Lamba, 1970).

In the mineral stone era, it was revealed that houses with a circular plan in several regions, especially in the site of Al-Arbajiyya, this village is located eight kilometers northeast of the city of Mosul, in which he disclosed the houses known as (Al-Thulous) with a circular layout of different diameters ranging between (5.5 m) and (7.5 m) is made of clay on the basis of stones (Al-Dabbagh, 2000), and the work of this type of architecture is the work of the crypt that appeared in the architecture later to reduce the intensity of the heat in the summer as it is warm in winter as it is a circular hole in the ground, and perhaps this planning came spontaneously. But it was appropriate for the temperatures and climate in general, so people continued to live in these houses with a Gradual change, including the idea of building and architecture catacombs continued to the present time, and with what serves temperatures and other climate elements (Rashid, 2001).

The use of clay in construction also had a great impact on the suitability of the climate, so the raft was the first building material used by humans, which was revealed during excavations at sites dating back to the era of Hassouna and NATO. Then it developed to be a milk with the characteristics that it has.

Which are suitable for the nature of hot, dry weather to keep cold in summer or heat in winter inside the buildings constructed with milk walls (Zarzis, 2010), as it is an insulating material that is not heat conductive and compatible with hot weather conditions as well as its tolerance to shocks and its susceptibility Absorption, ease of lifting and tear down when needed and remodeling. In addition to its wide availability and ease of work.

The architecture also mastered the method of preserving the temperatures, so the work of the wall is thicker, sometimes more than two meters (Abbou, 2001).

Although the raft and milk are suitable for the climate, but it does not resist the rain and humidity, so he invented

the brick building, which is roasted milk (bricks). As I use the stone, it also maintains the temperature and resists rain and moisture.

Also, I used a type of stone, which is white limestone (plaster), but it does not resist humidity and rain, so I used it to paint the walls from the inside and a binder, and it also has the advantage of maintaining temperatures, and was widely used in the Assyrian era (Fathi, 2000).

Perhaps someone is asking that the use of these materials is not because of their suitability for the climate, but because of their availability in this region?

This is true, but after its use, the architecture revealed its suitability for the climate and continued to use and develop it from some negatives, such as converting the raft into milk and converting the milk into a brick (Abbou, 2001). For example, gravel is available in the region, but its use is minimal due to its properties that do not serve the climate, especially temperatures, as it is cold in hot, hot summers, so the architecture abstained from using it except in a few cases and because of its resistance to rain and moisture (Rashid, 2001).

This is in the field of building materials, but in the field of architecture and planning, the courtyard (courtyard-yard) was used to reduce the temperatures by reducing the hot wind currents in the summer and cold air currents in the winter, as the courtyard was found in the houses of Tal Hassouneh and the sites that correspond to it in the time period (Yusef, 2012).

Also, the appearance of the iwan in Amara is likely by some due to the climate and the temperature in particular. And it became a feature of Mesopotamia architecture, and the iwan is a hall covered with a cellar, open from one of its short sides completely, and the cellar is a half cylindrical roof (Fathi, 2000).

This element came as a result of the development of architecture and its suitability to climatic conditions in the city of Mosul, as excavations revealed to us its presence in (Taba Cora), and despite the fact that the iwan was roofed by a cellar, the building was concerned with flat roofs in the houses despite being damaged by rain and snow, because it is used to sleep at night during the summer, and this is what the temperature imposed on many surfaces (Khudair, 2003).

3 Architecture Planning

In Islamic times, planning and architecture methods that were used in the periods leading up to Islam have continued, because there has been no change in the climate of the city of Mosul. With the development of some architectural elements due to the development of this art of planning and architecture on the one hand and on the other hand affected by the planning and architecture of other civilizations in the

countries that were opened by Muslims, especially Persia and the Levant, which were greatly affected in Greek and Roman architecture (Muhammad, 1999).

One of the most important Islamic buildings is the mosque. Rather, it is one of the first buildings that they construct in any city they open or plan the mosque (Yusef, 2012).

Therefore, we find the first Islamic buildings that were established in the city of Mosul when it was opened by the Mosul Mosque, the mosque in the year 16 AH under the supervision of Commander Ataba bin Farqad Al-Salami in the succession of Sayyidina Omar Bin Al-Khattab (Khudair, 2003).

However, this mosque was not affected by its climate planning and came according to the traditional planning on which mosques were established in that period, which is the layout of the Messenger Mosque, which is simple and austerity (Hamid, 2005).

After that, the architecture of the mosques began to evolve and be influenced by the climate, and this is what we find clear in the planning and architecture of the Al-Nuri Mosque (Al-Ma'adhna al-Hadba Mosque), which is one of the ancient mosques in the city, built in the era of the Atabak in (566 AH-1170 CE) which can be seen in the end of this paper in (Fig. 5) comparative state with Pisa Tower in Italy (Al-Janabi, 2010).

The climate had a great influence on its planning and architecture, especially the temperature, until this planning was known among those specializing in mosques with two prayers, as the mosque contained the closed chapel (the winter chapel) and the chapel open on the nave (the summer chapel) and the winter chapel was opened to the summer chapel with an entrance on the axis of the slab The niche (Tawfiq, 2014). As shown in Fig. 1.

There is no doubt that this planning and design was imposed because of the low temperature in the winter and the high in the summer.

As we mentioned, the city of Mosul represents the summer of the southern governorates and the winter of the northern governorates. Al-Nuri Mosque was not the only and unique in

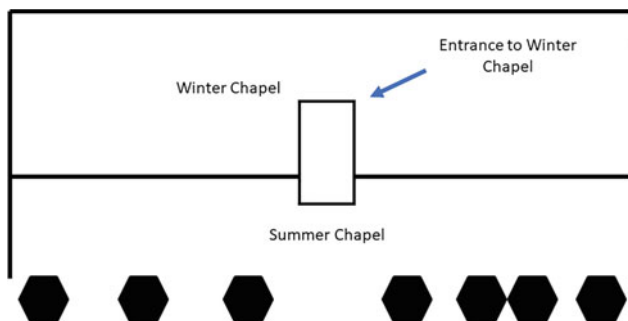


Fig. 1 The design of Masjid shows the hall for both summer and winter

the city, but was followed by other mosques (Kazem, 2012), such as the Mosque of Mujahideen, which was ordered to be built by Mujahid al-Din Qambaz, the mastermind of the State of Bani Zangi in (572 AH-1176 A.D.) located south of Mosul, as it contained a summer and winter chapel (Al-Fahal, 1962).

4 Dome Architecture

If we went into the architecture of domes, we would find its great influence on the climate, except that they were on top of mosques, shrines, or other buildings. Domes called ribbed (stringed) grooved domes (with grooves) were popular in Mosul (Muhammad, 1999). Also, some of these domes were characterized by double (double dome), i.e., a space between the outer and inner dome to secure appropriate temperatures except in the summer or winter (Khudair, 2003).

This is what we find in the dome of the Nuri Mosque as well as seen in (Fig. 2), and the inner dome is hemispherical and ribbed from the inside and the number of ribs (24 Ribs built from plaster that the architect used for decoration on one side (Kazem, 2012), and on the other hand we note that the construction of the dome from plaster is to reduce the heat in the summer and as it is known that plaster is a building material that does not gain heat significantly or cold in addition to the aesthetic of the decoration.

However, the architecture found itself facing a problem in the winter, as the plaster material does not resist the rain and humidity in the winter, especially since the city of Mosul is very rainy in the winter and spring (Hamid, 2005).

He built an external dome to protect the inner dome from rain and moisture, and the space between the two domes also reduces the temperature in summer and reduces coldness in winter. This is what has been used so far in the building to soften the atmosphere in homes and other buildings (Muhammad, 1999). And the outer dome is a conical built of brick with (16) faces, each of these facets in a triangular shape that starts from the octagonal shunt by placing it perpendicular to it and then begins to curve inward, forming the shape of the cone dome (Abbou, 2007) (Fig. 2).

And the cone shape of the external domes or what are known as stringed domes or domes with grooves (ribbed) that spread in the city of Mosul came because of the climate also so that water does not settle on the surfaces as it happens on flat surfaces and causes damage and damage, but in this form of construction rain water glides easily (Tawfiq, 2014). As well as snow so as not to accumulate and cause damage to the roofs, as well as reflect the coldness inside the building, but it glides smoothly and easily.

We find a double dome in the Mujahideen Mosque as well, similar to the dome of the Al-Nuri Mosque, but the difference is that the outer dome is a slightly spherical

Fig. 2 The external dome of Al-Nuri Mosque



semi-pointed, and it is built with pay and covered with (ceramic) tiles and the use of tiles is also due to the influence of climate, in front of the inner dome, it is also spherical, but it is plaster (Kazem, 2012).

The Prophet Yunus Mosque also contains a ribbed conical dome, and we note that many of the domes of the city of Mosul are ribbed and this may have to do with the climate as the rib is represented by convexity and concavity, as the rain and snow slip strongly from the convex rib toward the concave part that represents the waterwheel or river. Especially the snow that comes down slowly and left behind on any surface it was (Al-Duwaya, 2015).

4.1 Climate Effect

The climate also has a great impact on the planning and architecture of shrines that have been found in the city, and it is customary and customary that shrine architecture is always topped by domes, and the climate has been imposed on such domes being turned (stringed) (Tawfiq, 2014). Some of them are also dual, unlike central and southern Iraq, which appeared it contains muqarnas-turned domes, and the most important domes in Mosul are the shrine of Yahya bin Al-Qasim and the tomb of Aoun Al-Din (Muhammad, 1999).

The dome of the shrine of Yahya bin Al Qasim as seen in (Fig. 3). The shrine of Yahya bin Al Qasim is located on the northern side of the old city of Mosul on the right bank of the Tigris River between the role of the kingdom (Qara Saray) and the main castle (Bashtabiya). This tomb was built by Badr al-Din Lu'lu 'in 637 AH/1239 CE, as inscribed on one of the walls of the shrine from within (Al-Duwaya, 2015).

The mausoleum consists of a semi-square room whose dimensions are 7.90×7 m from the inside of the thick walls, topped by a ribbed conical dome and the construction is constructed with pay and plaster, the dome is separated by a vacuum between the inner dome of which the conical shape consists of several layers of beautiful muqarnas built in a beautiful manner similar to the bones of the fish (Abbou, 2007).

As for the external dome, it is about five meters high over the walls and is twelve ribs that were covered with a thick layer of plaster, and as we mentioned that the construction of double domes is to protect the beautiful inner dome from the weather effects on it and to give the scene a distinctive architectural appearance from the outside and from the inside (Al-Hadithi and Abd al-Khaleq, 2000).

The shrine of Yahya bin Al Qasim and its double conical dome, the dome of the tomb of Imam Aoun al-Din as seen in (Fig. 4). This shrine and its dome date back to the era of



Fig. 3 The dome similar to that of Yahya Ibn al-Qasim, which is the dome of Aoun al-Din in 646 AH/1248 CE



Fig. 4 The tomb and dome of Imam Aoun al-Din with grooves

Badr al-Din Lu'lu', which he built in the year 646 AH/1248 CE, according to a written text engraved on marble that revolves around the lower part of the walls (Al-Duwaya, 2015).

The dome consists of two double domes, an inner dome and an external dome, composed of geometrical muqarnas, composed of seven rows of muqarnas, which ends at the end of the dome's top in the form of a small star with eight heads (Friday, 1992) (Fig. 4).

Also, the dome of the Imam Abd al-Rahman mausoleum dome is double, the inner hemispherical and the outer ribbed

conical. We are satisfied with this amount because we see that the picture has become clear from the width of the double-stranded ribbed and dome domes in Mosul (Al-Duwaya, 2015). Established due to heavy rains and high temperatures.

There are domes established on the shrines that are turned but not double, such as the dome of the Imam Al-Bahr and Sheikh Fathi (Al-Daraji, 2008).

As for the houses that are the most numerous buildings and their numbers exceed the number of other buildings in an unbeatable way.

Although the layout of the house has not changed much during historical times, as it provides safety for residents and avoids them from harsh climatic conditions, and from this we can see the preservation of some of the characteristics of the house on its nature, and even its shape since the second millennium BC (2000 BC), Until the twentieth century (Al-Hadithi and Abd al-Khaleq, 2000).

As we mentioned above and based on the foregoing, we can conclude that the environment, ancient civilizations, and local experiences have had the largest role in Mosul architecture in general and the home in particular.

For this reason, the connection of the house remained close to the planning and style that had prevailed in Mosul since the Sumerian era through all ages and civilizations (Abu Hilal, 2012).

Here we can show the sections of the house and its architectural elements:

1. Alleyways and narrow paths reduce the hot and cold air currents, as well as reduce the sun's rays to those who walk in them, as well as protect against rain, especially after the chnachaul converge with each other, forming a ceiling similar to the alley or the trail (Friday, 1992).
 2. The entrance, the door, and the metaphor, accompanied the entrance to the old conductive house, and the nature and social conditions were specified. The entrance consists of the lintel, the upper part and the lintel, the lower part and the two sides known as jambs (Al-Daraji, 2008). The house, in addition to preventing the entry of insects, but the door is the part that blocks the opening of the entrance and is often from a shutter or two doors, and opens and closes as needed (Thuwaini, 2005). Followed by the metaphor, which is the passage that starts from the entrance and ends with the courtyard (the yard), as it was preferred for many houses to be lined (refracted) or what is called a bachur (Abu Hilal, 2012). That is, they are not straight, and this came due to climatic conditions as well as social factors, in order to reduce entry Cold air currents to the house in the winter, dust, and soil in the summer, and after we pass the metaphors, we will have become on the plate (Shafei, 1970).
 3. The courtyard (Al-Hosh), which is the open courtyard overlooking all the units of the house, especially in the Mosul architecture, as it was imposed by several factors (Abu Hilal, 2012). The most important of which are climatic factors. Its shape varies between the square and the rectangle, and this open courtyard (yard, courtyard, or artist) is considered as a dilute air temperature and since the cold air is heavier than the hot air, it decreases during the night in the yard of the house, which makes the square and the surrounding facilities cool and moist until late hours of the day (Thuwaini, 2005).
- And it is possible to maintain the temperature of the courtyard (the yard) in the winter and prevent the entry of cold air currents, as it reduces the strength of sandstorms in entering the parts of the house (Khudair, 2003).
4. Al-Iwan, which is one of the elements of the Arab House, and was used by Iraqis in the architecture of Mesopotamia since ancient times, and this is what we referred to in the city of Tabah Koura at the beginning of the research (Shafei, 1970). Mosul is one of the cities most affected by this architectural element, its people may have quoted it from the Arab urban city for its suitability to the city's climate, especially in the summer during the Islamic era and the eras that followed it, and the iwan reduces the heat because it has a high ceiling and also the half cylindrical shape represented by the roof. The iwan is the fall of the sun's rays on it from one side, unlike the flat roofs, as the sun's rays are completely on it.
 5. Basement: The basement was one of the important units in the house and necessary, which was established due to climatic conditions and is not clear from it except what is rare due to the high temperatures in the summer (Khudair, 2003). The basement is ventilated by a pedicure method (air stands), which are passages in the walls that rise from the surface and are facing winds, and generally toward the northwest. And ends its outlet at the basement with an opening and the bottom of it is a hole known as the wasp that works as a cooling device at the present time to put vegetables and fruits, and all members of the family in the basement at noon in the summer to nap and get rid of the burning summer heat.
 6. The corridors (tarma), which are shades that occur in front of the stone, the iwans and other units, and are intended to provide a suitable climate in the winter that protects from rain during the movement between the units of the house, and in the summer, it protects from the sun (Shafei, 1970).
 7. The roofs the flat surfaces prevailed in the houses with the presence of the basements, but the flat surfaces were wider and this is the opposite of what we observed in the religious buildings of the mosques and shrines previously, as the domes turned. We can say that it is because of the climate as the domes were because of the climate (Abu Hilal, 2012). Flat surfaces are an alternative to the basements at night, as the family sleeps during the summer at night on the surfaces, so it is necessary to pay attention to flattening them in an appropriate manner with this purpose to enjoy the cold air and the fresh breeze at night after a long day full of heat and fatigue (Thuwaini, 2005).

8. Pigeons the Arabs cared about pigeons, especially in the early days of Islam and beyond. But this bathroom, like other architectural units, has been affected greatly by the climate, especially in the winter and diseases that accompany the shower, so many baths came with their planning of three cold, warm, and hot stone shower rooms to reduce climate fluctuations.

And with all the methods and methods that a person used to reduce the impact of climate on his life and the mockery of planning and architecture for that, as we mentioned, he did not neglect the strengthening of architecture and its support so that it is also capable of facing the climate for a long time and reducing the impact of the climate in it for a long time, because it is the weapon that faces damage and the harshness of the climate. With all the engineering, planning, architecture, and calculations prepared for this purpose, he played what played the climate in the buildings in the city of Mosul and throughout the times.

The best example of its minaret is the humpback that bowed in front of the wind, although many tried to make an explanation for its curvature away from the influence of the wind, but the most accurate interpretation in our view is the wind and for the reasons that we will limit here and it needs detail in a future study, God willing:

The first reason is that the lighthouse. It was called the Long Lighthouse, and from this we conclude that the humpback designation was launched after it bent and at the beginning of its construction it is not curved.

The second reason is that the beauty of architecture in its straightening and fairness and every oblique or crooked architecture is not characterized by beauty, and the effort and money of its builder are going to include the wind, so it is not reasonable that an engineer builds such a great building and exerts this effort and money to waste it by destroying the building by bowing.

Even the architect or the architect who built it made the body cylindrical in anticipation of the winds, as the cylindrical shape disperses the winds that collide in it compared to the square or rectangular shape.

This means that the architect was aware of what the wind will do with the minaret, and he made an effort to reduce the

impact of the wind, especially since its height is about (56 m).

After the chemical and physical studies that worked on the minaret by the specialists, it was found that the building bonding substance is the inflorescence. With the inflorescence, the bone broth was used to increase the strength to strengthen the body with calcium.

Also, the two inner ladders were to support and strengthen the body. All these measures were taken because the wind did not affect them, but Over time, it bowed in front of the wind due to its high altitude as shown in (Fig. 4).

And the phenomenon of the beacon's curvature has a similarity to the cathedral bell tower in Italy as seen in (Fig. 6), which is known as the Tower of Pisa or (the Leaning Tower), but the reason for its curvature is the soft soil on which it resided, and it bent after a period of its construction, which is also due to the wind and the pressure it caused after its construction period, as it became Its inclination towards the wind and due to the loose ground on which it was built, the curve became not by the body but by the floor (Fig. 5).

And that all these methods of planning and architecture have reduced the harshness of the environment and climate fluctuations to give people a comfortable and safe housing.

But many of these elements have faded and disappeared at the present time due to technology and the alternatives that it provided to humans, but the ancestral methods remain the most valid and appropriate to the nature of man and the best evidence is the spread of diseases due to the alternative provided to these methods that have maintained to provide a suitable climate.

5 Findings

Climate factors dictated the use of solid materials that can resist rain and maintain temperatures in the city of Mosul, so stone material came in the forefront. Because of the rain, the engineers built most of the roofs of the houses in a semi-cylindrical shape, and this works to protect the houses from rain; and the climatic factors determined a specific type of domes in architecture, which is the double ribbed string dome, which resists snow and rain and preserves the heat of

Fig. 5 This did not happen in the Al-Hadba minaret, because the land of Mosul was rocky and hard, and the curve became in the body (The minaret of Humpback in Mosul)



the house. The engineers used cylindrical minarets to reduce the effect of the wind on the body of the minaret because of the high heat in the summer, the engineers used basements in the houses, which people used to nap during the hot summer day.

6 Conclusion

The climate of Mosul is variable and unstable even during the same day, changing and varying from year to year, because Mosul has a Mediterranean climate and sometimes a desert climate, as well as a tropical climate. Because of the disparity in the prevailing climate from to, temperatures fell below zero c, rain and snow fell down sometimes, and then as the desert climate crept up, drought and temperatures rose up. Because of this climate disparity, Mosul City's planning and architecture were characterized by features appropriate to this climate disparity. Climate variability has affected the planning of Islamic aunts in Mosul, and as is known, the most important Islamic aunts are the jaws. Therefore, the building blocks of all buildings also addressed the problem of variations in temperature, rain and wind, starting with

building materials such as stone and marble, which resisted rain and were considered a good temperature buffer. The use of metal plate ceilings has also spread to Mosul City. In order for snow and rain to slip flexibly other than flat ceilings, closed ceilings reduce sunlight by making sunlight on one side of the ceiling. Also, the shape of the conical dome makes the rain and snow slip down, and the ribs in the dome have a slick distance that is more like a bowl that facilitates snowfall. Despite the use of metal plates ceilings and domes in the city's headwaters, some of came with flat roofs, especially in houses and palaces, to be used for sleeping on hot nights, so families slept on the rooftops especially in the summer. Finally, the position of Mosul city on high land also caused the speed of the wind. The winds, which sometimes are very fast, so the mantle came in a cylindrical shape to disperse the wind and reduce the pressure on the mantle's body, the most important of which was the dome of al-Nuri. Thus, because of the differences in temperature and the difference between night and day, Mosul's people were forced to take off from the parts of their basement houses, an underground room that is brought down by a ladder, often for naps when it gets hot in the afternoon.

Fig. 6 Pisa Leaning tower or leaning tower in Italy



References

- Abbou, A. N. (2001). *Architecture, the Mosul civilization encyclopedia* (Part 1, p. 394). Dar Al-Kutub for Printing and Publishing, Mosul University.
- Abbou, A. N. (2007). *The Abbasid domes in Iraq* (p. 91). University of Baghdad, College of Arts, Department of Archeology (unpublished Master Thesis).
- Abu Hilal, A. (2012). *Summarizing the knowledge of names of things* (Part 1, p. 274).
- Al-Dabbagh, T. (2000). *The agricultural revolution and the first villages* (part 1, p. 134). The Iraq civilization, Baghdad.
- Al-Daraji, H. M. H. (2008). *The Iraqi house in the Ottoman era, Baghdad* (Part 1, 5).
- Al-Duwaya, J. S. (2015). Al-Mujahidin Mosque in Mosul. *Sumer Magazine*. Baghdad, vol. 11, Part 1, 289.
- Al-Fahal, M. R. (1962). *The historical geography of Iraq in ancient times* (p. 23). Najaf.
- Al-Hadithi, A., & Abd al-Khaleq, H. (2000). *The conical domes of Iraq* (p. 86). Baghdad.
- Al-Janabi, S. (2010). *The climate of Mosul* (p. 38). Baghdad, Freedom House.
- Fathi, H. (2000). *Arab Urban Architecture for the Middle East* (p. 14). Beirut, Dar Al-Ahad.
- Friday, A. Q. (1992). *Marble decorations, Mosul Civilization encyclopedia* (p. 371). University of Mosul, C 3.
- Hamid, I. S. (2005). *Religious buildings, the civilization of Iraq* (Vol. 9, pp. 76–79). Baghdad.
- Kazem, M. S. (2012). *Ribbed domes (serfs) emergence and development in Islamic architecture until the end of the Ottoman era* (p. 41) (Unpublished Master Thesis, University of Baghdad, College of Arts, Department of Archeology).
- Khudair, F. M. (2003). *The Arab house in Iraq in the Islamic Era* (p. 113). General Foundation for Antiquities and Heritage, Baghdad.
- Lamba, N. S. (1970). Emerging capitals and New Towns. *Journal of the Institute of Town Planners India*, 67.
- Muhammad, G. R. (1999). *Arab architecture in the Islamic Era in Iraq* (p. 60). University of Baghdad.
- Rashid, F. (2001). Block industry in Ancient Iraq. *Journal of Oil and Development*, Sixth Year, 35, Baghdad.
- Shafei, F. (1970). *Arab Islamic architecture in Egypt* (p. 433). Culture Press.
- Tawfiq, S. I. (2014). *The systems of planning for Seljuk Mosques and their impact on Iraq Mosques* (p. 152) (Unpublished Master Thesis submitted to the Faculty of Arts, University of Baghdad).
- Thuwaini, A. (2005). *Dictionary of Islamic peoples architecture* (p. 131). Baghdad, House of Wisdom.
- Yusef, S. (2012). *History of Iraqi architecture in different ages* (p. 53). Dar Al-Rasheed Publishing.
- Zarzis, M.. (2010). *Prehistoric Building of the Old Iraqi House, Baghdad* (p. 165) (Unpublished Master Thesis, College of Arts, University of Baghdad).



Historical and Urban Identity Issues in Smart Cities Projects for Small Towns

The Smart Mobility Network in Castel Bolognese, Ravenna

Marco Negri and Gabriele Lelli

Abstract

The notion of “Identity” is often intended in smart city models as a digital feature, reducing a broad concept into a technical protocol to access urban services. Furthermore, this topic does not find place in the key indicators of smart cities rankings. Despite these omissions, the most recent smart city indexes have given more importance to social and cultural aspects in their frameworks, including topics as active citizenship, custom development objectives, wellbeing, and social inclusion. Coupling this trend with the need to preserve cultural and natural heritage raises the issue of city identity in “smart city” projects that often focus on performances rather than on considering cultural and historical values embodied in the existing context. This issue is even more important in small towns that are more prone to blend their innate characteristics if they assume digital transition as a top-down process that starts from bigger cities. This paper reviews the role of urban identity in smart city projects in small towns, analyzing the project of a smart cycling network in Castel Bolognese, a municipality near Ravenna. It has been selected because it presents an innovative approach for smart city projects in small towns, combining digital devices and urban design tools in an original way which contributes to preserve and develop the local identity. Thanks to the innovative approach of the project, Emilia-Romagna region funded this proposal within a call for cycle routes of regional relevance. The study was conducted by first framing the notion of urban identity, examining the most relevant

literature about this topic. Secondly, we analyzed how urban identity is considered in the context of digital transition, benchmarking the main smart city indexes and their possible impact on this topic. Then, we presented the case study mentioned earlier, focusing on the main elements that concern urban identity: the infrastructural network, the accessibility to historical paths; the urban heritage, considering both the urban fabric of the city center and the listed buildings on the outskirts; the local culture and services, studying how the project supports the use of existing public spaces. The results demonstrate how design actions can have a sound impact on urban identity, using innovative solutions to improve the level of accessibility, regenerate historical public spaces, create values, and uses shared by public administration and citizens. The conclusions recapitulate the importance of several key points addressed in this study: the importance of shared goals and perspective, analysis and mapping, designing, and monitoring.

Keywords

Identity • Smart cities • Smart mobility • Urban networks

1 Urban Identity: A Multifaceted Concept

Identity is a multifaceted concept, studied by different disciplines giving different meanings to the same word. The breadth of this concept can relate both to the different cultural backgrounds that have studied it and to the transdisciplinary connections embedded in it. Looking at its definition and etymology, the concept of identity is often built upon the qualities that make somebody or something—identity derives from the latin term *idem*, different from others. All the discourses and studies on identity should therefore include a term of comparison to outline properly

M. Negri (✉)
PhD Candidate, Department of Architecture, University of Ferrara,
Ferrara, Italy
e-mail: ngmrc@unife.it

G. Lelli
Associate Professor, Department of Architecture, University of
Ferrara, Ferrara, Italy
e-mail: gabriele.elli@unife.it

the research issues and define the research field. Even recent contributions (Floridi, 2017) show how different approaches on identity on the same topic can lead to completely different results, recalling the well-known paradox of the ship of Theseus (Floridi, 2017). This clarification aims to set the background in which the problem is studied, in order to avoid any misunderstanding.

In this context, the complexity of the urban scene generates the different approaches and fields of study related to urban identity. An inclusive concept that covers both the physical attributes of the city—its urban form or its environmental qualities—and the activities and meanings linked to an urban environment; and these two aspects can be regarded both from the point of view of the single citizen and the one of the whole community (Bernardo et al., 2017; Coelho, 2014).

Another important aspect of this discourse is the variety of disciplines that have approached the topic of identity. Considering only the XX century, these issues have been studied by psychologists and sociologists, anthropologists and ethnologists, geographers, and urban planners. If on one hand the breadth of this concept contributes to a general lack of clarity, on the other hand it has gathered a wide variety of methods and tools that have crossed the limits of their discipline. This consideration is even more relevant in urban studies. Psychology, which made pioneering contributions on individual identity on the first half of XX century (Erikson, 1992; Marcia, 1966), has deepened the links between identity and physical environment and opened the field to environmental psychology and place-identity studies (Proshansky, 1978). Sociological studies on collective memory (Halbwachs, 1997) and city life (Sennet, 1999) have been a constant reference for architecture theorists as Kevin Lynch or Aldo Rossi. Anthropology and ethnology developed new tools and methods for urban analysis, doing urban studies more focused on the observation of urban phenomena and the effective use of urban space. Lévi-Strauss' point of view on city "la chose humaine par excellence" and Augé's concept of non-place are two of the most significant examples of the extent and the mutual relationship between these two disciplines.

If we bring these considerations to urban studies, we can gather that a proper definition of urban identity has to include all the distinctive elements of a city, those that make an urban settlement recognizable from other ones. Urban identity can be analyzed from several point of views, regarding both the form of the city and the different cultural backgrounds. Furthermore, its relational nature makes its construction a dynamic process, subject to continuous modifications based on the relationships between its different components. This makes the problem of urban identity even more relevant in our context, a global ecumene (Hannerz,

1993) where cultures—even urban ones—are subject to unprecedented phenomena of hybridization, that often becomes homologation and leads to a loss of urban identity (Augé, 1993).

The digital revolution has increased the pace of these exchanges and extended the potential impact of these phenomena. If on the one hand the term "smart city" has effectively highlighted the development possibilities given by technological progress, on the other hand it has often been translated into a trade of standard ICT solutions within public administrations. With this in mind, the recovery of the dimension of urban identity—i.e. an "active" urban identity, aware of itself and open to share its knowledge with other cultures—has to address some key points in order to be an useful tool for the improvement and evaluation of urban design.

The first point we are going to present is the relevance of local urban heritage. The term relevance is intended here as a relationship between the community and the urban environment, when buildings or other historical artifacts embody a collective meaning from a historical, cultural, or material point of view. This relevance can be suggested by the number of listed buildings, indicating how many and where are outstanding historical and artistic values; or by the preservation level of historic buildings, which could mean a long-time use; or by the permanence of the historical urban fabric, which remains as a constant presence in the collective memory of the community.

The second aspect to be reviewed is the quality of the use of public space. This can be viewed both as the urban vitality of the streetscape, intended by Jacobs as the signs of urban life present in the pedestrian flows, and as the specific quality of a place, intended as "those dimensions of self that define the individual's personal identity in relation to the physical environment by means of a complex pattern of conscious and unconscious ideas, feelings, values, goals, preferences, skills, and behavioral tendencies relevant to a specific environment" (Proshansky, 1978, p. 155). Another indicator for the quality of public space is the frequency of public events such as religious ceremonies, public meetings, events, and outdoor markets. All these uses suggest a strong connection between the community and the place they inhabit, contributing to make these areas a real "common ground" with a shared sense and meaning.

The last factor is the level of integration of smart projects. A low figure will indicate an area with few smart projects and inadequate exploitation of the potential of ICT technologies, whereas a high level of integration is usually indicated by a high number of smart projects that tailor smart urban solutions on the characteristics of the area. A smart territory leverages ICT technologies to reach the quality of life goals, shared by the community and the local administration.

2 Smart Cities and Urban Identity

The digital transition process of cities generally consists in the optimization of some urban elements through the cognizant use of new digital technologies. In the European Union, this process is linked to the Digital Single Market Strategy (2019–2024) which “aims to open up digital opportunities for people and businesses and enhance Europe’s position as world leader in the Digital Economy” (“Digital transition”, n.d.).

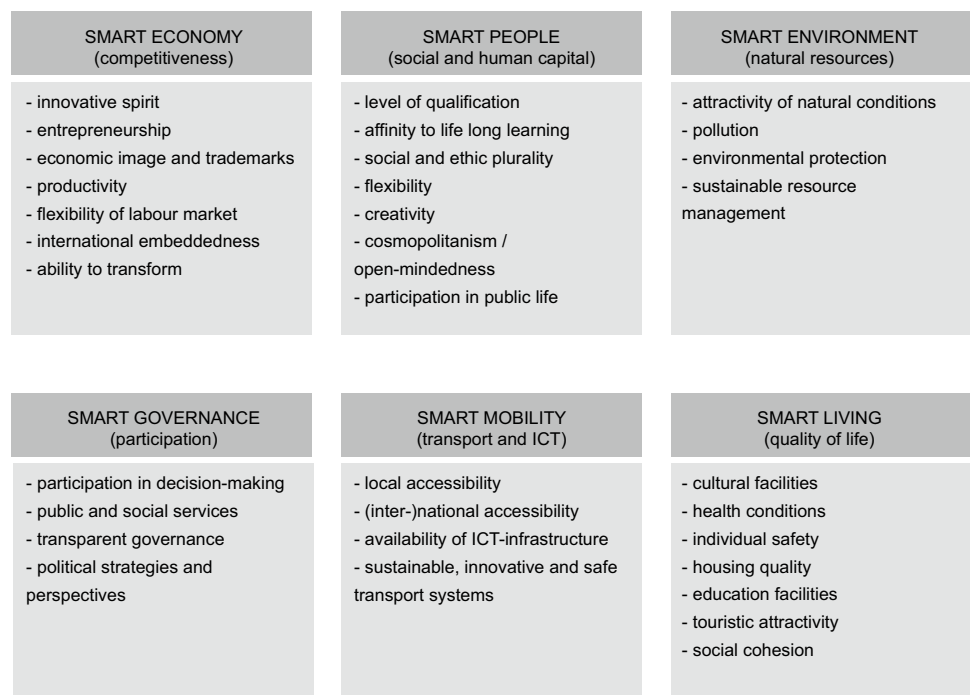
Beyond the general goals of promoting public services efficiency and knowledge exchange, the European Commission has pointed 5 main priorities on the Digital Agenda Toolbox (Sörvik & Kleibrink, 2014): innovative health and social care services, eGovernment, 5G, urban planning, future learning, and skill development. Although these strategic choices aim to improve the quality of life of citizens by selecting key issues related to urban development, this perspective takes little account of urban identity issues. These have often been replaced by digital identity, a procedure for identifying single or community user to access online app and services.

Smart city indexes, which over the years have become one of the main benchmark for the deployment level of urban ICT, indicate this shift in urban identity. Here we will compare three main smart city indexes—ESCI, CITYkeys, and EY Smart City Index—finding how urban identity is treated and evaluated and the connections with the three main issues identified in the previous chapter—cultural heritage, public space, and integration with ICT.

The first index reviewed here is the European Smart City Index (ESCI) (Giffinger et al., 2020), developed by the Spatial Planning Department of TU Wien. Developed in several versions from 2007 to 2014, it was the most relevant urban benchmarking work in Europe in those years, analyzing between 70 and 90 cities in Europe. In this case, the main indicators reflect the key sectors of urban development identified by the European Commission and refer to 6 main areas: smart living, smart environment, smart governance, smart economy, smart mobility, and smart people. These are then divided into 31 factors and 90 indicators, in which the topic of urban identity is reflected partially (Fig. 1).

This index seems to have a loose reference to urban identity, as the main three elements reviewed previously (cultural heritage, public space, and ICT integration) are present only in 6 of the 31 key factors of the index. Cultural heritage is connected to the “tourist” factor and the related indicators “Importance as tourist location (overnights, sights)” and “Overnights per year per resident”. Thus, we can infer that its approach to urban identity issues is limited to the impact that cultural heritage has on the attractiveness of a territory, overshadowing, or taking for granted the other aspects highlighted previously. Public space quality is mentioned in 3 factors of 3 different main areas: “social cohesion”, “local accessibility”, and “participation in public life”. As in the previous field, analyzing the indicator they used will help us in understanding the importance given to the physical environment: even if they consider subjective assessments—e.g. “Satisfaction with access to public transport” and “Satisfaction with quality of public transport”—

Fig. 1 Diagram showing the characteristics and factors of a smart city (edited from Giffinger et al., 2020)



and the theme of social inclusion—“Perception on personal risk of poverty” and “Poverty rate”—there is no indicator that refers directly to the urban fabric. The last part, which studies the ability to integrate smart solutions in urban design, has been defined more on its name than in its indicators. All the six main areas begin with the word “smart”, then the index refers to two indicators: “Availability of ICT infrastructure” and “Innovative spirit”. As in the previous cases, the indicators adopt an approach not directly related to the built environment but to the economic analysis of products and services: R&D expenditure as percentage of GDP, number of computer in households, broadband internet access in households.

The second index we analyzed is the CITYkeys index (Bosch et al., 2020), developed by the VTT—Technical Research Center of Finland in partnership with other European universities. Developed in 2017 and funded with the Creative Europe program of Horizon 2020, CITYkeys develops a series of domains based on the characteristics of the data available at European level such as relevance, completeness, reliability, and measurability (Fig. 2). These are declined both for smart city projects and for smart cities as a whole, with more than 90 indicators for the former and 76 for the latter. This index can be seen as a further development of the ESCI index, filling the gaps with new indicators referred to a larger and different amount of domains. In the CITYkeys index, the key elements of urban identity defined in the previous chapter are widely described. If the Smart Cities Index collects several indicators related to urban heritage and public spaces, this index is more focused on the level of ICT integration within a single project. Here, the level of integration with urban heritage is defined by an entire set of indicators in the chapter “Quality of housing and the built environment”, particularly in “Diversity of Housing” and “Preservation of Cultural Heritage”. The relationship with the quality of public spaces is well described in other sets of indicators: “Quality of housing and the built

environment” and “Attractiveness & competitiveness”. The first includes indicators directly related to Jacobs’ concept of urban vitality, such as “Diversity of housing”, “Ground floor usage”, “Public outdoor recreation space”, and “Green space”. Alongside these indicators, CITYkeys presents again the main indicators of the previous index, relating them more to tourist attractiveness of cultural heritage and to the ability to host events with international appeal. Moreover, the index section dedicated to smart cities indicates the metrics for innovation. The set of parameters of the field “Innovation” measures the ability to create a research network and the ability to create and share knowledge: “Innovation hubs in the city”, “Research intensity”, and “Open data”. The urban dimension of innovation is present in the index dedicated to smart projects, and in particular in the set of indicators “Quality of housing and the built environment”. Here we find indicators that relate very closely to the themes of urban identity, using a broader approach than the index previously analyzed. “Connection to the existing cultural heritage”, “Increased access to urban public outdoor recreation space” and above all “Design for a sense of place” reflect the issues of urban identity within the evaluation metrics of smart projects and smart cities.

The third index is the EY Smart City Index 2018, developed by EY Italy (2018) for Italian cities (Fig. 3). Differently from the previous examples, this index has been developed on a national scale and by a private consulting firm—while the others were co-funded European projects developed by Universities and independent research organization. The choice to include this study is to define a wider background on smart city metrics, showing a different approach to smart city analysis closer to the context of the case study that will be presented in the next chapter. The EY index measures the level of smartness on four main areas—telecommunications infrastructure and networks, sensors, service delivery platform, government applications, and services (48 indicators)—and three additional areas—smart

Fig. 2 The CITYkeys indicator framework (edited from Bosch et al., 2020)

PEOPLE	PLANET	PROSPERITY	GOVERNANCE	PROPAGATION
<ul style="list-style-type: none"> - health - safety - access to (other) services - education - diversity and social cohesion - quality of housing and the built environment 	<ul style="list-style-type: none"> - energy and mitigation - materials, water and land - climate resilience - pollution and waste - ecosystem 	<ul style="list-style-type: none"> - employment - equity - green economy - economic performance - innovation - attractiveness and competitiveness 	<ul style="list-style-type: none"> - organisation - community involvement - multi-level governance 	<ul style="list-style-type: none"> - scalability - replicability

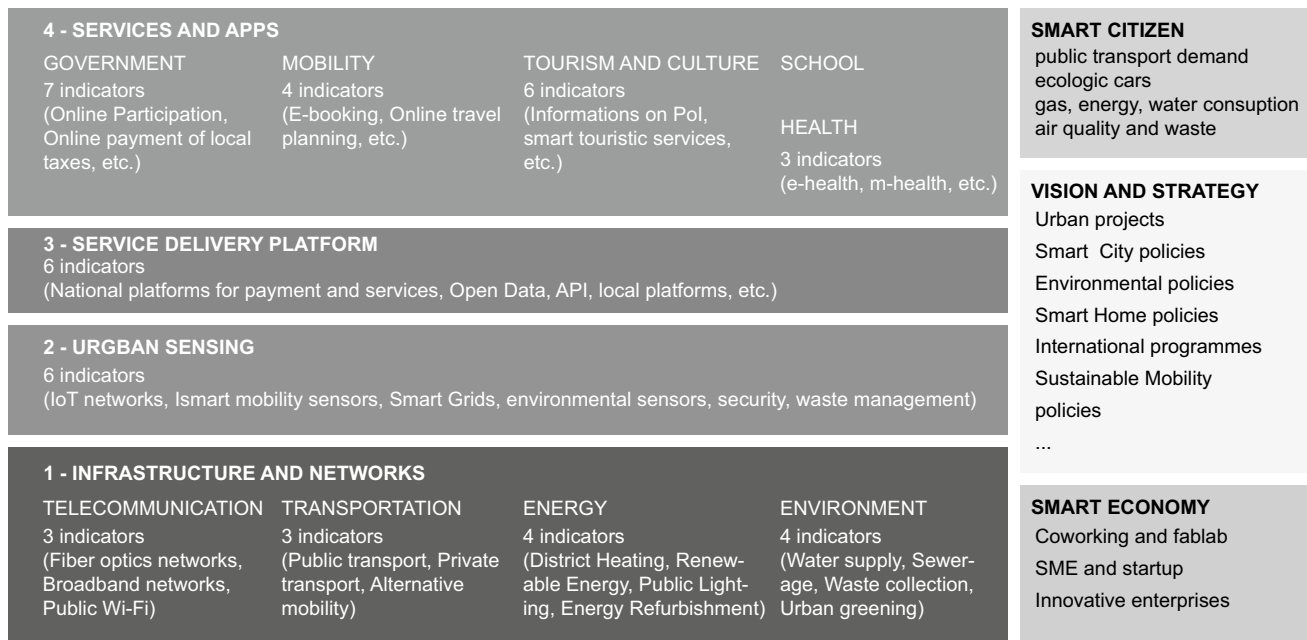


Fig. 3 The EY index indicator framework (edited from EY, 2018)

citizens, vision and strategy, and smart economy (17 indicators). In this case, the relationship with urban heritage is very limited, as this point was taken into account on only one indicator, “Touristic apps”, that considers just the touristic dimension of this topic. Rather than focusing on urban vitality, here the quality of the use of public space is considered as a product-centered approach: the number of streets sensors, the wideness of smart grids, and ICT networks are the main indicators related to this element. The integration of ICT technologies in urban projects is not explicitly considered in the index, as this is based on the number of ICT services linked to the city infrastructures through top-down or bottom-up approaches. In the end, urban identity in EY index has been replaced by digital identity, defining a system of key points that strengthens the technological dimension of smart cities and defining an identity-as-a-service, avoiding a more holistic perspective.

This concise review of the different approaches to identity in the main smart city indexes reveals a multiplicity of methods that can be complementary, combining the standard dimension of identity, linked to place and heritage, with the digital one, linked to services and opportunities. However, we find that CITYkeys seems to be the best index to address the identity issues presented in this paper and to assess the impact of urban projects. Although it is not based on the most common datasets, these indicators link more closely the characteristics of the physical environment to its urban identity, highlighting the role of urban projects in shaping the identity of a place.

3 Smart Mobility Network in Castel Bolognese: Shaping Urban Identity

The case study presented here is located in Castel Bolognese, a small town of 10,000 people in the province of Ravenna, north-east of Italy (Fig. 4). The city was built as a defensive center of the city of Bologna on the Via Emilia (the main roadway of the region) and over the centuries the town has expanded along this road thanks to its intense traffic. Its urban development reflects the importance of this trading route, and the need to control it: the two porticoes running along this road were enclosed by walls at their ends, in correspondence with the old town gates. The historical center, compact and regular, hosts the listed buildings of the town: the Municipal Palace, the main church, and the square Piazza Bernardi/Fanti. This is the center of the town life, with more than 50 public events held every year and actively involving the local community. Despite the compact urban shape and an industrial district less than 5 km near to the center, Castel Bolognese has a strong vehicular traffic that poses a threat to urban safety, air quality, and historical heritage. All these elements affect local, historical, and urban identity, questioning to the role of its mobility strategy.

The applied research here presented is a design proposal for an urban network of innovative cycle routes; it is named BC/CB, a pun with the word bike (BC is read as “bike” in Italian) and the initials Castel Bolognese (CB). The goal of the project is to improve the quality of life of Castel Bolognese’s community through a more sustainable mobility



Fig. 4 Castel Bolognese area

strategy and new urban connections within the city and in its outskirts.

To better understand the mobility behaviors in Castel Bolognese, the research team led a mobility survey to find the main travel behaviors. The datasets are mainly extracted from secondary sources such as mobility sensors, open mobility data and the results of a survey led by the research team about urban mobility and local retail.

The main mobility data outlined several issues. The first one was that despite its number of inhabitants, Castel Bolognese crosses an important vehicular flow along the Via Emilia (also national road SS9), the most relevant regional axis and one of the strategic national backbones. Every day more than 20,000 vehicles travel along it (Municipality of Faenza, 2016) more than the twice the number of inhabitants. The traffic weight transforms it into an element that divides the existing urban fabric, with consequent problems of safety and urban accessibility. The second point was the local train station, which is used frequently. It is a mobility hub of regional importance with 1.300 daily passengers (NCL, 2017), and it is well connected to the historical town centre. The third relevant outcome was the low level of road safety, which in 2018 led to 82 road accidents (49 with severe injuries, 33 with light injuries). These results come evidently by the crossings between low-speed paths and the intense traffic flow of the national road SS9.

Also the mobility behavior survey showed some interesting elements. It was conducted with a questionnaire campaign led by the research team, involving about 5% of the entire population with 569 surveys collected in eight weeks. The results show the dominant role of private car on other forms of conveyance (Fig. 5). More than the 45% of the inhabitants use private car to commute, even if it takes less than 15' (NCL, 2017). Private car appears to be the most popular mean of transport, over public, and slow mobility solutions, showing a behavior deeply rooted in the daily routine of the inhabitants. However, the house-to-school path shows some differences if we compare it against the one from house to work. Even if the private car remains the first choice, going to school by bike or by foot is the second option with a significant increase from winter to summer. This can be explained by three main reasons: the short distances of house-to-school commute, the use of different vehicles between adults and children, the presence of targeted slow mobility projects (e.g. the “walking school bus”, a bottom-up service provided by the local community).

Mapping mobility data and its behavior revealed the great potential for improvement of sustainable mobility. The data showed the contrasting impact of Via Emilia road (SS9) in Castel Bolognese mobility. If on one side there is the opportunity to have a direct connection to the main regional transportation axis, on the other one it creates several issues

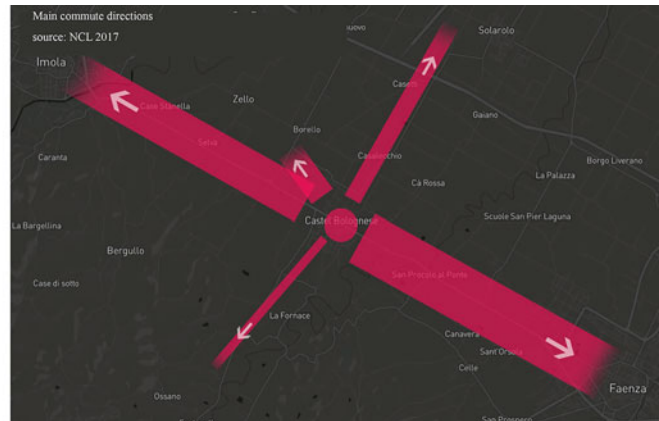
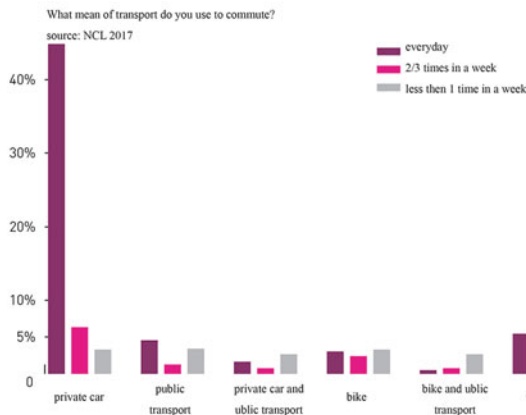


Fig. 5 Extract of mobility analysis in Castel Bolognese

in terms of road safety—especially for kids going to school—and air pollution. This backbone with a double character has an impact on defining the urban identity of Castel Bolognese, connected to the other cities of Emilia-Romagna—mainly Faenza and Imola—but also with its urban fabric cut in two by this axis.

The behavior mobility survey has revealed how the most part of daily transfers are made by private car on small distances, so it would cost a small effort for the inhabitants to shift from using the private car to more sustainable ways, as walking or cycling. Another interesting element collected by the survey is the presence of bottom-up actions, as the walking bus organized by the parents association and a local association called “Amici del Senio” (the name, friend of Senio, comes by the local river) which is also a hiking group that promotes local treks on the historical pathways along the river. These bottom-up experiences revealed how much these actions may have a strong impact in the local community, suggesting to support them with the design process.

During the design phase an extensive mobility survey was conducted to raise awareness and better inform the mobility choices of the community. This was the main goal to improve two essential aspects of urban identity: improving the public space use and making the urban heritage of the town more accessible (Fig. 6).

Intended as an applied research project, BC/CB integrates best practices in sustainable mobility with innovative materials and technological solutions. From an infrastructural point of view, the design scheme acts on both in the urban and extra-urban field. To make cycling the faster and safer mean of transport, the project outlined four actions for the urban context and two for the outskirts.

The urban cycle paths are defined as:

- New cycle paths, designed to enhance the positive aspects of cycling by making them as wide as possible (from 3.50 to 5.00 m) and using materials that are sensitive to touch

and with a stimulating color. To ensure maximum accessibility to this route, the project avoided steps and curbs as much possible;

- Refurbished cycle paths, made with a new surface and light colors to limit the heat island effect and repair asphalt damages;
- New walking school bus paths, defined by high-visibility road markings that differ depending on the width of the roadway and that can be made of different materials (EPDM flooring, rubber, paint) to stimulate young users during the journey;
- Safe and smart crossings, refurbishing some of the crosswalks along Via Emilia with predictive street lights controlled by sensors (to improve cycling safety in dangerous situations, as limited field of view or high vehicular speed);
- Extra-urban cycle routes made up of mixed-use existing roads and new bike paths designed alongside the Senio river banks.

This new infrastructure aims to sew the existing road networks, avoiding the creation of new vehicular roads: the incidence of new roads on the total in urban areas is 27%, with a percentage of refurbished roads of 73%; moreover, the project integrates poorly signed paths giving new importance to bottom-up uses—e.g. the local walking school bus—and increasing safety in the main roads such as the Via Emilia road (Fig. 7).

Regarding the heritage, the new urban network project improves the accessibility to listed buildings and landscape landmarks, fostering the most interesting cultural sites of Castel Bolognese in the provincial and regional context. The network connects natural elements such as the Senio river, naturalistic engineering structures such as the Diga (Dam) Steccaia, historic buildings of high cultural value such as the old mill “Mulino Scodellino” and the town center with the Municipal Palace and its porticoes. These

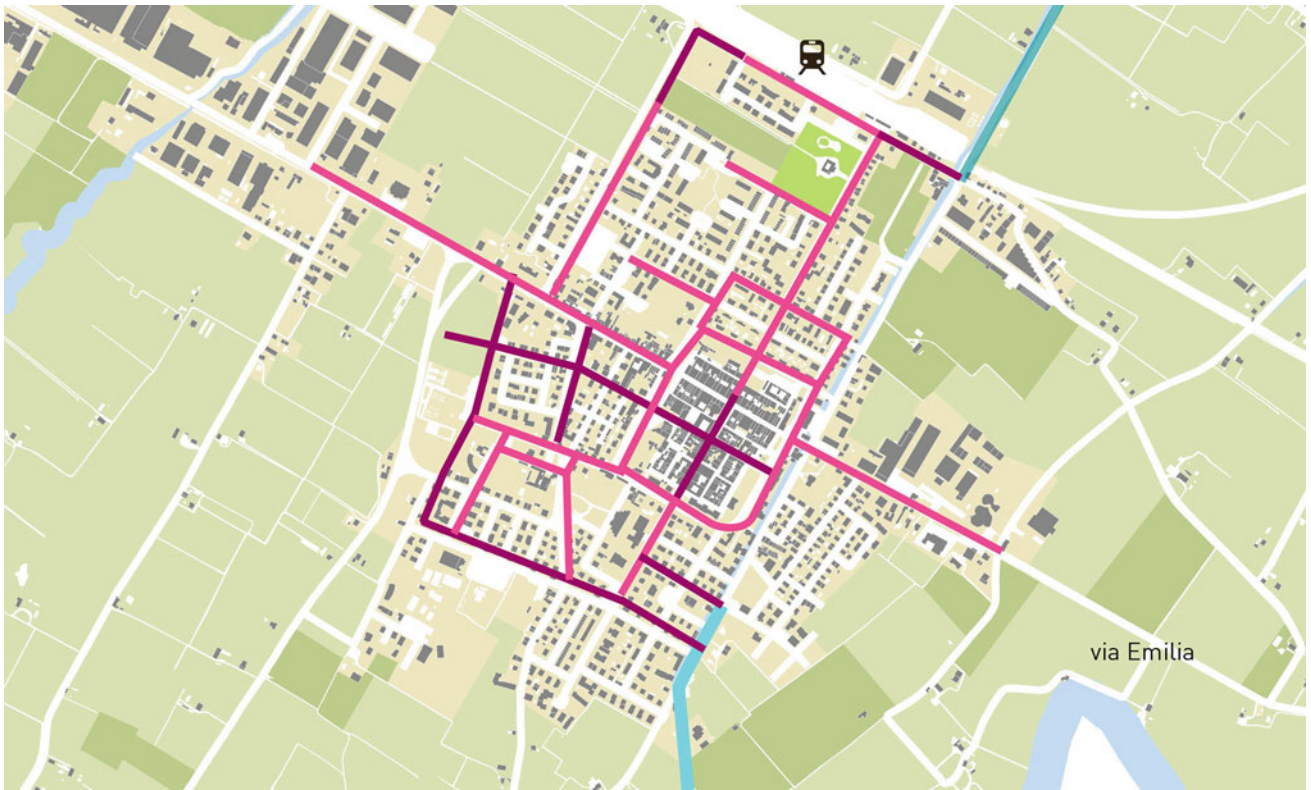


Fig. 6 Smart mobility network. Existing situation

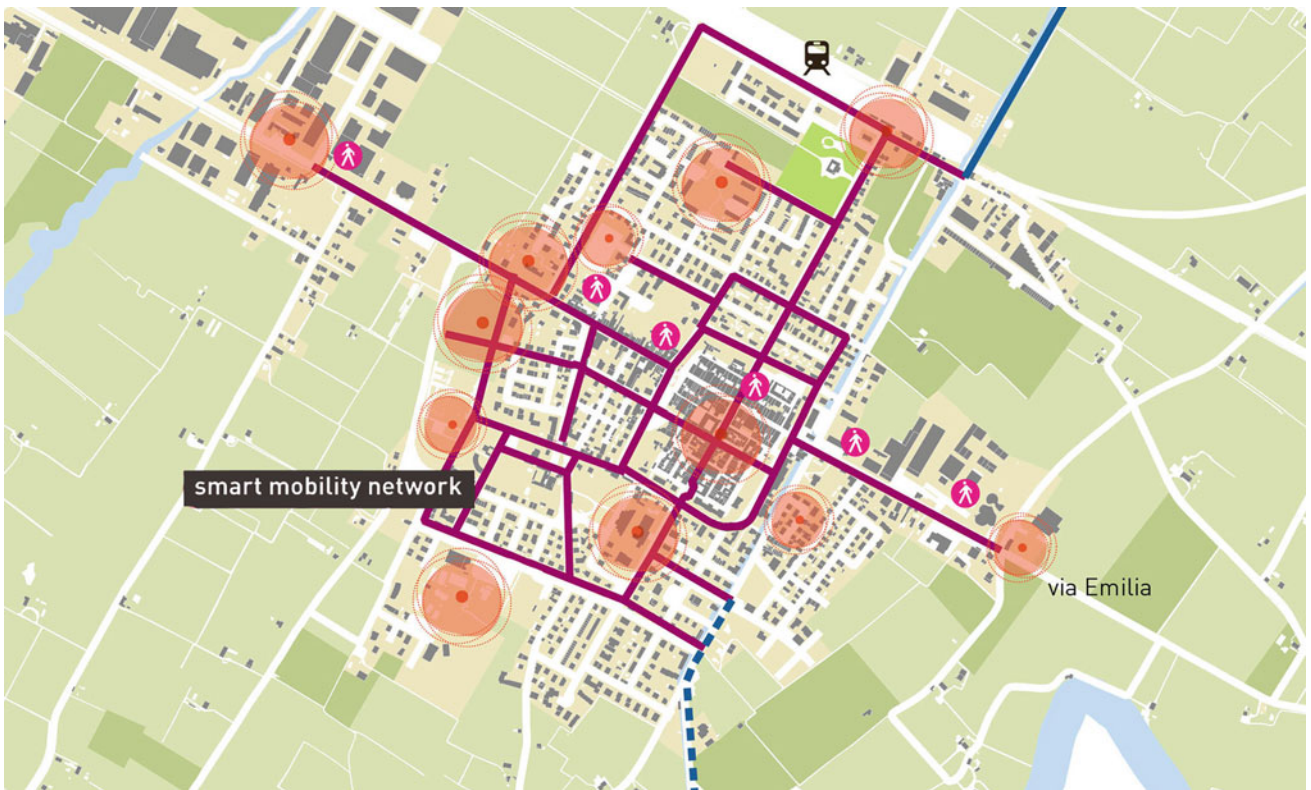


Fig. 7 Smart mobility network. Design proposal

landmarks are integrated with the pivot points of everyday urban life to create a more resilient environment and balance the different city souls. In the urban area, the main points linked with the local heritage are the railway station, intended as an intermodal hub for tourists and residents; Piazza Bernardi/Fanti, the main square (recently refurbished with new paving and tactile paths for visually impaired people); school buildings and local walking school bus, important traffic nodes when the pupils travel to and from school; the sports complex, consisting of a sports hall, soccer and tennis fields, now currently poorly connected to the town centre.

Local culture and services, which play a fundamental role in urban life, are also taken into consideration. On one side, the new sustainable cycle path includes the walking school bus, recognizing the importance of bottom-up experimentations on public spaces; on the other side, it includes this path in the network of the main commercial routes, historical shops and stores, the weekly market. This strategic decision aims to improve accessibility to local business and create new links within Castel Bolognese's community.

This design approach influences urban identity in several ways and addresses the key elements discussed in the previous chapters—cultural heritage, public spaces, integration with IC technologies. Regarding the first point, the project works on the existing road network defining a strong public space infrastructure. This network is therefore seen as a sort of physical platform that provides different connections between neighborhoods and promotes more sustainable mobility options in Castel Bolognese. The smart road signs and the new cycling paths along Via Emilia Road aim to change the double character of this infrastructure—both a link and a cut in the urban fabric—empowering its relational potential by improving road safety and adding new paths connected to local mobility practices. The other cycling paths, combining new and refurbished road sections, provide new links into the existing urban fabric and promote a new commuting behavior. Using this network means also to change the way the urban environment is perceived by its inhabitants—more narrow due to the low speed—strengthening placeness through a more sound connection between physical spaces and local community.

Referring to cultural heritage, the new smart road network improves the accessibility of local heritage, with more cycling paths connecting the landmarks—churches, the main square Piazza Bernardi/Fanti, the Municipal Palace, the via Emilia porticoes—and proposing new urban sequences paced by the ever-changing housing types or ground floor functions. Furthermore, the road network create new connections with the peripheral architectural and landscape heritage, rediscovering it with outdoor walking activities, local events, and fitness trail. The outer ring links the town center with a listed mill on the outskirts (Mulino di Scodellino), and the Senio river, a natural element with great

historical value. Furthermore, the smart road network aims to support local actions and services, providing new and safe paths for the local walking school bus—a very successful bottom-up initiative—and connecting the main stores and shops, currently weakened by the negative side effects of the traffic along the Via Emilia.

This network combines urban design with IC technologies and experimental materials. This combination has been made using technological solutions tailored to the project and its scale, quite different from the common narrative of smart cities, focused on high-end ICT solutions implemented in big cities. After a careful context analysis, the design proposal focuses on one main technological solution and one main experimental material. The technological solution is a predictive road signal system, which connects wireless sensors with LEDs installed in the road surface that light up before the pedestrian crosses the road. The other main technological innovation is the choice of a light-emitting material in specific sections of the road network. This material glows at night, giving a new identity to the existing road network and allowing for savings in urban lighting.

This project description shows how the proposed design actions, intended to improve the existing urban network, frame a new urban identity for Castel Bolognese, defining new urban relationships with local heritage, public spaces, and IC technologies. These relationships add new layers on existing urban identity, connecting it with more sustainable and resilient practices. This smart network can therefore be intended both as a road network and an identity network, revealing how the application of IT technologies in town or cities have a strong impact on urban identity.

4 Conclusions

The BC/CB project developed for Castel Bolognese presents some elements potentially interesting for the current debate on urban identity.

First of all, the creation of a smart mobility network in a small town highlights how it is possible to apply smart solutions even in contexts different from the usual smart city narrative. Secondly, the context and the available resources suggested to look for a different way of being “smart”, combining cutting-edge technological elements—special materials for urban pavements—digital maps, sensors, and predictive signaling systems with careful attention to local identity. The characteristics of the existing infrastructural network, the qualities of the local urban heritage, the bottom-up initiatives have been integrated into the design scheme as part of the local identity to be enhanced and integrated into a broader framework.

The learning-by-doing process during the design phase has pointed some relevant issues in order to create effective

design solutions. First of all, sharing objectives and strategic choices during the early phases with the local administration and stakeholders was of primary importance, as it allowed to better define the expectations of the local community and to complete the field analysis with many useful information. Another key point was the survey and the analysis of the existing mobility, which made possible to quantify the mobility behavior of the inhabitants and their flows. This allowed a more precise assessment of the potential impact of the design solutions, indicating the most relevant actions on sustainable mobility and their consequences in urban identity.

The project is a synthesis of all these elements, outlining a smart mobility network able to have a positive impact on the processes to reconstruct urban identity. It creates a new facet of Castel Bolognese, which enhances the local context with the use of “smart” tools such as sensors, data, and maps digital.

As highlighted in the previous chapters, these aspects can also be useful for other historic centers. The three dimensions of urban identity—the relevance of cultural heritage, the use of public space, the integration of smart projects—can be used in all cities and towns, describing the general aspects of the city’s historical character. Thus, defining the relationship between urban heritage and local community can orient the urban analysis and the project, taking into account the issue of urban identity and improving the sense of place of the local community. A possible area of research development may be to investigate the most effective dataset and indicators for describing these phenomena, starting from the previous literature review. Another possible follow-up research could investigate the role of technology in small towns and the possible combinations of new digital technologies within the urban project.

This applied research project shows how a critical approach to data and smart city indicators contribute, even in small towns, to improve local historical identity.

Acknowledgements In this paragraph are reported the main project credits. The strategic project, coordination activities, and innovative urban cycle route project has been designed by Next City Lab research group of the University of Ferrara—Prof. Arch. Gabriele Lelli (coordinator) Arch. Marco Negri (project manager) Next City Lab (working team)—and the extra-urban section project has been designed by GEAprgetti studio, especially Ing. Loris Venturini and arch. Martina Massari. Regarding the participatory meetings, the main contribute came from the Municipal Council of Castel Bolognese, especially from

Dr. Luca della Godenza, from the local parents associations and Mr. Domenico Sportelli of the cultural association “Amici del Senio”.

References

- Augé, M. (1993). *Non-luoghi. Introduzione ad una antropologia della surmodernità*. Elèuthera.
- Bernardo, F., Almeida, J., & Martins, C. (2017). Urban identity and tourism: Different looks, one single place. *Proceedings of the Institution of Civil Engineers—Urban Design and Planning*, 170(5), 205–216. <https://doi.org/10.1680/jurp.15.00036>
- Bosch, P., Jongeneel, S., Rovers, V., Neumann, H., Airaksinen, M., & Huovila, A. (2020, August 9). *CITYkeys indicators for smart city projects and smart cities*. Eurocities. <http://nws.eurocities.eu/MediaShell/media/CITYkeysD14Indicatorsforsmartcityprojectsandsmartcities.pdf> (09/08/2020)
- CFR—Next City Lab (2017) *Castello++ smart town planning (Research report)*.
- Coelho, R. (2014). *Lugares Que se Constroem: Identidade e Conteúdos da Identidade de Lugar. Um Estudo no Periurbano da Area Metropolitana de Lisboa* [M.Sc. thesis, Evora University]. Evora University Research Repository. <http://dspace.uevora.pt/rdpc/handle/10174/23123>
- Digital Transition. (2020, August 7). *UIA—Urban Innovative Actions*. <https://www.uia-initiative.eu/en/digital-transition>
- Erikson, E. H. (1992). *Gioventù e crisi d'identità*. Armando Editore.
- EY Italy (2018) *Polis 4.0. Rapporto Smart city index 2018*. http://www.smart-cities.eu/download/smart_cities_final_report.pdf (07/08/2020)
- Floridi, L. (2017). *La quarta rivoluzione*. Raffaello Cortina Editore.
- Giffinger, R., Fertner, C., Kramar, H., Kalasek, R., Pichler-Milanović, N., & Meijers, E. (2020, August 7). *Smart cities. Ranking of European medium-sized cities. Final report*. Smart Cities. http://www.smart-cities.eu/download/smart_cities_final_report.pdf
- Halbwachs, M. (1997). *I quadri sociali della memoria*. Ipermedium Libri.
- Hannerz, U. (1993). *Esplorare la città. Antropologia della vita urbana*. Il Mulino.
- Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology*, 3(5), 551–558. <https://doi.org/10.1037/h0023281>
- Municipality of Faenza. (2016). *Linee di indirizzo per il piano urbano della mobilità sostenibile Faenza 2017–2030*. (G.C. 137/2016 annex 1). <http://www.comune.faenza.ra.it/Guida-ai-servizi/Piano-Urbano-della-Mobilita-Sostenibile-Faenza-2017-2030/Linee-di-indirizzo-per-il-Piano-Urbano-della-Mobilita-Sostenibile-di-Faenza-2017-2030>
- Proshansky, H. (1978). The city and self-identity. *Environment and Behavior*, 10(2), 147–169. <https://doi.org/10.1177/0013916578102002>
- Sennet, R. (1999). *Usi del disordine. Identità personale e vita nella metropoli*. Costa & Nolan.
- Sorvik, J., & Kleibrink, A. (2014). *The digital agenda toolbox*. EUR 26549. Publications Office of the European Union.



Urban and Architectural Identity of Mosul. An Analytical Background for City's Reconstruction

Domenico Giuseppe Chizzoniti, Flavio Menici, and Tommaso Lolli

Abstract

The city of Mosul dramatically represents a paradigmatic case where a condition of pervasive destruction of the built environment has moved the scientific research towards the investigation of possible precautionary strategies in safeguarding those structural characteristics that define the identity of the city. The study here displayed evaluates the elements that compose the urban phenomenon as operational and proactive tools capable to suggest criteria for a critical reconstruction of the urban structure, to integrate a consolidate historical identity with a new architectural intervention. Specifically, the aim of this research consists of detecting how the city of Mosul, although being a city of Islamic foundation—and thus displaying specific morphological and typological characteristics—has developed peculiar aspects affected by other cultural, religious, and geographical factors. And that is recognizable, for instance, in the settlement relationship with the Tigris river, and, in particular, in the construction of a monumental riverfront that often deforms the typical structure of the enclosure, otherwise persistent in the Islamic settlements. Then, those processes identified at an urban level will be extended to a typological one, trying to identify possible relationships between buildings and urban form. As a result, we expect to rebuild a formal and settlement identity of the city of Mosul by combining its individual and peculiar ways of

growth, both architectural and urban. And this would have the purpose of enriching the elements to be taken into consideration in the process of defining an operational methodology capable of leading the practice of design towards more aware and responsible ways in dealing with the reconstruction process.

Keywords

Urban identity • Critical reconstruction • Urban transformation

1 Introduction

In recent years the architectural heritage of the city of Mosul has been the object of continuous and deliberate violence due to the war against ISIS, as widely reported and catalogued by international organisations such as UNESCO and Un-Habitat (*Initial Planning Framework for the Reconstruction of Mosul*, 2018); mutilation and destruction have mostly affected the historical heart of the city, the Old City, since its morphological conformation ideal for the perpetuation of guerrilla warfare and, as such, resulting the first theatre of battles. It should be noted, however, that the current scenario is paradoxically the latest in a series of dramatic events that threaten the maintenance and preservation of Iraq's collective, immaterial and architectural heritage. From the architectural plans for Baghdad in the early 1980s to define the face of Saddam's new state—interrupted by the war with Iran—to the two Gulf wars, followed by plans for conservation and reconstruction—once again interrupted by the internal conflict with ISIS—the history of contemporary Iraq has always been characterised by a deep political instability that over time has nourished internal conflicts between the different cultural and religious realities composing the complex mosaic of Iraqi society, so as to keep constant the possibility that these social frictions

D. G. Chizzoniti
Architectural Composition at Architecture, Built Environment and
Construction Engineering Department, Politecnico di Milano,
Milan, Italy

F. Menici
Architecture and Building Construction Architecture, Built
Environment and Construction Engineering Department,
Politecnico di Milano, Milan, Italy

T. Lolli (✉)
Department of Architecture and Design, Università La Sapienza,
Rome, Italy
e-mail: tommaso.lolli@uniroma1.it

may turn into real armed conflicts. What is most compromised by this political volatility, as well as primarily the social and civil fabric of the nation, is also the collective patrimony, both physical and intangible, that can be traced back to it, the architectural fabric that defines the identity and recognizability of urban structures, not necessarily purely monumental. The research, therefore, does not pursue a contingent and emergent design solution, but rather the definition of certain reference parameters for the identification of cautionary strategies based on the investigation and selection of typical elements and local generative processes aimed at protecting and maintaining urban identity.

2 Objectives and Strategies

The objective of this paper is therefore the proposal of an experimental way to define a methodological approach that captures from the context of origin its generative and representative guarantees: it is our conviction that in the urban fabric lies the possibility of tracing elements that outline a latent and not necessarily material identity, and that it is the project's task to investigate and select its possibilities of recomposition. With this objective in mind, an attempt will therefore be made to outline a historical introduction to the city's architecture that highlights certain structural characteristics of the urban fabric. However, it should be pointed out that recourse to history does not have a justifiable purpose in itself, but rather the objective of unravelling the city's constituent processes and outlining the *cultural environment* of reference—as Ernesto Nathan Rogers states: “considering the environment means considering history” (Rogers, 1955)—specifically articulated in two directions: history as an instrument for verifying the search for a *consonance* between the architectural project and its context, and as such the appropriateness of its outcome in terms of identity, and, on the other hand, as an operational and analytical tool for the context of origin. For the first point, it is useful to add the notion of history as collective memory, quoting directly Aldo Rossi who writes: “the city is the *locus* of collective memory [...]. It is likely that this value of history as collective memory, understood as the relationship of the collective with the place and the idea of it, will give us or help us to understand the meaning of the urban structure, of its individuality, of the architecture of the city which is the form of this individuality” (Rossi, 1966, p. 170–2). On the other hand, history is the only possible theatre for investigating the relationship between building typology and urban morphology, with the aim—operational and procedural—of grasping its substantial generative logic (Aymonino, 1977).

3 Mosul

In an attempt to trace a brief history of the city, it must be said that the sources on Mosul are not as exhaustive as those for other Islamic cities (think of Baghdad in Iraq or the Syrian cities of Damascus and Aleppo); in spite of this, we will use comparisons between these cities as a tool to define and recognize some settlement and urban growth modalities. The primary source of reference, as also quoted by the authoritative Encyclopaedia of Islam (Honigmann et al., 2012), is the second volume of *Archäologische Reise im Euphrat—und Tigris—Gebeit* by Ernst Herzfeld and Sarre (1920), which has broadly traced an urban history and collects a survey of the main monumental emergencies of the city.

Little is known of the ancient settlement history of Mosul, as historiography has always favoured the Assyrian city of Nineveh, which lies on the opposite—eastern—bank of the Tigris River. What is assumed with relative certainty about the pre-Islamic period is that there was a settlement at the bridge to cross the river, a monastery—today known as Mar Isha'ya—around which a small settlement and some activity on the hillside of Bash Tabiyah grew up. The city is therefore configured with some elements typical of the settlement dynamics of cities of an Islamic foundation, such as the construction of protective walls that sedentarize the *amsar* military camps. A first important datum comes from the survey of how the walls adapt to the morphology of the river territory and approach it, identifying a first directionality (Herzfeld describes the road parallel to the river as the main road of the ancient Mosul); in a first period, from the hill relief of Bash Tabiyah there was the main entrance to the city, important also from a commercial point of view, as the presence of an ancient market would testify. If the commercial access then gradually moved to the Bab Sindjair gate, thus creating a connection perpendicular to the river between the gate and the bridge, it remains evident that the riverfront still hosts a series of monumental emergencies, which together can legitimately be read as a proper *monumental riverfront* (Fig. 1). As can be seen in the proposed cartography, parallel to the river can be identified both buildings used for Islamic worship (Imam Yahya, Shaikh al-Satt mosque, Khidr Ilyas mosque), both Christian religious buildings (Tahrat Miryam, Mar Ishaya), and “secular” buildings such as the Qara Sarai (former Governors' Palace), the main Souq and Ottoman-era government buildings, as well as numerous tree-lined gardens. It can therefore be assumed that the presence of the river has two main implications on the urban fabric that constitutes the city, a typological influence and a morphological conditioning. From



Fig. 1 The monumental riverfront and its monuments (author)

the morphological point of view of the city, we can see how the presence of the river, and therefore the presence of a constraint in the crossing—Hertzfeld reports the presence of only five historical bridges crossing the Tigris in Iraq—has determined the separation of the main mosque, Al Nouri, from the Souq, located instead near to the bridge. This arrangement within the urban fabric is quite atypical in Islamic cities: although the operation of generalizing settlement mechanisms for a world as vast as the Islamic one is risky, Stefano Bianca himself recognizes an Islamic characteristic feature in the proximity between the main Mosque of the city and the main souq: “Markets always occupied a prominent position in the city centre in conjunction with the Friday mosque and related social welfare buildings. The strong interaction between religious and commercial activities was explicitly endorsed by the Qur’an, and it became one of the hallmarks of the traditional Muslim cities” (Bianca, 2000, p. 123–4). If we take for example two distant cities such as Fez and Aleppo (Figs. 2 and 4), we can see how this proximity is effective, and essentially determines the centre of the city, around which all the other cells—

and local markets—of the housing fabric arise. On the contrary, Mosul separates the two urban elements and articulates them on the street perpendicular to the river, thus setting a central axis. It is also interesting to compare the historical maps between the Old City of Mosul (Fig. 3) and Rusafa (Fig. 5), the historic walled nucleus of the city of Baghdad, from which the same distributive logic can be deduced: which makes it possible to identify an urban morphology, if not typical at least recurrent, of the urban settlements on the Tigris River (Figs. 6 and 7). The positioning of these representative institutions on the Tigris River leads Bianca to consider the river as a city infrastructure: “The central suq complex [...] was the focal point of the urban system, where other spines coming from the shrine of al-Gailani and from the eastern gates of Bab al-Thalass'o and Bab al-Wastani converged. The central souqs were accessible from the Tigris, which functioned as the main transportation axis of the city. Attached to the Mustansiriya was a customs station, from where a pontoon bridge provided a direct connection with the al-Karkh quarter on the other side of the river”. A further characteristic of Mosul, on the other hand, is the location of the

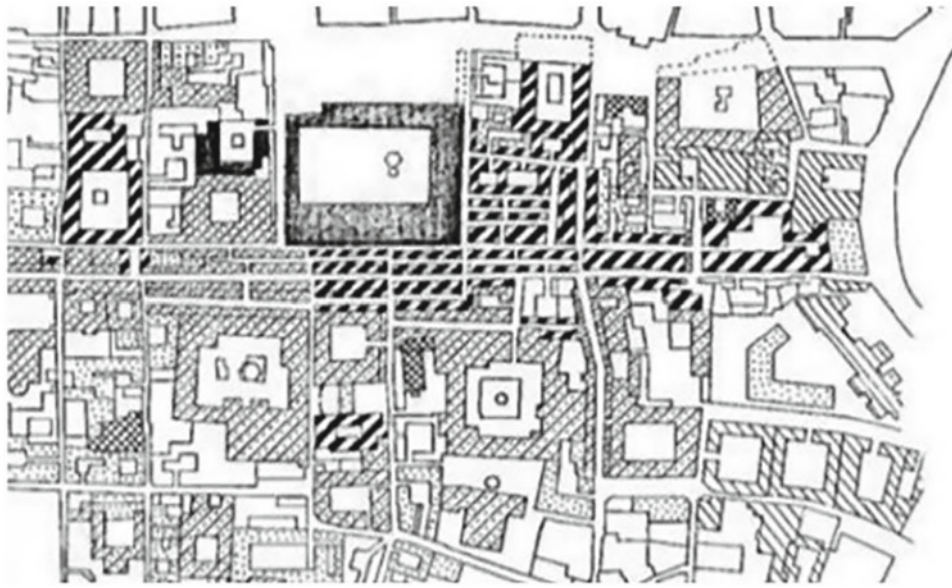


Fig. 2 Aleppo (Bianca, 2000)

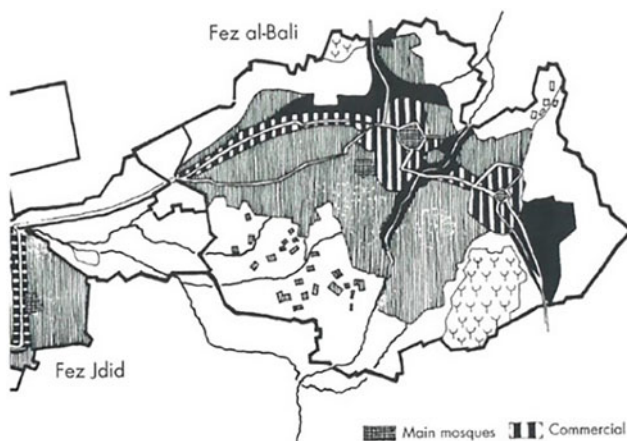


Fig. 3 Mosul (author)

governor's palace outside the historical perimeter of the walls: if the choice in itself is not surprising—in a certain period it was a common solution to move government buildings away from the popular residential fabric to avoid riots—the precise location overlooking the river, to the south of a portion of the residential fabric and one of the three historically most important mosques in Mosul, can be further evidence of a privileged relationship with the river, even at the expense of being outside respect to the fenced perimeter so typical for the Islamic world. In this position, we also find the mosque of Khidr Ilyas, a conceptual hinge that allows us to introduce some typological considerations—as well as confirming what has just been written on the position of monumental buildings *extra moenia*. The mosque is



Fig. 4 c Fez (Bianca, 2000)

mentioned by Hertzfeld as one of the three most important ones together with Al-Nouri and Shaik al-Satt; the position outside the walls could indicate the presence of a different “communal” entity, later merged in Mosul. The typological question cannot ignore the close interrelation with the historical walls, which, in the case of Mosul, directly overlook the Tigris River, as shown by the historical images and drawings. The case in question, in particular, offers an unusual solution: what emerges from the historical images and written testimonies—unfortunately, a plan prior to 1916,



Fig. 5 Baghdad (Bianca, 2000)

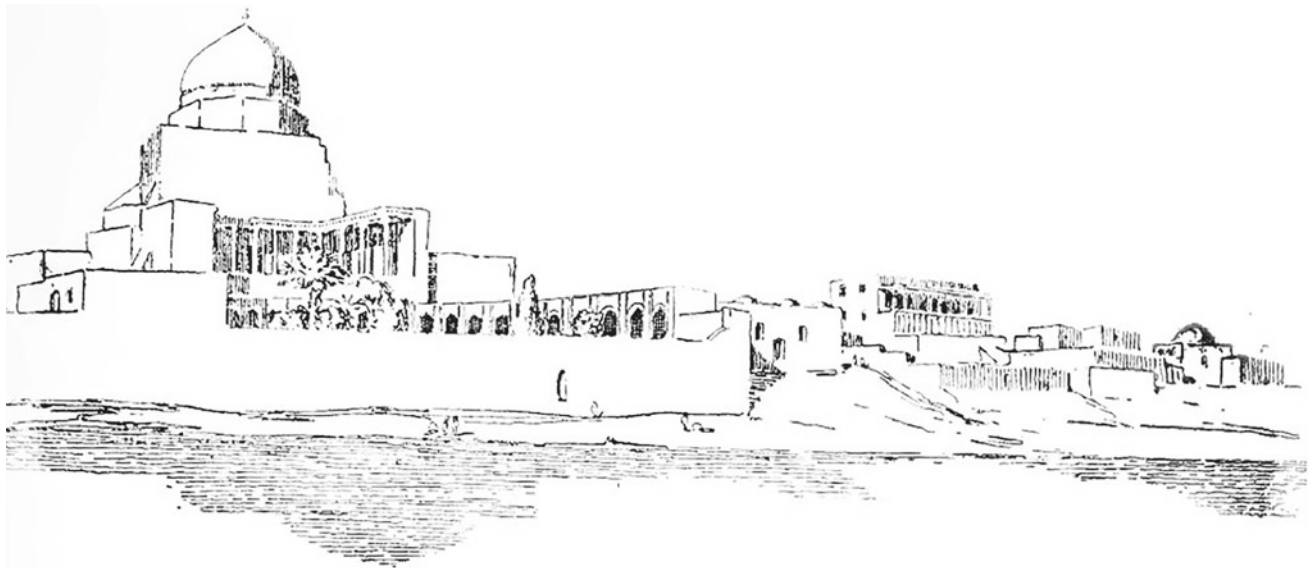


Fig. 6 Khdir Ilyas Mosque (Herzfeld & Sarre, 1920)

when the mosque had been manipulated—seems to open directly onto the river. Hertzfeld himself, while doubting the actual multi-storey solution reported in the drawing, has no doubts as to the correct position and layout. The opening of the “fourth side” of a courtyard, therefore, seems in some way to suggest the consideration of a further typological definition of Islamic enclosures and courts: not only walls, *riwaqs* (porticoes) and *iwans* to delimit and protect the

interior space, but also—in the presence of suitable territorial conditions—natural limits. The accentuated difference in height separating the level of the city from the riverbed makes it possible to close off a building even without using devices limiting its view of the outside. The integration/compensation of the city walls in the building fabric is demonstrated by two other typological conditions, the first of which is that of the souq, in which the photos



Fig. 7 The Souq, photo from the river

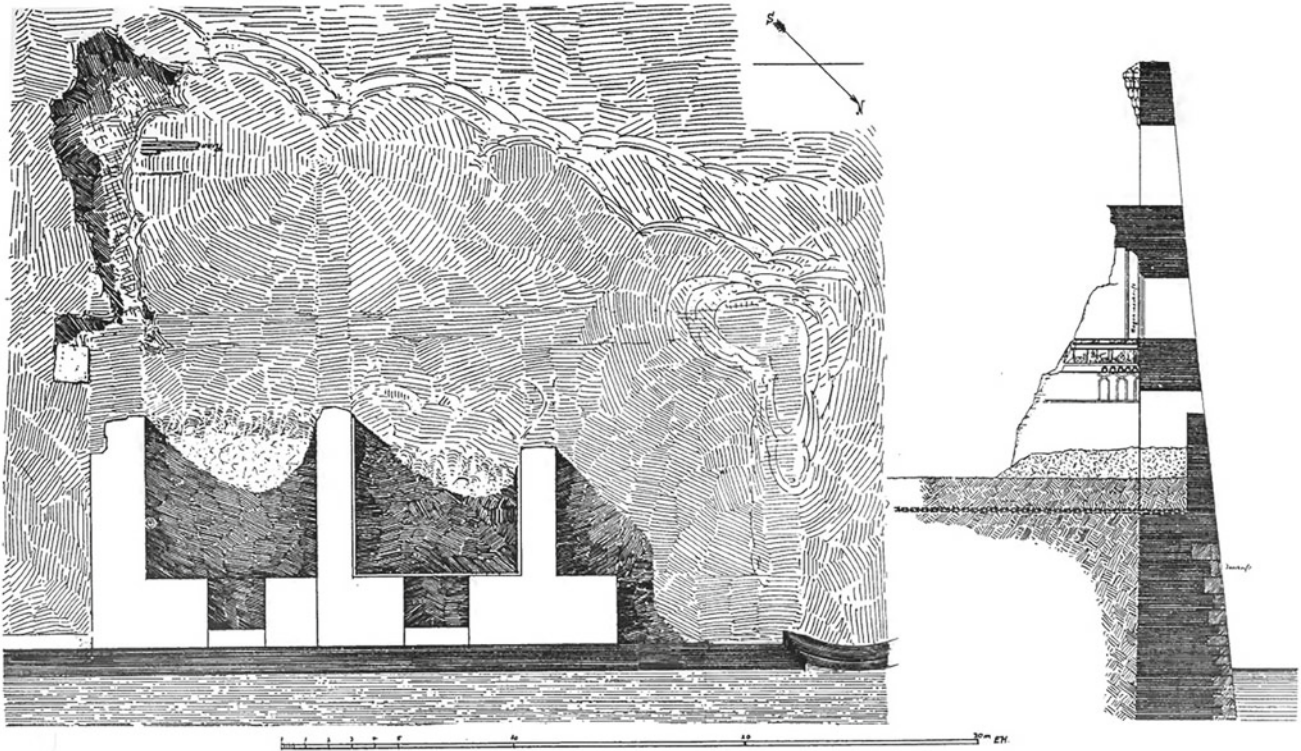


Fig. 8 Qara Sarai palace, plan and section (Herzfeld & Sarre, 1920)

show a close relationship—not only visual but also commercial for river transport—with the watercourse, resulting in a long, accessible portico overlooking the river. Further north, on the other hand, there is a clearly structural

relational modality with the walls, that of the Qara Sarai (Fig. 8) and Imam Yahya (Fig. 9), in which there is a substantial continuity with the walls themselves, either coplanar or mediated by the presence of buttresses.

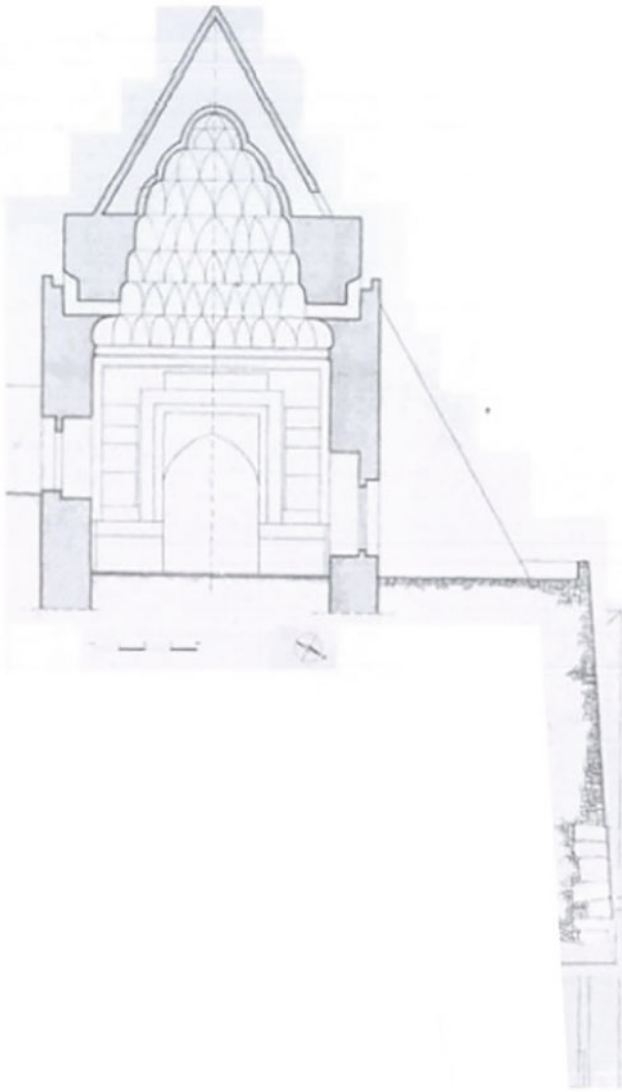


Fig. 9 Imam Yahya Shrine, section (Al-Kubaisy, 2010)

4 Preliminary Evaluations

Before drawing up any kind of evaluation, however, it must be said that Hertzfeld himself, as an archaeologist, questions the material authenticity of the buildings; instead, what seems to maintain a considerable testimonial value is generally the historically reliable location and the planimetric dispositions: therefore, the settlement and relational system of the urban body as a whole. Despite the subsequent overlapping of new infrastructures in time—which, as for many other Islamic cities, have often compromised much of the urban fabric—it remains evident, both at the level of urban form and typological solution, how the presence of the river has conditioned the development of the city. A city that was born historically specular with respect to Nineveh,

where the river is the ideal axis of symmetry; that subsequently deforms its wall perimeter to suit the river and, occasionally, comes out of it, integrates it, breaks it. In the uncertainty of historical sources what seems to emerge is deep integration between the city and the river, which is also reflected at a constructive level in the appropriation and integration between the civil and religious construction, the wall and the riverbed.

5 The Forms of Tradition

If the previous paragraphs analyzed the permanent elements of the urban phenomenon, a “linguistic” and identity question now opens up, involving both the figurative and typological data of the buildings and their relationship with tradition. But what are these traditional elements, how can they be translated operationally into an architectural project? In an attempt to identify some eligible criteria with which to operate in the city of Mosul, and more generally, in the environmental context of the Islamic city, we should remember how, after World War II, the theme of the relationship between tradition and design was the subject of an investigation by internationally renowned architects such as Hassan Fathy, Rifat Chadirji or Mohammed Makyia. Their experimentation moves towards the research for a dialogue with the formal expressions of local architecture that aims at overcoming the limits imposed by an imitation of the figurative and spatial formal vocabulary of the modern movement. Specifically, it seems interesting to report some design expedients made by Hassan Fathy (Figs. 10 and 11) in which the overcoming was made possible precisely by admitting the elements of the architectural tradition, both figuratively and constructively, as factors still able to play a decisive role in the construction of the physical environment.

These experiences, and in particular Fathy’s experimentations, show us how operating in continuity in so-called Islamic cities requires the recovery, first of all, of a human dimension within the project, in a sense that the aggregation of spaces occurs not according to a functional but perceptive logic, leading the user from the domestic to the urban environment, from inside to outside, always maintaining a proportion to the human scale (Steel, 1993). In other words, to organize the space according to the Islamic tradition would therefore mean to build the proportions and the disposition of the rooms according to qualitative needs that transcend the functional data. On the other hand, architecture in Islamic territories is characterized precisely by the cultural primacy of form over its intended use, that is, the primacy of the spirituality of human life over technological and functional instances (Grabar, 1973). Observe, for example, the buildings designed by Fathy, where it is possible to grasp a primary functionality of the spaces, expression of a spiritual

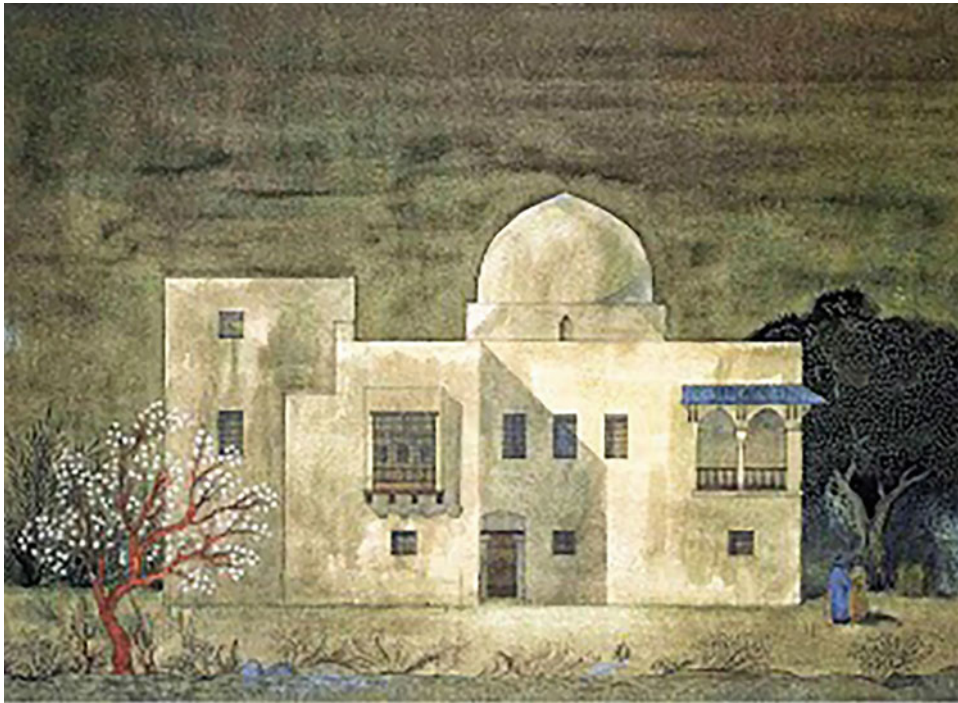


Fig. 10 Fathy, facade study for a country house (Richards, 1985)

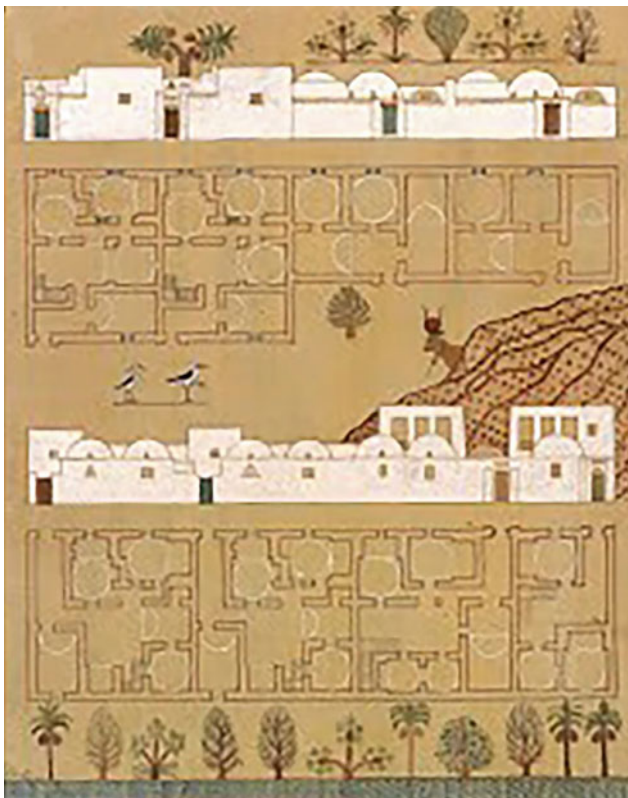


Fig. 11 Fathy, Village housing (Richards, 1985)

need even more than material. Indeed, how Fathy organized the architectural space seems to retain the inclination to convey a movement from a private sphere to the urban domain towards a succession of domestic spaces. Indeed, what transpires from his architectures is a constant presence of a hierarchical organization in the planimetric layout according to a main central core, around which are grafted a heterogeneous set of spatial units. Therefore, we are not mistaken if we admit that Fathy conceived the figuration and typology of the buildings in such a way as to respond mainly to the primary needs of Islamic culture—the care of the interior spaces, the division between public and private places, etc.—rather than to needs considering contingent such as, for example, the subdivision of the rooms of the house by functional activities (Richards, 1985; Steel, 1973). It would be necessary to remember how, starting from considerations of typological nature, Fathy always adds reflections on local construction techniques and how these techniques have influenced the construction of the building's figuration (Fathy, 1964). The building tradition in Middle Eastern countries has imposed spatial constraints on the evolution of the architectural phenomenon, building catalogues of formal solutions that, over time, have become recurrent figurative elements of the local architectural culture. In these contexts, operating in continuity with the evolution of the architectural phenomenon would therefore

require a deep awareness not only of the generative principles of the architectural form but also of local construction techniques, which is the means of production of traditional forms. It does not mean crystallizing the design process around pre-constituted formal models, limiting the creative path to a juxtaposition of these models according to planimetric schemes dictated by aesthetic-functional instances. Instead, it would be appropriate to rediscover the figurative potential that these techniques are still able to express through experimentation aimed at overcoming more traditional formal expressions, rather than an uncritical use of elements belonging to the catalogue of history.

6 The Form of the City

These considerations allow establishing operational criteria with which to intervene in the reconstruction of the old city of Mosul, integrating those contextual factors taken from the study of the physical environment and urban morphology to those design principles compatible with the Middle Eastern architectural tradition. To these data, it is now necessary to add an investigation into the typological and constructive

qualities that have characterized the architecture of the city of Mosul over time, not only concerning the main monumental emergencies but also for the residential fabric that represents in quantity the element that contributes most to define the urban form. The reconstruction of a section of the historical city would require the recognition both of the settlement principles with which the main monumental emergencies are organized in the urban space—and here we are referring to those modes of land occupation that determine the relationships between residence and monument—and of the invariant elements that characterize the typological organisms of the residential fabric.

As often happens in Middle Eastern cities, the residential unit is articulated around a central courtyard (Fig. 12), the only real element of distribution of the rooms, which can be accessed through an entrance located at the intersection between the two sides of the courtyard. The ground floor overlooks the rooms dedicated to family life, often crowned by a loggia placed on a raised level that identifies the representative space of the house. A system of vertical connections located directly in the courtyard provides access to the second floor, used to host the family rooms (Al-Kubaisy, 2010). The typological invariant consists precisely in this

Fig. 12 Typological layout of historical houses in Baghdad and Mosul (author)

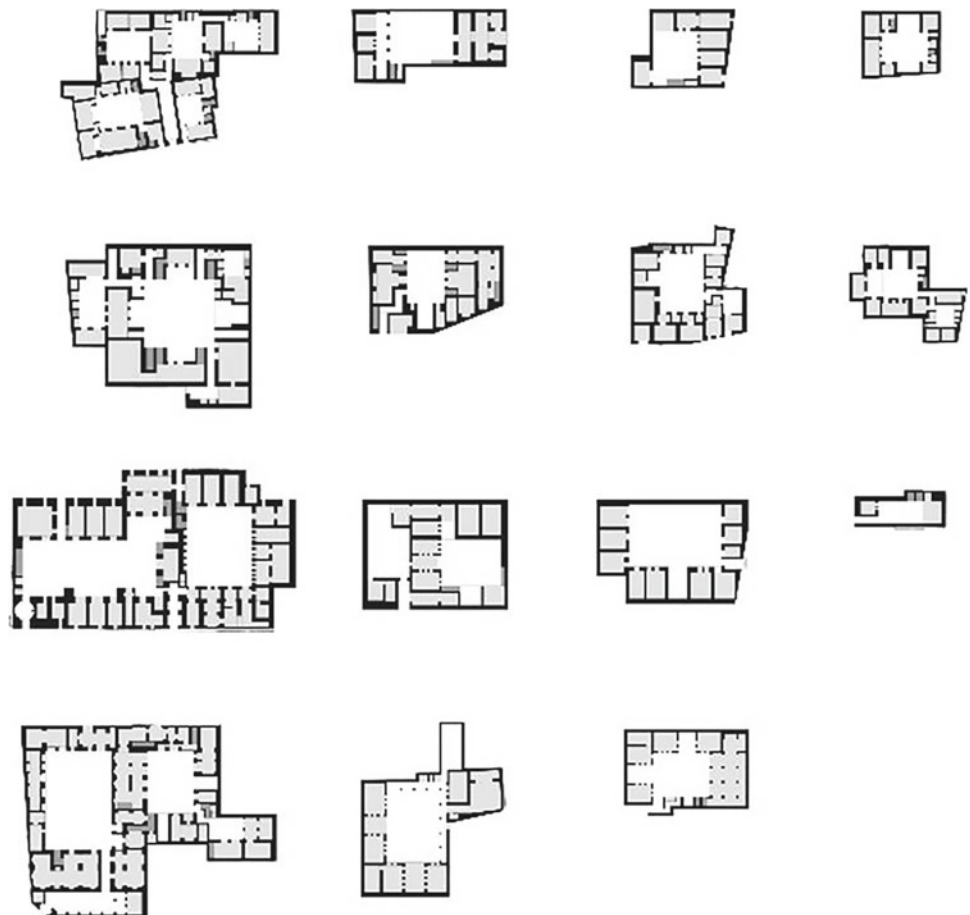
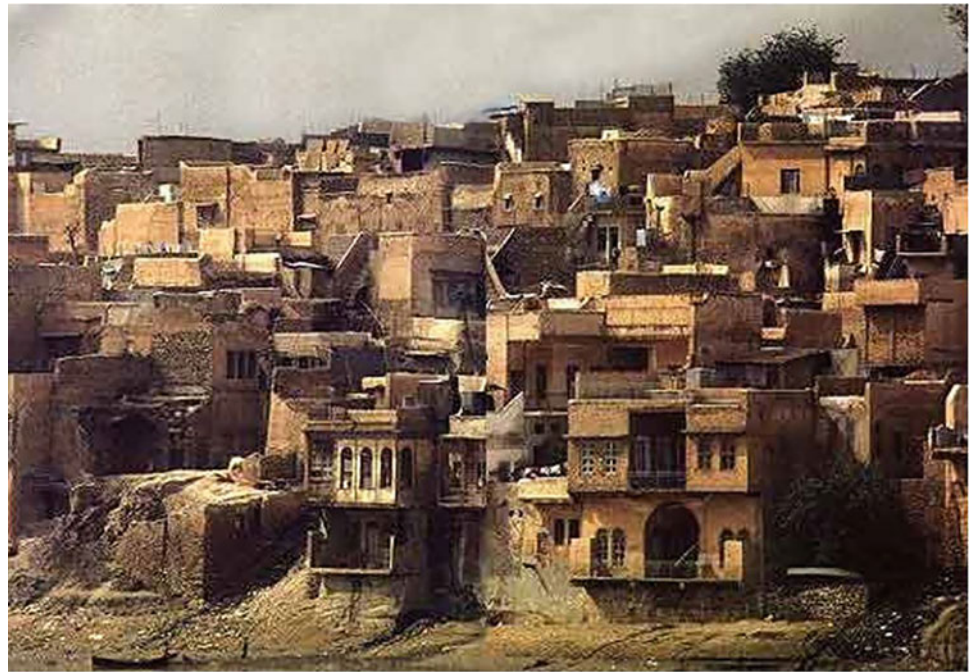


Fig. 13 Riverfront of Mosul

central organization, confirmed by a system of proportions that identify the courtyard as the dominant element in the composition of the building.

Now, as we mentioned before, the architectural forms depend also on the local construction techniques (Fig. 13). Specifically, in the case of Mosul, the availability of fired clay bricks as a building material has historically produced relatively simple traditional building systems, where the structure of the building often consists of load-bearing walls with floors and flat roofs supported by wooden beams. Such a construction technique has produced stereometric volumes and shapes derived from the interaction between the vertical planes of the load-bearing walls and the horizontal planes of the flat roofs. While admitting that some elements of the figurative apparatus of residential buildings are influenced by the Iranian architecture as, for example, it happens for the Iwan (Bianca, 2000), we could compare the buildings that make up the historic center of Mosul, except for the representative architecture, to a set of “pure” volumes obtained by extrusion of the planimetric footprint.

7 Experimental Approach to Design

The choices made have identified possible areas within the urban fabric of the city of Mosul, more congenial to some experimental aspects of our work. Some areas also highlight issues related, for example, to their character:

- morphological (because they are monumental areas destroyed following the bombardments of the recent civil

war, along the main connecting infrastructures that cross the city, or because they are in close relationship with important communication routes such as roads or waterways, for example the Tigris river);

- figurative (these are mostly areas chosen within a heavily densified area with a dense stratification of monumental elements on the one hand and architecture mainly for residential use on the other, with a certain level of promiscuity between public and collective space and private space);
- architectural (these are areas that form part of the historical fabric of the city, which has defined its autonomous and independent character from the monumental settlement of the city of Nineveh, the capital of the Assyrian empire and the poleogenetic centre of today’s city of Mosul).

The historical and procedural sense of an urban organism is therefore understandable if it is placed within a relationship of necessity with the set of relationships established in time and space within its territorial surroundings. For this reason, the structure of Mosul is formed and developed according to historically differentiated processes, which have, however, their own typicality, like any other outcome of the anthropic process, although linearly dependent on the ancient settlement of Nineveh. On the other hand, this form of the anthropized territory is merely the visible aspect of a structure of relations that links the different scalar degrees of the built settlement in the notion of organism, which configures the salient and autonomous characteristics of an Islamic settlement: a Citadel, to the east near the Tigris river; the Friday

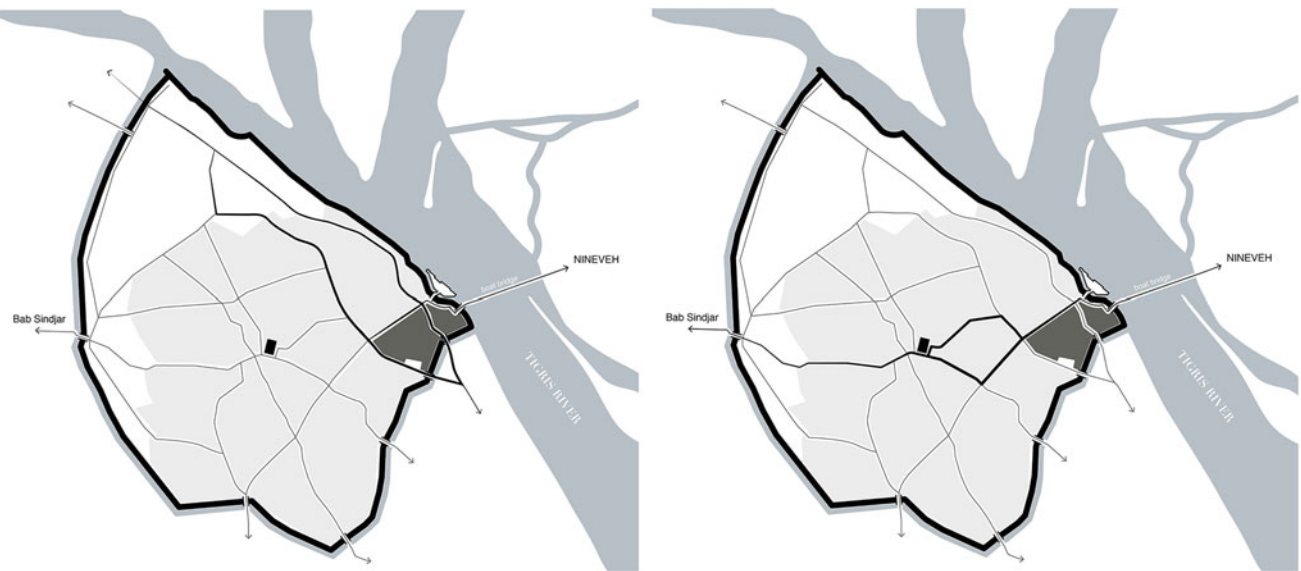


Fig. 14 The two main axis in the city, north–south and west–east (author)

mosque (the Al Nouri mosque); the Souq, also settled in the eastern part towards the river; the defensive system of the Walls with the city gates, and in particular that of Bab Sndjar which was the main access to the city to the west (Fig. 14), along the urban axis which to the east stood at the Dj-al-Aghawat gate, near the boat bridge. The possible places of intervention have been identified in a series of free areas, adjacent to the main axes of the historical city. Starting from the collective role of some activities considered strategic for the city, priorities have been defined in the settlement programme, considering, on the one hand, the socio-economic revival of the settlement and on the other the role in the reconstruction process through the self-recognition of the community in its essential relations and activities: education (through a multi-denominational school); commerce (through the reactivation and reconstruction of the big souq of the city); memory (through the possible reactivation of the representative role of the monumental citadel with the museum of memory of the city); ritual (through the reconstruction of the Al Nouri mosque), etc.

So that, after identifying possible places of intervention, it is appropriate, first of all, to clarify the role of architectural design with regard to these choices, and above all to specify how the project itself is capable of promoting the urban identity now only virtually recognisable in the urban fabric of the city of Mosul. This question has been raised by a form of conceptualisation of the architectural project which, regardless of the individual figurative options, succeeds in scanning his iconic attitude, his vocation as a work of art related to memory. This deduced from the critical predisposition of the experimental procedure has often generated structures and figures context in which those contestual

references have assumed an exemplary symbolic value from both an iconological and an iconographic point of view. It sometimes happens that in specific contexts, and in a given historical succession, the persistence of symbolic structures has worked to interact in a positive way with local artistic resources. On the other hand, the commitment of authentic architectural culture, at least that which is aimed at considering the context of application as an active resource in the design conception process, has, in the course of history, revealed a critical value that, beyond direct sources, proceeds by experimental combinations that place the question on a less empirical, let us say more intuitive level, by induction through certain perceptions, aimed at a possible interpretation of reality. The difficulty in the case study concerns the total absence of concrete historical references, except for small famous presences, which however are able to show, even if only virtually, a context defined by very few finds, which have survived to testify its disruptive historical and symbolic consistency. In other words, what this specific case study shows as perceptible is its absence. It is not only physical, material, tangible absence, but above all immaterial. Physical absence is synonymous with a lack that concerns aspects related to the more typically cultural, historical, and social aspects. The critical process and the project allow to transform through conceptually relevant structures the sense of absence, through its own connotation of meaning, reconnecting the sensitive elements of the new construction with the cultural value of the historical finds. A further aspect among the issues raised by this study concerns the approach that the architectural project should maintain with regard to expressions of cultural identity among the urban structure. The historical formation of heterogeneous

communities also derives from the mutual combination of expressions of diversity, which can be cultural, social and economic diversity. On the other hand, individual settlements have also become custodians of an autochthonous tradition and still today they can be recognised within the city, in different neighbourhoods, in different urban areas. The basic, very delicate point is to imagine how much the architectural project in these places must operate in such a way as to strengthen these differences—with the obvious risk of a form of cultural chauvinism—or vice versa contribute to creating a certain homogeneity between expressions of diversity—again with the unknown possibility of dispersing, or at least thinning out, identities for a form of forced integration for reasons that are neither historical nor cultural, but of opportunistic homologation to current taste. After all, the purpose of this research is to verify in each specific case how to experience the shape in symbol, the structure in icon. This conceptual approach, which also concerns the relationship with small-scale application resources, is initiated through experimentation with exemplary figurative elements, capable of creatively combining new models of behaviour and spatial innovation, in an attempt to contrast with architecture the incipient processes of territorial and cultural homologation.

8 Discussion

This approach, therefore, consists primarily of bringing the experimental activity of design work back to a conceptual dimension, starting from the definition of the salient features of the place up to the progressive definition of appropriateness within the hypotheses of a transformation of the space. The concept of space is here incorporated in his total desire to assume architectural experience as a sensitive fact. The process of knowledge is in this act closely linked to that of design, as a creative act capable of stimulating innovative and coherent hypotheses of a transformation of context and place. This experimentation is extended to the urban scale and not only to the single architectural episode as a unique

solution to specific problems. The priority objective concerns the development of procedures that move from hypotheses that can be generalised, starting from specific and individual physical facts within the human settlement. The responsibility of the project is to offer shared solutions appropriate to the specific case but through innovative and experimental work processes that can be extended to similar cases. If the city is the place of the project par excellence, then even in the act of rewriting its parts it is not allowed to derogate from its more direct knowledge, making explicit the selection of priority urban facts, especially in those researches that address the theme of the reconstruction as rewriting. Rewriting that is understood as the process of transformation of complex urban fabrics, with specific attention to stratified contexts, damaged by catastrophic events and altered by the choices that have led to their loss of definition and identity.

References

- Al-Kubaisy, F. (2010). *Mosul. The architectural conservation in Mosul Old Town – Iraq*. Create Space.
- Aymonino, C. (1977). *Lo studio dei fenomeni urbani*. Officina Edizioni.
- Bianca, S. (2000). *Urban form in the Arab World*. Thames and Hudson.
- Fathy, H. (1964). An Ekistic Approach to the problem of roofing in Peasant House-Building. *Ekistic*, 103, 391–398.
- Grabar, O. (1973). *The formation of Islamic Art*. Yale University Press.
- Herzfeld, E., & Sarre, F. (1920) *Archäologische Reise im Euphrat – und Tigris – Gebeit*. Verlag von Dietrich Reimer.
- Honigmann, E., Bosworth, C. E., & Sluglett, P. (2012). al-Mawṣil. In P. Bearman, Th. Bianquis, C. E. Bosworth, E. van Donzel, W. P. Heinrichs (Eds.), *Encyclopaedia of Islam*, 2nd edn. https://doi.org/10.1163/1573-3912_islam_COM_0717
- Richards, J. M. (1985). *Hassan Fathy*. The Architectural Press and Concept Media.
- Rogers, E. N. (1955). Le preesistenze ambientali e i temi pratici contemporanei. *Casabella Continuità*, 204, 3–6.
- Rossi, A. (1966). *L'architettura della città*. Il Saggiatore.
- Steel, J. (1973). *Hassan Fathy*. Academy Group.
- Steel, J. (1993). Hassan Fathy's concept of aesthetics in architecture. *Ekistic*, 362/363.
- UN-Habitat and UNESCO. (2018). *Initial planning framework for the reconstruction of Mosul*. https://unhabitat.org/sites/default/files/documents/2019-09/initial_planning-framework_mosul-update.pdf



European Imprint on the Urban and Architecture of the Ottoman Empire's Port Cities: The Case of Alexandria

Amira Nagy Elsemellawy

Abstract

The transformation of port cities throughout history has impacted various urban settings. In particular, the transformation and modernisation of the Ottoman Empire's port cities in the nineteenth century have altered urban characteristics, reshaped the urban settings and resulted in a new cosmopolitan identity in the case of Alexandria. This particular century has been selected as it represents a period when the Ottoman Empire attempted to modernise, under the influence of Europe, were at their peak. Port cities thus experienced urban transformation and growth, which left European imprints and had local impacts that led to changes in the socio-economic structures in ports. These port cities, such as Izmir, Thessaloniki and Alexandria, attracted substantial European migrants who engaged in trade and political activity. All three cities grew mainly due to European interest in the markets of the Ottoman Empire. Meanwhile, European societies in port cities became key actors in the development of a port's social, cultural, political and economic exchange. The transformation of the socio-economic structure has brought about major changes in the urban physical structure of the port city. The changes came with a new class of new institutions and demands for urban space. Because of Alexandria's historical background, its richness, historical meaning and importance are related to its built form. Different types of urban fabrics still exist, offering specific forms with different physical and spatial structures. Together, they emphasise the character of the city centre as a meeting place and the urban core of one of the most cosmopolitan cities in the Middle East. This morphological study reveals many important aspects of Alexandria's unique culture. Additionally, it recognises the physical attributes of the built form and the studies of

the changed fabric, which provide indicators of the urban quality of the built environment of Alexandria and the quality changes to appearances that need to be considered.

Keywords

Port cities • Alexandria • Cosmopolitan • European imprint • Urban transformation

1 Introduction: Ottoman Empire Port Cities

Due to the development of colonialism between the eighteenth and twentieth centuries, the urban pattern of cities changed on waterfront areas. Alongside changes in trade, port cities witnessed further urban growth and development. During the nineteenth century, the course of trade changed direction from inland exchange centres to port exchange centres; furthermore, the Ottoman Empire accomplished this shift in the urban pattern. At the same time as the port city emerged, grew and gained in importance, central cities tended to remain static. Port cities thus experienced urban transformation and growth, which left European imprints and had local impacts that led to changes in the socio-economic structures in ports (Tekeli, 1971).

In the process of occupation and semi-colonisation, port cities across many regions of the world functioned as points of economic and social change. The Middle East and North Africa noted a similar process of occupation and semi-colonisation by the nineteenth and twentieth centuries. The port cities of the Ottoman Empire, such as Izmir, Thessaloniki and Alexandria, attracted substantial European migrants who engaged in trade and political activity. All three cities grew mainly due to European interest in the markets of the Ottoman Empire (Abu-Lughod, 2014; Masters, 2010). Moreover, in representing windows to the West, port cities continued to act as a magnet for immigrants.

A. N. Elsemellawy (✉)
Architecture Engineering and Environmental Design Department,
Arab Academy for Science and Technology, Alexandria, Egypt
e-mail: a.elsemellawy@aast.edu

Meanwhile, European societies in port cities became key actors in the development of a port's social, cultural, political and economic exchange. The population of port cities increased from inland cities due to new economic developments and the movement of populations.

Besides changing economic and political situations, the development of new technologies also affected ports. The main ports were controlled by Europe due to the innovative facilities they brought, which included steam and steel in shipping and railroads. Some port cities were promoted to a higher status in the established hierarchy and became significant gathering points for sea and rail routes, while others were demoted due to their comparatively diminished function (Abu-Lughod, 2014).

Due to the demand from the growing European population, port cities established new educational, financial and cultural services, which included banks, telegraph lines, railroads, health centres, new business houses and institutions. They established schools, hospitals, factories, newspapers and companies, which were controlled by Europeans, and offered new possibilities in many port cities. The European imprint influenced the locals who adapted their activities, dress, cultural habits, architecture and public spaces. Moreover, these total changes have affected urban patterns in the regions. Thus, by the end of the eighteenth century, some port cities had grown because they were controlled by European powers or had become establishments for Western trading (Issawi, 2010).

Therefore, a significant amount of European economic and political powers were focussed on ports. For example, at the beginning of the nineteenth Century, populations tended to be concentrated in inland capital cities, such as Cairo, Damascus and Baghdad. However, towards the end of the century, the population distribution of cities and their sizes changed to grow port cities, such as Alexandria, Beirut and Basra, who became the main city in their respective urban hierarchies. As an example, Alexandria and Beirut have comparable aspects as they both served a significant inland city, namely Cairo and Damascus, respectively; the ports later became the more dominant cities. At the start of the nineteenth century, Alexandria had a population of 5,000, and Beirut had a population of 6,000–7,000, but towards the end of the century, Alexandria's populations vividly increased to 319,766–320,000 and Beirut over 100,000 (Issawi, 2013). After the British control of Egypt, the port of Alexandria increased its importance by becoming heavily involved in Egyptian cotton export. This trade contributed to the growth of the city, which became a sizable cosmopolitan nineteenth century port. Thus, by the end of the century, Alexandria's inhabitants were a cosmopolitan mix (Masters, 2010).

2 Administrative and Political Changes

The following five administrative and political aspects are noted for their impact on the creation and change of urban spaces. Firstly, in the Ottoman Empire, the Tanzimat Changes were issued by the legislature to support domain controls; this was in response to the increasing impact of European settlement and control. The second aspect was urban life's guidelines and controls. The third aspect was a consequence of the adjustments in the regulatory framework from the impact of the Tanzimat changes and European power; this involved the establishment of municipalities. Whilst the administration attempted to apply their guidelines and controls within their urban communities, the European impact was more grounded in the Balkans and the Eastern Mediterranean rather than Anatolia. The final aspect was the European effect, which included expansionism in the Eastern Mediterranean district of the realm, the impact of foreign rule on urban areas and the transformation of port cities.

2.1 Tanzimat Changes and Expanding European Impact

The impact of European countries on local powers saw the beginning of the move towards the Tanzimat changes. European countries expected to secure a favourable position when the Ottoman Empire get involved in the open market in the nineteenth century. Therefore, with the establishment of the commercial exchange conventions in 1838, European countries began to dominate. However, they needed to ensure their dominance and that the advantages they had gained would endure; as such, they empowered and guided the change procedure that the Ottoman Empire would initiate during the period.

The rebellions in distant parts of the Empire over that period accelerated the change procedure and influenced the government to apply new standards and controls to support the administration of the realm by expanding the power of the central government offices over the local forces. At this stage, all aspects of the social field were covered by the Tanzimat reforms' rules and regulations (Shaw & Shaw, 1977). The regulations and laws, which had an impact on ports' urban transformations, are thus further explored later in this study.

The security of life, respect and the property of Ottoman citizens were at the core of the changes introduced by the Tanzimat reform. These could be determined as follows: equality between all citizens by eliminating the different treatment of Muslims and non-Muslims, the approval of private possession, the presentation of the civil rights

framework through the toleration of a legal mechanism, besides *Shariah* law, and introducing a European system of rights with the emergence of the concept of law. Moreover, it also meant the function of the new frameworks of land tenancy and the utilisation of the new regulatory framework with the new foundations (Shaw & Shaw, 2002).

Whilst the Ottoman administration attempted to reinforce its control and power, European impacts and purposes were also involved with these changes. Equality in society meant they were similarly treated as non-Muslim citizens of the Empire, and consequently, they gained an additional benefit through the expanding investments of European power in the commercial exchange system. As a result, the economic system became reliant on non-Muslims, particularly in the Empire's port cities. They became operators of foreign corporations contracting business in the cities due to their social and cultural resemblance with European traders and their dialect; this enabled them to communicate with local dealers.

The non-Muslim population in the Empire started to change when the European impact became powerful, and the Ottoman administration became weaker. The most potent factor of European control was established in 1881, namely the control of Ottoman finances; this was known as the Ottoman Public Debt Administration. The Ottoman Bank served as the financial institution of the Ottoman Public Debt (Kasaba et al., 1986). These organisations enabled significant development and change in the Empire through infrastructure investment, and the improvement of correspondence, communication and transportation systems. Thus, due to the need amongst European to retain control over the strategic and regional decision-making, and the Ottoman Empire's need for productive and efficient administration, the Tanzimat changes proposed more than administrative changes.

Moreover, the Tanzimat period adopted two keywords strategies; European modernisation (Westernisation) and reform. These two words suggested the presence of respectable, founded structured models with the endorsement of European social, political and financial involvement. By the nineteenth century, the Ottoman elite admitted the need to better order the Empire by creating an ideal society through control and organisation (Shaw & Shaw, 2002).

2.2 Tanzimat's Regulations and Laws Affecting Urban Transformation

In 1848, the first building regulation was authorised, and in 1849, another was issued. Between the two regulations, the Building Manifest was issued, which stated that it was essential to officially announce the perspectives of the Buildings Council, which related to the efficiency, degree of durability and endurance of structures built. The Manifest

was critical because it contained extensive technical details on the principles and guidelines to be followed during construction, and on the quality and type of material to be used. Only Istanbul was released with both the legislation and the Manifest. Nevertheless, in 1864, the first regulation was issued for application to all cities in the Empire. Moreover, at the same time, the Street and Buildings Regulation was founded, which had significantly more material and quantity than the former version. Although the core issue in issuing the first buildings regulation was the avoidance of fire, in the later Streets and Building Regulations, there were efforts to determine rules concerning the creation of the urban form.

These rules remained in effect for twenty years with no change. (Selman, 1982; Sevin, 2017). These regulations and laws aimed to find solutions for the Ottoman Empire's cities. The laws were proposed and issued according to the problems faced by nineteenth century Ottoman cities and particularly concerned the orientation and width of streets, the settlement problems of a growing urban population and destruction by fire. Moreover, the regulations specified the height of the buildings, the window cornices, and the thresholds. Furthermore, all projecting sections to the avenue, such as stairs, fences, and basement windows, were banned (Tekeli, 1971). Maps were prepared in accordance with the new regulation and laws, as well as the construction of gardens, and for the foundation of new quarters on vacant lands. In 1882, a new building law (1877 Province Municipality Law), more comprehensive than the previous regulations, was issued and legislated by the development of municipalities in the Ottoman Empire's cities; this concerned urban development activities (Tekeli, 1971). These regulations advocated a significant change through the application and management of activities that will be carried out by local government rather than of central administration (Selman, 1982). Moreover, it was recommended that the municipalities prepared maps indicating the streets to be opened and their surroundings, and to publicly publish them for renovation. Designing the new dead-end street (cul-de-sac) was firmly banned, the widths of the streets and roads were categorised into five types, the building heights, the outdoor properties of the buildings and fire safety measures were stated in building laws (Tekeli, 1971).

The model administrative system of the Ottoman elites was only applied in Istanbul during the Tanzimat period, while local traditional administration structures continued to be applied in areas far from the capital (Gerber, 1994). In urban planning practices and growth, this variation between the centre and the cities was also witnessed. Although for other cities of the Empire, the urban planning regulations approved for Istanbul were considered, this did not occur until the implementation of building and street regulations (Turan & Uluengin, 2005). Firstly, the regulations concerned

the renovation of the existing urban fabric due to natural disasters (mainly fires); the administrators who assisted in these renovation movements were kept responsible for fires in the old city centres. Secondly, they concerned the responsibilities of community administrators and municipalities who were in control of renovating the urban area and infrastructure. The central Ottoman administration, its municipal administrators, European citizens and non-Muslim merchants were associated with the application of these new reforms in cities (Yerasimos, 2006).

The 1858 Land Code was one of the most significant laws of the Tanzimat period. It addressed the concept of “ownership” that accompanied the Tanzimat changes. The acceptance of the right of foreigners to own land was granted in 1869 by European powers who wanted to purchase land as investments as a part of the Land Code (Aktüre, 1981). Property owners became members of the developing new classes and, with their associations and new organisations, they had an influence on the urban form. With the validation of private ownership, the new requirements of these classes appeared in the urban form. Mortgages and insurance functions also brought the need for a cadastral order through a property recording system. Amongst other requirements, this confirmed the formation of new administrations, such as the municipalities.

2.3 Foundation of Municipalities and the City Councils

In the Ottoman Empire, the application of new urban planning concepts in the Mediterranean was just part of the European modernisation procedure. Ottoman cities changed according to European models (Fig. 1), and this triggered the development of the Tanzimat reforms, which developed in two directions. Firstly, reform occurred with central and local administrators, and secondly, changes were made through the services of municipalities. These organisations became the Ottoman government’s key institutions within European modernisation development, as the government chose to use its administrators. By the influence of foreign staff members and local non-Muslim merchants who decided the area in which they were to live, the municipalities were introduced to the process. In order to empower local administrations in decision-making and implementation processes, local administrators have been granted more funding opportunities than municipalities. As such, municipalities were left without budgetary allowances and could only fund the facilities of lightning, waste dumping and pavement works. Therefore, municipalities mostly existed in cities for public works. However, the transition of provincial governors once a year stopped the central government from

Fig. 1 The European model that affected the transformation of port cities (Source By author)



acquiring further power. In the Eastern Mediterranean, and with European involvement, cities experiences a shift in the administrative roles of their cities, and the decisions of the councils were influenced by the new European members who were assigned to key positions (Yerasimos, 2006).

In 1857, the first municipality was established in Istanbul; while there were parallel attempts at the same time in Alexandria, the regular municipality was established in 1882 with the assistance of British administrators. Beirut municipality was founded in 1863, Damascus in 1864, Cairo in 1867 and Izmir in 1868 (Yerasimos, 2006). Accordingly, the first acts were taken mainly in the port cities. In these port cities, existing institutions did not address the basic needs of foreign merchants. Quarantines and hotels, in particular, needed improved sanitary standards, and new transport networks were similarly required. Thus, the municipality organisation that assumed responsibility for these requirements was first established in the port cities (Ortayli, 2000).

2.4 Domination in the East Mediterranean

An example of semi-colonialism was the European relationship to the Ottoman Empire; this concept implied the strength of indigenous government, commerce and development, as well as the imposition of European power (Reimer & Bridgehead, 1991). The semi-colonisation era of the Ottoman Empire began with guarantees offered to European countries for their contribution to the Empire, which immediately resulted in infrastructure investment. In the late nineteenth and early twentieth centuries, the conquest of the Eastern Mediterranean by European powers placed under the strong political and economic control of Europe (Davison, 2015). The foreign rulers dominated these areas' economies. During this time, the physical characteristics and social structures of urban centres were influenced by the European powers.

At the beginning of the nineteenth century, the international network of commerce and finance had included most areas of the Eastern Mediterranean. The migration of European factory owners and technicians, the investment of international resources, the improvement of mechanical transport and the change from existing types of agriculture to cash crop agriculture have contributed to the integration. The loss of handicrafts resulted from foreign competitors. The influences on the location, size and layout of Eastern Mediterranean cities were marked by these incidents. The economy started to rely on exports of primary regional goods in such a way that transport networks were established in which rail and steamships contributed to shorelines and connections with major cities heading to seaside areas. The growth of these seaside regions was also encouraged by the immigration of loads of thousands of French, Greeks,

Armenian and Italian immigrants, who arrived to establish either a predominance or a vast minority in these cities and thus acquired relative control (Issawi, 2020).

3 Socio-economic Changes

The empire became progressively exposed to European powers during the nineteenth century, and mainly after the 1838 commercial exchange conventions, the Ottoman Empire was pushed to become an economic hub where European goods were imported and traded freely with low customs duties. The Anatolian and Eastern Mediterranean Ottoman cities became centres for exporting raw materials to European markets, and the production structure became increasingly dominated by European goods. A rapid decrease in productivity in cities was the direct result of this (Kent, 2005).

3.1 Commercial Exchange Conventions

Capitulation gave advantages to European countries until World War I; however, this function changed during the nineteenth century. Advantages became rights as European powers increased and the Ottoman power weakened. In 1838, the Commercial Exchange Convention, which stood between the Empire and European countries, exposed the Empire to European products by standardising tariffs on import, export and transport products. This allowed European traders to purchase products and stocks from any place in the Empire. These arrangements were inconvenient for local producers and centres of local production. However, cities that became centres of exchange with European countries developed from these agreements.

This process was signed firstly with England in 1838, which attempted to include the Ottoman Empire in the European market. Similar agreements were later signed with other European states (Geyikdağı & Geyikdağı, 2011). The impacts of the Commercial Exchange Convention also altered the social structure in cities, especially in trade centres and port cities. Before the increase of imports, Muslim traders conducted the majority of exchange activity in the cities, however, this shifted to non-Muslim merchants who obtained a powerful position in the trades by using their ability to collaborate with European dealers while engaging with the local community (Burton, 2000).

The expansion in the exchange of imported products and their changing financial structure had two contrasting economic impacts on the cities of the Empire; firstly, it had an adverse impact on the local production centres, and secondly, it had a positive impact on port cities. Local production centres lost their value as marketing centres, and the

new business centres that appeared were connected with European countries that would modify the hierarchy of settlement in the Empire (Burke III et al., 1987).

3.2 Development of Port Cities

Most of the Eastern Mediterranean cities have been highly urbanised throughout history; first, from 300 B.C. to 600 A. D. during the Greco-Roman period, secondly, from 1800 to 1920, when the urban centre shifted to seaside areas during the period of European dominance (Issawi, 2013). Nevertheless, the Eastern Mediterranean started the nineteenth century with a massive number of city inhabitants and a gathering of populations in the cities of its inland regions. However, wide-ranging urban expansion and demographic growth in the seaside cities were noticed by the end of the century. Inland cities have declined, such as Cairo, Damascus and Jerusalem, while port cities such as Alexandria, Antioch, and Beirut have flourished (Ibrahim, 1975).

Moreover, the Industrial Revolution influenced the development of a new international exchange route and the growth of Mediterranean trade. Furthermore, the connection with Europe affected the urban growth of port cities. These cities became the meeting point of merchandisers that were transported goods from the hinterlands and smaller ports through the railway system. This passage and transportation system required the development of major harbour cities, such as Istanbul, Izmir, Thessaloniki and Alexandria (Issawi, 2013).

In the nineteenth century, the core port cities and their hinterlands were split between the European settled authorities. All port cities were typically developed by railways, which were constructed by foreign firms and linked to the hinterlands. Consequently, port cities were a transition point for a transportation structure, and the domination of the hinterlands resulted in European and foreign domination over Ottoman rule. Moreover, foreign firms and their governments became highly connected to the administrative powers in the region (Toksoz & Kolluoglu, 2014; Tekeli, 1971).

4 Spatial Changes in Port Cities

By accumulative migration, industrial development in Europe has generated growth and transformation in cities; this has led to problems with expansion and planning. The Ottoman Empire prepared and released urban transformations within the Tanzimat changes in order to respond to the issues posed by Europe. The regulations and laws issued in the nineteenth century established the physical

transformation of the capital, Istanbul, and of port cities in accordance with the European model. This involved the renovation and planning of streets in a grid form and with particular width measurements, the confiscation of lands for public use, and the reform of city administration by providing it with new services (Goffman, 2002).

Throughout the nineteenth century, the urban population grew due to the increase in commercial exchange activities; this resulted in the development of transportation facilities, and the improvement of public administrative and municipal actions, which were thus improved. Administrators and governors were responsible for the modernisation and transformation of cities; thus, the urban space transformed due to these renovation activities.

4.1 Establishment and Formation of New City Centre

In the nineteenth century, a new city centre was formed with different purposes; it became a business centre for trade with the bourgeoisie, especially foreigners, who came to settle as a result of the new foreign exchange relations (Aksoy & Gültekin, 2006). The city centre was thus formed for several reasons: firstly, the need for communication between the city and its hinterlands (by railways) and globally (by maritime ships); secondly, the need for new financial facilities due to foreign commercial activities and control. European citizens imported new financial services, such as banks and bourses, to the cities. Besides, there was a need for new administrative buildings brought by the Tanzimat changes due to the administrative transformation from military organisations to appointed governors. Thus, new administrative buildings were established in the new city centres. Finally, in the modern city centres, entertainment facilities, such as theatres, cafes and luxury shops were created; this met the habits and lifestyle requirements of Europeans and demonstrated their impact (Tekeli, 1971).

4.2 Renewed Urban and Architectural Forms

Urban growth transformed the cities of the empire. There was a gradual expansion from the city to more open cities, and from irregular urban fabric to a network following the new Tanzimat rules. Although extensions were the most visible phenomenon of the transformation, the nineteenth century also represented a period of city reconstruction. Urban landscapes were recomposed through several types of intervention, seen in the introduction of new architectural forms on the one hand, and in the arrangement of layouts on the other (Jayyusi et al., 2008).

4.3 Developing and Changing Street System

As the old system was not applicable to the modern connections and transport networks, the physical structure of cities altered due to changes in their traditional street systems. Railway platforms and improved docks were added to the city's expanded street system by the end of the nineteenth century. Thus, the redesign of urban transportation frameworks, the broadening of streets and boulevards, the improvement of streets linking the centre of the city to new neighbourhoods, and the expansion of tramways were significant concerns of the Ottoman administrators. These changes granted new areas of settlement either outside the city walls or in dense areas (Tekeli, 1971).

4.4 Formation of New Settlement Residential Areas

The development of major roads in the cities supported the development of new communities. Communities have grown and spread via the spatial diversity of business and residential areas. As the traditional narrow streets had become inefficient for the new type of vehicles, transportation routes and traffic flow, the newer, wider roads enabled increased movement in the cities. The modern city was more integrated with its surroundings through its increasing transportation options and purposes. Thus, as wealthy citizens established summer residences in the countryside or on the shore, these rich families first populated the new settlement area with broader streets, as private transport was not sufficient for the old street grid. According to this change, private ownership of rural land around the city was acknowledged, and the cities spread into the lands around the cities (Tekeli, 1971).

4.5 Additional and Different Construction Activities

The urban transformation also happened in the traditional city centres due to fires, as most buildings were wooden; therefore, these areas became massive. New materials were

used in the new constructions, mainly comprising stone and brick to prevent fires. This condition prompted cities to shift and adopt new architecture designs away from their traditional buildings. The green spaces that existed in the cities prior to the nineteenth century had acted as inhabitants' fruit and vegetable gardens; however, with the general urban transformation, their distribution and use shifted in the nineteenth century. For example, some green spaces were turned into blocks for new residential developments, whilst some were transformed into public parks and gardens within the city. Furthermore, the old cemeteries within the old city were also converted by the municipalities into public parks. The rising population has contributed to inefficiencies in the existing health and sanitation systems, especially in port cities; leading to the development of quarantines and hospitals for health services. Another form of land use occurred around the cities, namely, the industrial area; thus, new factories and warehouses were built near the ports or a cargo railway outside the city core. Whilst the main manufacturing operation was still inside the city, some industries appeared to migrate out of the cities more frequently (Aksoy & Gültekin, 2006; Tekeli, 1971).

5 Transformation of Eastern Mediterranean

Port Cities Demand for a new city form and urban aesthetics appeared in the Eastern Mediterranean cities in the nineteenth century. European masters, architects and planners, who tended to be local experts trained in Europe, embraced the transformation of traditional cities. A number of projects created at that time confirmed the transmission of urban aesthetics from Western European centres and their performance in the port cities of the Ottoman Empire's region (Table 1).

Since the nineteenth century, there was a general move away from 'surgical' operations in urban planning, where streets were 'opened' (the regulation plans) to the artistic principles of design, which are visible throughout Europe (Hastaoglu-Martiniadis, 2011). However, another novel approach across the different nations was public art; this evidenced the aesthetic concerns of architects and town

Table 1 European architects and their designs within Mediterranean port cities

Cities	Projects	Year
Thessaloniki	• Plans by Ernest Hebrarb and Thomas Mawson	1918
Izmir	• Plan by Rene and Raymond Danger, consultant Henri Prost	1924
Alexandria	• Creation of the new European centre around the Place des consuls by Italian architects Francesco Mancini and Pietro Avoscani • Urban space remodelling urban space by Italian architects A. Lasciac and others • The Corniche's (waterfront) design by L. Dietrich • Comprehensive plan by W. H. McLean	1820–1855 1882–1918 1902 1918

(Source By the author based on Hastaoglu-Martiniadis, 2011)

planners and indicated a turn towards a ‘genuine art of space’. Indeed, Camillo Sitte was credited with returning urban planning from engineers to architects, which encouraged the perception of the city as the result of three-dimensional relations between public spaces. Sitte supported a picturesque and psychologically satisfying organisation of space. His characterisation of the architect as the champion of elegance against utility, and his idea that urban planning should be seen not only as a technical issue, but also as an elegant problem, were meant to have a profound effect on the study and design of the urban space (Hastaoglu-Martinidis, 2011).

However, whether supporters of artistic design or followers of balanced harmony, the integration of art into the city and the ‘civilising action’ of urban planning as a method to transform the urban settings and public behaviour is focussed on a binary recognition that:

- (a) the only form of art available to the urban masses was urban aesthetics, and
- (b) the city’s physical setting had the significant potential to influence the way of life of a citizen.

As a result, urban art became an effective way for a public authority to govern its people. Moreover, Sitte believed that city planning was the, “... type of artistic endeavour, [that] above all that affects formally every day and every hour the great mass of the population.” Thus, these views suggest that every city has its own set of symbolic spaces that embody the collective memory of its residents throughout years of interaction and association. However, it is important to note what literature in memory studies and cultural geography usually refer to as “spatial” is a general summary of the concept of place and place attachment (Hastaoglu-Martinidis, 2011).

6 The Process of Modernisation in Ottoman Empire’s Port Cities (Izmir and Thessaloniki)

This agreement was reversed as relations with European powers shifted as a result of the growth of capitalism and the rise of Western influence. The Ottoman Empire started a new season of major reform and Westernisation at the beginning of the nineteenth century, which directly influenced both Thessaloniki and Izmir’s physical transformation. In 1831, the population of Izmir totalled 48,000 while Thessaloniki was 80,000; however, by 1893, Izmir had reached 207,548 and Thessaloniki 103,544. Like Alexandria, both cities had similar administrative, economic, social and spatial changes, including improved waterfronts, leisure and port facilities (Bugatti, 2013).

6.1 Administrative and Political Changes

The nineteenth century signifies a time of progress in the Ottoman Empire, which was reflected in the different ethno-religious gatherings. The first changes occurred in 1839 when the urban modernisation of cities was influenced by *Tanzimat* reform when all Ottoman residents (Muslim and non-Muslim) were awarded authorised equal rights. Moreover, in 1856, improvements had become identified with the religious issues of non-Muslims. The changes expressed that, in settlements where there are diverse religious groups, the repair of public buildings, places of worship, schools and hospitals were permitted, while government authorisation was required for the recreation of these structures. This restriction was due to previous limitations concerning the repair or reconstruction of non-Muslim properties. Thus, this led to the authorised election of non-Muslims as members of administrative boards of districts and towns. It was a defining moment in Ottoman history, combining administration, justice and socio-economic dynamics. Therefore, when the first constitution was declared in 1876, it stated that all Ottoman Empire residents had equal rights, immunity and freedom to practice religion; planning to establish an efficient change introducing many new regulations in administration, urban order and social life (Shaw, 1992, Shaw & Shaw, 1977).

This influenced a change in the Ottoman Empire’s administrative structure; the Empire was divided into administrative sections (States), which were divided into sub-sections (urban areas and cities). The capital, Istanbul, was organised as the first municipality in 1854, followed by Izmir in 1868 and then Thessaloniki in 1869. However, the municipalities were not sufficiently dynamic; as such, a modern municipality organisation was established in 1877, which worked with the municipal council whose members were elected from the Muslim and non-Muslim public. They engaged with prominent ordinary officers to enable the aforementioned improvements before securing approval for election. The municipality, therefore, controlled construction works, the commercial and business areas, and exchange activities; moreover, it provided health and hygienic administration, lighting, and schools, whilst also collecting municipal returns and recording real estate (Gencer, 2012).

An important trigger for these changes was the new Ottoman elite, who intended to bring Western establishments to the State with the purpose of restoring and strengthening its government. This time of modernisation and Westernisation of the Empire adopted urban form regulations, particularly involving the improvement of the width of existing streets (Çelik, 1993). Following the *Tanzimat* changes, the urban texture was managed through new regulations, which concerned buildings, streets and

open spaces. The Ottoman authorities formally introduced a European modernisation plan during the first half of the nineteenth century through remarkable public buildings, such as military quarters. The building of Governor Palaces, and Konaks (Mansions, Villas, and Courts), which replaced the typical wooden house systems, marked the second half of the century. It was by the use of stone that modernity was conveyed. In the late-Ottoman era, this material, which, in the past was mostly used in monumental religious buildings, was also used in new secularised institutions. As a result, the duality of the old and the new was noticeable, and this was not restricted to just building types and architectural styles but also influenced the social and behavioural utilisation of open public spaces, affecting recreation activities and social/cultural life.

The visibility of non-Muslims in the urban context resulted from the Tanzimat Changes, which allowed them to own properties in the city and to construct new buildings. This was particularly prevalent in cities, such as Izmir and Thessaloniki, where Muslims were not dominant and where an increasing number of foreign architects were involved in the urban transformation. Thus, the two urban communities saw the development of huge scale office buildings, banks, masonry mansions, schools, hospitals and religious buildings. Other external variables influenced such urban and infrastructural changes; these included the expansion of foreign capital streams in the form of direct investments and loans as well as technological advancements (Shaw & Shaw, 1977).

Due to the activity of their two-port city harbours and to guarantee the active transport of cargos, Izmir and Thessaloniki needed an efficient, organised street network that connected the city centre and downtown with the neighbouring areas and countryside. The first building code was enacted in 1882 and the conditions of the street and public spaces thus changed by the 1870s. Moreover, the then-new Governor of Izmir, Midhat Pasha, resisted the social and physical splitting of the city between its coastal quarters and its typical hill districts, and suggest a solution, to expand the major existing streets and develop new ones.

6.2 Socio-economic Changes

Izmir and Thessaloniki were two port cities of the Levant in the first half of the nineteenth century, whose harbours were not ideal for increasing ship traffic (Hastaoglou-Martinidis, 2010). Izmir's administration managed the disintegrating irregular wooden piers until, in 1867, a French firm contracted new quays and a protected harbour. The new Kordon (quay) represented an unbroken ribbon between the Konak zone and the northern quarters, with new urban settlements linked to the existing Frankish quarter (Bilsel, 1999; Bugatti,

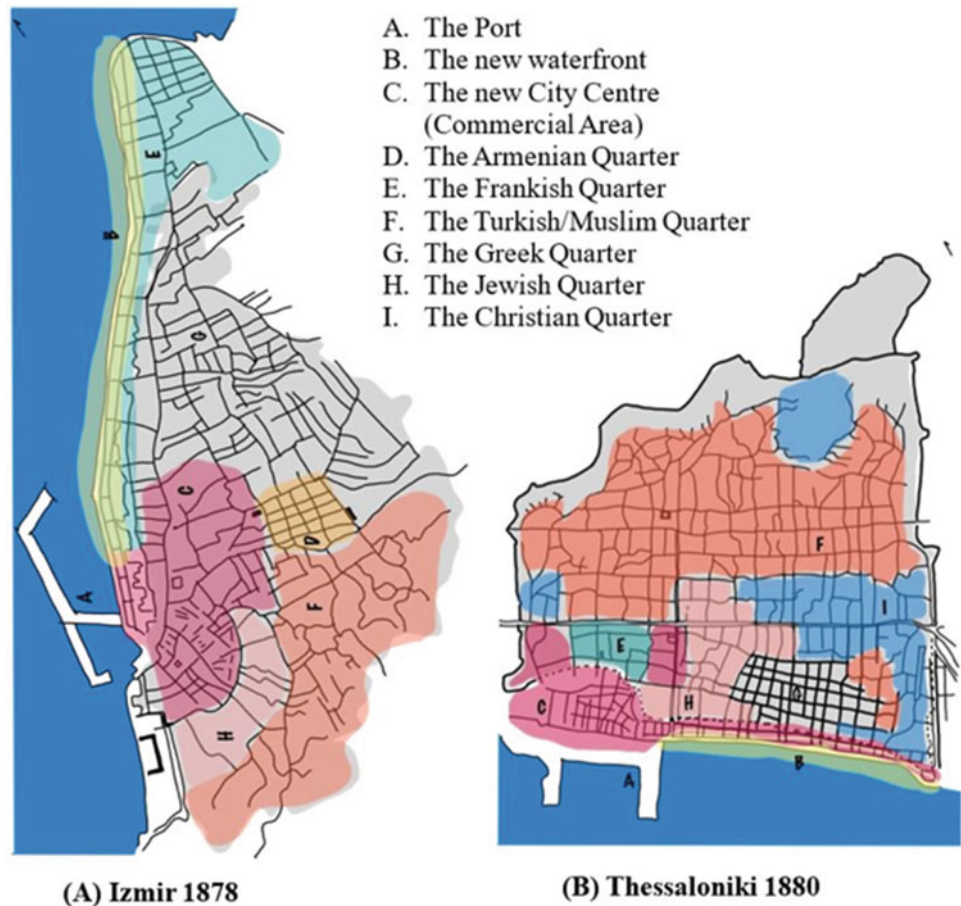
2013; Zandi-Sayek, 2000). The Ottoman administrator who successfully managed the Izmir works was reassigned to Thessaloniki, where a simultaneous urban transformation was carried out (Bugatti, 2013; Yerolimos, 1998).

In Izmir and Thessaloniki, a significant section of the population was represented by Turks, Greeks, Armenians and Jews, besides the European occupants, such as foreign merchants and vendors, who comprised different proportions of these groups. Indeed, by the end of the nineteenth century, Muslims were the minority in both cities, as the census in 1881–1882 showed that Izmir's Muslim population was 38% and Thessaloniki was 28%, representing less than half of the total cities' populations (Gencer, 2012; Gençer, 2016). These mixed ethno-religious groups interacted and blended freely in the commercial centre and harbours, but each group settled in its quarter in the two cities. As shown in Fig. 2a, in Izmir each ethno-religious group inhabited its own neighbourhood; the Turkish quarter was located around Mount Pagas and down towards the port, while the Jewish district was in between the Turks and the harbour zone, which was the city's commercial hub. European merchants and diplomats settled in the European neighbourhood, known as the Frankish quarter, which was located on the waterfront near the shore and around Frank street between the commercial hub (port) and the northern part of the city. Meanwhile, Greeks inhabited the eastern part of the European quarter and Armenians were located between the Turkish and Greeks zones.

The Frankish quarter in Thessaloniki was located close to the waterfront, around the commercial centre and Frank Street, while the Turkish were based in the north-east area of the city inside the wall. The Greek neighbourhood was located in the western part close to the gate, while the Jews settled in the middle surrounded by the commercial sector, the Greek and Turkish quarters and near the waterfront, as shown in Fig. 2b (Bugatti, 2013; Gencer, 2012; Gençer, 2016). The urban pattern and zoning of the groups closely corresponded with the urban topography, commercial centre and port in both cities. Moreover, the similarity between these factors influenced the morphological characters of both port cities.

Until the sixteenth century, Izmir was a small agricultural town of 1300 inhabitants that served the capital city Istanbul. New markets developed after this period, which granted Europeans safe trade rights for silk and spices from the East to the West, and around 1700 Izmir became the new centre in the silk trade. Furthermore, silk, grains, raisins and figs were the city's main export products in this period. From the seventeenth century, the port city became part of the international trade routes and more foreign consulates settled in the city, who were French, British and Dutch, against whom the local merchants, which included the Turks, Greeks, Armenians and Jews, were competing (Gençer, 2016). By

Fig. 2 Plan of Izmir and Thessaloniki showing the quarters and fire area (Source By author based on Bugatti, 2013)



the end of the seventeenth century the economic policies aimed to establish Izmir as the only international trade port in the Aegean region. This attracted more foreigners and Ottomans for investment and enhanced the city's economic development. Developments, such as telegraph lines, were installed in the 1830s, which helped Izmir to increase its commercial and trading relations with European markets after the Ottomans, and local traders gained access to European markets due to the 1838 Commercial Convention. Moreover, the construction of the railways between 1861–1864 enhanced Izmir's connections with its surrounding neighbours, providing a faster transportation system (Gencer, 2012; Gençer, 2016; Hastaoglu-Martinidis, 2010).

However, massive fires damaged the Armenian quarter of Izmir and part of the Frankish quarter in 1845. These events incited a violent response in Western countries, which had experienced the loss of land. The modernisation of Izmir turned into a perfect showcase for the new Ottoman approach to change, where the new Armenian quarters were composed of an adaptable symmetrical pattern that maintained ties with existing street systems, and the Armenian Church was reconstructed as an urban landmark. For later post-fire urban development, this system became a vital

guide. Furthermore, the new waterfront was planned in two phases. The first phase was conducted between 1869 and 1880 when a new seafront ten meters in depth was constructed using materials from the ruined ancient maritime walls. The second phase was completed by the end of the nineteenth century, which saw the development of a new port, and a tramway line that enabled the movement of merchandise from the waterfront to the railroad station (Bugatti, 2013).

In comparison, Thessaloniki was the capital of the Macedonian region and considered an important port by the Ottomans due to its location at the middle of the intersection of Macedonia and the North Aegean. Due to this, the Ottomans attempted to conquer the city several times and succeeded in 1430. By the first quarter of the sixteenth century, the city's population totalled 23,000 citizens; however, by the eighteenth century, the city established a place in the international trade routes of the Eastern Mediterranean where Jews and Greeks were active in trading and exporting wool, cotton, silk, tobacco and grains to Europe (Gencer, 2012; Kiel, 2009). The port was a passage point for the British; a transit stop for the ships sailing from London to Izmir. After the Commercial Convention of 1838,

the numbers of export and import ships increased, and commercial relations with Europe improved. The construction of the railway in 1874 connected Thessaloniki with the surrounding area and with Istanbul by 1896. After linking the port with Istanbul and its neighbours between 1870 and 1890, the number of ships stopping in the port tripled (Vlami, 2009).

The waterfronts of Izmir and Thessaloniki were spaces for shipping products as well as urban promenades where bars, hotels, cafes, theatres, cinemas, distribution warehouses, shops, and residences were constructed. These systems were approved by representatives of the local Ottoman bourgeoisie (Bugatti, 2013). The changing waterfront drove the redesign of the existing locale; for example, the adjacent Frankish quarter. New commercial spaces and structures repeatedly replaced old buildings; these were constructed in these quarters in the late nineteenth century. In Izmir, old distribution centres, constructed inside the limited plots that connected Francs street, the primary street of the Frankish quarter, to the Kordon, were restructured with neoclassical elevations. These were similar to the new passages in Paris but the concept of an enclosed commercial Ottoman space was still retained.

In Thessaloniki, sections of Sabri Pasha Street were roofed with steel and glass. The developments that took place in standard housing changed the surrounding districts dramatically. Architects, who were primarily members of the non-Muslim Ottoman groups and supporters from the middle to higher classes, were agents of a substantial unofficial modernisation (Sutcliffe, 1998). Meanwhile, in Izmir, new single-family houses were constructed as row houses, which represented the most outstanding architecture within the urban scene of sea districts (Fig. 3). In comparison, in Thessaloniki, an uncommon type of housing apartment building was constructed on the waterfront and in the Greek quarter after the 1890 fire. Figure 4, illustrated the neoclassical characterisation of this type of building.

6.3 Spatial Changes and Urban Transformation

In the second half of the nineteenth century, Izmir and Thessaloniki's municipal bodies were stimulated to renew and transform the urban fabric by the new Tanzimat reforms. Therefore, regulations and laws that concerned building alignments, building types and street widths aimed to achieve a sophisticated transformation by founding public spaces, developing communications and transport, and establishing and constructing railroads and port facilities. In the renovation of both Izmir and Thessaloniki, public architectural buildings contributing to the administrative-secular institutions, as well as commercial buildings, became landmarks at the end of the century.



Fig. 3 Izmir's waterfront during the 1890s (Source Bugatti, 2013)



Fig. 4 Thessaloniki's waterfront district during the 1890s (Source Bugatti, 2013)

Izmir's streets were narrow, unpaved, dirty and irregular (not-gridded); they lacked street lighting, and no transport roads connected the city to the suburbs. Even Frank Street was not smooth, and there were no port facilities. In 1834, the streets in the European quarter were repaved under the supervision of the consulates and the Greek community, and in 1839, Frank Street was furnished with lights. These transformations resulted in the active participation of foreign inhabitants.

In 1875, the Frank quarter and its surrounding areas enhanced and flourished after the construction of the quay, which also provided the waterfront area with commercial facilities and activities, while the quarters belonging to Muslim and Jewish citizens were old, damaged and falling apart since they had become separated from the modern city. Since widening the streets was challenging due to the high cost and mechanical strain, streets planned in the new areas followed the new regulations of the roads. Gencer (2012) stated that, in 1891, Quay Street was the widest at 18 m, followed by Goztepe Street in the new neighbourhood of Konak, which was between 10 and 12 m, while Frank Street was between 5 and 8 m. However, the rest of the city centre was barely 4 m wide, paved with crushed rocks and occupied by vendors; therefore, using the streets was risky for

inhabitants. At the beginning of the twentieth century and after the construction of Izmir's Sarikisla barracks which included the new Governor Palace and clock tower, Konak Square was transformed into a Western plaza, entirely different from the traditional Ottoman open spaces called *Meydan*.

In 1924, the Danger brothers and Henri Prost—members of the *Société Française des Urbanistes*—were appointed the plan of Izmir, after the Greco–Turkish War in 1922 when the city was destroyed. This prompted the departure of a significant portion of the Greek, Armenian and European populations who controlled the economy; this caused the decline of the city. Aside from the need to revive the economy, international financial and contracting companies were pulled by the reconstruction of the city. Henri's model combined modernity with continuity with respect to the aesthetics and social stability of the original cities; however, new urban quarters were planned and created within European concepts and appearances. He started in Izmir with a survey tracing the public buildings to be saved or with minor damage and developed a schematic plan for the ruined area, as a guide for the final design.

The modern city was designed as three areas. The first area was the west part that was destroyed; it was rebuilt as a central area with commercial and university buildings and delineated by a boulevard near the Citadel from the undamaged upper Turkish quarter (Kadifekale). The second area was characterised by another boulevard designed along the old Aydin railways, which contained a wide industrial zone between the new port and the new central station. The final third part contained residential developments influenced by garden city designs; these were arranged in the western and south-eastern edge of the city to attract new tenants.

The regulations and the municipality's requests were established by Dangers and proposed in a layout that incorporated large open spaces and diagonal streets and boulevards that formed a focal visual axis towards monumental buildings or a view, such as the sea and citadel. The roads overlapped at radial squares, with the most iconic being in the Republic Square by the sea, where there was a statue of Mustafa Kamel. The central axis connected Republic Square to the central railway station, passing by the public gardens surrounding the university buildings. The plan was adjusted, on the request of the municipality by reducing the width of the streets and avenues from 35 to 15 m and decreasing the surface area of the public spaces along the quay; this plan obtained approval in 1925. The implementation of the new plan in the 1930s generated the modernised urban structure and form of the city. The previous multi-ethnic spatial patterns vanished, and the modern urban city invited new residents of different economic and social statuses to the Republic of Izmir.

Thessaloniki was, at this point, considered a Turkish town due to its common attributes; no consideration was paid to neatness or accommodation in the street, which was filthy, littered, unpaved, disorganised and blocked with house projections. There were only a few stunning architectural style buildings in the Frank quarter, but the city required wider streets and boulevards, squares and monumental spaces and buildings. The visit by the Sultan in 1859 drove the local authorities to demand changes to the city scale and to experiment in the transformation of its public spaces. This included the removal of building projection features along the streets and the demolition of part of the historic eastern walls in order to expand and widen the city and start paving with the central axis on Sabri Pasha Street. The new street was 8 m wide and connected the white tower on the waterfront to Kelemeriya, a new square at the entrance. By the second half of the nineteenth century, the city trades increased, and more foreigners settled; this encouraged enhancements, such as the enlargement of Vardar Street in 1868 and the addition of the new axis to the modern city outside the wall on Midhat Pasha Street in 1875. However, by the end of the nineteenth century, only the main streets had achieved the based obligation characterised by the regulations and building codes. Nevertheless, Western Avenue was furnished with a double row of trees in the twentieth century, and Hamidiye Boulevard was urbanised with double-floor apartment buildings, named Sultanik, which were models for the new urban space of Thessaloniki.

The Greek government of Venizelos decided to use the rebuilding initiatives to modernise the city, in particular, the urban spaces where the Greek element remained in the minority until the departure of Turkish residents in 1923. In 1918, Ernest Hebrarb (French), and Thomas Mawson (British) designed Thessaloniki's plan, which represented Hebrarb's most significant work in Europe. The planning model aimed for visual harmony, a rational organisation of space and industrial growth, in a perfectly organised structure that demanded a strong authority capable of overcoming the individualistic economic interests of urban property. The development principles completely met the goals of the government, by paying little attention to oriental urban structures, and by meeting the requirement for a radical reshaping of the city.

For the central part of the city, the arrangement embraced the complex organisation of a typical Beaux-Arts design. To serve the irregular grid pattern of the old city, a new grid network was planned with diagonal street intersections to accommodate modern activity and traffic goals. The old urban pattern was replaced by building blocks in new urban fabrics. The planner's focal concern in his proposal established a monumental civic centre furnished by a large square (Roman Forum) at the upper (south) part with public functions on the main North–South Boulevard in the city centre

and Aristotelous Square on the waterfront. The plan carried a balance and harmony between new developments and traditions with the presence of history retained on the buildings erected on the Boulevard, which reflected the homogenous architectural style of the Byzantine city. Meanwhile, it preserved and relocated selected Ottoman monuments in their context and arranged them in open spaces. However, due to the lack of money, only the reconstruction of the city centre and the design of the civic axis were applied from Hebrard's comprehensive plan. Thus, the quarters which were, for the most part, found near the seashore and waterfront of Izmir and Thessaloniki, characterised the modern city, while the inner elements stayed as they were; old and in some places neglected.

7 Transformation and Modernisation of Alexandria Port City

Although in 1798 (Fig. 5), the French navy under Napoleon Bonaparte took Alexandria, in 1801, the British forced the French to evacuate Egypt. In 1806, with a population of 6,000, Alexandria appeared relatively deserted. However, by 1849 it had again become a cosmopolitan court city of 10,000 people. The reason for the transformation was Mohamed Ali Pasha's desire to create a modern realm. Like

Alexandria's founder, Alexander the Great, Mohamed Ali, who became ruler of Egypt in 1805, came from Macedonia and was a great admirer of European civilisation (Ilbert, 1996).

During the second half of the nineteenth century, Alexandria became one of the biggest urban centres of the Ottoman Empire and a vital commercial port of the Mediterranean region. After the British bombardment in 1882, the city experienced a boom in the construction sector and saw the development of its urban public spaces. There were three major phases of the conclusive request when those experts had to respond by clarification of the terms and principal circumstantial. This involved: indicating the ruling class's power; creating a new lifestyle and establishing the aim to develop a cosmopolitan society, while attending to the procedures of planning; the regulation of the city's building activity network, and finally, its traffic circulation.

7.1 Transformation of the City, Urban Life and Public Spaces

Aside from significant, influential events, the growth of modern Alexandria can be mapped out through the following four morphological periods which influenced the development of the contemporary built forms and

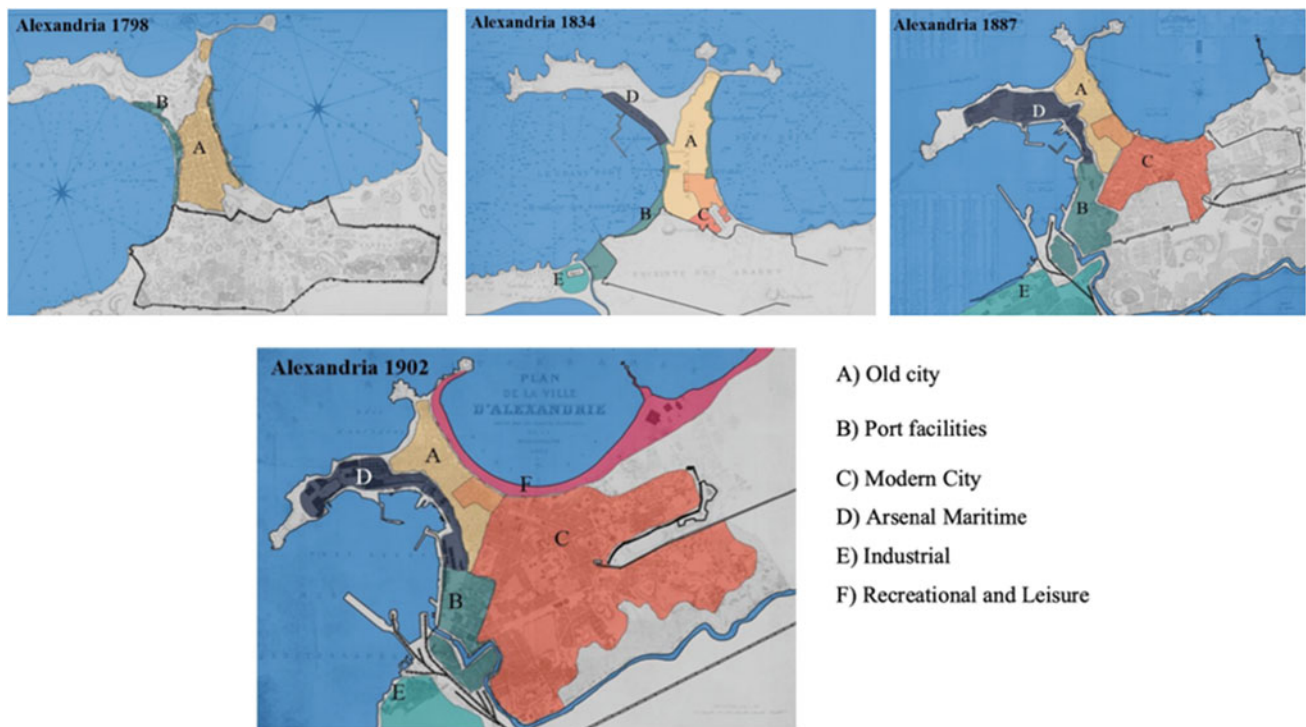


Fig. 5 Thematically maps of Alexandria 1798, 1834, 1887 & 1902 (Source Based on Jondet, 1921) Planche XIX, Planche XXXII, Planche XLVII and Planche L

administrative structures. Each period was affected by economic, or political environments and resulted in a characteristic built urban form. This section aims to classify the morphological factors of the current city of Alexandria, particularly the Eastern Harbour and downtown, or the city centre, which are the selected areas that will be presented in later chapters and include lifestyles, urban tissue and the links between them.

7.1.1 The First Phase (Mohamed Ali and the *Tanzimat* Changes 1805–1855)

Mohamed Ali Pasha's period was identified as the first phase of the city's revival (1807–1848), and the *Tanzimat* era, which spanned from 1839 to 1876, was characterised by the Europeanisation of the Ottoman Empire. The Italian architects, Francesco Mancini and Pietro Avosciani, began their careers by creating a new European centre around the Place des Consuls, now known as "Meydan El-Mansheya" or Mohamed Ali square (1820–1855) (shown in Fig. 6). They introduced Capitulary economic existence to the urban scene, which was the first planning profession in the city; this confirmed the role of the cosmopolitan community in the management and the future of the city.

Francesco Mancini became Chief Engineer of the Ornatò (1834–1847), which was the first planning committee in both the city and Egypt. Meanwhile, the Alexandria Commission dealt with wide-ranging planning and urban management. Mancini's task within the committee was complex and varied, ranging from the monitoring of day-to-day construction, issuing permits, managing urban development, and providing a master plan for the city's rapid expansion and future development. His career in Alexandria was mainly linked to the expansion of the beginning of the European centre around Mohamed Ali Square (Awad, 1996; Pallini and Scaccabarozzi, 2016).

By the end of this phase, the city stretched in two directions (Table 2); firstly, it spread to the north to inhabit the rest of the island. Meanwhile, Mohamed Ali's palace was located on the western edge of the ancient island to validate his affection for the city. Moreover, the town began to grow towards the outside of the old Turkish city and streets and extended towards the empty area within the Arab walls. The southeast of the city became a location for the central business district (CBD), whilst the urban fabric was located between the El-Gomrok and El-Mansheya districts with the small-scale buildings and streets (because the city was at its

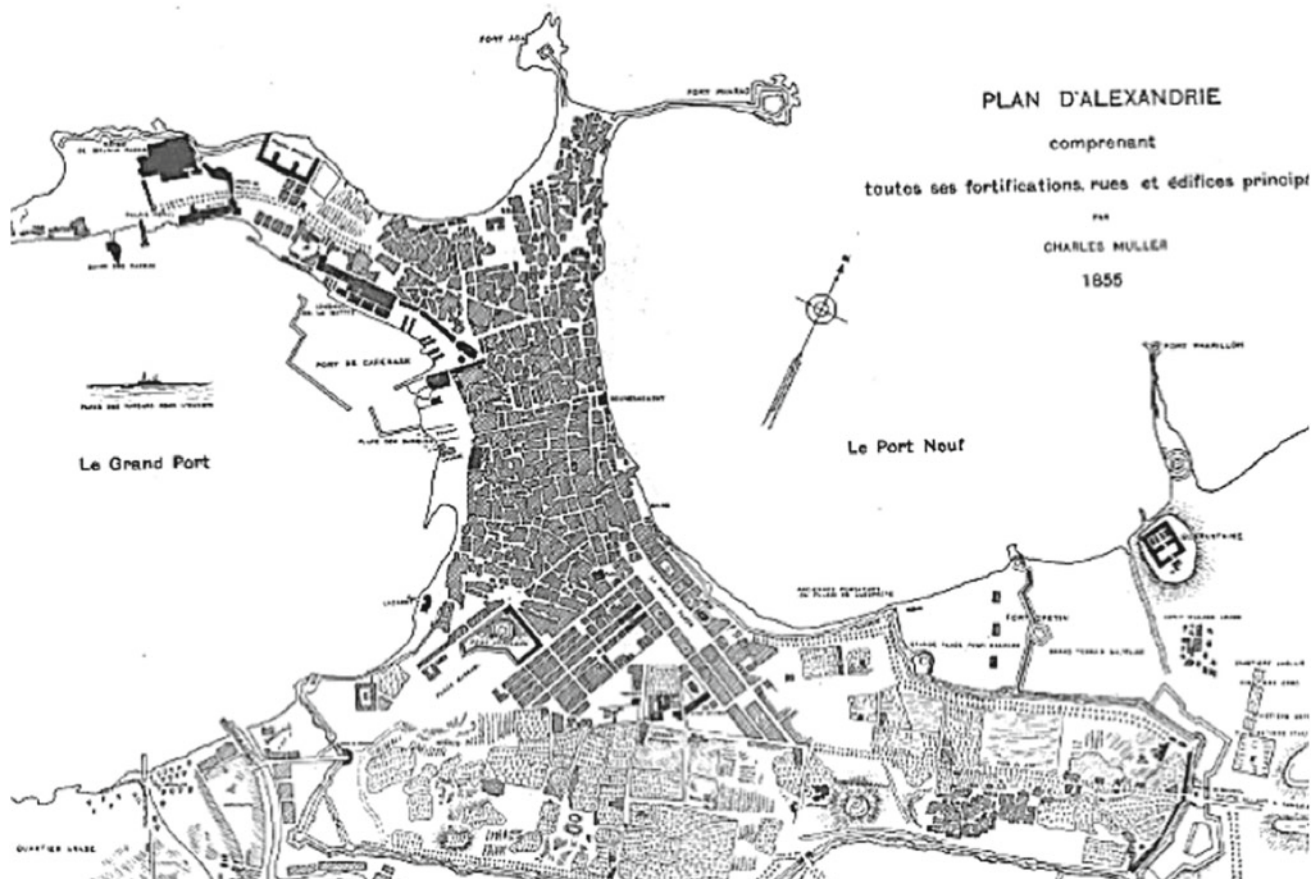


Fig. 6 Alexandria Muller's map 1855 (Source Jondet, 1921) Planche XXXV

Table 2 Alexandria’s morphological changes in its urban transformation 1st phase (1805–1855)

	Dates and Events	Direction or redevelopment	Results	Physical	Spatial and activities	Maps
1st Phase (1805-1855)	<ul style="list-style-type: none"> - Mohamed Ali city's revival (1807-1848) - The Europeanisation of the city characterised the Tanzimat era (1839-1876). - Urban issue/s and western school was used - Creation of the new European centre around the Place des Consuls square by Italian architects - Construct of a large dock (1829-1833) by a French engineering 	North (The Turkish Town)	Built up area increased from 16.2Km ² to 47Km ² (1820-1849)	<ul style="list-style-type: none"> - Curved and narrow street - Irregular land plots - Small Mosques, dwellings and shops - Built right up to property boundaries - Average of two or three storeys - The higher buildings stand on the northern edge 	<ul style="list-style-type: none"> - Residential use plus often mixed with commercial and light industry - The ground floors occupied by local shops, workshops and cafes. - No open space for public use - The walk along the sea extending into the city centre is the most popular recreational attractions 	
		South-East (Mohamed Ali square)	<ul style="list-style-type: none"> - Introducing the Capitulatory economic existence - Confirming the role of the cosmopolitan community in the management of the city's future 	<ul style="list-style-type: none"> - Turned it back to the sea - European style urban space - Modern streets and buildings - Neo-classical style - Establish the European imprint - Guided the new regulation and law by public order, health and beauty concern 	<ul style="list-style-type: none"> - The commercial attraction of the modern city centre - Administrative use (English, American, French, Swedish, Holland/Dutch, Greek consulates and the English Post) 	
		Western Harbour	<ul style="list-style-type: none"> - Increase the number of ships - Flourishing maritime, trades and immigration not only attracting Egyptians but also foreigners from all over Europe 		<ul style="list-style-type: none"> - Industrial use 	

weakest when they urbanised) remained the oldest part of Alexandria. (Turkish city). Compared to the “Turkish city” morphology, this newly expanded area was planned by Mancini, as mentioned above, and called the “European city”. It was a reaction to the growing number of foreigners, mostly Europeans, who were encouraged by Mohamed Ali to settle inside the city walls area at El-Mansheya and El Attarin; Europeans eventually represented 30 to 40% of Alexandria’s population (Fraser, 1981; Empereur, 2002).

7.1.2 The Second Phase (1855–1905)

The second phase (Table 3) started after the British bombardment in July 1882 and continued up to World War I. After the destruction of the city; a rebuilding boom followed (Figs. 7 and 8) (Awad and Pallini, 2001). The reconstruction process was marked by the institutionalisation of public functions at the heart of the European square that was known as Place des Consuls, Mohamed Ali square and its surrounding areas. Whilst the large commercial blocks and buildings formed a continuous commercial presence in the urban square, the renovation of the urban centre was established by the spread of elite residences. Moreover, the most important phenomenon of the period were buildings related to ethnic and community activities, such as schools, hospitals, churches and religious buildings, that were actively involved with, and responded to, the growing needs of their respective community, namely Greek or Italian or Armenian (Empereur, 2002).

The Corniche Boulevard on the Eastern harbour, where the European ships dropped their imports and goods, represented the beginning of the transformation of the old Frankish quarter into the more modern European town (The Waterfront Centre, 1999). The area has a European imprint on its architecture, costumes, habits, local usage, and through the

meeting and mixing of languages of East and West in the area. Thus, the Eastern waterfront was characterised by the façades of the Okelle, which bordered the old Frankish quarter street and the new square. In 1890, the Italian, Pietro Avoscani, first noted the idea to reshape the Eastern waterfront with an attractive coastal route. By 1899, the idea was implemented by the municipality. The plan included a line of piers across the mouth of the port, and a strong wall around the bay, that accommodated the main drain at its base, plus a channel and broad boulevard at the city level. This formed a semi-circle of 3.947 km and restored to Alexandria the port that was there in the past (Pallini and Scaccabarozzi, 2016).

However, the concept of how to use the port was not clear after its implementation and the design of the Corniche. Nonetheless, it was decided that part of the 100 m wide embankment was to form new building plots, providing a modern waterfront for both the Turkish and European towns. This featured the CBD and introduced a new hierarchy to the urban space (Ilbert, 1996; Pallini and Scaccabarozzi, 2016). Nevertheless, despite the determination to move the port activity to the West and transform the city centre, building activity along the waterfront avenue made a slow start, and the Corniche was disconnected from the city (Empereur, 2002).

Due to the constant growth of the city; the municipal council of Alexandria was established in 1890; thus, Alexandria became the first city in Egypt to implement local urban management; its committees ran the city, managing the water supply, drainage, street paving, and urban projects by using income from local taxes. One of the municipal council’s achievements in the first half of the twentieth century was the planning of the modern city and its city centre, which focussed on wide straight avenues and large squares, as it expanded gradually towards the East.

Table 3 Alexandria’s morphological changes in its urban transformation 2nd phase (1855–1905)




	<i>Dates and Events</i>	<i>Direction or redevelopment</i>	<i>Results</i>	<i>Physical</i>	<i>Spatial and activities</i>	<i>Maps</i>	
2nd Phase (1855-1905)	<ul style="list-style-type: none"> - The British bombardment in July 1882 - The establishment of the rail line (1854) between Alexandria and Cairo - The activation of the municipal council of Alexandria (1890) - Reshaping the Eastern waterfront (1899) by the municipality - The French garden was established as a replacement for the French Consulate (1902) 	East (El-Azarita quarter as its boundaries)	<ul style="list-style-type: none"> -Rebuilding booming marked by the regulation of public functions in the heart of the European square and its surrounding area -Large commercial blocks and buildings raised and the elite residences -Buildings related with the ethnic and community activities 	The cosmopolitan city (neither totally Egyptian nor firmly European)	<ul style="list-style-type: none"> - Wide straight avenues - Large squares - Building higher than the average three storeys - Two streets parallel to the sea - European eclecticism style - Linear 	<ul style="list-style-type: none"> - The process of borrowing western styles of urban form manifested itself in the adoption of mostly eclectic revival styles - The tendency to imitate European styles, and change the open space structure and typology, also reflects the government’s concern for boosting the property market for the new pluralistic society. 	
		West (El-Quabbaria area near the western harbour)	<ul style="list-style-type: none"> - Connecting the square to the waterfront -Modern waterfront for both Turkish and European city -Introducing a new hierarchy into the urban space 		<ul style="list-style-type: none"> - A grid of straight streets - Low-rise buildings - Large width to serve for heavy-goods traffic 	<ul style="list-style-type: none"> - Industrial uses and factories, warehouses and workshops are intermingled with residential blocks. - Local industries mostly employ residents 	
		South (El-Mahmoudeya Canal was the border of the expansion)	<ul style="list-style-type: none"> -Local management ran the city, managing the water supply, the street paving, and urban projects by using the income from local taxes - Planning the modern city and city centre part 		<ul style="list-style-type: none"> - Straight streets, which are long and form a grid layout -The uniform order buildings - Apartment blocks built on small subdivisions of land. Building heights between two and ten storeys - Open space is available for public use 	<ul style="list-style-type: none"> - Middle to low-income residents - Further south are even lower quality areas - Residential use - Commercial activities located on ground floors 	



Fig. 7 Place des Consuls in its final shape in the 1860s (Source Auction personal collection, unknown)






Fig. 8 Mohamed Ali Square in the 1900s (Source Auction personal collection post card, unknown)

7.1.3 The Third Phase (1905–1955)

The inter-war period (1918–1939) identified the third phase (Table 4), which followed booming economic conditions in Egyptian affairs. The period was noticeable by its powerful collectivity in community projects, its mixture of business (which included strong Egyptian participation), while having to satisfy the aspirations of the new rising professional and technical backgrounds of the middle class; their properties were closer to modern international styles and the new garden outskirts or greenbelt (Abdel-Hakeem, 1958).

Industrial development in Alexandria started in 1930, and it was a key factor in the city’s growth due to the factories that were built on its edges. An additional factor was the improvements that were made to the waterfront by the municipal council of the city, who aimed to create an attractive summer resort; this change resulted in an annual seasonal flourishing (El Saaty and Hirabayashi, 1959). Moreover, the educational facilities, in general, improved through the establishment of Alexandria University in 1942 and led to the migration of many students seeking higher education.

Table 4 Alexandria’s morphological changes in its urban transformation 3rd phase (1905–1955)

	Dates and Events	Direction or redevelopment	Results	Physical	Spatial and activities	Maps	
3rd Phase (1905-1955)	<ul style="list-style-type: none"> - The inter-war period (1918-1939) - Planning the Corniche (Coastal Boulevard, from 1905 -1934) - McLean town planning scheme (1919-1921) 	East; -The urban waterfront development to the East	<ul style="list-style-type: none"> - Booming economy - Powerful collectively in community projects - Mixture of businesses - Satisfying the new rising middle class with the projects that were close to the modern international style 	Starting from the 1930s is the disappearing of the Cosmopolitan Society	<ul style="list-style-type: none"> - A compact row of buildings along the Corniche - Unified height and architecture feature facades - A regular grid of streets and squares - Main streets run parallel to the coast, while secondary streets intersect with them at right angles - Formed a layout in an orderly way 	<ul style="list-style-type: none"> - Residential, educational and recreational uses - New commercial centres - Variety of retail, business and entertainment activities - Beaches line the coast, and the continuous promenade along the sea is a key tourist attraction - Public transportation to and from the city centre includes a tramway, buses and mini-buses 	
		West (The built-up area expanded beyond the Western port)	<ul style="list-style-type: none"> - City authorities planned the area by solving the transportation problems with a bus line - Did not attract a large number of people due to the existence of an industrial area and the lack of fresh water 		<ul style="list-style-type: none"> - Industrial use - Residential use for employees in the area - summer resort (El-Agamy) 		
		South	<ul style="list-style-type: none"> - Built up area spread to cover the entire gaps: North El-Mahmoudia Canal - A new residential area developed between El-Mahmoudia canal and the railway line - Attracted the low-income population - In 1947, the total area of this new quarter was 1.440 km². 		<ul style="list-style-type: none"> - Residential use - Low cost of the land prices 		

In 1919, W. H. McLean planned the use of empty plots to create Place des Obelisks (shown in Fig. 9) and Place des Mosques (illustrated in Fig. 10) in his planning scheme for Alexandria. The compact row of buildings appeared along the Corniche in the late 1920s and included a series of public and community buildings intersecting with residence blocks. These were unified in both height and architectural elements and featured a compact urban façade (shown in Fig. 11) (Alexandria et al., 1921; Pallini, 2006).

The typology of open space takes the form of a grid of streets and squares, with main streets intersecting parallel to the sea and secondary streets vertically. The blocks shaped by the layout are divided into organised plots (shown in Fig. 12). There were residential buildings in the area next to the city centre, with stores, bars, restaurants and garages on the ground level. Further east, single-family houses were included in the housing typology, now being replaced with-rise apartment buildings. Planned streets and squares in varying shapes and sizes were included in the circulation network (Abdel-Salam, 1995).

Alexandria’s development towards the East, within the area adjacent to the city centre, saw the construction of mainly residential buildings. These aimed to meet a range of public needs, such as education and recreation. New commercial centres, with their variety of shops, businesses and leisure activities, were established in the El-Ibrahemia area.

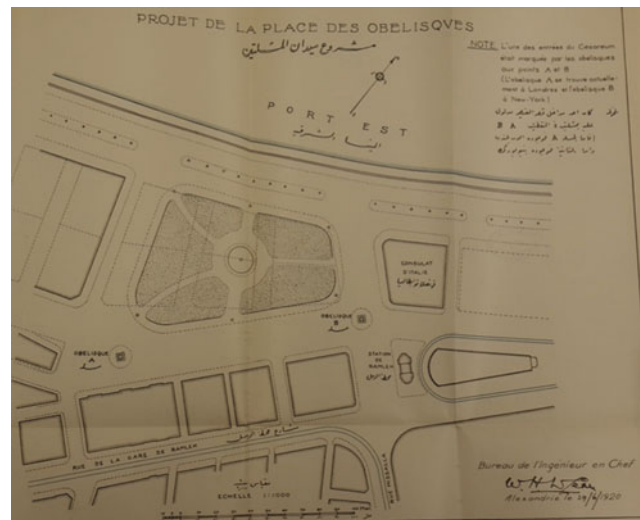


Fig. 9 The Obelisks project (Source Alexandria et al., 1921, p. 10)

Alexandria University and many famous educational institutions in the city and schools, such as St. Mark’s College, were located in the Chatby area. Private and public beaches lined the seaside, and the waterfront promenade was, and still is, a major tourist attraction. Separately from other significant districts, Bacchus, Victoria and Mandara developed in the southeast near to both agricultural lands and

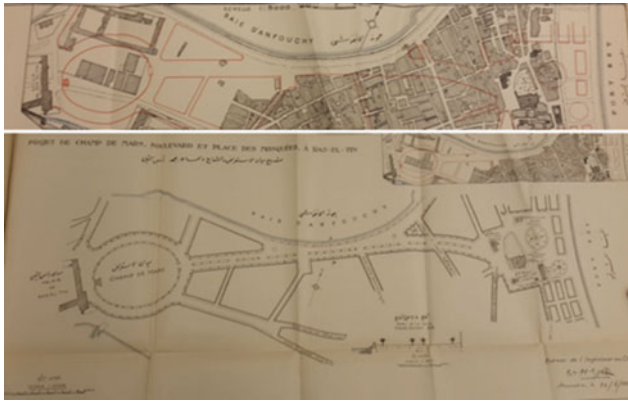


Fig. 10 The Mosques Square project showing the area and its renovation (Source Alexandria et al., 1921, p. 6)



Fig. 13 Saed Zaghloul Square heyday before 1936: the garden without the statue (Source Auction personal collection post card, unknown)



Fig. 11 Auction's photograph of Alexandria's waterfront skyline and compact urban façade (Source Unknown)



Fig. 14 The Quarantine's Garden in the 1950s (Source Auction personal collection post card, unknown)



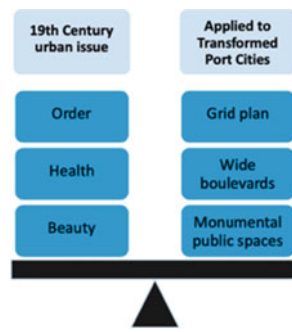
Fig. 12 Aerial view of Alexandria's waterfront in the 1930s (Source Pallini and Scaccabarozzi, 2016)

industrial areas. Frequent traffic flow from this zone to the city centre saw the development of public transportation between the two areas and city centre via trams, buses and railway lines. This grew to encompass destinations further east on the East–West axis (Abdel-Hakeem, 1958; Abdel-Salam, 1995) (Figs. 13 and 14).

8 Conclusion

By the nineteenth century, with a strong European influence, the Eastern Mediterranean port cities grew; this was a time when the modernising attempt of the Ottoman state was at its height (Fig. 15).

Fig. 15 The nineteenth century spatial changes in Ottoman Empire port cities that affected its physical appearance in transformation (Source By author)



Under the strong impact of Europe, the modernisation of the Ottoman state and culture predictably brought changes in the following areas:

- Administration and politics
- Socio-economics
- The spatial organisation of the cities
- The lifestyles of urban inhabitants.

The analysis explored the development of the institutional framework of port cities, after examining the effects of European/Western impact and the issue of the Tanzimat reforms, resulting in changes in their political and administrative domain. The impact of European imprint and

involvement on the socio-economic structure of cities has been studied in the sense of commercial relations, transforming the urban system and the rise of port cities. In the nineteenth century, the change of the Ottoman Empire’s socio-economic system was reflected in the major transformation of the Port city’s urban physical structure. The changes were accompanied by demands for new institutions and urban spaces from the new classes. The following table (Table 5) summarises the key findings from the research.

In addition, it explored the nature, type, influences of the growth of transformation of Alexandria. The case study from the Eastern Mediterranean region of the ottoman empire port cities showed that the city has strong European influences due to modernisation. The results show that in 1798–1834 was a commercial waterfront that has a close relation between port and the city. Whilst in 1855–1902, it was an industrial waterfront at the western Harbour and the new recreational waterfront at the eastern harbour which the Public spaces located. Hence, Alexandria urban spaces and waterfronts where functional, social and perceptual aspects are continually changing. Such a transformation shows a glimpse of the European Imprint on the urban and architecture (Figs. 13 and 14). And the city’s old public spaces on the waterfront play a critical role in the urban structure of the city and its residents’ daily life.

Table 5 The key findings of the Ottoman Empire port cities in general and Eastern Mediterranean port cities

Ottoman Empire port cities	<i>Political and administrative changes</i>
	<ul style="list-style-type: none"> • Increasing European influences and Tanzimat reforms • Regulations and laws of the Tanzimat era related to urban transformation (street and building regulations)
	<i>Socio-economic changes</i>
Eastern Mediterranean port cities	<ul style="list-style-type: none"> • Rise of port cities in the periods of European dominance; from 1800 to 1920s, the urban centres moved to the coastal areas
	<i>Spatial changes</i>
	<ul style="list-style-type: none"> • Nineteenth century urban issues due to increasing migration were: order, health and beauty. This was applied to Mediterranean port cities as grid plan (streets), wide boulevards (waterfronts) and monumental public spaces (squares and gardens) • Reorganisation of the streets in straight forms, widening the streets, confiscating lands for public use, reorganising city administration and contributing new services • Creating a new city centre
	<i>Transformation of the city</i>
	<ul style="list-style-type: none"> • European architects and planners with urban aesthetics and ideas radiating from West European centres • Integration of art into the city and the civilising action of town planning as a tool for reshaping the urban setting and reforming public behaviour; this was based on a dual acknowledgement that: <ul style="list-style-type: none"> (a) Urban aesthetics were the only form of art accessible to the urban masses, and (b) The city’s physical setting affected a citizen’s way of life <p>Every city has its own set of symbolic spaces that embodies the collective memory of its residents through years of interaction and association</p>

Fig. 16 Shows the transformation developments and changes of The Quarantine's Garden (Fig. 14) throughout time. **a** El-Khaldin (The Immortals) Garden square after the renovation in the 1990s (Source Unknown). **b** After the renovation in 2018 (Source Google). **c** and **d** The Immortals Garden square after the developments starting 2019-up to date (Source Unknown)



However, recently based on the rapid developments clarify that Alexandria's Cosmopolitan history start to fade out and lose the image of the city and its European imprint (Fig. 16). The Study helps to get a comprehensive understanding of the European influences and the transformation of Alexandria over the years that needs to be taken into consideration within the innovative developments and supportive policies to maintain the image of the city and history.

Acknowledgements My deepest appreciation goes to my former supervisor Prof. Ashraf Salama for his valuable advice, support and guidance.

References

- Abdel-hakeem, M. S. (1958). Madeenet Al-Askendria (Alexandria City). *Cairo, Egypt, Maktebet Misr, Cairo, Egypt (in Arabic)*.
- Abdel-Salam, H. (1995). The historical evolution and present morphology of Alexandria, Egypt. *Planning Perspectives*, 10(2), 173–198.
- Abu-Lughod, J. L. (2014). *Rabat: Urban apartheid in Morocco* (Vol. 615). Princeton University Press.
- Aksoy, E. R. M. A. N., & Gültekin, N. T. (2006). Effects of transportation on urban development: Sivrihisar, Turkey. *WIT Transactions on the Built Environment*, 89.
- Aktüre, S. (1981). 19. yüzyıl sonunda Anadolu kenti: mekansal yapı çözümlenmesi. ODTÜ Mimarlık Fakültesi Basım İşliği.
- Awad, M. (1996). The metamorphoses of Mansheyah. *Mediterraneans/Méditerranéennes*, 8(9), 42–58.
- Awad, M. F. (2008). *Italy in Alexandria: Influences on the built environment*. Alexandria Preservation Trust.
- Awad, M.F., & Pallini, C. (2001). The Italianisation of Alexandria: An analogy of practice. In: G. Alleaume, C. M. Burri, B. Mathieu, Centre d'études et de documentation économique juridique et sociale (Eds.), *Le Caire-Alexandrie: architectures européennes: 1850–1950* (pp. 89–103). Institut français d'archéologie orientale, Le Caire.
- Bilsel, C. (1999). The Ottoman port city of Izmir in the 19th century: Cultures, modes of space production and the transformation of urban space. *Centuries of Ottoman Architecture, Istanbul: Turkish Chamber of Architects*, 225–233.
- Bugatti, E. (2013). Urban identities and catastrophe: Izmir and Salonica at the end of the Ottoman Empire. *Geographical Review*, 103(4), 498–516.
- Burke III, E., Hudson, M. C., Kazzih, W., Mardin, S., Musallam, B., & Yapp, M. (Eds.). (1987). *The Ottoman Empire and European capitalism, 1820–1913: Trade, investment and production* (Vol. 12). Cambridge University Press.
- Burton, J. (2000). Anglo-Ottoman relations and the image of the Turk in Tamburlaine. *Journal of Medieval and Early Modern Studies*, 30 (1), 125–156.
- Çelik, Z. (1993). *The remaking of Istanbul: Portrait of an Ottoman city in the nineteenth century* (No. 2). University of California Press.
- Davison, R. H. (2015). *Reform in the Ottoman Empire, 1856–1876* (Vol. 2325). Princeton University Press.
- El Saaty, H., & Hirabayashi, G. K. (1959). *Industrialization in Alexandria. Some ecological and social aspects*. American University.
- Empereur, J. Y. (2002). *Alexandria: Past, present and future*. Thames & Hudson.

- Fraser, P. M. (1981). *Alexandria from Mohammed Ali to Gamal Abdal Nasser. Alexandrien. Kulturbegegnungen dreier Jahrtausende im Schmelztiegel einer mediterranen Großstadt* (pp. 63–74).
- Gencer, C. I. (2016). Dualities in the transformation of the urban realm: Smyrna and Salonica 1840–1900. *Mediterranean Historical Review*, 31(2), 139–163.
- Gencer, İ. (2012). The role of imperial and local authorities on the construction of ports of Smyrna and Thessaloniki. In *Conference Paper*.
- Gerber, H. (1994). *State, society, and law in Islam: Ottoman law in comparative perspective*. Suny Press.
- Geyikdağı, N., & Geyikdağı, V. N. (2011). Foreign investment in the Ottoman Empire, international trade and relations. *Osmanlı Araştırmaları*, 40(40), 453–457.
- Goffman, D. (2002). *The Ottoman empire and early modern Europe*. Cambridge University Press.
- Hastaoglou-Martinidis, V. (2010). The cartography of harbor construction in eastern Mediterranean cities: technical and urban modernization in the late nineteenth century. *Cities of the Mediterranean: from the Ottomans to the present day*, 78–99.
- Hastaoglou-Martinidis, V. (2011). Urban aesthetics and national identity: The refashioning of Eastern Mediterranean cities between 1900 and 1940. *Planning Perspectives*, 26(2), 153–182.
- Ibrahim, S. E. (1975). Over-urbanisation and under-urbanism: The case of the Arab world. *International Journal of Middle East Studies*, 6(1), 29–45.
- Ilbert, R. (1996). *Alexandrie 1830–1930: Histoire d'une communauté citadine* (2 vols.). Institute française d'archéologie orientale.
- Issawi, C. (2013). *An economic history of the Middle East and North Africa*. Taylor & Francis.
- Issawi, C. (2010). *An economic history of the Middle East and North Africa*. Routledge.
- Issawi, C. (2020). Economic change and urbanisation in the Middle East. In *Middle Eastern cities* (pp. 102–121). University of California Press.
- Jayyusi, S. K., Holod, R., Petruccioli, A., & Raymond, A. (Eds.). (2008). *The city in the Islamic world* (2 vols.). Brill.
- Kasaba, R., Keyder, Ç., & Tabak, F. (1986). Eastern Mediterranean port cities and their bourgeoisies: Merchants, political projects, and nation-states. *Review (Fernand Braudel Center)*, 10(1), 121–135.
- Kent, M. (Ed.). (2005). *The great powers and the end of the Ottoman Empire*. Routledge.
- Kiel, M. (2009). Selanik. *Thessaloniki in Islam Ansiklopedisi, İstanbul, Türkiye Diyanet Vakfı*, 36, 352–357.
- Masters, B. A. (2010). *Encyclopedia of the Ottoman Empire*. Infobase Publishing.
- McLean, W. H. (1921). City of Alexandria Town Planning Scheme: Projet D'aménagement, D'embellissement Et D'extension de la Ville D'Alexandrie: Note Descriptive Et Plans. Imprimerie nationale.
- Ortaylı, I. (2000). Tanzimat Devrinde Osmanlı Mahalli Idareleri (1840–1880). *Ankara: Turk Tarih Kurumu*, 171.
- Pallini, C. (2006). Italian architects and modern Egypt. *Studies on Architecture, History & Culture*, 39–50.
- Pallini, C., & Scaccabarozzi, A. R. (2016). British planning schemes for Alexandria and its region, 1834–1958. In *Urban planning in North Africa* (pp. 187–204).
- Reimer, M. J., & Bridgehead, C. (1991). Ottoman-Arab seaports in the nineteenth century: Social change in Alexandria, Beirut, and Tunis. *Cities in the World System, ed. Resat Kasaba*, 135–156.
- Selman, G. G. (1982). *Urban development laws and their impact on the ottoman cities in the second half of the nineteenth century* (Master's thesis).
- Sevin, A. (2017). Transformation of the urban patterns of Istanbul under the effects of the modernisation during the Ottoman Period. 1, 297–306.
- Shaw, E. K. (1992). Tanzimat provincial reform as compared with European models. *150. Yılında Tanzimat*, 51–67.
- Shaw, S. J., & Shaw, E. K. (1977). *History of the Ottoman Empire and modern Turkey: Volume 2, reform, revolution, and republic: The rise of modern Turkey 1808–1975* (Vol. 11). Cambridge University Press.
- Shaw, S. J., & Shaw, E. K. (2002). *Reform, revolution and the Republic: the rise of modern Turkey 1808–1975. vol. 2 of History of the Ottoman Empire and Modern Turkey*. 1977; repr.
- Sutcliffe, A. (1998). Urban transformations in the Balkans (1820–1920), aspects of Balkan town planning and the remaking of Thessaloniki. *Journal of Urban Design*, 3(3), 386.
- Tekeli, I. (1971). The evolution of spatial organisation in the Ottoman Empire and the Turkish Republic. *Ekistics*, 57–60.
- The Waterfront Centre. (1999). *Urban waterfront manifesto* [Online]. The Waterfront Centre. <http://www.waterfrontcenter.org>. Accessed Jan 2017.
- Toksoz, M., & Kolluoglu, B. (Eds.). (2014). *Cities of the Mediterranean*. Bloomsbury Publishing.
- Turan, Ö., & Uluengin, M. B. (2005). İmparatorluğun İhtişam Arayışından Cumhuriyet'in Radikal Modernleşme Projesine: Türkiye'de Kentsel Planlamanın İlk Yüz Yılı. *Türkiye Araştırmaları Literatür Dergisi*, 6, 353–436.
- Vlami, D. (2009). Entrepreneurship and relational capital in a Levantine context: Bartolomew Edward Abbott, the “Father of the Levant Company” in Thessaloniki (eighteenth-nineteenth centuries). *The Historical Review/La Revue Historique*, 6, 129–164.
- Yerasimos, S. (2006). Doğu ve Güney Akdeniz Kentlerinin Batılılaşma Sürecinde Osmanlı Etkisi. *Akdeniz Dünyası Düşünce, Tarih, Görünüm*, 167–184.
- Yerolimpos, A. (1998). Urban transformation in the Balkans (1820–1920), aspects of Balkan town planning and the remaking of Salónica. In *Salónica, Greece: University Studio Press. Urban Fabric and Types in the South Eastern Mediterranean A. Petruccioli, A. Sarro and S. Weber* (pp. 241–263).
- Zandi-Sayek, S. (2000). Struggles over the shore: Building the quay of Izmir, 1867–1875. *City & Society*, 12(1), 55–78.



Identifying the Character-Defining Elements in the Traditional Houses of Chettinadu Region, Tamil Nadu, India

Seetha Rajivkumar and Thirumaran Kesavaperumal

Abstract

The Chettinadu villages stand out for their remarkable unity in architectural style, which gives the region a distinct cultural and heritage identity. The architectural character of the region is primarily defined by the design elements and components. The study's main goal is to examine traditional Chettinadu houses in terms of building components and to discuss the benefits provided by architectural design characteristics. In the study area, a building assessment survey was conducted to identify the key elements that define the overall character of the place. The findings suggest that the town's heritage settings contribute to its character. In this regard, conservation strategies should be provided to preserve the town's character, as the town's image is distinct only when its heritage settings and elements exist. The current study delves into the elements and planning principles that govern their protection and restoration.

Keywords

Chettinadu • Character-defining elements • Conservation • Built Heritage • Identity • Tangible • Intangible • Policy • Town planning

1 Introduction

The Indian subcontinent probably has the wealthiest and also the most varied cultural and architectural heritage inventory, with a substantial percentage of living landmarks. The heritage of a country is its historical legacy to its people, a reflection of the living conditions today and the precious storehouse of cultural, religious, and historical treasures that we transmit to future generations. Our cultural and natural heritage is both a life and an inspiration that cannot be replaced (Mason, 2002). "Every historical site has a piece of remarkable information to be shared, and these pieces of information have inspired many people to strengthen their values and convictions." The built heritage plays a significant part in the structure and shape of the town and has meaningful connections between past and present. The historical and cultural progression that shaped the town's heritage is naturally reflected in the old buildings' distinct architectural style. The preservation of these styles is critical for preserving the town's character. As a tangible expression of an area's culture, the built heritage embodies the people's identity, architectural elements, religious, and cultural values. Built heritage, which provides physical space to non-physical representations of culture, is one of the most varied, complex, and thoughtful aspects of our cultural heritage. It is a physical depiction of the changing culture, and often their buildings are unique to both urban and rural areas.

Conservation of heritage buildings remains in its infancy in India (Menon, 1989). Many decades ago, India began its effort to preserve heritage. However, the last decade has seen tremendous efforts to protect the built heritage. The country's earliest heritage laws were the Bengal Regulation XIX of 1810 and the Madras Regulation VII of 1817. The Ancient Monuments and Archaeological Sites and Remains Act of 1958 deserves special mention because it was recently amended in 2010 with strict rules in place for building and renovation activity near protected monuments. An

S. Rajivkumar (✉)
Department of Architecture, Adhityamaan College of Engineering,
Hosur, India
e-mail: dr.seetharajiv@gmail.com

T. Kesavaperumal
Department of Architecture, National Institute of Technology,
Tiruchirappalli, India
e-mail: ktm@nitt.edu

amendment in 2010 provided for the constitution of the National Monument Authority charged with the grading and classifying of protected monuments and areas. (Appendix I shows the detailed table discussing the chronology of conservation laws for the protection of historic and archaeological sites in India). In 1984, Indian National Trust for Art and Cultural Heritage (INTACH) a non-government organization was founded to stimulate awareness for the conservation of cultural heritage among the people. The conservation initiatives taken by INTACH across the country are tremendous in terms of the listing, grading, and initiating conservation activities with public participation.

People all over the world see the changes in their cities and the accompanying destruction of the architectural heritage, but only recently have developing countries like India awakened to the real threat to their historical areas. Chettinadu built heritage is exceptional not only locally, but also globally and regionally. The massive structures were built to make the power, wealth, and influence of their owners visible to all who could see them. Such houses are extremely rare in India, and because of their cultural and historical significance, the Chettinadu houses have been nominated for (UNESCO, 2014) World Heritage site status. Nearly all the traditional homes have been eliminated through economic pressure and land speculation in the major towns of Tamil Nadu. Only a few examples of traditional town planning are existing, and the Chettinadu region is one of them. The palaces of the past had been converted over the centuries to residences. But in recent decades, these palatial buildings, which were conceived as symbols of power and privilege by the nagarathar community of the Chettinadu region, have fallen into ruin or been demolished to make way for modern structures (Meenakshi et al., 2002). The town is losing its values owing to decay, destruction, disharmonious growth around heritage construction, encroachments, which erodes a significant aspect of culture and traditions, leaving an obvious connection with the past behind. Chettinadu being a unique settlement of the nagarathar community is a repository of precious cultural, architectural, environmental, and economic value. The identity of the town employing the elements, treatment, and imageability is disturbed due to an abnormal growth pattern. It brings with it a duty to respect the heritage principles, concerns, and assets of the present nagarathar community, the native custodians or holders of ancient property, and the landscapes and cultures from which that heritage was created. As per Article 51-A of the Constitution of India, "It shall be the duty of every citizen of India to value and preserve the rich heritage of our composite culture." Therefore, there is an immediate need to develop an integrated, comprehensive heritage policy for the protection and preservation of heritage areas.

2 Literature Review

2.1 Character-Defining Elements

Character-defining elements are those that most clearly convey the meanings and significance of the location. If they were removed, it would be impossible to comprehend the significance of the location. The site's heritage value is determined by its character-defining elements. It includes the overall shape of the building, materials, craftsmanship, decorative details, spatial settings, uses, and cultural associations or signification that add to a historic place's heritage value that must be preserved to maintain its heritage character.

The place becomes an essential element, containing the people's memories, beliefs, and experiences over time. The physical features of the place (tangible) facilitate the above process (intangible) and give the place an identity. This identity, over the years, transforms into Place Attachment. This informs the composite characters of the physical features and gives identity to the people in different degrees defined by the activities, events with the specific context or environment (Proshansky, 1983).

The tangible components of a structure that contributes to its distinctive character, location, and time are the character-defining aspects, according to Jandl (1988). These elements provided the basic framework for a conservation strategy (Kerr, 2000). They are widely described as the materials, spatial settings and places, their uses as well as cultural associations that combine to produce the distinctive flavour of a place.

2.1.1 The Character of a Place

The Latin word *genius loci* define "the atmosphere of a place and the quality of the environment." "A place with a spatial setting has a symbolic meaning, attachment, and happiness" (Stedman, 2002). The location in which the activities, conceptions, and the physical feature of life take place is defined by Norberg-Schulz (1979). Locations materialize the understanding of the people with whom they can identify and call home; sites offer them a distinct feeling of a sense of identity that makes them different (Lopez, 2010).

Gehl (1989), Jacobs (1961) have described a location in terms of activity by users. The character of the place expresses its uniqueness (Lindsay et al., 2009) and it is the outcome of the streetscape and composition of the buildings Jaafar et al. (2012). The conception of a place's character as a mental map was defined by Lynch (1960) and Alexander (1979) as the guide to a town in terms of permeability, security, vitality, and fantasy. The styles, ornamentation, characteristics, landmarks, and how constructions defined

the space are also emphasized by other writers Cullen (1971, Kropf (1996).

The character of a place with its three components in the built heritage are: physical setting, significance, and activity, as defined by Montgomery (1998). What distinguishes a city from others is its character which is described by the distinctive characteristics and personality of its streets (Jaafar et al., 2012; Kropf, 1996). The Character of a place has more to do with history because locations are built-in specific periods, and their exact nature is a result of the past (Kropf, 1996).

“The architectural and historical structure of buildings can potentially lead to the distinctive urban retail streetscape and create a character in its development” (Warnaby, 2009). A Street’s character and quality impacts new buildings and old building modifications. Using retail advertisements, advertising panels, construction extensions, television poles, electrical utility lines, new image fabrics, etc. can produce unpredictable results in disturbing the imageability of the streets (Nasar, 1979).

Gehl (1989), Lynch (1960), Jacobs (1961) discussed the different elements of public image and identity reflected on the streets. It indicated that a street’s physical nature is based mainly on the general layout, including building design, skyline features, road edge features, and readability.

Feilden (2003) focussed on three conservation techniques: prevention of decay, management of change, and documentation and presentation of buildings. These methods include “all procedures that are aimed at a location to preserve its architectural, historical, aesthetic and cultural importance and include its conservation, restoration, reconstruction, and adaptation or a mixture of these.” Conservation extends the lives for the current and future use of cultural and historical properties. Conservation should preserve or strengthen the personality and appearance of the historical regions (Kropf, 1996). The key argument for maintenance is the dispute between the preservation of the historic city and the nature of changes in these towns (Nasser, 2003).

3 Methodology

To achieve its goals, the study employs a sequential mixed-method approach. The methodology is built around three approaches: theoretical, analytical, and applied. The theoretical study’s goal is to examine the significance and character of the location. This is followed by an analytical examination of the buildings in order to comprehend their personality and the elements that define them. The applied study of how the elements in the setting provide an identity to Chettinadu Architecture and in preserving the heritage while maintaining sociocultural and environmental aspects

of the local community follows. Finally, the paper concludes with policies that are recommended to achieve the most sustainable conservation strategies for this valuable area while meeting the needs of the local community.

4 Study Area Profile and Details

4.1 Chettinadu Profile

The Chettinadu is a Geo-cultural territory that spans over two districts, Pudukkottai and Sivaganga, which is a semi-arid region Fig. 1i. Chettinadu is a culturally distinct region that is organized around the nine clan temples, significant for its palatial mansions and its unique architecture. Chettinadu, occupied by the Nagarathar Chettiar (Nagarathar Chettiar is a typical Tamil merchant community, also known as Nattukottai Chettiars) community, is known for its splendid residences and temples. The area got its name from the community of Nagarathar Chettiar living there and their historical connection with the region (Lowson, 2017). The unique ensemble of Chettinadu architecture reflects the lifestyle of the Hindu Tamil community of Nagarathar Chettiar. The massive structures were designed to be very unique in India, and the Chettinadu houses were nominated for (UNESCO, 2014) World Heritage site status due to their cultural and historical value Fig. 1ii.

In 1947, the region covering 1550 km² was divided into 96 recorded Nagarathar Chettiar settlements. Today there are only approximately 73 villages and two towns. Chettinadu settlements, are mostly dominated by residential structures with only a small number of premises for business, educational and mixed-use. The demographic profile of the villages shows that over 16 villages with less than 500 inhabitants, 25 villages with 500–1000 inhabitants, 32 villages with 1000–3000 inhabitants, and 2 towns Karaikudi and Devakotai with more than 10,000 inhabitants. A total of 110,000 Nagarathar Chettiar inhabitants are distributed over 75 towns and villages.

Chettinadu is famous for its large palatial houses, which are the stately homes of the *Nagarathar Chettiar*. Most of the palatial mansions of Chettinadu are falling into decay, due to neglect, some have even been demolished for the resale and reuse of their building products (Lowson, 2017). This section aims to offer a short overview of Nagarathar Chettiar and the Chettinadu Region’s history and background.

The discussion is in three parts. The first part provides a profile of the *Nagarathar Chettiar* settlement and its history, mainly focussing on the palatial residences and the origins of and influences in their architectural style. The second part focuses on the physical elements of the built heritage that add historical and cultural value to the buildings. In the third

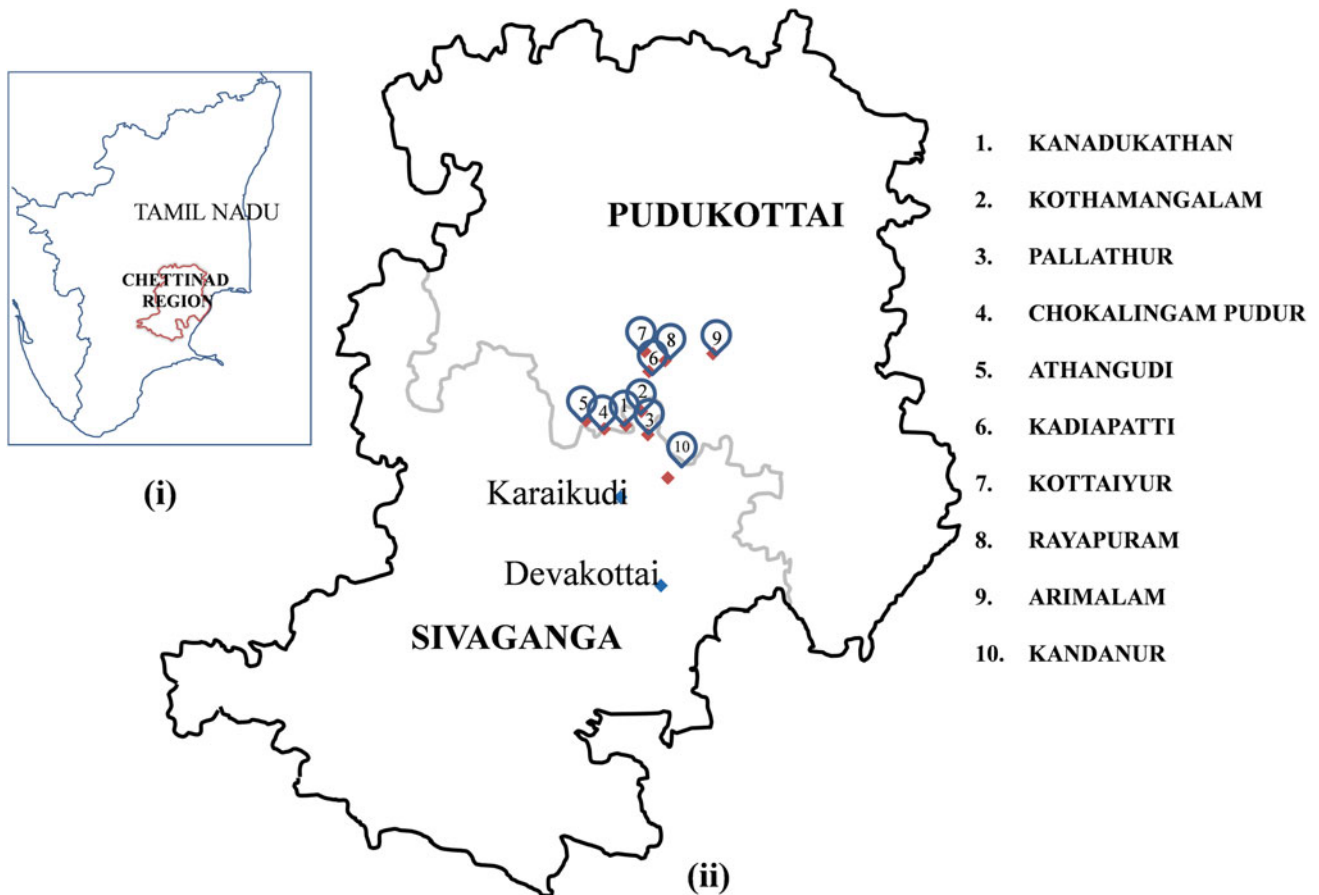


Fig. 1 (i) Location of the Chettinad region in Tamil Nadu state. (ii) Map showing the list of villages shortlisted by UNESCO for their Outstanding Universal Value for their urban character and architectural heritage

part, the data obtained in the study about the character-defining elements are taken into consideration in framing the policy guidelines for conservation.

The Nagarathar Chettiars of the Chettinadu region were originally from the village of Poombukar near Tanjore's coastal area. Figure 2 depicts the historical settlement of Chettiars in various locations throughout India. They arrived in the region in the mid-nineteenth century, and their priceless inscriptions show how they built temples and spread Hinduism. Chettinadu's built heritage includes monuments, artefacts, structures, and temple precincts with historical, aesthetic, and architectural significance that are located in areas with scenic natural geography.

4.2 Chettinadu Planning Aspects and Architectural Characteristics

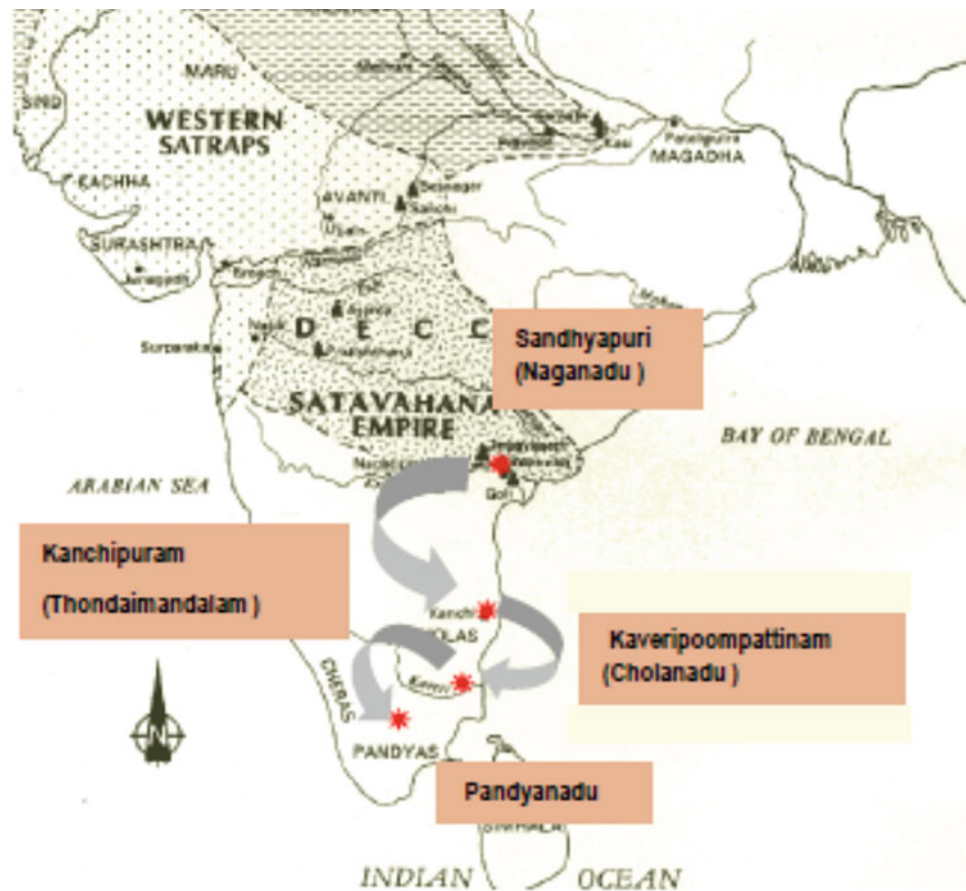
4.2.1 Town Planning

Chettinadu's settlement followed a grid pattern that reflected the cultural components of Clan, caste, kinship, and joint family, which were also reflected in the spatial arrangement

of the houses. The palatial homes, Erys, Ooranis, and Clan temples were all designed to look the same but differed in size, details, and embellishment (Meenakshi et al., 2002). This urban organization is the reflection of the policies of the traditional rulers. The main streets are oriented north to south, and the secondary streets are oriented east to west. Rectangular plots were established with a particular proportion of 1–4, for example, with a width of 30 m and a length of 120 m. These villages use Manaiyadi Sastram (Vastu), a construction that takes account of the specific design that works best for a single building as well as urban planning, street grid pattern, land use planning, and functional design. Their settlements have come under strict and sophisticated urban planning standards (Gobalakichenin, 2008).

Water is a central element in the daily and religious life of the Chettiars, which is why they created a complex water system connecting every house to the temple tanks using pipes and the grid shape of the streets map. Rainwater harvesting was used to supply the village's water supply, and the various designs of the mansions and settlement patterns were modified to accommodate this (Mukundan, 2005). The

Fig. 2 Map showing the historical settlement of Nagarathar Chettiar



floods caused by monsoons are diverted to sub-watersheds close to the temples. To not depend only on monsoons, they also created a rainwater collection system on their rooftop terrace. In the Chettinadu region, the rainwater harvesting system is divided into two well-interconnected networks, namely, ooranis, which is the drainage and ponds inside the village and erys/Kanmois which is surface storage reservoirs located around the town. Final Report of City Corporate Cum Business Plan of Karaikudi Municipality, March 2007, reports that Water bodies in the town account for almost 10.11% of the total area of the city. There are 13 water tanks and Athala Kanmaoi, Karaikudi Kanmai, Vannankulam, Veerian Kanmaoi, Nattar Kanmaoi, Kodikalcan Kanmaoi existing and in which temple Tanks (ooranis) are protected with sidewalls. This landscape consists of the alternation between ponds surrounded by bunds of trees, agricultural fields, forests, and distinct species of sacred trees.

4.2.2 Climatic Components in Chettinadu Planning

The Chettiars have considered their climate in the design of their buildings and the materials used for their settlement in the warm and semi-arid regions. Indoor thermal comfort is achieved through passive architectural strategies. Table 1

details the thermal lag and U-value of the materials used in the typical Chettinadu houses. The values are taken from the Energy Conservation Building Code 2017 (ECBC, 2017) and (Asan, 2005).

The range of accessible, semi-open, and enclosed areas was designed to comfortably live in various periods of the day, and on multiple occasions. The streets were narrow and shaded with overhangs and balconies.

The buildings were built around a central courtyard (Fig. 3); usually, east–west, which has shades, light, coolness, and air, and the building materials used, such as bricks for walls, egg-lime plaster, terracotta tiles, athangudi tiles, marbles, and stone flooring, is unique in the area. The roof slopes are needed and allow rainwater to be collected during the monsoon. Drainage carries water into holding tanks or ponds from the courtyard.

4.2.3 Materials and Construction Techniques

The houses were built with local materials such as Athangudi (a village in the Chettinadu region known for its unique tiles) tiles for flooring (Fig. 4ii) and Saanthu kalavai (Saanthu kalavai is a mixture of limestone powder which is as the main ingredient, gallnut which acts as a stimulator, egg white-yolk as a smoothing agent and palm tree Jaggery

Table 1 U-value and thermal lag of a typical wall assembly

S.No	Material (outside to inside)	Thickness (m)	Conductivity (K)	U-factor (W/m ² K)	Time lag (hours)
1	Lime plaster with egg finish	0.005	1480	0.135	0.12
2	Lime mortar	0.05	1440	0.013	0.89
3	Brick wall	0.35	2400	0.001	9.27
4	Lime mortar	0.05	1440	0.013	0.89
5	Lime plaster with egg finish	0.005	1480	0.135	0.12
Total		0.46		0.297	11.29

**Fig. 3** The Longitudinal section along with all courtyards. (Source Author)

as a binding agent) mixed with water to give the house a smooth finish. A Lime egg plastering is another unique traditional technique used to paint walls white and keep the interiors of the houses bright and cool for the entire life of the building. Handmade tiles from Athangudi are inlaid on the madras terrace roof pattern (Fig. 4i) with joists imported from Burma and the battens are melamine Burma teak.

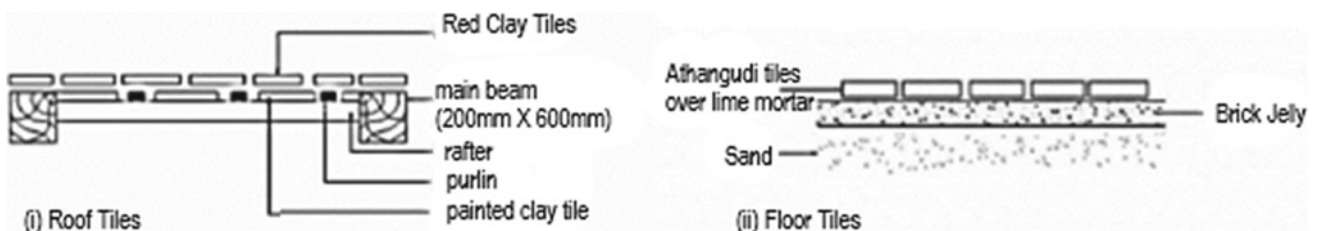
The house was also built with materials imported from outside India, such as Italian tiles, Belgian glass, Burma teak, rosewood carvings, and sculpted iron grills. Chettinadu's vibrant and impressive architecture is a result of the combination of elements and ancient Vaasthu science.

The building materials, decorative items, and furnishings, as well as ornamental objects and furniture, are imported from East Asia and Europe. Marble has been brought from Italy, chandeliers, and teak from Burma, Indonesian crockery, European crystals as well as Belgium wall-to-wall mirrors. The woodworking and the stonework influenced the buildings in France and destinations in Europe. The

mansions' doorways are exquisitely carved, with lintel panels above the main entrances depicting illustrations from Hindu mythology. The courtyards are surrounded by Burma teak, rosewood, and satinwood.

4.2.4 The Architectural Character of Chettinadu Residences

The Chettinadu architecture is renowned for its palatial houses with a range of local and imported products, unique colour, and scale. It is also famous for a combination of local plans and sacred motifs with western style components. The buildings demonstrate indications of Western impact, although representing Tamil architecture (Fig. 5). Chettiar traders were exposed to design features such as gothic domes and arches, large windows, arcades, and Art Deco styles during their travel. The Chettiars began to incorporate arches into their mansion facades. These facades were further adorned with geometric patterns, sculptures of Hindu gods and goddesses, British benefactors, flora, and mythical

**Fig. 4** Construction details of (i) Roof Tiles (ii) Athangudi tiles for flooring. (Source Author)

creations in a variety of colour schemes, resulting in the distinct architectural character known as the Chettinadu style. (Vedamuthu & Vigneswar Vasulingam, 2014). Between 1840 and 1935, these magnificent Chettinadu houses were built. They have several courtyards ranging in size from 400 to 450 m². People lived in these vast residences as part of a joint family, and they needed large areas for combined living as well as for various activities.

The houses constructed in the Chettinadu area were intended to represent the power of their people. The structures are massive, with a veranda, reception halls, high ceilings, courtyards, and often more than 40 rooms. The rectangular plots of these homes were at least 1.5 acres and covered not more than 10 acres (An example of a typical Chettinadu palatial house plan is illustrated in Fig. 6).

The Chettiar homes were built with large, airy rooms to take advantage of natural ventilation and lighting. The centre of a courtyard is open to the sky, with columns and a veranda linked to various rooms. There are many courtyards and adjacent sitting areas and rooms for a variety of purposes, both public and private. Figure 7 shows the roof form

of a typical Chettinadu residence with the number of courtyards in aerial view. Much use of outdoor verandas, called thinnai, for entertaining guests and impromptu business meetings. For more formal gatherings, there were rooms set aside for business and accounts, and of course, the vast indoor courtyards used for the unbelievably lavish weddings, funerals, and other ceremonies with elevated seating areas around the main floor for the special guests and discrete access for servants and servers to bring in food and drink.

The houses in Chettinadu were typically tiled with small two-story towers at each end of the front elevation with projecting chhatri in some buildings (Fig. 8). Later they adopted a more vertical style, expanding upwards to two-story structures and horizontally to accommodate guests in marriages and other ceremonies by adding numerous courtyards and halls.

4.2.5 Spatial Composition

Upon entering the grounds of the residence, the first feature that you see will be the outer thinnai—large elevated



Fig. 5 View of the Front Façade showing the entrance gateway in a Chettinadu residence, Kanadukathan. (Source Author)



Fig. 6 Floor plan of a typical palatial house. (Source Author)

verandas, one on each side of the hall where men would gather to entertain guests and discuss business. As in the case of a grand design, the front door is made of a massive teak plank, thoroughly sculpted with god images and figures. Within was the first of several courtyards with pillared colonnades on either side, leading to inner sleeping or

meeting rooms. The small rooms around the central courtyard are owned by a married son, in the hierarchical tradition of the ancestral home with a large extended family. The first courtyard, followed by another open space decorated and furnished appropriately and leading into the second courtyard, is usually even more extensive than the first and



Fig. 7 The aerial view of Chidambara Villas at Kadiapatti village, Tamil Nadu. (Source Author, 2015)

flanked by grand dining areas for weddings and other ceremonies. In Chettiars society, men and women were segregated, and further into the interior of the residence, there was another courtyard designated for women only where they could discuss their affairs and make plans for upcoming festivals and ceremonies. At the very back were the large kitchens, the well, and the back yard with storage and work areas.

Front verandah

The men use the front thinnai, also known as “Mugappu” (Fig. 10i) to hold informal discussions as well as to welcome visitors and guests. The verandah is also used for business purposes, as it restricts visitor movement within the house. One side of the thinnai is used as a kanakkupillai room (Fig. 10iv) in the traditional houses of Chettinadu.

Pattagasalai

This large room [*inner thinnai* Fig. 9i] is used for both rest and confidentiality. The difference in level safeguards their holiness. It serves ceremonial occasions also as a high sitting

area. This room consists of the central hall. Men use the pattagasalai (inner thinnai) to sleep and talk about family matters. The Valavu is a raised platform adjacent to the courtyard that serves as seating (Fig. 10ii). Corridors connect to the ullarai and veliarai (secret cellars). During the earlier stages of planning, the muttram was used as the wedding space. Seating was provided in the aisles surrounding the courtyard, with the pattagasalai seating the melakarar (musicians).

Multipurpose central open space

This area is the first part of the private spaces and is located in rooms near frequently used semi-public and commercial areas. It satisfies the need for privacy and quiet contemplation, but its structural versatility allows it to be transformed into a festive space for ceremonies and celebrations (Fig. 9ii).

Muttram

The muttram (central courtyard), which is surrounded on all sides by aisles with sloping roofs into the court, is one of the distinguishing features of Chettinadu homes that emphasizes



Fig. 8 Two-story towers at each end of the front elevation with projecting Chatris in Chidambaravilas at Kadiapatti Village. (Source Author)

the privacy-oriented nature of their construction. The central courtyard is used to dry paddy, and the aisles are used for chatting and sleeping. Suttrupattis are the corridors that surround this open court (Fig. 10v).

Kalyana Kottagai

During muhurtams, the central two-story hall serves as the thirumangalya medai (Fig. 9iii) (marriage stage) and seating for women. This is primarily used as the main living area, but it is also used as a wedding hall when weddings are held. The space is given the necessary grandeur by the high ceiling and polished granite columns. The adjacent aisles are used to store the seervarisai (dowry) and to seat the melakarar (musicians). The area has direct access to the bhojana hall (Fig. 10iii), allowing guests to proceed directly to the dining hall following the muhurtham.

Service areas

These consist of a double courtyard with four kitchens and four storerooms in the front (Fig. 10vi). During festive occasions, the corridor spaces surrounding the courtyards are used as preparation areas, with the cooks restricted to the service areas. These courtyards are open to the sky to provide natural lighting and ventilation while also removing smoke and other pollutants from the kitchen.

Bhojana Hall

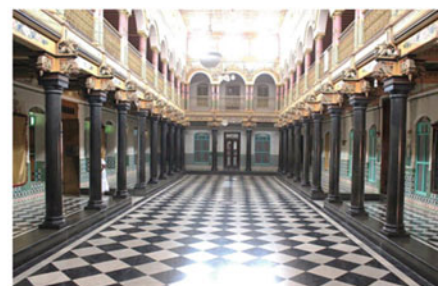
This is a dining room with an entrance from the street that is familiar to the two houses. It has a central courtyard surrounded by aisles with slanted roofs that slope into the courtyard. The open courtyard improves guest comfort by



9 (i) Front Thinnai

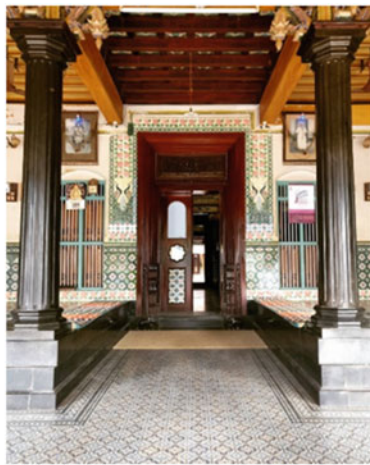


9 (ii) Multi purpose Open Courtyard



9 (iii) Kalyana Kottagai

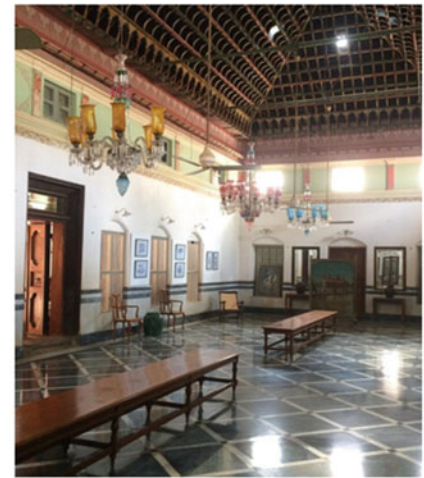
Fig. 9 Interior features of a Chettinadu mansion (from left to right). (Source Author)



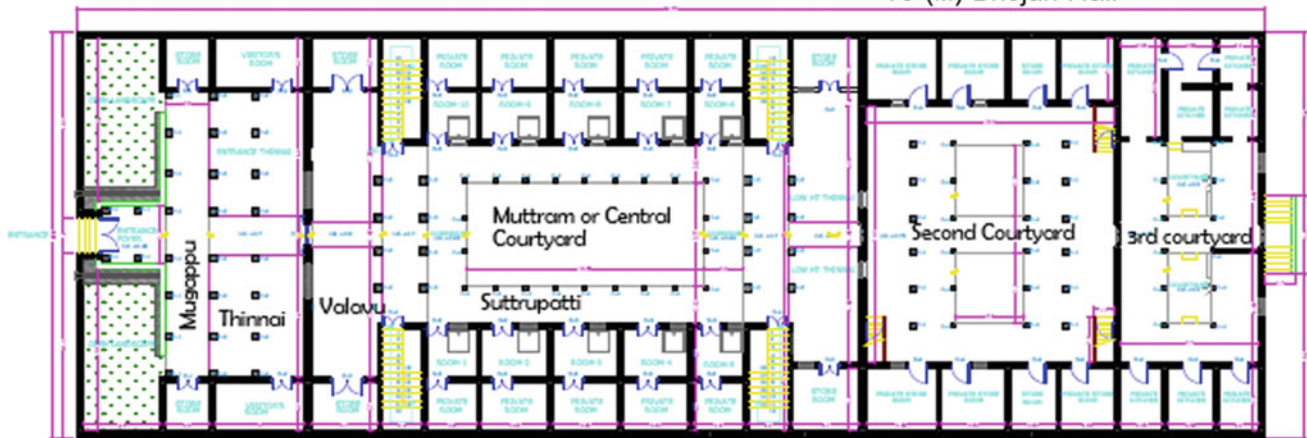
10 (i) Mugappu



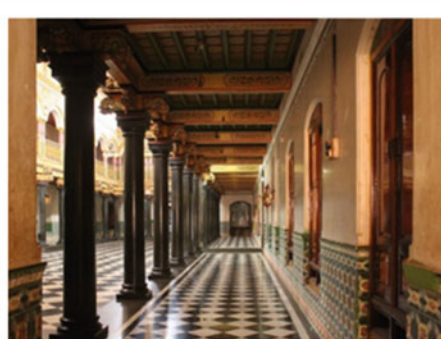
10 (ii) Valavu



10 (iii) Bhojan Hall



10 (iv) Kanakupillai room



10 (v) Suttrupatti



10 (vi) Kitchen with service courtyard

Fig. 10 Spatial planning showing various spaces in the interior. (Source Author)

providing lighting and ventilation. The area is accessible from both houses' washing and preparation areas, and it can thus accommodate a large crowd of about 150 people, reflecting the Chettiars' self-sufficiency.

Back yard/Service yard

This consists of a central courtyard divided by a circular passage, which serves as the service thazhvaram. (Thazhvaram is a corridor with sloped roofs that wraps around the

courtyard.) The woman and the servants use a well (Keni) that can be accessed from the courtyard. Utensils, tools, materials, and vegetables can be stored on both sides.

4.3 Physical Problems and Issues in the Region

A new trend led to the breakdown of the joint family structure, litigation, and neglect: the houses were rented down, valuable materials were sold off, the plots were

subdivided according to their shareholdings among stakeholders, and the new buildings were replaced by old ones. The demolition activities have become an organized business, and contractors have begun to recover, repair, and sell building components in parts. These costly items and building elements are in popular demand as they are beautiful and in excellent condition. Sadly, many of these unique buildings have fallen into disrepair or have been abandoned. Besides the human threats, socio-economic processes have exposed Chettinadu to multiple dangers as can be seen in these six categories as mentioned in Fig. 11 according to homeowners from five village case studies are tabulated.

The structures show the existence of past economic prosperity; however, the region of Chettinadu has experienced an economic decline since the independence of Myanmar and Malaysia. In effect, this condition has resulted in the decline and decay of palatial housing in the region (Meenakshi et al., 2002) as inhabitants quit the region to seek greater financial possibilities elsewhere. As these historic buildings collapsed, they started to be demolished and disposed of the precious architectural parts which were then transported to other nations and marketed as urban relics. Not all palatial houses in the region have met this fate; some have remained because they were locked up when residents left or were converted into boutique hotels and amenities serving the area's tourist industry.

5 Character-Defining Components in Chettinadu Houses

The architecture in the Chettinadu building is so unique, as it reflects a unique sociocultural flavour through the elements that define it. The interior and exterior elements in the Chettinadu houses define the character of the region. Based

on the detailed study and analysis discussed in Sect. 4, few elements considered unique which define the Character of the town are taken for the survey and analyzed based on the resident's viewpoint.

The perceptual viewpoint of the resident's

The place identity is perceived more in the historical towns and it will be the memory that a strong image to the town. The questionnaire survey confessed the following elements which the residents say that define the character of the region. These unique elements are listed and ranked based on their preferences and choices are shown in Fig. 12. Further, the role of heritage settings imbued the image and memory of the town. As well, the results show that the resident's perception of the place is based on the physical elements (Appendix II illustrates The Photograph showing the elements in the palatial mansions as listed).

- (i) **Elevated Plinth**—The plinth of the house is raised to 10ft above the ground level; thus, the entrance room is led by a flight of steps from the road. The use of different materials makes it a visible element. Blocks of Laterite stone are used in the plinth.
- (ii) **Entrance Gateway**—The entrance is an arch opening with the idol of goddess Lakshmi above and roofs—cantilevered or sloped acting as a sunshade. The core of the Chettinadu heritage identity is these beautifully adorned porches that exhibit the impact of multiple architectural styles.
- (iii) **Arches**—The streetscape of the Chettinadu region is characterized by a sequence of ornate arches. In addition, the building has an impressive entry porch on the compound wall that shows the richness of the owner and his social status.

Fig. 11 Barriers to palatial house preservation according to owners. (Source Author)

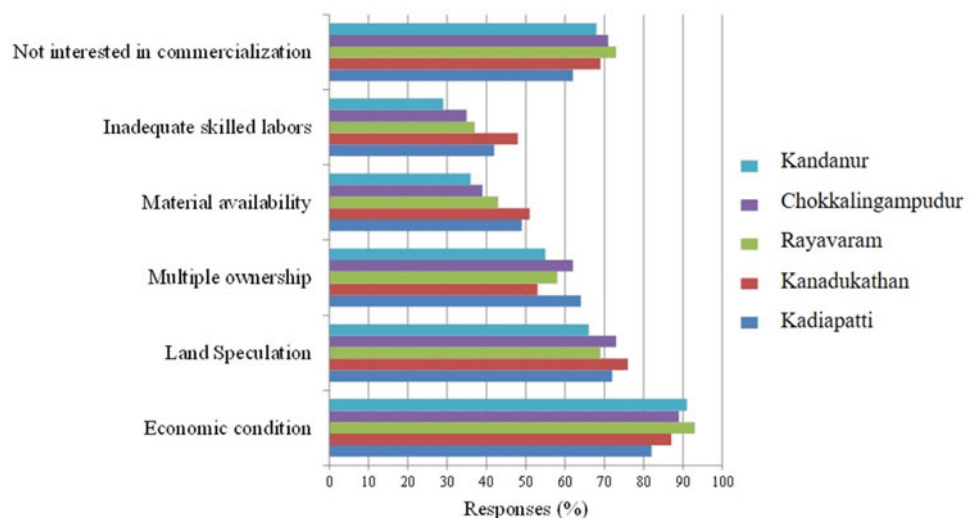
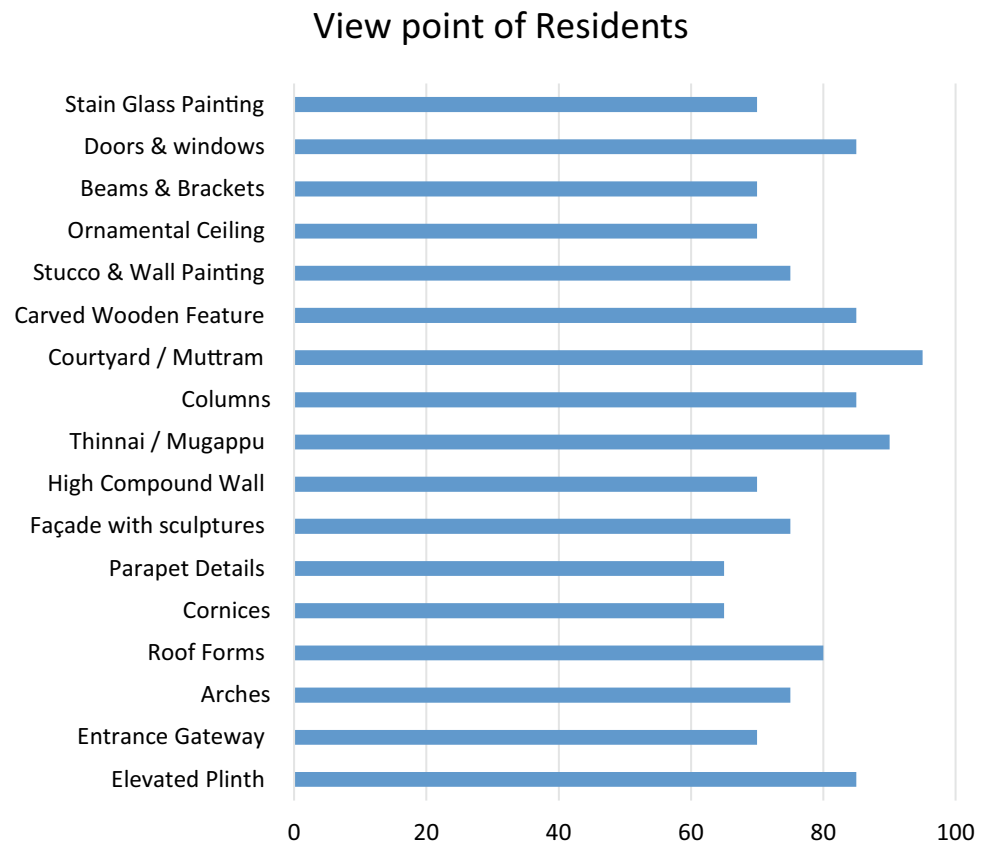


Fig. 12 Elements listed unique to the region based on residents' viewpoint. (Source Author)



- (iv) **Roof Forms**—Chettinadu roofs have great importance the use of slanting clay-tiled roofs, the country-made roof tiles (known as “naattu oodu”), is a unique feature. The roof is projected into the courtyard from 0.26–0.6 m to collect the rainwater in the court drain. The room encircled by the courtyard also shades the rainwater to reduce heat intensity.
- (v) **Cornices**—The rich and intricate Stucco cornices generate sophisticated rows around walls enhancing the house’s various levels. Numerous bands are seen with alternating or contrasting use of colours with red, blue or yellow. They are used at an intermediate level to reduce the scale.
- (vi) **Parapet Details**—The parapet is usually high and divided into 2–3 tiers with colourful strips which hides the slope behind.
- (vii) **Façade with sculptures**—Concrete sculptures adorn each structure. Front façades were given special attention, and various themes of inspiration can be seen: deities such as Gajalakshmi, Lord Shiva, or Lord Krishna; kings and queens, British soldiers, hunters, or symbolic forms of fauna and flora.
- (viii) **High Compound Wall**—Has high raised compound walls with a small opening at a height more than

human height to avoid the view of the interior from outside. The compound walls had peepholes or grills above human height.

- (ix) **Thinnai/Mugappu/Front verandah**—A raised platform or porch in front of a building is called Thinnai. It is used for informal discussions as well as to welcome guests and visitors. The veranda is also for commercial use. They make it easy for strangers and non-family members to sit and wait. A unique feature of the ‘Mugappu’ in Chettinadu houses, is that it is inside the compound wall and not on the street, as in other vernacular Tamil houses.
- (x) **Columns**—The typical Chettinadu column is of imported Burma teak, rounded at the bottom, and tapered on top. Geometric, leaf-like patterns are cut into the rounded base and the neck. The shaft itself is banded with brass on its stem and set on a carved granite base. The capital, surrounded by the second row of wood, supports the massive beams above. The wooden columns are primarily used for indoor areas, and stone pillars for courtyards and subsequently granite columns were used in the outdoor thinnai. Chettinadu houses are characterized by the elegance and shape of their wooden and granite columns.

- (xi) **Courtyard/Muttram**—The muttram (main courtyard), which is surrounded on three sides by aisles with roofs sloping down to the courtyard, is one of the highlights of Chettinadu houses that emphasize the introverted nature of planning. And this space is the first point of private spaces, located in the centre of the rooms, near semi-public spaces. Although its adaptability allows its nature to undergo extreme change and, when necessary, to create a festive ceremonial setting.
- (xii) **Carved Wooden Feature**—The Chettiars brought teakwood back from Burma during the period of economic expansion in Eastern Asia (Tamil Nadu). Prior to the use of modern materials like iron in construction, their houses were built with steel, stone pillars, and teakwood beams. They brought skills such as woodcarving and honed them. Superior columns, door panels, imposed doors, windows, and ceilings have all been delicately carved and inspired: goddesses, Yallis, flora and fauna, and geometry are all available. As a result, during the community's most prosperous period, Chettinadu has become a centre of excellence for wood carving.
- (xiii) **Stucco and Wall Painting**—Chettinadu plaster is renowned for being durable because of its smooth texture and appearance. This specific material consists of lime, eggs, and seashell. The bricks are covered in white lime mortar and then completed with lime plaster. The plaster is the ultimate coating that provides softness, strength, and brightness to the walls. Paintings on the transom door or window, friezes on the cornices, and other decorative elements enhance the aesthetic and religious feelings.
- (xiv) **Ornamental Ceiling**—The interior and the details in the ceiling are luxurious with intricate carvings and detailing in the Chettinadu houses. In residential buildings, this character is distinctive.
- (xv) **Beams and Brackets**—The detailing of the beams and brackets system as a structural component and an aesthetic component is well integrated into the Chettinadu mansions.
- (xvi) **Doors and windows**—The streetscape of the Chettinadu region is highlighted with an arched window and detailed doorways. Rhythm in the façade treatment is achieved with the window patterns.
- (xvii) **Stain Glass Painting**—The addition of stain glass painting in the Chettinadu houses is a different influence of western architecture.

6 Discussion and Findings

In this research, the primary results guide the knowledge of heritage as a dynamic and value-laden idea, representing a multiplicity of different meanings and beliefs, and these principles influence the expertise and stakeholders in heritage. Indeed, communities need to connect to their built heritage that requires conservation and constant maintenance, as well as re-interpretation, to make a meaningful conservation process. The linkage between tangible and intangible aspects is fundamental to these intertwined approaches. While referring to the other cases in India—the Shekhawati region of Northern Rajasthan, India, has a magnificent painted architectural heritage dating from the nineteenth and early twentieth centuries, when it was a commercially flourishing area. The project works with its regional contacts to lobby local governments to implement monument protection measures, such as town infrastructure and city services like waste management, which have a direct impact on the condition of the buildings and their frescoes. The policy is intended to revitalize the town's identity. Similarly, in China, Asia, a similar cluster of villages in the Kaiping Diaolou features a multi-storey defensive village house with a complex and flamboyant fusion of Chinese and Western structural and decorative forms. While analyzing the policy framework, the focus was on preserving the tangible and intangible components of the built heritage. A strong regulatory framework was established to execute the conservation and management of the built heritage. Hence, built heritage conservation mainly focuses on the elements and character of the town, a strong policy framework focussing all these above aspects is to be considered.

6.1 Policy Framework for Character-Defining Elements

The Chettinadu region is a repository of rich architectural heritage with eclectic style. The physical fabric of the place plays a significant role in defining the character; the character is determined by the presence of architectural elements. Thus based on the inventory and analysis, eight elements were identified to play a significant role in defining the character. The levels of intervention in the conservation programme should be specified. Policy guidelines should ensure to retain the elements with the precise specification of the typology of the features. At the planning level, use of these elements, Courtyard, roof forms, doors and windows,

elevated plinth, entrance gateway, arches, *thinnaimugappu*, and columns are to be used in the planning policy to maintain the character of the region.

6.2 Built Heritage Conservation Policies

The conservation of the historical heritage site involves a variety of tasks. Built heritage strategies differ globally. For example, heritage must be essential and historic in many developed countries, and so it is the preservation of national or local identity that will be the first important conservation policy. Another major policy element is to reclaim a lost national identity for whatever reason; other features are the protection and regeneration of historical regions. Architectural preservation is essential, but it is vital to preserving immaterial values such as people's spirit, their initial lifestyles, and their authenticity, following the ICOMOS charter (ICOMOS, 1997).

An integrative approach to socio-economic development and heritage conservation in the region using heritage sites to encourage tourism could be adopted. Hence, rehabilitation of traditional villages abandoned for tourism should form part of a socio-economic approach where adaptive reuse of the structures should be consistent with the original site, without compromising the unique building character.

The palatial mansions lend a unique identity to the Chettinadu region with their luxurious spaces, architectural features, and beautiful frescoes. With a variety of areas that can be easily adapted for use as accommodation for visitors—the houses have immense potential for reuse. Offering Home Stay accommodation to tourists might be one way of protecting a significant heritage property so that the features can be put to sensitive use and become self-sustaining, generating funds for conservation and maintenance.

6.3 Regulatory Framework

A regulatory framework for conservation to assist owners and experts in their conservation documents and materials is to be provided. Retain the original material of the historic buildings and also maintain the similarity in the new structures too. The colours should be chosen to complement the traditional architectural style existing on the overall streetscape. A specific heritage growth policy should be incorporated into the general growth schemes of the villages of Chettinadu for their populations so that the distinctive rules and laws needed for reconstruction and conservation can be effectively implemented. The character-defining elements of the Chettinadu architecture should be maintained through heritage zone regulations. Enforce the **Tami Nadu Heritage**

Commission Act 2012, focussing on the built heritage of Chettinadu to execute the permanent listing in UNESCO. The grading and listing of the building are significant for efficient conservation planning.

- Chettinadu region needs to be promoted as a '**Special Tourism Area**' covering the districts of Sivagangai and Pudukkottai.
- A heritage cell should be established to govern the conservation activities in the region.
- Integrated conservation, infrastructure, and tourism development to be undertaken by a regional authority.
- Regulation, planning, and development controls for towns in the region to be vested in the regional authority.
- Coordination of the conservation activities in various districts and government departments to be facilitated by the heritage authority.

The character-defining elements identified in the research help in guiding the interventions in the heritage. Destruction and restoration initiatives aimed at safeguarding the rich architecture in the past must be strictly banned by framing legislation and encouraged—however, the demolition permit is to be issued by the Heritage Cell.

7 Conclusion

Chettinadu, an ancient, historic, cultural city with many palatial mansions, is on the tentative list of UNESCO and a heritage site in India. In the absence of effective legislation coupled with not addressing the heritage issues comprehensively in the Master Plan, the heritage resources are under significant threat. The research identified that the city has active elements and values in the built heritage, which are tangible and intangible heritage resources. The majority of heritage resources have very significant values associated with the built heritage. In the absence of robust heritage policy and adequate legal backing, the heritage resources have suffered a developmental setback. To address the heritage issues, regulations should be framed for identifying, grading and significance assessment of heritage areas. The heritage zones should be categorized into primary, secondary and tertiary zones of importance and a conservation management plan should be developed. Also extending incentives and encouraging public–private partnerships and creating awareness are inevitable for planning and conservation of the Chettinadu region in reviving the past glory.

Over the years, the global debate on the preservation of the built heritage has extended the field of heritage conservation from monumental icons to major historical settlements, including a broad range of intangible elements.

References

- Alexander, C. (1979). *The timeless way of building*. Oxford University Press.
- Asan, H. (2005). Numerical computation of time lags and decrement factors for different building materials. *Building and Environment*, 619.
- Cullen, G. (1971). *The concise townscape*. New York: Van Nostrand Reinhold Company.
- ECBC, C. (2017). *Energy conservation building code*. Bureau of Energy Efficiency, Ministry of Power, Government of India.
- Feilden, B. (2003). *Conservation of historic buildings*. Routledge Press.
- Gehl, J. (1989). A changing street life in a changing society. *Places*, 6(1), 9–17.
- Gobalakichenin, M. (2008). *The origin of Nattukottai years and their communal practices*. East-West Books.
- ICOMOS. (1997). *The Australia ICOMOS charter on caring for places of cultural significance*. Retrieved from <http://www.icomos.org/australia/burra.html:AustraliaICOMOSIncorporated>.
- Jaafar, N. S., et al. (2012). Traditional street activities in Kuala Lumpur City. *International Journal Of Multidisciplinary Thoughts*, 93–105.
- Jacobs, J. (1961). *The death and life of great American cities*. Random House.
- Jandl, H. (1988). *Rehabilitating interiors in historic buildings identifying and preserving characterdefining*. Washington, D.C. 20402.: U.S. Government Printing Office.
- Kerr, A. (2000). *Public participation in cultural resource management: A Canadian Perspective*. Mexico City: INAH: In ICOMOS general assembly entitled “Patrimonio y conservación.Arqueología. XII Asamblea General del ICOMOS”.
- Kropf, K. (1996). Urban tissue and the character of towns. *Urban Design International*, 247–263.
- Lynch, K. (1960). *The Image of the City*. MIT Press.
- Lindsay, S. S., et al. (2009). *Design of streets: A reference handbook for high quality streets*. North Shore City: North City Council.
- Lopez, R. (2010). Sense of place and design. *Focus*, 7(I), 16.
- Lowson, A. A. (2017). *Routing-out portable antiquities: A biographical study of the contemporary lives of Tamil antiquities*. University of Exeter.
- Mason, R. (2002). Assessing values in conservation planning: Methodological issues and choices. *Assessing the Values of Cultural Heritage*, 5–30.
- Meenakshi, S., et al. (2002). *THE chettiar heritage*. The Chettiar Heritage Press.
- Menon, A. (1989). Conservation in India: A search for direction. *Architecture+Design*, 34–42.
- Montgomery, J. (1998). Making a city: Urbanity, vitality and urban design. *Journal of Urban Design*, 3, 93–116.
- Mukundan, T. M. (2005). *The ery systems of South India*. Chennai: Akash Ganga Trust.
- Nasar, J. L. (1979). *The impact of visual aspects of residential environments on hedonic responses, interests, and fear of crime*. The Pennsylvania State University: The Pennsylvania State University. ProQuest Dissertations Publishing.
- Nasser, N. (2003). Planning for urban heritage places: Reconciling conservation, tourism, and sustainable development. *Journal of Planning Literature*, 467–479.
- Norberg-Schulz, C. (1979). Genius loci: Towards a phenomenology ofArchitecture. In *Historic cities: Issues in urban conservation* (p. 31). Los Angeles: The Getty Conservation Institute (2019).
- Proshansky, H. M. (1983). Place-identity: Physical world socialization of the self. *Journal of Environmental Psychology*, 3(1), 57–83.
- Stedman, R. C. (2002). Toward a social psychology of place: Predicting behavior from place-based cognitions, attitude, and identity. *Environment and Behavior*, 561–581.
- UNESCO. (2014). *Chettinad, village clusters of the tamil merchants*. Retrieved from <https://whc.unesco.org/en/tentativelists/5920/>.
- Vedamuthu, R., & Vigneswar Vasulingam. (2014). Structural strategy and construction system in the case of traditional beri-chettiar dwellings in chennai (1850–1950). In *Sahc2014—9th International Conference on Structural Analysis of Historical Constructions* (pp. 1–12). Mexico city.
- Warnaby, G. (2009). Look up! Retailing, historic architecture and city centre distinctiveness. *Cities*, 287–292.



The Identity in Comic Strips in Egypt

Ayah Elarief

Abstract

Comic strips are evidence of countries' progression or even their opposition to the reality they live in and their desire for change. Here comes the role of the comic artist. Despite the wide range of comic strip genres, whether Caricatures, Romance, Action, Horror, Superheroes or even Drama, each of which is nothing but a mirror that reflects what happens in the artist's life and the impacts affecting him where he lives. Society is only a part of the life existing inside one country, which has its Identity and the influences affecting it, whether political, economic or social influences. Identity should be mentioned here: did the Egyptian artist succeed in reflecting the Egyptian Identity on his works or not? What did the Western Schools do? How did they develop and reflect their Identity on comic strips? How did comic strips prove themselves worthy in human life, thus becoming indispensable in Western countries? Regan gave comic strips their right, when he said that each morning, he searched for Marvel comics before reading any other news. Spiderman became a symbol of Justice and Defense of Rights and has been used by Human Rights Organizations in campaigns making people aware of the children! And moving to Europe, where Asterix has become a French National Hero, as he was the symbol of the resistance against the Roman Occupation (and actually, he was the symbol of what was happening at the time of the World War and the Raiders on France). When McDonald's used Asterix in their products' promotion campaigns, the French got mad for using Asterix as an agent for the enemy—the Americans of course—while he was mainly defending them. Now back to Egypt, where there were strong attempts for founding an artistic school with Egyptian Identity, and there was a building criticism by

Ellabad to make people well aware of what the cultural invasion was trying to do to us, but unfortunately, the school with the Egyptian Identity did not show up and all the attempts failed. Identity is a very homogenous digesting mould of what we are, and its appearance in the contemporary Egyptian comics was delayed due to the great differences among the Egyptian people at the time of the study, and it is very difficult for this harmony to occur now due to the political, social and even psychological conditions that exist. Thus, the researcher concludes that at the time of the research, Identity in the contemporary comics in Egypt will only be found in individual experiences. But it is possible that this harmony will happen again one day, and we might live in an age of group artistic geniality, due to the intensive competition among the Egyptian artists and the absorption of the global market to them, as what happened with the Franco-Belgian comics.

1 Introduction

Identity is the foundation of every human being, where it defines our inner beings. Great cultures and civilizations are built upon it, and many countries had risen and collapsed because of it. When we look at a particular country in order to study it or try to understand it, we look upon the features that distinguish it and this mix of sporadic components that forms its own identity and the identity of those leaders who determined the destinies of a lot of people. Anciently, we find that the Identity of Islam and its spreading culture all over the world at that time extended to Andalusia, turning it into a heaven on Earth, which certainly influenced the Europeans in this period of time. Even after the Arab's departure, we find that the Europeans have turned these mosques into churches and up till now when we visit Spain, we find a lot of churches and architecture that remind us of

A. Elarief (✉)
Book Art Division, Graphic Department, Faculty of Fine Arts,
Helwan University, Giza, Egypt
e-mail: ayah.elarief@icloud.com

the Islamic culture. If we look upon another nation, which is the Japanese nation, we will find that it was also an enclosed nation to their customs and traditions; however, after the World War, they began to open up to the world; taking what suited them from what was happening abroad. Nevertheless, they did not turn into a sponge that absorbed everything without distinguishing between what is good and what is bad; on the contrary, they took what suited them and absorbed it bringing up to the world the essence of their culture, which was the Japanese Identity. If we looked from another perspective, we will find that the concepts that Hitler adopted and spread among all who surrounded him gave them another sort of aspect of Identity, which was known as Nazism. In the beginning, it was a concept and a political party, but later it became a belief and one of the aspects of Identity that identified those people who believed in it to the

furthest extent that made them kill the Jews and the Gypsies because they were superior to them. This was a form of Identity as well. Although the term “Identity” has a long history, as it is derived from the Latin root—you can see this impact in Fig. 1—“Idem” that indicates unity and continuity, it only became commonly used during the twentieth century. Many intellectuals find difficulty in defining Identity. Thus, it was not strange that “Gottlob Frege announced that this term is indefinable because every definition is an Identity in itself. Identity is an Ontological, Existential concept, which has a magical property that qualifies it to appear in all sorts of cognitive statements, and which is characterized by a high level of generality and abstraction that exceeds those of the other various correspondent and anti-correspondent concepts. Despite all this, and despite the ambiguity that wraps and surrounds the concept of Identity, it possesses an

Fig. 1 Peter Ferguson—Fantasia—Fantasia Film Festival—Oils and Painter Corel—Fantasy Art—Volume 2—(Ally Fell & Duddlebug, 2009)



exploratory power to understand the World, which includes the Self and the other” (Al-Mufti, 2013).

“The study of popular culture within the framework of the humanities has gained increased scholarly attention. However, one area of interest that has not been fully addressed in the social sciences is the role comic books play in shaping identity. The comic book presents a multilayered structure of narration that lends itself to reader participation while relating mythic narratives.” (Atchison, 2013).

“As nostalgia plays a key role in the current success of the comics industry broadly and the superhero genre more specifically. While superhero comics, together with their readers and creators, might be trapped in a nostalgic childhood, today’s actual children seldom encounter superheroes through the pages of comic books. In the United States, the 1940s and 1950s represented the apex of children’s fascination with comics. Comic book readership among children in the United States today is at near-historic lows for this format, as its early 1950s-era popularity was further eroded with the 1970s’ decline in distribution through newsstands, drug stores, and similar venues. Today, Marvel’s merchandizing reach has no limits, and can include anything from toys to perfume and clothing to luxury cars. One of the peculiarities of nostalgia is, as Fred Davis observed, that one can experience nostalgia for a past one has not personally experienced.” (Tilley, 2017). This brings us to an entrance to the identity in the comic strips and how the culture and identity of cities and civilizations affects the comic strips industry, especially the ones related to the superheroes. Later we are going to mention the effect of the culture and the different impacts of identities on the Egyptian Comic strips.

2 Identity Definition

Identity is a term used to describe the person’s concept, the expression of his own individuality and his relationships with groups (such as National Identity or Cultural Identity). Identity is also the sum of the features that distinguish something from another or a group of things from another, each of which carries many elements in its own Identity. Identity elements are a dynamic moving thing, where one or some of them can emerge in a certain stage, while the others emerge in another one.

2.1 Identity in Arts

However, we are not searching here only in Identity, but we are also searching for the materialistic means that showed the Identity and were the result of it, as shown in Fig. 2 and the influence of the culture on the painting and the most important things that influenced us and formed our Identity



Fig. 2 Jonny Duddle—Dead Dragon—Digital-Future Publishing house—Fantasy Art Now—Volume 2—Ally Fell & Duddlebug—Limited Ilex Press (Al-astair)

since we were young. “It is always said that the golden ages were in the past, meaning that we have to look back—usually long before this specific era which became history—in order to know or recognize the golden age. We may find ourselves at the beginning of the golden age of Fantasy Art, where the stars were lined up to agree on this, concerning Art history. As for the new golden age, its origins go back to the beginning of the sixties of the previous century, with the appearance of the paperback books with well-designed and well-made paperback covers, which were “Ace—paperback books” created by “Frank Frazetta” (American Comic Strips illustrator 1928–2010) and “Roy G. Krenkel” (American Comic Strips illustrator 1918–1983) and bore a sense of creative vision in the world of Illustration. Each of these books—which were written in pen and ink, in addition to its amazing cover—contained a gorgeous illustration that had not been seen in the world of printing for decades. The attractiveness of the pictures went far beyond being limited,

specialized illustrations. They were presented by other artists in the field of Science Fiction and Fantasy Art styles. Frank Frazetta's inspiration seeds reaped their ripe fruits in the book covers he created for "Robert E. Howard" (American author 1906–1936), which belonged to the books named "Conan" (Ally Fell & Duddlebug, 2009).

"Ray Harryhausen" (American visual effects creator and a writer 1928–2010) created this sense and translated it cinematically—this visual attraction and showing the sense of fictional world—a few years earlier, through the stop motions Fantasy Classics, such as his fantasy films "The 7th Voyage of Sinbad", "Jason and the Argonauts" and "Mysterious Island". Those films greatly inspired "Willis O'Brien" (American Special effects and stop motion animation pioneer 1886–1962), the mentor of Harryhausen, who created the effects of the classical film "King Kong" which was produced in 1933." (Ally Fell & Duddlebug, 2009).

"Nowadays, cinema influences the minds of Fantasists, who in their turn have an influence on many areas in the film world. The multi-height, thrilling, dense jungle in King Kong Film—which was inspired by the engraved illustrations of "Gustave Dore" (French Artist 1832–1883)—has created a great inspirational base for Fantasists. The Horizon and the wide range, which characterize the Middle East Landscapes and that were inserted by "David Robert" (Scottish Painter 1796–1864) had a great effect on "David Leen's" (English Film Director 1908–1991) epic film Lawrence of Arabia. They were also found in Films like Star Wars, which was influenced by the elegant illustrations of the Comic Strip artist "Al Williamson" (American Illustrator 1931–2010), the illustrator of the "EC Comics" series by "Jean Giraud" (French Cartoonist 1938–2010), who used the nickname "Moebius". Gouache illustrations by the car illustrator "Syd Mead" (American Artist and a Visual Futurist 1933) outlined the science fiction classic work Blade Runner by "Ridley Scott" (English Director 1937), which unleashed the imagination of hundreds of illustrators, who later applied their own similar visions on science fiction and fantasy illustrations in games and cartoon designing. A new title was widely used in the working field of film world, which was the concept designer, meaning the one who designs with an innovative concept." (Ally Fell & Duddlebug, 2009).

2.2 Identity in Comic Strips

The works and stories in Comic Strips owned a laughing mirror, which reflected the contemporary conditions of society. In the beginning, it was used for political or social commentary, which ranged from the Right-wing theories in "Little Orphan Annie" to the Non-Conservative Liberalism

in "Doonesbury". "Pogo" used animals to create a big impact through the burlesque representation, which broke down many prominent politicians at that time by representing them as animals among those who lived in Okefenokee Swamp. In a bold move, "Walt Kelly" the creator of Pogo approached "Joseph Mccarthy" in the fifties of the previous century, representing him as a bobcat cartoon called "Simple Z Malavkey" who was characterized by Paranoia and who kept dominating and controlling all the characters of the bird watching club, sending away all the unwanted ones. "Kelly" defended this method—the burlesque works—against the possible governmental procedures at Mccarthy's time. When the comic strip books were attacked for the claim of containing sexual, violent and destructive content, Kelly was annoyed. When he stood before the Congressional Subcommittee, he tried to attract its members with his illustrations and strong personality. Thus, the comic strip art was safe as a means of criticism and ridicule. Some of the comic strips works, such as "The Boondocks" were published on the main page or the main article, not on the comic strips page because of its organized political commentary. For example, the content of Doonesbury comic strips "on the 12th of August, 1974 gained the "Pulitzer Prize" in 1975, for representing Water Gate Scandal. Dilbert sometimes published in the Press section instead of the official political page, while "Tank McNamara" was published mostly in the sports page because of its contents" ("Comic strip—Wikipedia", n.d.).

3 Comic Strip Art Definition

3.1 Introduction

A comic strip is a sequence of cartoon drawings telling a story which is often comic, funny and sarcastic through the work, the action, the movement, the adventure and the science fiction or the acting scenes that highlight the daily actions in a criticizing way, known as Soap Opera, which is also common. A single or many panels can display a Gaga Daily strip. The continuity of these comic strips can create a narrative story in the form of a series for several weeks, months or years. Comic strips are composed, written and drawn by a cartoonist. Many of them are published in the form of series daily or weekly in the newspapers and on the internet.

3.2 Definition

The Comic strip term was coined in the beginning of the twentieth century in the United States of America. Earlier, comic strips were referred to as funnies. They are called

comic strips because of their design, which is typically longer in length than in width; therefore, they were called strips or a long narrow piece of cloth. This design was a result of trying to reduce the paper costs, as many comic strip books were in the form of spin-offs, which contained sequential illustrations. In some cases, the comic strip book has just been a collection of newspaper caricatures, and some cartoon drawings, that were produced by the Television or the Theatre, were in the form of spin-offs or short scenes of comic strip characters. Before the presentation of “Gasoline Alley” in 1919, the comic strip characters were neither old nor ageng; however, since then, a lot of comic strips presented old characters. The one-line cleanliness, the strength of the structure, the speed lines, the effects and the simplification were noticeable in drawing the characters.

3.3 Egyptian Comic Strips History

The art of children’s comic books first began with books, which contained sporadic drawings describing events in the written story and developed into complete comic stories, where the lines and drawings participated in telling and completing the story. Muhammed Ali, the prefect of Egypt, had opened Bolaq Printing House in 1822, which had published, during its first twenty years, 223 books and “Rawdet Al-Madares” (the schools Kindergarten) magazine as in Fig. 3—where the illustrations were very limited by then—in 1870 under the supervision of “Rifa’a Al-Tahtawi, which was a story magazine with no drawings.

“In 1877, “Samir Al-Saghir” (the little Samir) magazine was published. It contained Arabic drawings with Arabic signatures as well as drawings that were taken from foreign magazines. Then in 1912, “Dar Al-Ma’aref” published the first comic books for children, which were printed in two colours” (Mukhtar, 2007).

The second children’s magazine was published in Sudan by the Ministry of Education in 1946, and it was called “Al-sobian” (The Boys), which had its significance. As for “the Sinbad of Egypt” which was produced by “Dar Al-Ma’aref” institution and which affected all aspects of the cultural and educational life; it was launched in 1952 as the first Arabic children’s magazine in the modern scientific meaning. And just for the record, the first children’s magazine in the world was published in France in 1830 under the name of “The Children’s Friend”. If “look back in anger” is a commonly used proverb in the West, it must be the opposite in our case, where we should all say “look back in pride, admiration and appreciation”, especially that we had a great share in all the successes and the pioneering experiences that we lived and whose impacts we still carry in all aspects of arts, sciences and life. Imagine that even in children’s books and magazines, Egypt had the lead in this

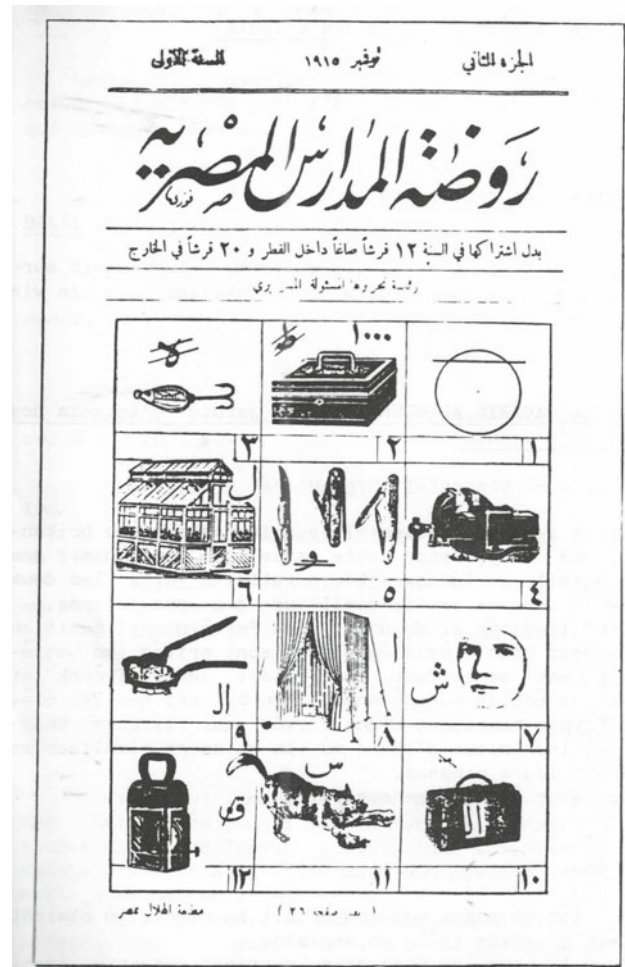


Fig. 3 The Egyptian School Kindergarten—Cover—Ink—HilAl-Press House—Egypt—November 1915 (Millet, 1987)

specific, particular art. All the studies and research that monitored, antedated and documented the beginnings and the development of the children’s magazines in Egypt confirmed that the first Arabic newspaper published for children was in Cairo in 1870 and was called at that time “Rawdet Al-Madares” under the supervision of the scholar Sheikh Rifa’a Rafe’ Al-Tahtawi” (Mukhtar, 2007). The second magazine, which was published by the leader Mustafa Kamel in 1893, more than twenty years later, also bore the name of “Al-Madrasa”. The value and the importance of the roles played by the leaders and the intellectuals to enlighten all people are clear here. The editions succeeded later, where we find “Al-Awlad” magazine, the first commercial magazine by its owner “Iskandar Makarios” published in 1923. In 1924, “Al-Telmiz” (the student) magazine was published half monthly. In 1925, an important development occurred when the children’s illustrated magazine was published in order to introduce the Egyptian child to the world’s literature, some of its models and its most important characters

and authors. In 1926 “Mosamarat Al-Atfal” (children’s entertainments) magazine was published. Studies and research monitored that this magazine specifically had lasted for more than four years. But the surprise was when “Baba Sadeq” magazine, which was published in 1934, lasted for ten years. This did not prevent the presence of some magazines that published few editions, as in “Al-Atfal” magazine in 1936, which only published 8 editions. As for “Waladi” (my son) magazine, which was published in 1937, it only lasted for one month. “Sinbad” children’s magazine, which was published in 1945, was luckier because it lasted for 6 months” (Mukhtar, 2007). Then back to success and continuity with “Al-Bulbul” magazine—whose name would be repeated several times in the children’s magazine journey —, which was published in 1946. It was distinguished by the high quality of the children’s illustrations, which were noticeably developed and lasted for five years.

We need to stop specifically in the year 1946, where a children’s magazine that had its own privacy was published, which was “katkout” magazine as an independent children’s supplement of “Bent Al-Nile” (the Nile’s daughter) magazine by its owner: the author and the pioneer “Doreya Shafeeq”.

And as we continue tracing the development of the published children’s magazines until we reach 1948, we would be surprised by the participation of two big names and high ranks in publishing a children’s magazine, and the funny thing is that it was named after the nickname that was known and stuck to one of them; which was “Baba Sharo” magazine, issued by Kasem Amin and its editor-in-chief was Muhammed Mahmoud Sha’ban, the great media man, who was well known as Baba Sharo. This magazine continued for more than two years and stopped in 1950. A year later in 1951, “Ali Baba” magazine was published, which continued weekly till 1955. The year 1952 deserves a long stop because it marked a milestone in the industry and the history of the development of children’s magazines, where a new era began in the children’s magazines press with the entrance of a big publishing house, the most famous one at that time indeed: “Dar Al-Ma’aref” Establishment, founded by engineer Naguib Metri in 1902. This establishment with all its great potential, financial abilities and the impact it gained due to its uniqueness and credibility, entered the world of children and its magazines by publishing “Sinbad” magazine. It was considered to be the beginning of the industry of children’s magazines with scientific, educational and artistic scales that stood on equal footing with the international magazines at that time. It was regarded by the children’s writers and those interested in the children’s magazines in the Arab World as the first sophisticated Arabic magazine for children in modern meaning. “Sinbad” magazine was also distinguished because it was written in classical Arabic. Its Editor-in-Chief was Muhammed Saeed Al-Eryan. It was

also distinguished by its interest in Arab heritage tales. The drawings of the unique plastic artist Hussien Bikar contributed to its great success. This magazine has continued to carry out its mission and to achieve wide successes for nine continuous years; however, the financial problems forced it to stop in 1961. Afterwards, the industry of children’s magazine art launched with the entrance of many Publishing Houses and Press Establishments to this field. In 1961, Dar Al-Hilal published “Samir” magazine in the same style as “Spirou”, the Belgian magazine, which is based on the translated comic stories, and which is still published up till now. Due to the success that Dar Al-Hilal achieved with Samir, the experience was repeated in 1959 by publishing “Mickey” magazine, which began monthly and then weekly after they acquired the license of Walt Disney’s works from their company with the addition of Egyptian artistic works. Mickey’s ownership was transferred from Dar AL-Hilal Institution to Nahdet Masr House in the third millennium” (Mukhtar, 2007).

In 1963, “Karawan” magazine as in Fig. 4—that shows a detailed illustration of the scene—was published to last only for ten months. In 1977, “Sandouq Al-Donia” magazine was published for children, especially the students under ten in the early primary stage, by the Egyptian Organization for the Dissemination of Knowledge and Global Culture in association with the American Franklin Institution, administrated by Dr. Muhammed Radwan, the educational consultant, and its Editor-in-Chiefs Salah Galal and Abdul Wahab Metawe’.

Later, the Arabic Edition of “Tintin”, the famous international Belgian magazine based on the serial comic stories, was published in cooperation with the Swiss Tradexim Group Inc., which was described at that time as having a very high artistic level. “In the context of the documentation for the development of the children’s magazines, a piece of information must be told. In 1947, “Madares Al-Ahad” (Sunday school) children’s magazine was published by Mos’ad Sadeq, and in 1983, “Al-Muslim Al-Saghir” (young Muslim) magazine, which was a monthly magazine with a religious character, was published by the Muslim Family Corporation in Cairo.

In 1985, the “Bulbul” children’s magazine returned, as it was published half monthly, and then it stumbled. In 1998, Dar Akhbar Al-youm tried to re-launch it for the third time. In 1993, the huge Al-Ahram Establishment entered the field with its huge financial, printing and distributing abilities to publish “Aladdin” magazine, which was a weekly magazine containing supplements and colouring booklets with highly qualified professional and press level. Then, it was published monthly two years ago, only to start stumbling and deteriorating as well. In 1995, the Ministry of Culture through its Public Organization of Culture Palaces entered the children’s magazines’ field by publishing “Qatr Al-Nada” (dew drops) magazine, which is still struggling to survive until the

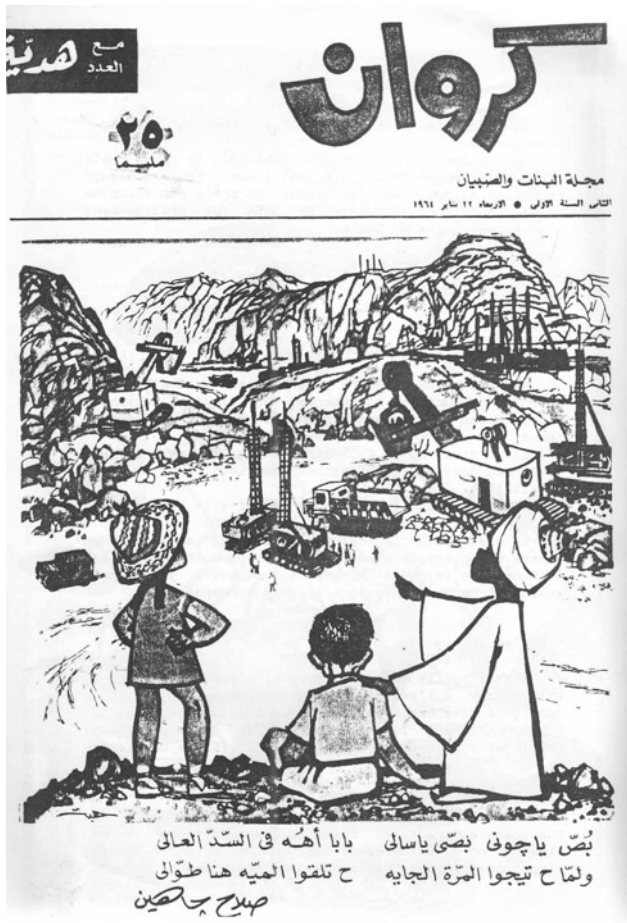


Fig. 4 Karawan—Cover—Ink—Egypt—January 1964 (Millet, 1987)

date of this research. Through this narration, where we tried to pick and stop at the most important stations, where the children's magazines' train passed by since it was masterly and well launched 250 years ago, we find that the current motive is that the children's magazines are suffering from a state of regression, shrinkage and deterioration in an unprecedented manner. Hence, the number of magazines published for the Egyptian children, who exceeded 25 million, is no longer more than four magazines: Mickey, Samir, Qatr Al-Nada and Aladdin, and two of them, which are Samir and Aladdin, are unfortunately facing great problems and the threat of stopping if they have not already stopped by now" (Mukhtar, 2007).

"The real attempts in comic strip art were initiated by the late great artist Mohieddine Ellabad, who was considered the only Theorist of comic strips in Egypt. Even the Judiciary system tried to use his testimony as an expert in the Metro novel case. Mohieddine Ellabad presented the series of "Nazar" (sight) and "Kashkoul Al-Rasam" (an illustrator's sketch) and many good works that included successful and serious attempts of narration through pictures. The late great artist, Bahgat Othman presented an important attempt that

was not rooted in the history of this art, which was his book "Dictatorship for Beginners". Although this book did not contain a complete pictured story, it contained a story seed, with its main character, the hero Bahgat, the president of Great Bahgatia. The place was the presidential palace.

The story narrates the day of the cherished leader since he wakes up and until he sleeps, and the reflection of this on the affairs of citizens. That attempt, which did not receive the appreciation it deserved, was considered one of the most important attempts in the industry of comic strips in Egypt. However, "Metro", the confiscated novel, remains the first complete work that matched the rules of the comic strip art. In 2006, Metro was published by Dar Malameh, the newly born Publishing House at that time, but it was soon confiscated for the claim of outraging of modesty due to the presence of many cadres that portrayed a semi-naked woman. However, many voices noted that the anger of one of the famous political characters due to the presence of a character that looked like him in the novel was the real reason for confiscation. Five years earlier, "Al-Samandal" magazine was published in Lebanon in sporadic editions to be the first Arabic comic magazine. However, it was not published regularly. "Toktok" magazine, whose makers intend to publish it every three months, will be the first Egyptian comic strip magazine for adults, thus writing a new page in the entry of this art in Egypt and the Arab World" (The illustrated story, 2011).

3.4 Comic Strips After 25th of January Egyptian Revolution

After the 25th of January Revolution, Muhammed Hisham Abiah, the talented writer and journalist, published the first comic strip book, which approached the events of the Egyptian Revolution during 18 days with the illustrations by Hanan Al-Karargi and the cover by the designer Ahmed Murad. The experience was very successful, which drove many writers to follow its lead and imitate it in other works. The comic writer Muhammed Hisham said that "18 Days" was the first graphic novel that inspired its events from the details of what happened on the 25th of January and the days that followed until the fall of the regime on the 11th of February; those splendid days in the lives of people of the whole world, not only the Egyptian people. He added that "this long illustrated novel portrayed a luminous side of the fine human behaviours of people who had chewed patience for a long time before converting it into a flammable mass of peaceful anger."

On the other hand, it portrayed a dark side of a group of people who had the chance to create from a country, with deep roots and culture, a homeland predominated by Justice and Freedom; however, they turned it into a desert, where

prosperity and progression escaped from, leaving behind only the screech of wind and the scattered dust. The author and the illustrator were keen to combine registering and documenting with a fictional space while weaving their characters and the relationships that developed between them in the heart of the big event; the Revolution, and in the centre of the convergence of dreams and will, where the cohesion of the People manifested, in Al-Tahrir Square. In the end, it was a fiction that mingled with reality for many people; they might even find a glimpse of their lives between the lines and in the vibrant life found in the cadres, according to the author’s description of his own book.

3.5 The Openness to the International Experiences to the Ninth Art

To enforce “Toktok’s” as shown in Fig. 5 that shows an inner page of an inside story with the Arabic Egyptian its identity shown-role in spreading the comic strip culture, Hisham Rahma, artists and authors who are interested in comic strips, started publishing a supplement with “Toktok” magazine called “Al-Fan Al-Tase” (the ninth art). The purpose of this supplement was to be a window to introduce what is new in the field of comic strips and stories around the world, where translated international comic stories were published, beside offers and coverage of the most recent editions in the field. Hisham Rahma asserts that Toktok magazine has a strong presence in the publishing market and that the growing interest of the readers in this art updates “will enable him to expand in publishing more editions while maintaining an economic administration, which allows Toktok to continue away from any financial obstacles.”

3.6 The Artistic Features of the Egyptian Comic Strips and Some of Its Most Important Artists

In the fifties and the sixties of the previous century, the beginnings of the art of comic stories in Egypt radiated through great artists, who were mainly cartoonists, headed by the great artist “Higazi” who began his career with his masterpiece “Tnabet Al-Sobian” (the lazy boys) as one of the most important milestones of the establishment of the ninth art in the contemporary Arab Literature.

Afterwards, the late great artist Mohieddine Ellabad began launching the pre-comic prelude in the beginnings of the nineties of the previous century, in cooperation with Dar Al-Saqr Al-Arabi for Arabic Creation, supervising “Al-Romah Al-Seghar” (young shooters) comic strip series. In the beginning, most of his works were copied, adapted, translated or televised, such as the famous cartoons



Fig. 5 Shenawi—Toktok—Internal-page—digital-Cairo—Volume 10 —March 2014

“Grandizer”, “Superman”, “Batman”, “Dam Cooper”, “Tintin”, etc. The efforts of the late artist Hussien Bikar should be mentioned here, who published “Sinbad” magazine by the famous Dar Al-Ma’aref, which was the magazine that contained the ripe seeds of the comic art with invented Egyptian and Arabic characters and genuine drawings expressing the local environment. However, this attempt did not pass the experimental stage.

4 Conclusion and Recommendations

4.1 Conclusion

- Identity is an inseparable part of our personality and belonging to this Country.
- Identity could be influenced by the political, economic and social conditions; whether religious, linguistic or related to the customs and traditions, and thus reflected on the scientific definition which is in this study: the comic strips.
- In Egypt, studies proved that the 1952 Revolution post generation is proud of its Egyptian identity and

nationalism through Ellabad, Bahgat Othamn and Higazi's comic strips.

- The emergence of motifs from the environment in the drawings of the 1952 Revolution post generation, whether ancient or folklore Egyptian motifs, or just the outlines of the Egyptian women.
- Egyptians are not only dazzled with the West, as we see the continuous criticism of Mohieddine Ellabad of the attempts of erasing the Arab and Egyptian culture and even ridiculing them.
- There is no specific school for Egyptian comic strips.
- Nowadays, there are serious attempts to transfer the Egyptian comic strips to a new stage; thus we conclude the establishment of an Egyptian comic strip school in the future, if we continue at the same pace.
- Identity is a digesting mould, which combines the cultures, experiences and traditions of what we really are. Its appearance in the contemporary Egyptian comics might have been delayed due to the existing differences between Egyptian people at the time of the researcher's study. And it is very difficult for this harmony to occur now due to the political, social and even psychological conditions that exist. Thus, the researcher concludes that at the time of the research, Identity in the contemporary comics in Egypt will not only be found in individual experiences, but it is also possible that this harmony will happen again one day, and we might live in an age of group artistic geniality, due to the intensive competition between the Egyptian artists and the absorption of the global market to them, as what happened with the Franco-Belgian comics.
- The importance of not transferring the new ideas from abroad while giving the credit of its creation to ourselves as Egyptians because this does not offend only the person, but also the artistic movement as a whole; thus we will remain in the same closed circle, unable to get out of it.
- Seminars and lectures should be held to bring the new artists closer to their professors and to increase their awareness of the comic strip medium in Egypt, where it is very limited at the time of the researcher's study. It is difficult to find a seminar or a training course by academic specialists with wide experience in this field.
- The need to travel in delegations and to comic strip festivals to acquaint the outside world with what we are doing.
- The importance of the presence of periodicals in the form of scientific journals and others to publish comic strips' latest news in Egypt and the world.

4.2 Recommendations

- The need to study the classics of comic strips.
- The importance of learning the latest techniques in comic strips and what they achieved abroad, adapting them to suit what we want to implement.

References

- Ally Fell, & Duddlebug. (2009). *Fantasy art now* (Vol. 2). Ilex Press Limited (Alastair Campbell).
- Al-Mufti, N. S. (2013). *The role of multimedia in deepening the Arabic identity*. Master thesis, Graphic Department, Faculty of Fine Arts, Helwan University.
- Atchison, C. (2013). A comic book culture: Comics and identity formation. *10*, 39–45.
- Comic strip—Wikipedia. Retrieved 13 May 2010, from https://en.wikipedia.org/wiki/Comic_strip
- Millet, B. (1987). *Samir, Mickey, Sinbad & other children stories from the children*. Press in Egypt CEDEJ.
- Mukhtar, W. S. (2007, June 1). Arabic and international comic stories for children. *Kuwait Magazine* (Vol. 284).
- The illustrated story since Sinbad Bikar sailed with it (2011, January 19). *Al Ahram Al Masri*.
- Tilley, C. L. (2017). Superheroes and identity: The role of nostalgia in comic book culture. In *Reinventing childhood nostalgia* (pp. 51–65). Routledge.

Contemporary Arts: Visual Arts and Visualization of the City



Diaspora, Praxis to Modern-Day Globalized Contexts

Pakinam Zeid

Abstract

A different cultural and urban milieu can hold the promise of lucrativeness but also deploy instability and strike aspiring migrants with the grieving fear of potential inability to fit in, yielding to the host-city's exclusionary matrix of assimilating policies. The world has become an increasingly diversified verse, rendering diaspora no longer a phenomenon of transient nature, but an evident and perpetual conduit of the globalized domain. Today, roughly 13 million refugees live in cities, thereby allowing an influx of cultures to intertwine and formulate hybridity, alleviating political and geographical borders. Notions of what constitutes a country and its culture are re-established, unmooring the analysis of architecture and culture from the dormant morass of hegemonic and fixed spatial practices. If one were to think of and adopt the speculation that culture is an unwavering entity endowed upon inhabitants of a city, then one would overlook the majestic physics that accompany a 'virtual culture': an ever-changing, ever-morphing set of beliefs, behaviours, and spatial practices that adhere to communal stasis. Cities studied through the paper's discourse wrestle either to include diasporic communities and incorporate their cultural practices into their milieu, or clench their sphincter, excluding all alien-to-their-own practices. The paper beseeches an understanding of the isomorphism between culture and architecture, thereby enacting a better understanding of the underlying dynamic that exists between the two. Circumscribing architecture and culture to a certain geographic location rather than observing and appreciating their performative nature and hybridity is a

dangerous vindication at worst and shallow stereotyping at best. The paper, thus, argues the importance of cultural fluidity and examines diasporic communities' unassailable impact on the environments they cohabit, testing the recipient cities' reaction while assessing and recommending against culture-specific design strategies, arriving at an employment of cultural responsiveness in the syntax of the built environment.

Keywords

Diaspora • Migrant architecture • Migrant housing • Social-spatial justice • Cultural responsiveness • Cultural capital • Virtual culture • Inclusive placemaking • Urbanism

1 Introduction

The modern globalized domain demands creative, tolerant, and culturally responsive engagement. In urban weaves of culture stand a test of how we perceive tradition, heritage, and cultural legacy. Diaspora and socio-spatial justice have been occupying most fields of study such as that of urban ethnography and placemaking philosophy, along with architectural endeavours and urban agendas drawing human capital. Highlighted in the fields of which are policies that signify the importance of tolerance, underlining architectural mediums and urban assimilation policies. What the research tries to add into the literature is visible in its attempts to reconcile notions such as that of the non-place urban realm, weak heritage, socio-spatial democracies, virtual culture, and cultural responsiveness. Foraying into the paper's methods demanded a tackling of urban endeavours that sought the rearticulation of urban dichotomies into dialogues, critical cartography's defying the *objective* worldview, citational politics, and diaspora's grey area of disowned *normative* warrants. Migrant housing and communal building endow

P. Zeid (✉)
Faculty of Fine Arts, Department of Architecture, Alexandria
University, Alexandria, Egypt
e-mail: pakinam.usama@alexu.edu.eg

great reward into the paper's attempts to map or visualize the physical indeterminism of the phenomenon. In the case of Australia's diaspora, housing evolved as post-war migrants introduced new architectural character; a particularity that was met with scrutiny by the host-city, abating an exclusionary matrix and disavowing the spatial practice's normative status. Communal building in Canada's diaspora allowed the morphing politics of a country's reaction to migrant building to take form in the case of Sikh migrants melding, initially, into the Canadian plateau but perpetually being granted gratification of architectural foothold. In analysing the diasporic phenomenon's dynamics, virtuality, and physical annex, the paper prioritizes design approaches that propagate the globalized domain's receptivity of the modern cultural demography.

2 Isomorphism Between Culture and Architecture; Arguing the Jointed and Disjointed

When contemplating and researching the phenomenon of displaced communities—diaspora—a researcher is compelled to study and perpetually delve fixed taxonomies into nuanced frames of understanding; tolerance and 'plurality'.¹ In exploring the phenomenon and its etymology—when a word is born—diaspora's mutating life and symbiosis in lexicon² is exemplary to the unassailable impact its *couriers*, migrants and refugees, enact. The phenomenon's bringing change to cultural vocabularies rearticulates urban dichotomies into dialogues intervening with fixated concepts to enliven their potencies and explore their hidden dynamic. Attempts to visualize the undulating life the word *diaspora* leads alluded to botanical metaphors; in the resemblances are appropriations of terms like 'dispersion', 'uprooting', 'digging up', and 'replanting'. Allocated meaning from instances of diasporic experiences such as expulsion, deportation, genocide, and ethnic cleansing, botanical metaphors in Robin Cohen's *Global Diasporas* and *Diasporas Reimagined* (1997; Mehta et al., 2018) diverge from the typical 'trees of knowledge' and find their assertion in Deleuze and

Guattari's (1987) loose connections made between meaning, social relations, and power; without definite origin or teleology. Arriving at its final resting place in the reiteration of its movements as resembling 'shoots of rhizomes', diaspora is inclined to follow botanical metaphors of nomadic character, growing from near random wanderings rather than from a single livestock (Mehta et al., 2018). Visualizing the movement of social phenomena contribute largely to a fundamental understanding of how cities evolve, morph, and take form through human endeavours (Batty, 2018). With the help of technological advancements, research has come a long way to acknowledge this offered connotation of susceptible and adaptable city behaviour, bringing unwavering cartography and urban maps to explore new realms of information visualization. Projects expediting this new realm have proved to be of tremendous benefit to ethnographic and urban studies, prioritizing discourses of socio-spatial justice in the modern globalized domain.

2.1 Identity, Worldviews, and Civilizational Egocentricity

Understanding cities, backdrops, and the built environment requires a path-dependent perspective unto which one can associate the physical 'artefacts'—architecture and its aesthetic elements—as borers of more than meets the eye. While beauty is essential in most civilizational anecdotes, showcasing grandeur and imperialism, but so are the values and quality of life therein. Ayssar Arida, the author of *Quantum City* (2002), speaks of 'worldviews' as he embarks on an alternative perspective and approach to understanding cities and their dynamism. Arida renders cities of ancient civilizations as "...lifestyles based on beliefs transformed into streets and squares and houses on wheels or on stilts.... different visions of the world made into form". It is evident in these lifestyles that morphism is an incremental process, flexible and open-weaved, to incorporate and appropriate societies occupying its interstices. Often misunderstood as being of fixed stature in time and space, identity and sense of belonging are construed politically in the sense that 'belonging' becomes confined to specific groups. Identity and its encompassing scope—with relevance to the previous connotation—thus are narrowed down to entail and answer questions like who is 'in' and who is 'out', which effectively decides the kernel of 'who gets what' (Mehta et al., 2018). Diaspora is, thus, deemed a political grey zone between different definitions of 'in' and 'out'; 'insider' and 'outsider'. Often marginalized and disavowed of the warrants an 'insider' gets, a migrant community is put in the indecisive peripheries intermediating both definitions, compelled to build a novel sense of identity and belonging in the host-city and establish new roots, wielding elements of the old and

¹ Plurality is referred to and elaborated on in Ayssar Arida's *Quantum City* (2002) as an urban model that maintains and incorporates varying cultures into a new overall identity based on tolerance, mutual recognition, and intermittence of social patterns; breaking physical borders and reinterpreting built form.

² The instance of diaspora and its mutating term usage allows its various interpretation and its enacting in multifarious notions (religious, academic, category of practice, and part of the international bureaucratic lexicon) to appease the manifolded diversions of its agents' practices; migrants and refugees.

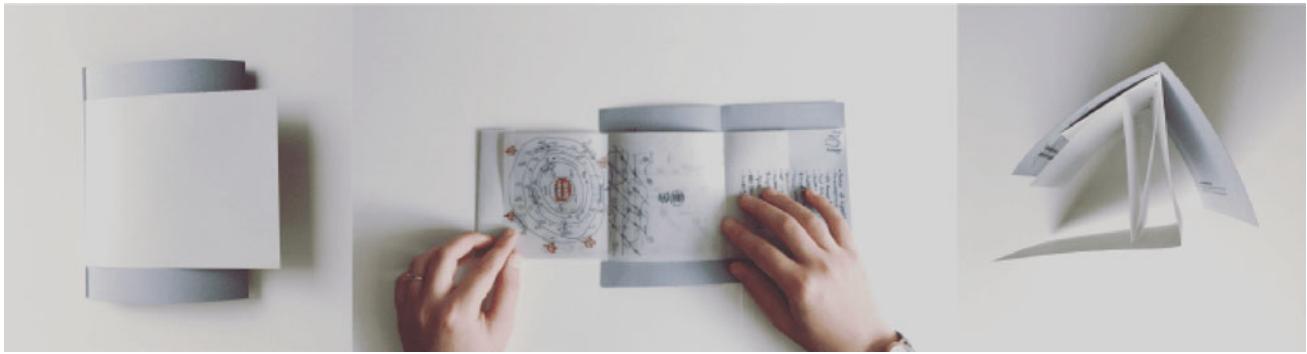


Fig. 1 Unfolding the City is among the processual map-making and qualitative data collection examples displayed at Urban Ethnography Lab's official website. Source URL: <https://urban-ethnography.com/methods/mappings/>

new; the familiar and the foreign; a rearticulated 'toolbag of cultural preconceptions' (Kilduff & Corley, 1999).

Diaspora, ethnicity, marginalized communities, and sought-out socio-spatial justice have recently been occupying most fields of study with pertinence to planning and design. Urban ethnography has been taking part in that endeavour and discourse in highlighted empathy through vantage-point shifting urban field-study, mapping practices to denote and visualize 'unmappables'. The argued field of study prioritizes researchers' roles as biased towards a new objective: understanding the world from the 'native's point of view' and thus allowing subjectivity in the comprehension of urban space, unhindered by general and universal interpretations (Imilan & Marquez, 2019). Long involved in anthropological research and disciplines, ethnography's field of study has grown to encompass urban practices in their spatial and social demeanours, thus melding the often-perceived chasm of social sciences and their physical indeterminism. In attempts to 'map' the morphism of dynamic phenomena in the urban realm, urban ethnography devises critical approaches into the tackling of mapping (one of which is visible in Fig. 1). In the overcoming of homogenized perception in cartographic and urban endeavours, 'counter-mappings' initiate a dialogue between the visualized outcome, the author, and the reader, immensely influencing the mapping process, the media utilized, and usage thereof (Genz & Lucas Drogan, 2018). Among the highlighted endeavours, the field of study tries to shed light on is mapping of 'unmappables': which are often elements and urban structures indistinguishable in an objective cartographic medium and need further assessment; the racially, ethnically, and socioeconomically diverse (Venegas & Huerta, 2015).

2.2 Weak Heritage and Inclusive Placemaking

Socio-economic constructs that veneer 'nostalgic memory' and its unwavering receptivity formulating fixed forms and practices of heritage are what Rautenberg in his paper—*Weak heritage and Neighborhood in Contemporary Cities: Capitalism and Memories of Urban Utopias* (2018)—allude to as 'weak heritage'. Zealots of the argued heritage will show insusceptibility and unwillingness to depart from this form of heritage as the transfer suggests new values and volatility to the existing system upon which the society—their formidable societal constructs—had leaned on for reassurance and stability. The skills, craftsmanship, and control of time are invaluable to grapplers of the former 'system'—that of industrial capitalism—which automatically renders the new system, a mutated 'social capitalism', as of dangerous volatility and depreciative automation. Among the notions discussed as the 'neighbourhood as heritage' is the reduction of heritage to apparatus and the identifiable circulation of its meanings, rendering it unviable, unsustainable, and thus 'weak'. Culture strengthens in its flows and the exercise of its practices through 'mediations' and variable 'filters' (Assayag, 2015).

In the diasporic communities' attempts to establish a strong foothold in the host-city, architectural manifestations such as communal buildings and religious structures take part. The Tamil diaspora in London grew fastidious as the community grew in size and collective attempts to draft a 'sense of belonging', seeking, henceforth, a public 'announcement' of Tamil presence in the English milieu. The drafting of the sense of belonging would represent the intersection of two cultures and hence the continuation and acknowledgment of the virtually extending migrant culture

(Reddington, 2014). In attempts to accomplish this continuation, migrants are often met with, what they perceived as, ‘willful obstructionism’ by local borough planning commissions and various safety inspectors in their refusal to grant Tamil communal building a public face in the city “... on the thinly disguised grounds of the architectural integrity of the neighbourhood.”³

Placemaking philosophy and its continuum are to convey regeneration and development, engulfing generations of human interaction and familiarity. Inhabitants are, thus, deemed as active agents and their ever-morphing practices constituting a growing body of knowledge of the design strategies and physical elements ensuring public—and its extending continuum of private—spaces; an urban vitality (Jelenski, 2017; Vanderbilt, 2020). The New Urban Agenda, adopted by the UN at the end of 2016—guiding the future development of cities for the next twenty years—deems among its aspects the recognition of public space and placemaking as of central role to sustainable urban development and regeneration (Jelenski, 2017). Invoking a fostering of integration over segregation, Habitat III’s Issue Paper *Migration and Refugees in Urban Areas* (2015) alludes to the planning of cities as means of ‘placemaking’ for all city dwellers, inclusive of migrants and refugees. The implementation of the agenda can ensure and drive an essential attitude towards the management of *just*—socially and spatially—and thriving cities in its reconciling of disciplines pertinent to planning and design. The power of public spaces can, thus, attain recognition in the building of social cohesion and adjourning of differences. Among the fundamental notions with regards to identity and heritage is a perpetual inclination to rebuilding, regenerating, and reassembling. Silberberg’s *The Common Thread* (2015) poaches globalization—and the condemning of its outsourcing or extinguishing cultural particularity—by stating that one of the small numbers of things globalization cannot outsource is heritage but which it can rebuild and appropriate.

Post-war reconstruction of cities is perhaps among the finest examples of ‘resurrection’, not only of complex urban structures but also of spirits of places, making room for new communities—disinherited and displaced (Davies, 2003; Jeleński, 2018). In Warsaw, a near-total reconstruction of a history spanning from the thirteenth to the twentieth century was based on grass-roots national pressure against political, conservational, and architectural ideologies which, in 1980, invoked UNESCO to include the reconstructed historic centre of Warsaw in the World Heritage List as it met two criteria:

“...to be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance...” and “...to exhibit an important interchange of human values, over a span of time...” (Jelenski, 2017). Community-driven reconstruction of several Polish cities serves as exemplary for redeveloping cities and sites affected by conflicts and natural disasters. Highlighted through the discourse of which is the importance of observing and conversing with built heritage as abridging and reinstating ‘citational politics’.⁴ To reconcile new communities and cultures—as an extension to existing tradition and history—enriches ‘identity’ to encompass novelty, multifariousness, and, above all, sustainability.

2.3 The Non-place Urban Realm and Cultural Melting Pots

Studying the various perceptions of the urban realm and the rearticulation of its social and spatial practices, the paper will foray into a shift of vantage point where the urban is based on the connectivity of local and global, expanding the framework upon which we study political geography, planning, social practices, and their interstices. Melvin Webber (1964) tackles the issue at hand with a model for urban development: the *non-place urban realm* propagates a view of the world—the urban realm—as networks of relationships at varying distances, shifting the attention and perspective of the tradition of ‘cities’ from *place* to *connectivity* (Teitz, 2006; Webber et al., 1964). In the revisiting of this notion, its pragmatism is more becoming in the informational age and the advent of platform urbanism. The entangling of infrastructure—social and technological—draws on connectivity and innovation, blurring the lines of political geography in the process. In agendas preaching towards technology, innovation, creativity, and thriving of human capital, connectivity and tolerance are highlighted as praxis to their effectuation and thriving.

Similar to the idea of connectivity’s significance is that of cultures extending beyond their boundaries, *virtually* expanding to encompass wider geography. When migrants transgress borders of home, carrying native cultural practices to the host-city, the resultant intertwining of cultures and their aggregate movements “...converge, submerge, diverge, against history’s canvas...” as elaborated in *Landscapes*, a poem by Jyotsana Saha (Mehta & Saha, 2018). As migrants confront fixated cultural legacies, they morph into active agents rephrasing and recreating cultural forms, thus

³ In Helena Reddington’s *Tamil Diasporic Identity* (2014), the author describes her account of the Highgatehill Murugan Temple in the early 2000s as its exterior reflected the original Christian church the temple occupied, bemoaning the diasporic attempts to exercise architectural and cultural heritage being met with delay and obstruction.

⁴ In Butler’s theory of ‘citation’, an analysis of a gratification of a migrant’s house or allocation of symbolic legitimacy as citizen underlines the struggle a migrant or refugee goes through to be enabled normative stasis in which the migrant is not a priori but a host-citizen (Butler, 1993, 2009; Lozanovska, 2013).

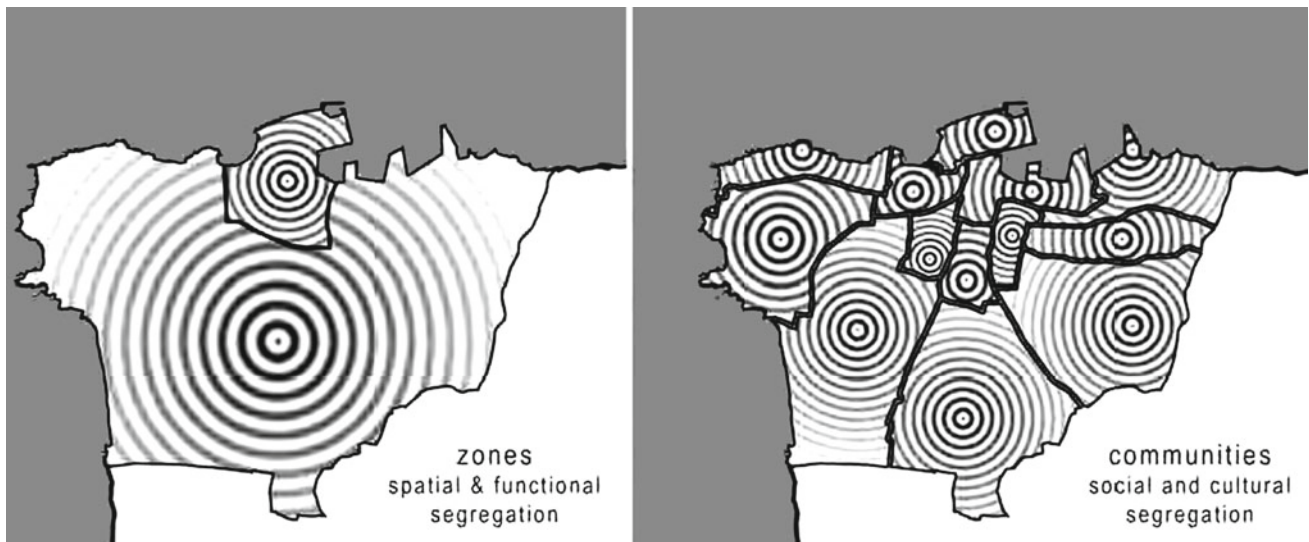


Fig. 2 a A model of a ‘city of zones’ manifesting the ‘melting pot’ effect where the main urban character fades out the effect of others. *Source* Quantum City (2002). **b** A model of a ‘city of communities’ that

deploys the effect ‘mosaic juxtaposition’ where every character of a community is existent but doesn’t interfere with the other and, hence, coalition and social equity unrealized. *Source* Quantum City (2002)

allowing a rearticulation of what is taken for granted to encompass variety and, most importantly, a contemporary culture of tolerance, perpetuating creativity and innovation; de-pedestaling and redefining cultural norms and tradition.

In the agglomeration of a city’s centre—archetypical city demeanour in its encompassing most amenities and attached path-dependent significance—diasporic communities often struggle in arenas of urban gentrification and are, thus, left with hindered socio-spatial justice. Moreover, urban peripheries serve as a haven for migrants. In modern globalized contexts’ socio-cultural variety, a city’s composition

culminates and takes form in two urban models, according to Ayssar Arida (2002): the ‘melting pot’ and ‘mosaic juxtaposition’. The ‘melting pot’ model (visible in Fig. 2a) dilutes individualistic traits of groups or sub-communities into ‘one overall colourless whole’; while the ‘mosaic juxtaposition’ (visible in Fig. 2b), usually synonymous with gentrification, is intolerant to ‘multiplicity’, distributing homogenous groups in distinct quarters. Pluralism (visible in Fig. 3), Arida suggests, implies, and exercises active cultural liberty, resulting in the creation of a cultural *métissage* that doesn’t jeopardize any of the mother cultures but rather develops a

Fig. 3 A model of ‘pluralism’ which implies that both cultural and formal plurality are maintained to divulge a new overall identity based on mutual recognition or assimilation which doesn’t dilute or jeopardize the mother cultures but develops a mutual expression that belongs simultaneously to all of them. *Source* Quantum City (2002)



mutual expression belonging to all of them; not in their homogenization but in the formulation of dynamic, continuous dialogues and new culminant cultures.

3 Diasporic Communities and Their Impact; Environments Co-habited and Cultures Rearticulated

Spatial distribution is not the crucial determinant but interaction is the fundamental and core-concept of Melvin Webber's *non-place urban realm* (1964); geographic spaces overlap in the assimilation of cultures, marking spatial patterns indistinct and unstable (Sdoutz, 2011). Christopher Alexander's *A City is not a Tree* (1966) derives an argument of what constitutes a 'natural city' and an 'artificial city'. A 'patina' is attributed to ancient cities that urbanists often pry to fully implore. In those attempts are extractions of picturesque snippets from the past which designers fall into the trap of; the literal *recreation* of Italian piazzas, English villages' rustic allure, and broadacre utopias. In recreating-laden attempts lie failed unearthing of the essence of what made prominent cities prominent. The physical intertwining with the cultural, underlining the intermediating thoughts, memories, identity, urbanity, local arts, sounds, views, etc. (Alexander, 1966; Arida, 2002). Among seekers of this urban *patina* is the urbanist Jane Jacobs. In her dealing and identifying with cities as systems and structures of 'organized complexity', Jacobs believed cities should be studied and addressed as compound and composite of problems encompassing forces deeper and more expedient than aliases of physical aesthetic; visual order and harmony (Batty & Longley, 1994; Jacobs, 1961). It is, thus, deductible through these urban expenditures that culture spans to encompass the formulating and active processes of identity and placemaking rather than stagnant utopias; a continuum through which influxes of socio-cultural events and ideas exchange; exemplified through diasporic endeavours.

3.1 Host-City, Re-establishing of Foothold, and Architectural Hybridization

As a migrant sets out to the intended and dreamed of destination of better-suited fate, he is confounded with mixed emotions of nostalgia to the home he's leaving thereby and, with it, bits of familiarity constituting his 'cultural toolbag' (Kilduff & Corley, 1999); which he'll readily unpack in his new urban home as a means of melding the homesickness chasm. The migrant community will often bring about spatial practices that substitute the absence of palpable familiarity through the adaptation and appropriation of cultural expressions native to the migrant's city of origin, generating

"...houseworlds or enclaves of cultural expression within the broader suburban context..." (Lozanovska, 2013). The migrant's house then exceeds the mere shelter to become his world, a narrative towards alleviation and cultural expression. Granting a sense of belonging in foreign landscapes, migrant housing in the host-city grows to become an extension of an old home, encompassing photographs and paintings on the walls referring to the homeland. As migrants plant their 'seeds'⁵ of architectural appropriation, they feel less unease and more acquainted with the host-city; a feeling often denied by host-citizens and assimilating policies. Reflecting on the previous narrative is John Berger's quote from his book, *A Seventh Man* (1975), as it brings about a critical vantage point to how the migrant's political stasis is often handled:

To be underdeveloped is not merely to be robbed or exploited: it is to be held in the grip of an artificial stasis. Underdevelopment not only kills: its essential stagnation denies life and resembles death.

In the exercising of 'habitus',⁶ a migrant derives spatial and architectural vocabularies from his homeland in an attempt to establish a strong foothold in a new urban home. A migrant's habitus undergoes changes as it strives to take part in and appropriate with pertinence to the host-city's urban plateau. In 200A Archway Road, London, a building—that will later become recognized as a Tamil-practicing temple and stand out with added South Indian architectural elements (visible in Fig. 4)—adopted British architectural austerity (Reddington, 2014) before being granted the normative warrants granting the Tamil temple its unique architectural character. In its gratified architectural character, the communal building suggests belonging and hybridization of cultures; social cohesion and tolerance. In that urban weave of cultures stands a test of how we perceive tradition, heritage, and cultural legacies, exploring what David Harvey (1990) calls 'the time-space compression': de-establishing ideas and ways we understand the culture.

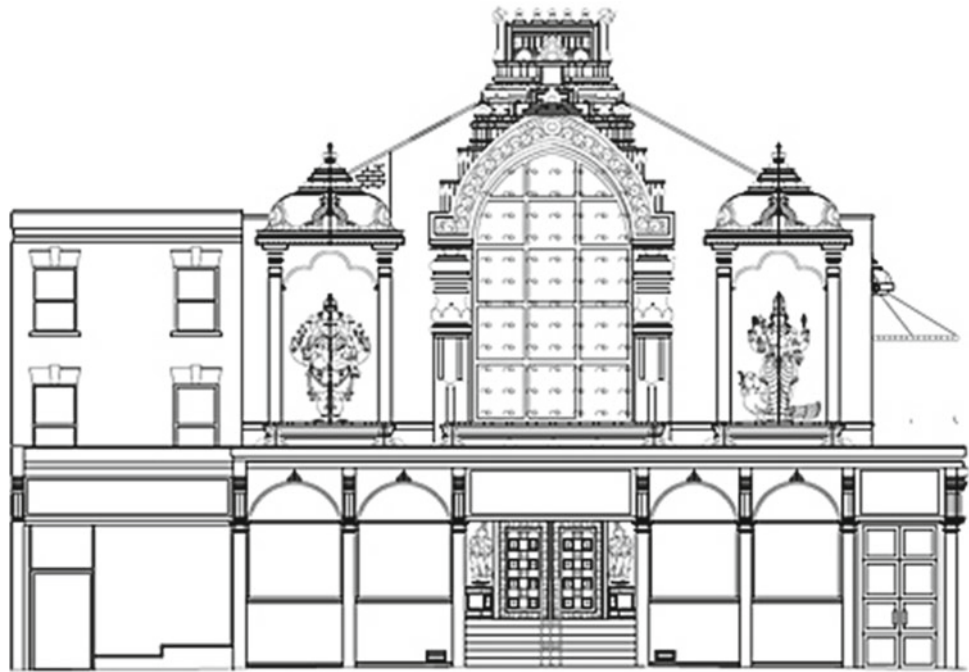
In observing the world as 'deeply perspectival constructs',⁷ we are inclined to appreciate and understand

⁵ Mirjana Lozanovska's *Migrant Housing: Architecture, Dwelling, Migration* (2019) addresses migrant communities' planting *seeds* of familiarity in the metaphorical sense as means of appropriation and reshaping of the urban context and in the literal sense as, among their means, seeds of foods and exotic plants changing the landscape, scent, and sense of streets.

⁶ According to Pierre Bourdieu and Derek Robbins, habitus is every individual's inscribing of "inherited parameters of modification of adjustment from situation to position which provides the legacy of a new situation" (Leach, 2002).

⁷ Arjun Appadurai (1990) suggests that we observe the world in its globalized scape as that of increasing mobility of culture, ideas, people, and images and thus of different actors and carriers thereof; nations-states, multinationals, diasporic communities...etc.

Fig. 4 Diasporic identity manifested in a Tamil-worshipping temple in London. The illustration shows the hybridization of architectural character in the English urban plateau. *Source* Tamil Diasporic Identity (Reddington, 2014)



‘identity’ as a susceptible concept of an expanding realm through which architectural and urban milieu can help stagnate scenarios of exclusion and gentrification. Arida highlights in *Quantum City* (2002) the importance of designing urban contexts that sojourn to and reflect the spatial and lively practices of its inhabitants through his narrating of the different kinds of *departing* inhabitants undergo when feeling alienated by and through their urban homes. Among these exercises of *departure* are that of informality, squatting, and migration. The destruction of a city, as implored by Syrian architect Marwa Al-Sabouni in her TED talk *How Syria’s Architecture Laid the Foundation for Brutal War* (2016), announces its pliability as the urban context fails to reflect the inhabitants’ collective identity, risking, furthermore, waging of wars due to lost sense of belonging and infringed social cohesion.

3.2 Cultural Capital, Toolbags, and Virtual Culture

In the addressing of rearticulated notions and morphing of cultural vocabularies to amuse redefined peripheries and interstitial complexities, the research’s discourse alludes to Pierre Bourdieu’s notion of cultural capital and its ‘objectivated’ or stoic state (Leach, 2002). Objectivated cultural capital requires dynamic and social practices to bring it to life, ‘unlocking’ its potencies. Bourdieu (1986) brings about further elaboration in his notion of objectified repositories of cultural capital—such as books, pictures, and instruments—requiring narratives and praxis to unlock their meaning.

Architecture and the built form, in light of Bourdieu’s cultural capital requiring praxis, demand constant analysis and assimilation policies, tolerant to narratives as appropriative mediums through which the context morphs. In the regard of cultural practices as that of hegemonic character, innovative and creative dialogues are hindered and thus the evolution of cultural capital and its rearticulation.

In the case of diasporic communities and their active becoming as bearers of cultural capital, wielders of ‘toolbags’ of culturally specific skills and dispositions (Swidler, 1986), they are constantly recreating and emphasizing these cultural manifestations to appropriate their new environments and cultures accordingly, picketing and re-establishing a weave of both the host-city’s and the native land’s, thus ameliorating a new hybrid and modified cultural capital. A paradox to cultural capital’s morphing nature is approaching it as a subject of discourse that bears unwavering legacy when its effective ‘embodiment’⁸ is in the active ambassadors and agents, cognitively shaping and reshaping its traits and margins—factors such as time, geography, politics, and popular culture among shapers of argued margins. Thus comes the notion of shifting our attention from ‘cultural difference’ to ‘cultural contact’, foraying into an understanding of culture as emerging from human encounters, cross-overs, and interactional dialogues (Sen, 2010).

⁸ According to Bourdieu (1986), cultural capital in its *embodied* state is its very fundamental, first-hand, state. Linked to the body, mind, and long dispositions of cognitive nature.

A suggested employment with relevance to the ‘non-place urban realm’ is that of understanding the urban realm to become where “...a conjunction of things can emerge as a valid and meaningful whole.” (Arida, 2002) and through which tolerance and pluralism can be made into a dualistic coalesce. In this alternative discourse, place and culture are never fixated entities. Studies of culture in diaspora produce exemplar testament to the aforementioned statement. Architecture deemed as stereotypical or according to hegemonic character is reinstated in the case of diaspora more so than any other discipline. Architecture is often dichotomized into western and non-western and it is in that dichotomy that political geography is assigned as quo for ‘authenticity’ (Sen, 2010). This has to do in part with the discussion of architecture relaying tradition and cultural practices to belong to a certain time-frame, not incorporating a paradigmatic surveying of how these cultural artefacts of built nature transform in meaning and role in societies over time, thus instigating static cultural fissures where meaning and tradition lie dormant and *locked* (Bourdieu, 1986). It is in the *virtuality* of culture that the cultural entity’s formative nature is fully implored. Increased migration patterns have led one Tokyo executive to comment that soon “there will be no Japan, only Japanese.” (Kotkin, 1993), propagating the discussion regarding virtual culture as that of no confines or political geography but of drawn tenacity from its active agents as contributors to its identification and realization (Kilduff & Corley, 1999). The *virtuality* of a culture attributes to its changeable consortium of added experience and enhanced perspectives with relevance to a migrant’s displaced setting and cross-encounters. In the argued discourse of action, *virtual* cultures corroborate to enhance a cultural capital, contributing to an endowed cultural legacy with meticulous additions of resources and ideas.

4 Assimilating and Excluding; Recipients of Diaspora, Studying the Domains and Actors

Richard Florida’s *creative class* approach deems it necessary that thriving and *creative* urban milieus foster tolerance and cultural blossoming (Florida et al., 2011; Moss, 2017), perpetuating an urban agenda that promises not only the thriving of human capital and economic development but also weaves a *métissage* varying the experience of the city and formulating ‘creative people climates’ (Arida, 2002; Moss, 2017). Cities implementing this axiom and ‘climate’ are culturally tolerant and diverse, home to creative expression, conversation, and social networking. Florida’s thesis is supported via correlational research, accentuating the presence of the *creative class* as of integral incorporation to urban and economic growth (Moss, 2017). Sustainable

urban thriving, complementarily, acknowledges tolerance as of core-importance in socio-spatial justice research. Roberto Rocco’s *Why Discuss Spatial Justice in Urbanism Studies* (2014) articulates on this necessity as he declares spatial planners and designers’ roles extending to tackle and explore new methods of understanding space. ‘Decision making’ is, thus, rendered as an exercise that complies with the designer’s efforts to empathize with and become active participant in ‘policymaking measures’ catering for the effectuation of this agenda and ‘democracy’. Tolerance, sustainability, and perpetual socio-spatial justice signify as of a becoming three-tiered core-mechanism, animating and including those who feel alienated and indifferent.

4.1 Countries, Agencies, and Policies; the Different Reactions to Diaspora

In all diasporic extrapolations lie expressions based on communal needs and desires to be acknowledged. It is in that host-city-migrant integration—visualized in built context—that most hardships with regards to identity, sense of belonging, and endowed cultural legacies are deplored. Demonstrating and redefining of vernacular—built and social—are among policies and realms upon which the migrant community has a significant impact. In the case of Australia’s diaspora, an exodus of post-war migrants from Southern Europe contribute largely to the country’s industrial and economic growth (Lozanovska, 2019). Housing and architectural character, as a result, have become unassailably altered as migrants sought establishing of a foothold in the Australian vernacular. Migrant housing contrasted the existing vernacular greatly in its producing new dwelling paradigms spanning from the practice of ‘home-building’ to planting of familiar foods as means to making unfamiliar places ‘homely’ (Hage, 1997). Drawing upon familiar dwelling habits and reorganizing the spatial ‘public’ and ‘private’, front and back, inside and outside, migrant housing produced an urban plateau within an urban plateau, accordingly with its native taxonomy of housing architecture and thus producing new narratives of identity and culture (Lozanovska, 2019). Assimilating practices and policies regarded this spatial practice and rite—migrant housing in the Australian context—as misplaced and was subsequently excluded in a grey matrix appropriating migrant housing within the normative built apparatus but ousted it from the constituting *norm* (Butler, 2009; Lozanovska, 2013). Migrant housing in Australia’s vernacular has grown to bear more acknowledgment as an appealer and constituent of the host-city’s plateau but was contested in theories of vernacular architecture; significant but opposingly ‘particular’ (Lozanovska, 2019).

Throughout the cultural domain of Canada, the increased migration in the twentieth century has helped shape up its

Fig. 5 Reconstructed Abbotsford Gurdwara, the earliest Sikh temple in Canada and national historic site deploying Western architectural character. *Source* canadianheritage.ca



diverse mosaic (Dhanjal, 2009). Migrants of different faiths and cultures resided within the Canadian confines, among which are the Sikhs. Not having undergone industrialization, the first wave of Sikh settlers arriving in Canada from 1897 to 1960 faced “...an extremely high hurdle of culture shock...”⁹ as the rural heritage of their home region of Punjab contributed very little to their acclimation to Canadian modernity (Nayar, 2004). The climate of the early period of immigration bore discrimination and migrants were attacked by the provincial government and disenfranchised groups, leaving Sikh immigrants socially disowned and denied access to retail shops (Dhanjal, 2009; Singh, 2007). Displaced communities of different faiths would gather to fight discrimination, immigration restriction, and living conditions. The diasporic communities formed congregations which perpetually led to the building of the first diasporic Gurdwara—typically a Sikh worship place but that would serve as a communal building to converse social and political conditions of the displaced. Congregations beseeched the establishing of a culturally protruding architecture (Dhanjal, 2009) which would be met with a biasedness towards the maintaining of the architectural character of the host-city urban plateau. The Sikh temple would initially adopt the Canadian plateau’s ‘western’ architectural character (visible in Fig. 5) but would later evolve to reflect the Sikh community’s foothold in the host-city (visible in Fig. 6).

⁹ Contemporary Sikh Architecture in the Canadian Diaspora (2009).

4.2 Cultural Responsiveness and Socio-Spatial Justice: A Prospective Conclusion

With the world’s refugees increasingly fleeing urban areas and shaping up the world’s globalized mosaic—making east–west distinction indiscernible and fumbling political geography—the modern domain demands creative, tolerant, and culturally responsive engagement. In September of 2017, the UN High Commissioner for Refugees, Filippo Grandi acknowledged this demographic morphology and declared the agency’s dealing with and monitoring of cities to devise solutions in which refugees are more at-home and integrated into their new ‘urban homes’ (Kühl & Behrens, 2018). When thinking of the globalized world—the irreversible result of complex colonial and postcolonial histories—means of accommodating the influx of migrants bolstering social cohesion and avoiding marginalization and ghettoization unravel in rearticulated design schemes and, thus, urban spaces; policies re-established and identities redefined. Towards this objective and narrative, countries and agencies have come a long way to design with tolerance and ‘plurality’.

Designing with cultural responsiveness is of paramount importance to study and employ in countries welcoming diaspora. Germany’s attempts to integrate newcomers—refugees and migrants—with long-term residents in neighbourhoods through specially built and mixed-use schemes (visible in Fig. 7) allow a normative status and disown ‘citational politics’ (Butler, 1993, 2009; Lozanovska, 2013). Such efforts were showcased at the 2016 Venice

Fig. 6 Montreal's Gurdwara Guru Nanak Darbar LaSalle deploys more tolerant architectural manifestation as paradigmatic to the host-city's advanced cultural responsiveness. *Source* Contemporary Sikh Architecture in the Canadian Diaspora (Dhanjal, 2009)



Fig. 7 The efforts of Three separately commissioned architecture firms collaborating to develop a modular system using wood as the material for flexible reuse and promotion of a regional supply chain sustainability. Three projects housing between 100 and 300 asylum seekers have each been completed within less than a year. *Source* Spaces of Migration: Architecture for Refugees (2018)



Architecture Biennale, 'Making: Heimat. Germany Arrival Country', curated by the Deutsches Architekturmuseum (DAM). Efforts reflected in the German Pavilion bring about architectural solutions that bespeak efficiency, affordability, flexibility, and quality of design (Kühl & Behrens, 2018). The projects deploy social cohesion through the keen design of housing and infrastructure, inviting socio-spatially *just* architecture; a concept elaborated on, notably, through the works of Henri Lefebvre (1968), David Harvey (2008, 2019), and Roberto Rocco (2013, 2014). Implementing socio-spatial justice can be achieved through "...fair, inclusive and efficient spatial planning, design and

management of urban and rural spaces and resources..." (Rocco, 2014). In the achieving of socio-spatial justice, comes the need to discuss a more radical kind of democracy, deeming sustainable governance, fair distribution of resources, and equitable distribution of and access to spatial benefits and opportunities as realized traits of an urban realm. In the acquisition of that democracy, design solutions foster building for migrants and refugees within affordable and flexible reusability, along with improved access to extensive amenities and infrastructure. Derivative from the argued discourse is an approach towards a new spatial and social agenda that of cultural responsiveness.

5 Conclusion

Acknowledging and studying the morphing cultural demography of the globalized domain can endow designers and policymakers with deeper insight into the dynamics of culture and mark an overcoming of homogenized perception of urban and architectural endeavours. Diaspora and its literature offer entangling narratives of derived cultural capital, revisited cultural practices, and urban milieus of bespoken tolerance. The ambiguity of migrants' political status seems to find compelling mould in topics of urban design and architecture; placemaking and urban vitality veneering inclusivity and essential appropriation of agendas that welcome diaspora in their new urban homes. Studying the literature dedicated to the topic furnished the paper's methods with insight into the virtuality of culture, transgressing political geography, flexible heritage, and appropriations of the global mosaic.

Investigating case-studies relevant to the concepts discussed manifests exemplary paradigm to the tangible and intangible constructs catering to fixed taxonomies and frames of understanding culture. The paper's findings align with that of agendas poaching creativity, tolerance, and socio-spatial justice as their core. The paper's structure studies the isomorphism between culture and architecture, allocates significance to the dynamism of heritage, underlines the growing body of placemaking philosophy, revisits the non-place urban realm, and arrives at the investigation of diaspora's encounter with host-cities. Urban studies and cartographic endeavours apprehending and highlighting the argued discourse animate perspectival constructs and culminated built environments of sufficient appeasement to the modern demography and economy. Democracies of socio-spatial justice extend designers' roles to become affiliated with that of decision-makers, aiding in the appropriation of culturally responsive and subjective milieus and provoking means that answer to synergies of the local and global, tending to connectivity, knowledge spill-overs, and integration over segregation.

References

- Al-Sabouni, M. (2016). Marwa Al-Sabouni: How Syria's architecture laid the foundation for brutal war | TED Talk. Retrieved February 28, 2020, from https://www.ted.com/talks/marwa_al_sabouni_how_syria_s_architecture_laid_the_foundation_for_brutal_war?language=en
- Alexander, C. (1966). A city is not a tree. *Design, London: Council of Industrial Design*, 206(1), 58–62. <https://doi.org/10.1017/CBO9781107415324.004>
- Appadurai, A. (1990). Disjuncture and difference in the global cultural economy. *Theory, Culture & Society*, 7(2), 295–310. <https://doi.org/10.1177/026327690007002017>
- Arida, A. (2002). *Quantum City*, (January 2002). <https://doi.org/10.4324/9780080515557>
- Assayag, J. (2015). La Mondialisation vue d'ailleurs. L'Inde désorientée (La Couleur des idées). Retrieved from <https://www.amazon.com/mondialisation-vue-dailleurs-LInde-désorientée/dp/2020813009>
- Batty, M. (2018). Visualizing aggregate movement in cities. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 373(1753). <https://doi.org/10.1098/rstb.2017.0236>
- Batty, M., & Longley, P. A. (1994). *Fractal Cities*. Academic Press Limited.
- Berger, J., Mohr, J., & Blomberg, S. (1975). *A seventh man : A book of images and words about the experience of migrant workers in Europe*.
- Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241–258). Greenwood Press. <https://doi.org/10.1007/s11010-011-0831-4>
- Butler, J. (1993). *Bodies that matter: On the discursive limits of sex*.
- Butler, J. (2009). Performativity, precarity and sexual politics. *AIBR. Revista de Antropología Iberoamericana*, 04, I–XIII. <https://doi.org/10.11156/aibr.040303e>
- Cohen, R. (1997). *Global diasporas: An introduction*. UCL Press. Retrieved from https://books.google.com.eg/books?id=KTtGN4fA63kC&hl=ar&source=gbs_book_similarbooks
- Davies, N. (2003). *God's playground: v. 1: A history of Poland*. Retrieved from <https://www.amazon.co.uk/Gods-Playground-History-Poland-Origins/dp/0231128177>
- Deleuze, G., & Guattari, F. (1987). *A thousand plateaus: Capitalism and schizophrenia*. University of Minnesota Press.
- Dhanjal, J. (2009). Contemporary Sikh architecture in the Canadian diaspora.
- Florida, R., Mellander, C., & Adler, P. (2011). *The creative class paradigm*. Edward Elgar Publishing. <https://doi.org/10.4337/9780857936394.00008>
- Genz, C., & Lucas Drogan, D. (2018). Mapping—Urban Ethnography Lab. Retrieved July 14, 2020, from <https://urban-ethnography.com/methods/mappings/>
- Habitat III. Migration and refugees in urban areas. Habitat III Issue Papers, (Junemi), 23–26. <https://doi.org/10.2307/j.ctv10kmcpb.9>
- Hage, G. (1997). At home in the entrails of the west: Multiculturalism, ethnic food and migrant home-building. *Home/World: Space, community and marginality in Sydney's West* (pp. 99–153).
- Harvey, D. (1990). *The condition of postmodernity: An enquiry into the origins of cultural change*. Retrieved from <https://www.amazon.com/Condition-Postmodernity-Enquiry-Origins-Cultural/dp/0631162941>
- Harvey, D. (2008). *The right to the city*.
- Harvey, D. (2019). *Rebel cities from the right to the city to the urban revolution..* Retrieved from <https://www.versobooks.com/books/3007-rebel-cities>
- Imilan, W., & Marquez, F. (2019). Urban ethnography. In *The Wiley Blackwell encyclopedia of urban and regional studies* (pp. 1–15). Wiley. <https://doi.org/10.1002/9781118568446.eurs0500>
- Jacobs, J. (1961). *The death and life of great American cities* (p. 428). <https://doi.org/10.2307/794509>
- Jelenski, T. (2017). Inclusive placemaking: Building future on local heritage. *Putting Tradition Into Practice: Heritage, Place and Design: Proceedings of 5th INTBAU International Annual Event* (Vol. 3, (February), pp. 172–180). <https://doi.org/10.1007/978-3-319-57937-5>
- Jeleński, T. (2018). Inclusive placemaking: Building future on local heritage. In *Lecture Notes in Civil Engineering* (Vol. 3, pp. 784–793). Springer Nature. https://doi.org/10.1007/978-3-319-57937-5_81

- Kilduff, M., & Corley, K. G. (1999). The diaspora effect: The influence of exiles on their cultures of origin. *Management*, 2(1), 1–12. <https://doi.org/10.31058/j.mana.2018.21001>
- Kotkin, J. (1993). *Tribes: How race, religion, and identity determine success in the new global economy*. Random House.
- Kühl, K., & Behrens, J. (2018). Spaces of migration: Architecture for refugees. *Architectural Design*, 88(4), 86–93. <https://doi.org/10.1002/ad.2325>
- Leach, N. (2002). Belonging: Towards a theory of identification with place. *Perspecta*, 33, 126–133. <https://doi.org/10.2307/1567305>
- Lefebvre, H. (1968). *Le droit à la ville*. Anthropos.
- Lozanovska, M. (2013). Is the migrant house in Australia an Australian vernacular architecture.
- Lozanovska, M. (2019). *Migrant housing: Architecture, dwelling, migration*.
- Mehta, S. R., Dufoix, S., & Cohen, R. (2018). *Diasporas reimagined: Spaces, practices and belonging*. *Diaspora studies* (Vol. 11). <https://doi.org/10.1080/09739572.2017.1398382>
- Mehta, S. R., & Saha, J. (2018). *Diasporas reimagined: Spaces, practices and belonging*. *Diaspora studies* (Vol. 11). <https://doi.org/10.1080/09739572.2017.1398382>
- Moss, G. (2017). *Artistic enclaves in the post-industrial city*, (June) (pp. 13–23). <https://doi.org/10.1007/978-3-319-55264-4>
- Nayar, K. E. (2004). From Punjabi villages to a Canadian metropolis. In *The Sikh diaspora in Vancouver* (pp. 3–24). University of Toronto Press. Retrieved from <http://www.jstor.org/stable/>. <https://doi.org/10.3138/9781442682368.4>
- Rautenberg, M. (2018). ‘Weak Heritage’ and neighbourhood in contemporary cities: Capitalism and memories of urban Utopias. *Market Versus Society*, (September 2012), 285–302. https://doi.org/10.1007/978-3-319-74189-5_16
- Reddington, H. (2014). Tamil diasporic identity, 52–83.
- Rocco, R. (2013, December 1). Emerging new roles for designers and planners: Articulating soft and hard infrastructures | Atlantis Magazine by Polis. 2013. Retrieved from <https://atlantistudelft.wordpress.com/2013/12/01/emerging-new-roles-for-designers-and-planners-articulating-soft-and-hard-infrastructures/>
- Rocco, R. (2014, July 2). Why discuss spatial justice in urbanism studies? Retrieved June 12, 2020, from https://issuu.com/robertorocco/docs/rocco_spatial_justice_atlantis__24
- Sdoutz, F. (2011, September 30). NONPLACE Melvin Webber—Links. Retrieved August 13, 2020, from http://www.mediaarchitecture.at/architekturtheorie/melvin_webber/2011_melvin_webber_links_en.shtml
- Sen, A. (2010). Making sense of the architectural production of ‘Others’: Architectural Design and Multiculturalism, 410–420.
- Silberberg, S. (2015). The common thread. *RSA Journal*, 161, 14–19. <https://doi.org/10.2307/26204428>
- Singh, K. (2007). *Guru Nanak: A prophet with a difference*. Retrieved from <https://www.amazon.com/Guru-Nanak-Difference-Kharak-Singh/dp/8177701517>
- Swidler, A. (1986). Culture in action: Symbols and strategies. *American Sociological Review*, 51(1964), 273. Retrieved from <http://www.nyu.edu/classes/persell/aIntroNSF/Documents/ASRSwidler1986.pdf>
- Teitz, M. B. (2006). Melvin Webber and the “Nonplace Urban Realm.” *Access Magazine*. Retrieved from <https://www.accessmagazine.org/special-issue/melvin-webber-and-the-nonplace-urban-realm/>
- Vanderbilt, T. (2020, April 24). The pandemic shows what cities have surrendered to cars—The Atlantic. Retrieved from https://www.theatlantic.com/ideas/archive/2020/04/pandemic-shows-what-cities-have-surrendered-cars/610423/?utm_campaign=the-atlantic&utm_medium=social&utm_source=facebook&fbclid=IwAR08218Zem_HKGNkPpRF55IfCTxUMU1B1Lru_sz8DyEYPkENIpiyBBU6rbfs
- Venegas, K., & Huerta, A. H. (2015). Urban ethnography: Approaches, perspectives and challenges (July 2010).
- Webber, M. M. (1964). *Explorations into urban structure*. University of Pennsylvania Press. Retrieved from <https://books.google.at/books?id=PRQVAAAIAAJ&dq=&hl=de>
- Webber, M. M., Dyckman, J. W., Foley, D. L., Guttenberg, A. Z., Wheaton, W. L. C., & Wurster, C. B. (1964). *Explorations into urban structure*. *National Civic Review*. University of Pennsylvania Press. <https://doi.org/10.1002/ncr.4100530715>



Building a Cultural Identity. A Focus on Catalonia, Spain, and the Works of H Arquitectes

Andrea Crudeli

Abstract

From the 80s until a decade ago, the British historian Kenneth Frampton has developed the theory of Critical Regionalism, proposing a way to cultivate a cultural identity inside the globalized world. This theory conceives the built environment as the result of the human actions layering over the centuries, achieving what Martin Heidegger defined as a *Raum*, a territorial boundary inside which a civilization manifests its presence in a specific way. Inside Frampton's theoretical frame, this dissertation analyses Catalonia as a cultural enclave, and the emerging architecture practice called H Arquitectes, established in 2000 and based in Sabadell, Barcelona, and recently published on an *El Croquis* monograph, to research the permanence of a cultural environment in the last ten years of their built works. The methodology aims to expand three key themes, topics that can be considered bridges between historical and present-day design practice. The first topic is the permanence of the construction culture and language. The second is topology, the attitude of conceiving the site as a layered entity result of human and natural gestures. The last is tactility, intended as the culture of a particular material dimension. This study inside uncharted territories, the very recent built works, provides a lens to conceptualize the family of those designers who can be called the *new locals*, who work in the periphery of the megacities, facing the tension between the universalization of the construction process and local architecture culture. The result of this investigation shows how Frampton's key themes can still be considered tools in the hands of those young designers, in this case, H Arquitectes, that want to critically understand their own practice and make site-specific architecture with a qualitative design approach.

A. Crudeli (✉)
University of Pisa, Pisa, Italy
e-mail: andrea.crudeli@phd.unipi.it

Keywords

Kenneth Frampton • Harquitectes • Spain • Critical Regionalism • Topology

1 Kenneth Frampton's Theory of Critical Regionalism

This research has the primary purpose of focusing on the last decade of Catalonia Architecture production, 2010–2020, to understand if there is still a regional movement. The methodological tool adopted in this investigation is the theoretical framework of Kenneth Frampton's Critical Regionalism.

Kenneth Brian Frampton started writing about Critical Regionalism in the 80s. The theory of Critical Regionalism can be defined as an architecture attitude that overcomes the placelessness of the International Style and the historical references of Postmodern architecture, proposing a design rooted in the contemporary context and, at the same time, in a specific geographical and cultural tradition, mediating the global and the local influences.

After several articles and books devoted to this topic, Frampton stopped writing on this theory a few decades ago. The discourse of this paper follows a published conversation with the British historian happened in 2018 at Columbia University of NYC: after the failure of regional Architecture schools, Frampton said, following the purpose to promote an authentic local identity, it has been necessary to revisit Martin Heidegger's concept of *Raum*—a territorial boundary inside which a civilization manifests its presence—expanding the definition of *region* toward macro-areas of the globe, with a blurred and elastic perimeter.

This paper doesn't propose a second phase of the theory, but, fully conscious of Frampton's texts, it aims to draw a new path inside the uncharted territories of the contemporaneity, with the primary goal of studying the permanence of

specificity and locality in the globalized construction process of the current architecture panorama, focusing mainly on the last decades, with particular attention to the new technological developments in the building industry.

The strategy aims to expand a series of critical themes concerning the relation to specific characteristics such as construction, topology, and tactility, topics that can be considered bridges between historical and present-day design practice. These issues are also tools in the designers' hands to critically understand their practice when making site-specific architecture with a qualitative design approach.

With a strong awareness of the evolution of Frampton's theory across the decades, this research attempts to critically read its own time and context, in particular, the very recent built works, to do a scientific perspective of the current design practice, and provide a lens to conceptualize the architectural production of those designers who can be considered the new locals, who build in the so-called periphery of the main megacities, facing the tension between the universalization of the construction process and the specific local architecture culture.

The chosen macro-area of this paper is Catalonia, a territorial portion that can be considered a finite set in terms of civilization, general culture characteristics, and climate. The chosen architecture firm is H Arquitectes, which has designed small/medium scale buildings in the periphery of the region's main cities. Thanks to these selections, this research aims to define the profound mechanisms of mediation between globality and locality and to understand the possibility of the permanence of the architecture identity.

2 Critical Regionalism in Catalonia

When studying the permanence of a local architecture language in Catalonia, it is essential to understand the political frame of this part of Spain (Pauline, 1992). The demand for autonomy, or economic independence, has always been paramount for people from this area. In the present day, some intense manifestations of separatism, together with the request of the decentralization of power from Madrid, have spread in all the media till the point of a self-declaration of independence in 2017. This will of autonomy has always been an issue for several regions in Spain. The current configuration of Spain is the result of an assembles of different governments during the fifteenth century *Reconquista* (Dobby, 1938). Since that moment, some regional communities, with varying intensities across the centuries, embodied a peripheral force that tried to have independence through political acts and Catalonia (Pla & Hevia, 2007).

This political frame is not directly related to the works of the selected study case. Still, it helps to understand that there

is a boundary condition to define their territory as a *Raum*, according to Heidegger's definition.

Kenneth Frampton himself explains how in Catalonia, after Gaudi, one of the essential regionalist movements, a national one to be precise, founded by Grup R in 1951 in Barcelona and led by J. M. Sostres Oriol Bohigas (Frampton, 2007). Frampton explains how this movement attempted to mediate between the rationalist movement, to be in line with the European tendencies, and the vernacular language, to be recognizable by locals. Bohigas theorized this mid-way and expressed it in his works. For instance, Frampton points out that in Catalonia, there is a strong regional identity connected to the use of bricks. In this sense, Grup R has been an actual motor for modernity, especially considering their works to overcome the international style trend, using the local resources of the post-Civil War Spanish condition.

In 1949, Barcelona was held one of the events of the National Assembly of Architects. During an open exhibition, Gio Ponti met the works of José Antonio Coderch, and he fell in love with them. A few years later, he proposed him as the curator for the Spanish Pavilion at Milano Triennale. Some local architects emerged from that assembly, and later they founded the Grup R, such as Antoni de Moragas, Josep Maria Sostres, Oriol Bohigas, Josep Maria Martorell, Joaquim Gili, and Josep Pratmarsó, together with José Antonio Coderch and Manuel Valls. Later came Manuel Ribas, Josep Antoni Balcells, Francesc Bassó, Guillermo Giráldez, Pau Monguió, and Francesc Vayreda.

Among them, J. A. Coderch has been for sure the most important master from that rationalistic movement. His works are widely connected with the Mediterranean tradition, often using bricks and tall shutters, giving a new interpretation of the vernacular elements. Projects such as Casa Catusus in Sitges and a residential building close to Paseo Nacional in Barcelona are excellent examples. Ricardo Bofill has expressed the last Avangard recorded by Frampton in Catalonia. His apartments in Calle Nicaragua are clearly inspired by Coderch's works. Other projects, like the Xanadu complex and the Walden 7, are the highest attempt to define an autonomous language for a regional condition (Harquitectes, 2016).

3 Building a Cultural Identity: H Arquitectes

This research aims to investigate what happened in the last decade (between 2010 and 2020, mostly). Is there still a regional movement in Catalonia? A famous firm has been selected to figure out this issue, recently published with a monograph volume on El Croquis #203, an architecture team that mainly designed in its belonging territory: H Arquitectes (Márquez & Levene, 2020). This office,

established in 2000 in Sabadell, Barcelona, is managed by four partners: David Lorente Ibáñez, Josep Ricart Ulldemolins, Xavier Ros Majó, and Roger Tudó Galí. They all graduated between 1998 and 2000 in the E.T.S.A. Vallès, where Josep and Roger teach Projects and Construction subjects. Xavier also teaches Architecture design in the E.T. S.A. Barcelona, as described on their website.

Thanks to an open investigation method, this paper analyses the work of H Arquitectes, mainly focusing on the last decade of their work. The team has been directly interviewed regarding their familiarity with Frampton's three topics compared with their design, and they've also been questioned about their feeling with a regional-ness. Previously scheduled as an actual meeting, due to the COVID-19 issue, it has been held as a video call (Fig. 1).

The questions asked to the firm were:

1. *The feeling of "Regional-ness" in terms of Architecture design. In your personal opinion, does it still make sense to talk about regional architecture in a globalized world? Do you feel a specific approach in your design practice related to this concept? If yes, what does it consist of?*
2. *The permanence of the construction culture. This topic investigates the permanence of the construction culture, conceived principally in terms of tectonic, the poetic form of structures. It is also related to the relationships between traditional and contemporary methods toward defining a local construction language. How do you deal with this topic in your design practice? Which of your projects mainly deal with this issue?*
3. *The Topological approach This topic is related to the attitude of conceiving the site as a layered entity resulting from human and natural gestures. This issue aims to research those situations where the designer tries to "build the site" instead of having a universal tabula rasa approach. The project's site is conceived as a layered entity, a result of human and natural gestures. How do you deal with this topic in your design practice? Which of your projects mainly deal with this issue?*
4. *Tactility. The culture of the material dimension. This topic investigates craftsmanship and material culture. Its primary goal is to examine the permanence of the artisan approach, expressly referred to as the field of material making and manipulation. In an age where almost all the material production is industrialized, this research aims to understand the role and the integration of the artisans and the traditional use of local materials with the most innovative technologies of the building industry. How do you deal with this topic in your design practice? Do you have one of your projects which mainly deals with this issue?*

What emerged from the first question is related to their belonging to Barcelona's outskirts, characterized by rural landscape, small municipalities, where the scale of the houses is primarily tiny. All the founding partners have worked and lived in the small town of Sabadell, in the heart of the Vallès Area (Fernández-Galiano, 2018). Almost all of them have studied at the Vallés School of Architecture, which is quite well known for its specific technical training: in this school, they received the influence of Coque Claret.

Questioned about their belonging to a regional-ness condition, they replied that it is intrinsically related to the climatic conditions. It's not about the language, they said. Still, it's more about a design behavior connected to structural decisions, climate conditions, the quality of the light, so, not about the aspect of the architecture. All over the world, the use of artificial mechanical systems reduces the differences, and, to distinguish one place from another by the construction, just the cultural-historical discrepancies remain. So, to understand the fundamental soul, climate, and material resources, impressed in the old buildings, stay as a never change background conditions. The basis of a regionalist approach is understanding the a priori conditions in which the site is involved.

H Arquitectes states that "regionalism is understood as a cultural approach." The main goal is not to produce a prototype or define general solutions; otherwise, it becomes typological, and typology is an enclosed system for space



Fig. 1 Interview to H Arquitectes, from left to right: Josep Ricart Ulldemolins, Xavier Ros Maj, Andrea Crudeli (Author)

structure. The actual goal is to work on archetypes, repeated across history, intended as space structures, like a porch or a patio.

“When you don’t use fossil energy, you get closer to what the real experience of architecture is.” Historical models have a real connection with the actual experience, they are more existential, they represent the meaning of the human being inside spaces.

Since the very beginning of the office, they’ve been interested in the idea of concepts like vernacular or traditional, but in terms of non-representative objects. They developed a particular approach to the construction related to the attribute of the materials, not visible attributes, but mainly in terms of performance. The detachment from a post-modernist process is based on the distinction between memory and existence. The existential approach involves the performance of people and their history in the spaces. The fact that H Arquitectes has primarily worked in their native territory has made it easier to produce specificity because they directly experienced those conditions.

This is the reason why they prefer to build close to the office. Boundary, they say, is just a meaningless word without context. The regionalism of the office, in fact, is not based on boundaries but on the distance they assume they can control the project. Culture, climate, performing, construction process all have different boundaries, that are relatives.

4 The Permanence of the Construction Culture

The permanence of the construction culture concerns the idea of what the architects define as the *transhistorical*. According to H Arquitectes, since the beginning of architecture history, all the structures are hardware that provides the fundamental character and condition of the space. Their immediate equation is: space is equal to structure because, just in this way, the building will be permanent in terms of resistance and attributes. Following this principle, they try to make their spaces not defined by the functions, but determined by the wideness of the wall, the textures: the result is highly expressed, specific spaces, not highly specialized, because the functions do not define it.

The inspirational example chosen by the architects to explain this concept is the UPF Library in Barcelona, designed by Lluís Clotet Ballús, which used to be a water tank, and infrastructure building, and now it’s a library. There was no function for the space, and it was a continuous construction. This example also refers to the concept of *transhistorical*. H Arquitectes wanted to avoid the newness of a building, thanks to the strategy of implementing the idea of an old construction in new construction, with the

consequence of achieving the meaning of different moments of history at the same time. This is strictly connected to their idea of regionalism.

Related to the idea of culture and tradition, and the concept of the evolution of that, they believe that in tradition, there is a lot of knowledge that can be understood and used, “tradition is not fixed, otherwise is dead,” they said. Their architecture production establishes a clear connection with tradition but adopts it in a contemporary way. In the beginning, they were focused on the idea of a contemporary vernacular, a kind of old attitude with modern products: basically, a traditional construction with the introduction of tech systems.

One of the most important examples of this philosophy is CASA 1004 (Fig. 2). It is all about structure as space, a project in a narrow plot connected with two opposite streets. The project is meant as a sequence of spaces, voids, and solids. The patios work as transitions from the street and as climatic devices. Solids volumes are well defined, windows work as a frame to the indoor landscape, and the bricks, superimposed with different variations, represent a transhistorical act because they explain the construction sequence, celebrating the idea of working with time.



Fig. 2 H Arquitectes, Casa 1004

5 The Topological Approach

Topology, as intended by Frampton, can be defined as the will to establish a relationship with the place, both intended as nature or pre-existing built environment. The act of recognition of a place is a critical distinction based on the understanding of its characteristics. In this sense, the domestication process of a place expresses how the universal is declined locally.

Following Kenneth Frampton's definition of topological approach, the Spanish firm agrees to generally follow the strategy of working by layers, especially in existing buildings, when renovating. Again, the historical building is the root, and again, there is the idea of a transhistorical approach, catching history, understanding it, and extending its life to the future through the act of adding a new layer. They often explain to their University students that they don't have to deal with paper; architects manage things already there and have to re-organize. The products of construction are the local resources. Cristalleria, the short name of the Gallery of Cristalleries Planell Civic Center (Fig. 3) is this result, the attempt to understand the attitude of the existing working by layer.

Furthermore, from their answer emerges that there is another dimension of building the place. There is a clear distinction between the outside, which is public space, and the private inside. The difference is clear. Inside the



Fig. 3 H Arquitectes, *Gallery of Cristalleries Planell Civic Center*

perimeter, they work with transactional spaces, such as patios, gardens, etc., which work as bioclimatic devices. Those spaces, as previously explained, are connected with the historical archetypes. So the idea of the place is always inside the object; the main idea is producing places. The site is something to be within; the place has an atmospherical component. This is why they don't design façade but geometrical objects: design is an act from the inside toward the outside.

6 The Tactile Dimension

As Martin Heidegger explains: "the buildings bring the earth as the inhabited landscape close to the man and at the same time place the nearness of neighborly dwelling under the expanse of the sky." (Heidegger, 1971).

Regarding the tactile dimension, related to the relationship between the artisan approach and the building industry, H Arquitectes point out how they try their projects to look *unfinished*. Each project, they say, is continuously evolving; this is why the final output should never seem finished. To achieve this result, the main focus is on the construction process and the on-site details because if an architect wants to act locally, he has to use high definition craftsmanship (Hintze, 2016).

Their specific approach to architecture, inside the historical frame of the so-called architecture of the crisis, is based on closed systems and open systems. Industrial processes are relatively closed; the product can't be modified. Traditional methods are wide open; the artisan can change every detail. In this sense, the same concept has been applied to the entire building: the less defined the material is, the more freedom you have as a designer later when renovating it.

Casa 1413 (Fig. 4) is an example of the material-oriented approach: demolishing an old wall, the architects reused the stones inside a concrete wall for the new perimeter. The existing site is re-organized to be part of a new construction process, thanks to the matter.

As previously mentioned, H Arquitectes have a particular sensibility toward the usage of bricks. This material connects the matter with something that it is possible to be drawn to the detail. It is the same concept of concrete, when you mix in the factory or in site, to get a special soup. It's an attempt to humanize the materials. The main goal is to produce the experience of the place thanks to materials: "When the product is finished, like glass, it is not alive. The final experience is based on memory, on the tale that is explained to you. When the products are unfinished and used for another purpose, they tell the construction experience," they said.

This concept of the material in movement, they explain, is about the transhistorical from another point of view. "It's about soil, it's about the forest, it's about the past."



Fig. 4 H Arquitectes, *Casa 1413*

According to this statement, they're very connected to Frampton's original version of the theory, where materials are supposed to evoke a corporeal experience.

7 Conclusions

This open research concluded that H Arquitectes, has clearly emerged from the interview, do face the three questioned topics, and they solve the problems related to each topic according to the peculiarities of their own place and culture. In addition to that, it is vital to understand how the global culture, with its new technological development, has offered new ways to reinterpret the tradition, which is constantly changing.

What emerged is that their works are such characteristics because they absorb their boundary conditions. They make it part of the design strategy, process, and realization, showing how architecture can express both material and immaterial culture.

The immaterial culture is mainly related to the behavior of the human being, and it is made of telling and performing; it is similar to the concept of performative regionalism, as expressed by Barbara Allen: "I argue that regionalism in architecture should be, in large part, based on the spatial dimensions of people's practices and normative behaviors. So, any investigation on regionalism must begin with an investigation into what people do" (Allen & Schlereth,

1990). Her position expresses a sense of identity that matches H Arquitectes' collective dimension.

The act of performing architecture can be summarized in the way people connect with nature and how they perform the material manipulation, in terms of construction techniques, topological approach, and tactile dimension.

References

- Allen, B., & Schlereth, T. J. (1990). *Sense of place: American regional cultures*. The University Press of Kentucky.
- Dobby, E. H. G. (1938). Catalonia: The geographical basis of its regionalism. *Geographical Review*, 28(2), 224–249. <https://doi.org/10.2307/210473>
- Fernández-Galiano, L. (2018). *Harquitectes: Appropriate, attractive, affordable, AV monografias* (202). Arquitectura Viva SL.
- Frampton, K. (2007). *Modern architecture: A critical history*. Thames & Hudson.
- H arquitectes (2016). *Harquitectes. 2G* (74). Koenig Books.
- Heidegger, M. (1971). *Building dwelling thinking*. New York. Poetry, language, though. Harper Colophon.
- Hintze, B. (2016). *Ausgezeichnete Einfamilienhäuser. die Sieger des HÄUSER-Award* (1).
- Márquez, F. C., & Levene, R. C. (2020). *Harquitectes: 2010 2020: aprender a vivir de otra manera: Learning to live in a different way*. *El Croquis*, 203(1).
- Pauline, A. (1992). *Building in a New Spain: Contemporary Spanish architecture*. Art Institute of Chicago.
- Pla, M., & Hevia, J. (2007). *Cataluña: guía de arquitectura moderna, 1880–2007*. Col·legi d'Arquitectes de Catalunya.



Logos and Visual Identities in Documenting Architectural and Cultural Heritage and Preserving the Attributes of Saudi Cities

Razan Erqsous

Abstract

This study illustrates the effectiveness of logo design and corporate visual identities in documenting architectural and cultural heritage. The research presents five case studies of Saudi institutions that use elements and symbols inspired by the heritage of cities in Saudi Arabia through their logos and visual identities. This descriptive research is based on observation and content analysis, examining samples and analysing the elements that define heritage to reveal their nature and how to establish an indirect connection between a recipient and a city. It also studies the chromatic relationship between cities and the colour schemes used by designers. The results of this research reveal the effectiveness of corporate identities in preserving the characteristics of Saudi cities and the nature of the elements used in documenting the architectural and cultural heritage of each city. Also discussed is the important role of tangible products in promoting a place and its heritage.

Keywords

Logo design • Visual identity • Saudi cities heritage • Architectural and cultural heritage • City branding

1 Introduction

We are surrounded by graphic designers who create symbols inspired by architectural and cultural heritage to build different corporate visual identities for different entities. Why is heritage so interesting to both designers and consumers? Architectural and cultural heritage sites are some of the

richest components of the culture of cities, and the preservation of these sites contributes to preserving people's memories. Globally, cultural heritage has become a core foundation for any community due to its role in shaping critical human aspects found in social, political, and economic spheres. Through cultural heritage, we can understand the livelihoods of people in a given culture based on their communication, such as drawings, maps, books, posters, gestures, signs, and symbols. The literature review reveals a definite link between graphics and cultural heritage, in order to create an identity, promote a place or product, or boost loyalty. It does not, however, directly indicate the ability of these designs to preserve architectural and cultural heritage.

The primary objective of this study is to explain how logos and visual identities contribute to the documentation of architectural and cultural heritage and preserving the attributes of cities. The discussion describes the nature of graphic elements that can build a heritage. The focus of this study is on the ability of visual identities inspired by cities' heritage to boost consumer loyalty and guarantee the continuity of heritage.

This paper established a theoretical and analytical framework to answer these questions. It is arranged in six major sections: logo design, branding, and visual identity; literature review; methodology; five case studies of Saudi entities; findings and discussion; and conclusion.

2 Logo Design, Branding, and Visual Identity

According to Foroudi et al. (2017), a “corporate logo is a set of elements (colour, typeface, name, and design) that gives prominence to a company's products and services; it also reflects on its ability to enable customers to distinguish and identify a brand or a company”. Previous research has shown that logo design raises customer awareness of brands and evokes certain meanings based on the characteristics of logo

R. Erqsous (✉)
Graphic Design Department, College of Design and Visual Arts,
Umm Al-Qura University, Mecca, Saudi Arabia
e-mail: raerqsous@uqu.edu.sa

elements that are, in turn, transferred to brands (Kim & Lim, 2019). Historically, the term “branding” is derived from the marking of cattle in the United States in the nineteenth century, their owners doing so to display ownership of a herd (Miltenburg, 2019). Therefore, brand identity is an image that conveys ownership and the need to link what is seen to an entity. Branding is always highlighted with a visual identity, which has become one of the factors that strengthen and support a logo.

According to Melewar and Karaosmanoglu (2006), corporate design is a term used to describe the vast number of visual cues that are associated with a specific organization. A corporate visual identity system (CVIS) is composed of five main elements: the organization’s name, slogan, logo-type, symbol, colour, and typography. In general, a logo is a picture or image that the sender uses to attract the attention of the recipient to his/her organization, no matter what is being offered, whether services or products. A visual identity not only attracts the attention of the public but is also associated with the entity attached to it and distinguishes it from others without using any direct statements. Therefore, a visual identity is considered to be a suitable medium for a designer to adapt his/her logo and its elements to a variety of realistic or virtual materials, thus expanding the boundaries of logo design beyond the usual constraints.

3 Literature Review

An important study that documents the use of symbols and icons in architecture was conducted by Erqsous (2018). The author analysed miniatures of the Grand Mosque in Makkah represented in manuscripts and tiles from the eleventh to nineteenth centuries. All the elements presented in these drawings are analysed synchronously and diachronically. Architectural elements are classified into symbols and icons to understand their semiotic language as used for representation. The study shows that these drawings document the architecture of the mosque and reveal cultural aspects to which the artists adhered.

Many brands have visual identities that communicate cultures and traditions, such as the Rome Sports Association, Versace, and UNESCO. The seven-star Burj Al Arab Hotel in Dubai, the Grand Canyon, the Eiffel Tower, the Sydney Opera House, and the pyramids are all iconic sights. These icons focus on people’s minds and promote associated places. Places are increasingly being marketed and branded via new and spectacular icons (Ooi & Stöber, 2008). These drawings, logos, icons, and visual identities tell us more about people’s style of architecture in the ancient and current

periods, as well as the unique histories surrounding creating such structures, which creates room for the appreciation and recognition of such great history.

In Egypt, ancient symbols are a source of inspiration for many contemporary Egyptian graphic designers. A contemporary Egyptian artist’s knowledge of his cultural heritage enriches his artistic awareness and shows his identity in international exhibitions (Hajjaj et al., 2014). The Egyptians’ cultural heritage is depicted as symbols and icons by culture’s commonly known corporate visual identities, such as the pyramids and the Sphinx in many brands’ visual identities of newspapers, government and private institutions, and some local firms. Furthermore, “The adaptation of the art of typography offers creative advertising solutions that positively affect the rooting of the ancient Egyptian visual identity, which enriches the content of the advertising message and revives the tourism and civilization of Egypt” (Sedek, 2019).

In Iran, Javani et al. (2016) examined the nature of Iranian visual identity and how it is represented and characterized graphically. The study lists certain items that may create a sense of a general visual identity, such as vernacular materials, natural and man-made symbols, animal symbols, balanced repetitions of patterns, architecture and handicrafts, past works, recreating elements that adopt a professional design, and tangible or intangible elements. Iranian visual identity is represented graphically when there is a certain degree of visual similarity between an intended work and Iranian culture. The research concludes that Iranian visual identity is visually similar to certain tangible or intangible Iranian works so that an intended work can be easily distinguished from the works of other nations.

Minaei (2018) examined 55 packaged Iranian products to analyse the concept of identity in images on packaged food products. The author analysed packaging design according to features that can be stated for a national identity, which is recognized in the following aspects: language, literature, geography, social, historical, religion, and art. The study concludes with an explanation of the effect of image on packaging. National Iranian images on packaged products provide an identity for addressees and play a significant role in recognizing the culture of the exporting country. The use of image and signs related to heritage or national identity in a product’s packaging helps to develop traditional culture. “Creating different cultural moods through rich regional text content and graphic colours, and giving connotations of regional culture to the packaging design of local products, can not only help people understand and trace regional culture through packaging, but also help to enhance the brand value market circulation of products” (Shen, 2020).

4 Methodology

This qualitative study uses a descriptive-analytic method to examine the visual identities of five different Saudi entities, where their designers used architectural or cultural heritage elements inspired by Saudi cities. The case studies were selected based on several factors that they all have in common: they are well-known entities, already established in their activities, and deal with clients and consumers. All sources of inspiration are derived from architectural or cultural Saudi heritage. They differ, however, in other ways, such as the nature of the geographical terrain and their location on the map of Saudi Arabia. In addition, each entity has a different field of activity. Each case study is reviewed in detail: “Winter at Tantora” Tourist Season, “Bo Khalaf” Café, “Bodega” Supermarket, Princess Nourah Bint Abdul-Rahman University, and, finally, the 90th Saudi National Day’s Visual Identity.

To achieve the study’s research objectives, the author analysed the content of each case study: sources of inspiration, symbol and icon connotations, architectural and cultural heritage adaptation, colour harmony, and its relation to heritage. This study is designed to describe the contribution of logos and visual identities to preserving architectural and cultural heritage. There are three specific stages that serve to achieve the main objective: first, determine the nature of elements that are inspired by architectural and cultural heritage; then, identify stimuli that stimulate consumer interaction and affiliation with logos and visual identities; and finally, explain the contribution of logos and visual identities to promoting the city and creating an effective city branding.

5 Logos and Visual Identities (Case Studies)

In this section, the author examines in detail the logos and visual identities of some companies and entities in the Kingdom of Saudi Arabia (KSA), as well as analysing the importance of corporate visual identities in documenting architectural and cultural heritage at local, regional, and international levels.

5.1 Winter at Tantora Season (Al-Ula City)

The logo was designed by Bold Agency in 2018 and then redesigned in 2019 by Ketcham Company for the Royal Commission for Al-Ula. It was created for a cultural winter tourism event—a historical and artistic tourist season is organized every winter in the city of Al-Ula, northwest Saudi Arabia. The city of Al-Ula is famous for

archaeological tombs and architecture carved in its mountains, dating back to the Nabataean civilization in the second century BC. In the “Winter at Tantora” festival, museums and art galleries host concerts and arrange other cultural activities to introduce tourists to the area and its heritage, and there are restaurants and cafés that offer international culinary arts. People in Al-Ula open their shops and farms to visitors, creating a kind of communication between the present and the past within a single block of integrated tourism activities.

The logo is a collection of different elements grouped within a single frame, where lines of the same thickness are used, except for the name of the season, which is written in a bolder black font. The logo was originally designed for the 2018 season and then further developed for the 2019 season (see Figs. 1 and 2). The logo elements are very flexible and adaptable to any context, using the same design style (see Fig. 3).

The original designer relied on three sources of inspiration: the desert environment, architectural heritage, and ancient Arabic calligraphy. First, the basic shape of the logo is inspired by the desert environment, being in the form of one of the well-known mountains of Al-Ula (Elephant Mountain), so called because its form resembles an elephant due to erosion. Some animals found in the area are also included, such as the oryx and Arabian tiger. Second, the architectural heritage is represented in the many different symbols inspired by different architectural elements, such as the Tantora Sundial, created by the people of Al-Ula about 80 years ago to announce the start of winter; the Lion Tombs, square openings dug in the mountains in the sixth century BC; and the boundaries of cemetery façades carved in the mountains at the archaeological site “Mada’in Salih”.



Fig. 1 Winter at Tantora 2018 season’s logo (Bold Agency, 2018)



Fig. 2 Winter at Tantora 2019 season's logo (Royal Commission for Al-Ula, 2019)

Here, the author notes the method used by the designer to merge all the elements within a frame drawn as a single line, adding in the corner lines at 30–60 degrees to give it a third dimension, as if the logo is a window onto Al-Ula city. This form of decoration, incorporating the logo, gives it an architectural attribute resembling the façades of tombs carved in the mountains. Third, the designer selected Mosnad or Hamiri calligraphy and ancient Arabic calligraphy using ancient carved letters developed in southern Arabia and a type of southern Semitic calligraphy. These letters are taken from a historical library found on Ikmah mountain in Al-Ula and contain hundreds of letters of the alphabet and symbols (Bold Agency, 2018). It is a set of geometric shapes that combines lines, circles, triangles, and different angles. The designer also used ancient Arabic writing, curved in a contemporary way and incorporating different diacritics from contemporary Arabic writing, such as

Fig. 3 Business card of a responsible for organizing the season (Royal Commission for Al-Ula, 2019)



shadda, Tanween, and Helyah (Figs. 1 and 2), to add a decorative touch.

Arabic numerals are also used to display the year (2018–2019). During the season, all designs used across the city, without exception, depend on the design elements used in this visual identity, they are applied to many products, such as clothing, souvenirs, antiques, bowls, utensils, and other must-see products used by tourists wherever they tour the city (Fig. 4). Before each concert, a video promo is played explaining the formation of the logo and its relation to the city as a way to introduce the logo to those attending, allowing them to understand and admire these symbols (Royal Commission for Alula, 2019). “Winter at Tantora’s” visual identity is a modern window onto a distant past that connects to the present through uniform geometric lines and shapes. The colours are inspired by the nature of the desert city of Al-Ula, with black, brown, and red tones in a harmonious colour relationship within an analogous colour scheme. In most advertisements, photographs presenting the place professionally are always used, while only white is used for drawing the logo and writing all important information for the tourist (see Figs. 5 and 6).

5.2 Bu Khalaf Café (Yanbu City)

The logo was designed by Mohammed Alamar to represent “Bu Khalaf” café located in Yanbu Industrial City, north-west Saudi Arabia. “Bu Khalaf” Café is a popular café that originated in the coastal city of Yanbu, offering popular snacks and beverages in a modern way. The two main items on the menu are Karak, a hot tea drink prepared with

Fig. 4 Winter at Tantora season's logo shirts (Royal Commission for Al-Ula, 2019)

APPLICATION
UNIFORM > CREW T-shirt



Fig. 5 Announcement of Saudia Airlines partnership with Tantora Winter Season (Royal Commission for Al-Ula, 2018)



cardamom, saffron, ginger, cinnamon, black pepper, and cloves; and Shapati, a kind of bread originating in India and popular in the western region of Saudi Arabia.

The logo of Bu Khalaf Café is based on Wordmark (Figs. 7 and 8). The designer relied on two main sources of inspiration, Arabic calligraphy and the geographical location of Yanbu. The designer prepared the calligraphy by mixing three types of Arabic calligraphy, Diwani, Persian, and Raqqa, in order to highlight authentic Arabic culture, especially as the nature of the café depends on ancient folk culture rooted in local heritage. The designer also used a simple font to write words (Karak and Shapati) next to the

logo in English, so as not to detract from the power of the Arabic script. The designer, inspired by the coastal nature of Yanbu and the lives of its fishermen, used an illustration of a black sailboat in the middle of the sea, with a group of fishermen wearing traditional clothes. The design identity added to the text logo gives it visual value via a “panorama” showing the lives of fishermen in sailing boats and telling a story linking the recipient to the visual identity and logo in an integral relationship between shape and background. This visual identity is applied to many surrounding objects, such as eating and drinking bowls, cans, food racks, and paper bags. It is important here to highlight tea and coffee cups

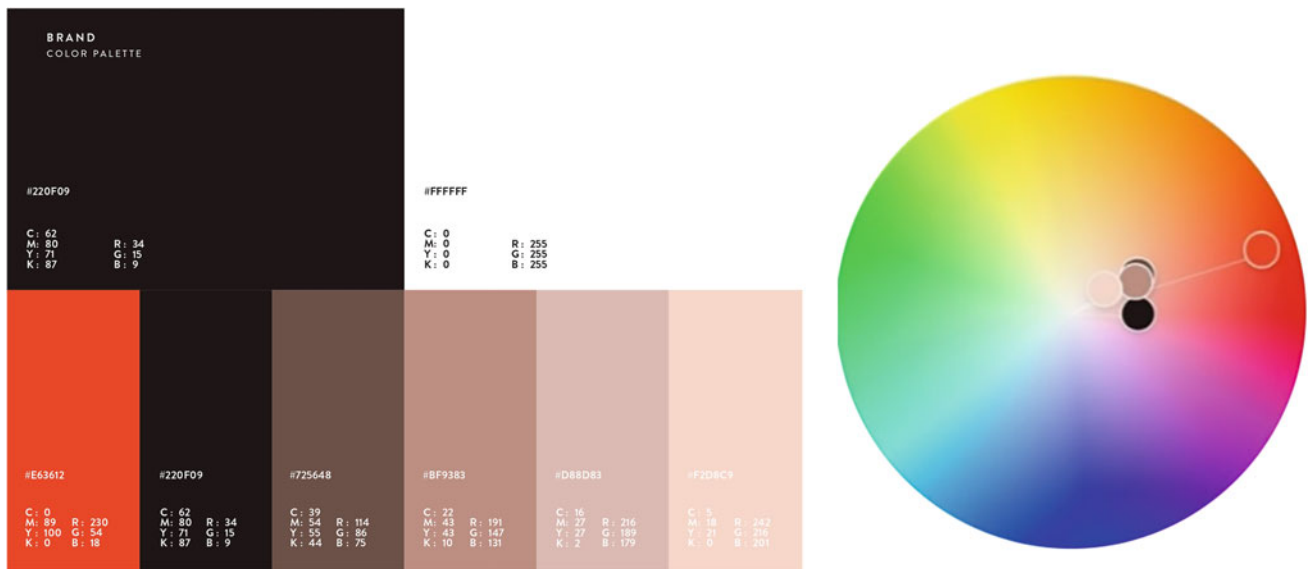


Fig. 6 Colour scheme used for the visual identity of the Winter at Tantora Season. Colour Palette (Royal Commission for Al-Ula, 2019)



Fig. 7 Bu Khalaf's logo on the background for visual identity (Alamar, 2020)

designed with the same visual identity (Fig. 9). In the last five years, cafés in Saudi Arabia have become a lucrative business area. Many café owners in Saudi Arabia are interested in designing logos with a strong visual identity, and the competitive situation in this field extends to powerful social-media promotion. A common practice among many young Saudis in the last five years is photographing a coffee cup every morning and posting a picture on their social-media account to show off the coffee shop they go to every day. A cup of coffee from Bu Khalaf Café has a different feature here as it transmits the heritage features of Yanbu to the audiences of social-media applications through these photos; it draws the attention of these young people to a natural coastal life away from the industrial and technological atmosphere prevailing in the city. The designer used a scheme with three colours (Fig. 10), pale yellow to gold,

which symbolize the colour of the main foods offered by the venue (Karak and Shapati tea); as well as black and dark blue, some of the darker shades of the sea in a harmonious relationship within an integrated analogous colour scheme. Worth mentioning here is the use of dark, instead of the more common light, sea colours (according to the designer's comment), which transport the viewer to the farthest and deepest point of the Red Sea and add an official tint to the visual identity.

5.3 Bodega Supermarket (Jeddah City)

This logo was designed by Haya Design Studio for a supermarket and grocery in Jeddah, Western Saudi Arabia. "Bodega" was originally a term used in Mexico for "a grocery store in an urban area" which supplies "staples like chips, candy, coffee, sodas, lottery tickets, over-the-counter remedies, and household items like laundry detergent and trash bags" (Paley, 2019). The owners chose this name to highlight the similarity of their services to those provided by the original Bodegas. They chose to keep the original name rather than using Arabic as a means to attract young people familiar with the slang term to a unique supermarket that offers rare, imported products. Through the visual identity file presented, it aspires to be a supermarket selling food in a different way from its competitors. The marketplace is under the supervision of a group of aspiring young Saudis who aim to present new ideas and give shoppers a unique experience while buying essential items. Bodega's owners intend to engage the consumer more with the brand, rather than the idea of just creating a grocery store that competes with others to satisfy daily needs. It also offers a different

Fig. 8 Definition of the philosophy of the café in Arabic language (Alamar, 2020)



Fig. 9 Some visual identity apps for Bo Khalaf Café (Alamar, 2020)



atmosphere from its competitors, offering imported products and new services not found in other stores, as well as an awareness of a sustainable and economic environment. The designer relied on two sources of inspiration, decorative doors and abstract alphabet letters, and was inspired by motifs carved on the doors of old markets in the centre of Jeddah. Details of this decoration were the focus of the designer, who reinvented them in a contemporary style to link the past to the future (Figs. 11 and 12). The designer

also used curved lines to represent the ornamentation of the doors and the basic letters of the brand name (B, D, G), stripping them down into opaque symbols not easily observed at first sight (Figs. 13 and 14), giving the logo a dominant streamlining effect due to the use of multiple curved lines. For the brand name, the designer used Neo Sans font, in which bends abound, but is devoid of motifs. The logo is applied to walls and signs inside the supermarket, as well as to leaflets, cards, and other shopping supplies.

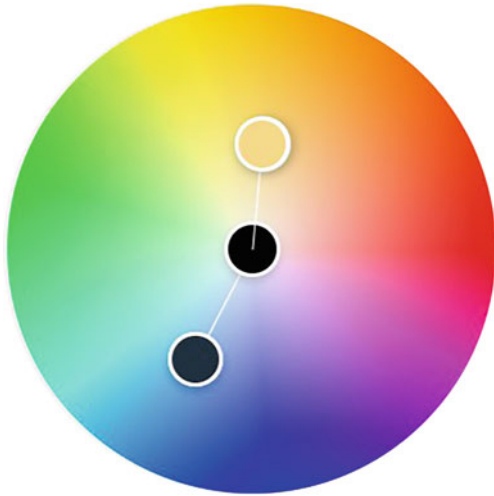


Fig. 10 Colour scheme used in the visual identity of Bo Khalaf Café



Fig. 11 Door of a house in an old lane in Jeddah

Hence, recipients are able to associate with the logo when they are in the store.

This logo was chosen for this research because its heritage-inspired symbols are not represented in a direct way but rather via high-level abstraction. A question must be raised here: Will recipients feel a connection between Bodega and old markets in the centre of Jeddah? This is a clever connection for those over 25 years of age who remember the old markets and have beautiful memories that can be relived in a different way. Although Bodega is not expected to duplicate or restore the glory of the old markets, it does, instead, offer another unique experience that will live in the memory of the next generation.

The designer used a harmonious relationship in a compound colour scheme comprising blue-brown, red, and grey (Fig. 15). A relationship between warm and cold colours can be observed in the logo, which is related to the Red Sea, reflecting the location of this supermarket in the North Obhur area, serving homes and beach houses overlooking the sea.

5.4 Princess Nourah Bint Abdul-Rahman University (Riyadh City)

The logo was designed by the Visual Identity Unit at Princess Nourah University in Riyadh, Central Saudi Arabia. Princess Nourah Bint Abdul-Rahman University was established in 2008 as the first female-only university in the Kingdom of Saudi Arabia, operating under the supervision of the Ministry of Education. It is one of the largest Saudi public universities in the area and provides a stimulating learning environment for creativity and innovation. It is located within an integrated university city that includes educational, administrative, residential, sports, medical, social, and scientific buildings.

The university is named after Princess Nourah bint Abdulrahman, the sister of King Abdulaziz Al Saud, the founder of the Kingdom of Saudi Arabia, in recognition of her courageous role in supporting her brother, the king, as well as the strong personality she is famous for. Given this background, the university slogan relies on presenting a voice of trust and empowerment to instil the principles of the princess into students at the university. The logo (Fig. 16) was inspired by four sources: the master-plan layout, the horizontal plan, the script, and, finally, the Islamic motifs in its architecture. The outer frame of the logo is circular, inspired by an overview of the administrative building's

Fig. 12 Typical house doors in the old lanes of Jeddah

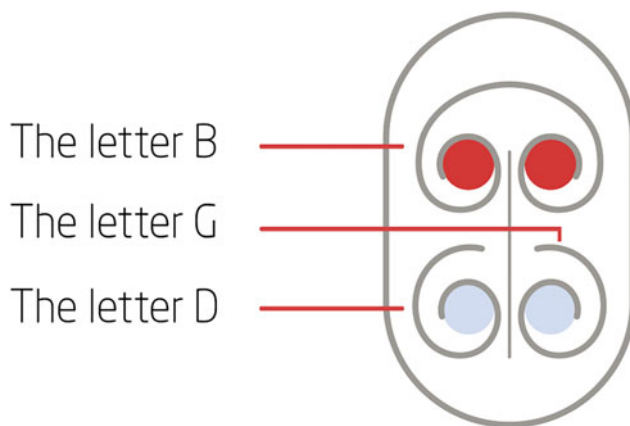


Fig. 13 Abstraction of the silent letters of Bodega in the logo (Haya Design Studio, 2020)



Fig. 14 Logo of the Bodega food store in the city of Jeddah (Haya Design Studio, 2020)

master-plan layout, represented by a quarter of a circle repeated four times to create a whole circle (see Fig. 17). Each of these refers to one of the main pillars on which the university relies: directors, students, and educational and administrative staff. The next element, the horizontal plan of the administrative building and the university, is represented in a simplified geometric form incorporated into the elements of the logo (Fig. 18). The third component is represented as handwriting, as the name “Nourah نورة” is included in the logo using her own handwriting, taken from one of her letters to her brother, King Abdulaziz. The use of this signature gives the logo a different character, its own personal mark. It also adds a connection linking it to the royal family, a feature that does not exist in the visual identities of other Saudi public universities. The fourth factor in the logo is the use of Islamic motifs in its architecture. The university buildings have a distinctive decorative style inspired by Islamic art, some of which are recreated in the logo, with its repeated and overlapping arches. The university, according to its vision statement, wishes to imprint the design of the buildings onto the memory of its recipients through the logo, reflecting the prevalence of this decoration on the university premises, the first image to meet a visitor’s eye (Fig. 19). The designer merged elements of the logo mentioned earlier into a single unit playing with blocks and space in one

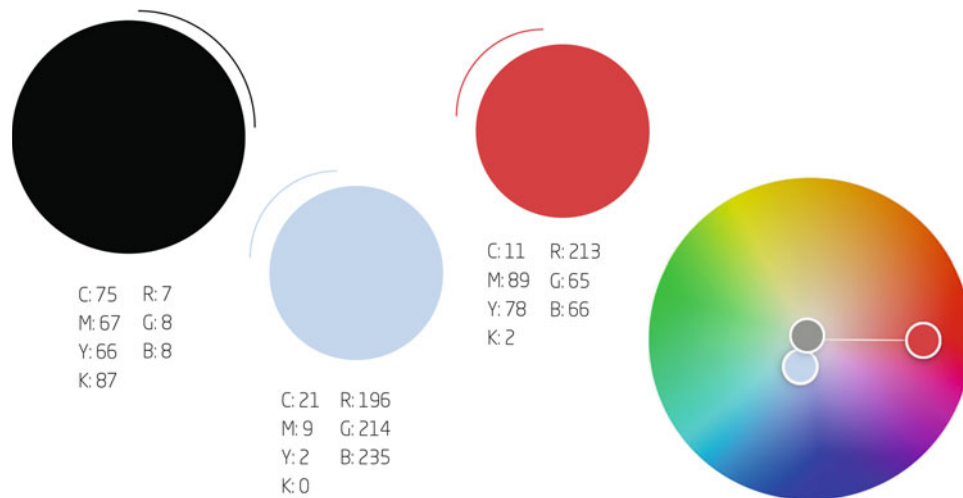


Fig. 15 Colour scheme used in the visual identity of the Bodega store (Haya Design Studio, 2020)



Fig. 16 Logo of Princess Nourah Univ. in Riyadh. (Princess Nourah bint Abdulrahman Univ., 2019)

colour. The year in which the university was founded is added in Indian numbers (1427 AH).

The visual identity guide also presents a wide range of icons (Fig. 20) that are used in different designs and basic elements, as well as a wide range of secondary pattern motifs for use in university designs. These motifs are based on botanical and geometric shapes that tend to give a certain vitality and feminine spirit to the visual identity, and to deviate from the pure geometry of the logo and not be part of the logo or connected with its design (see Figs. 20, 21, and 22). The designer of this logo relied on the pure abstraction of various academic elements related to the university to arrive at a unified form that connects all the ideas to be conveyed, as the university relies heavily on the ideas implied in these elements to motivate and cultivate trust among its employees. It is also noted that the logo creates the identity of a city separate from Riyadh, using elements found in the university's architecture. As such, the logo differs

from the logos of most other public universities, which rely on moral values, such as science and reading, or on Saudi national symbols, such as the sword or palm trees. The designer used different shades of dark turquoise as a single colour for the overall logo, even the visual identity, as well as four other main colours for a visual identity that is consistent with the logo colour within an extended analogous colour scheme (see Fig. 23). Each university college has its own colours, different from the main colours, without prejudicing the rules of the visual identity guide of the university.

5.5 90th National Day Identity (Kingdom of Saudi Arabia)

This logo was designed for the General Entertainment Authority in Saudi Arabia, for Saudi National Day 2020. The 90th Saudi National Day visual identity is a more developed version of the 89th National Day identity launched in 2019. The logo was developed with the intention of preserving the basic idea while modifying some of the decoration used in the visual identity. This visual identity is the first of its kind in Saudi Arabia in terms of the attention paid to the way it is displayed and presented to Saudi society. The organizers launched a guide illustrating how to use the logo and visual identity so as to apply them correctly and effectively. The logo's motto, "The Mettle to Reach the Top", is inspired by a quote from HRH Crown Prince Mohammed bin Salman, saying that "Saudis' stamina is like the formidable mountain of Tuwaiq", with Tuwaiq Mountain used as a visual sign and a pictorial marker. The visual identity relies on an iconic pattern inspired by the heritage of Saudi cities. The designer used three sources of inspiration,

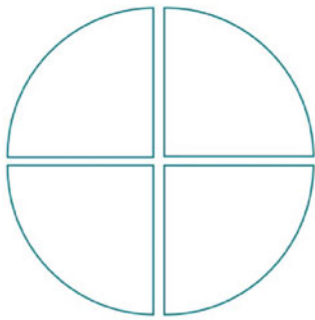


Fig. 17 Overview of Princess Nourah Univ. location. (Princess Nourah bint Abdulrahman Univ., 2019)

Fig. 18 An aerial photograph of Princess Nourah Univ. showing the administrative building represented. (Princess Nourah bint Abdulrahman Univ., 2019)



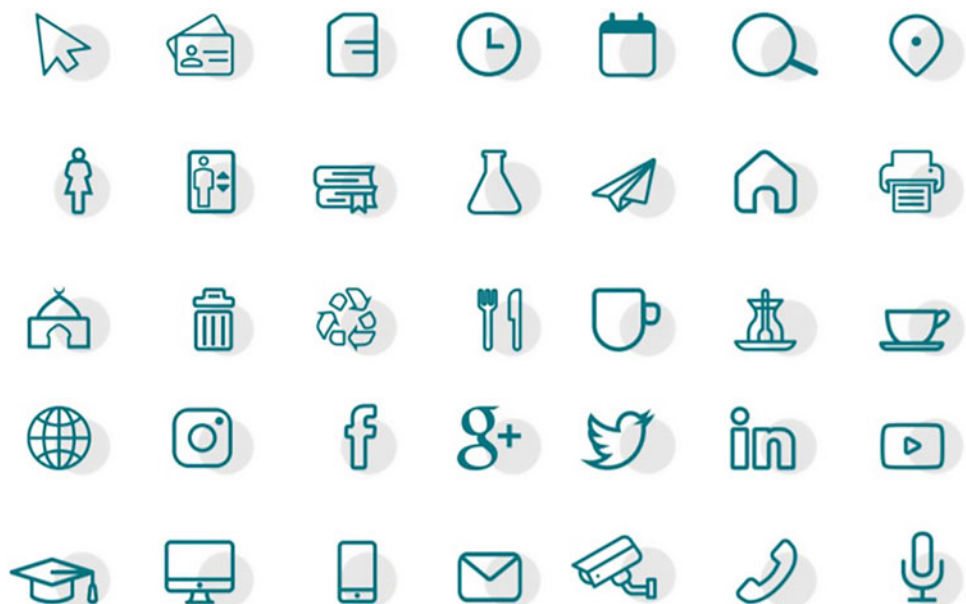


Fig. 19 Façades of Princess Nourah University. (Princess Nourah bint Abdulrahman Univ., 2019)

desert nature, a portrait, and geometric motifs. The idea for the logo was inspired by Tuwaiq Mountain, one of the most important geographical landmarks on the Arabian Peninsula, located in the centre of Saudi Arabia in a desert area close to the capital. The mountain is a distinctive geographical feature with a length of 800 kms and a height of 100–250 m, and it is associated with ancient poems dating back to the sixth century AD (Figs. 24 and 25). The logo design also uses sketches to illustrate important political figures in Saudi Arabia, from left to right: Crown Prince Mohammed bin Salman bin Abdul Aziz, King Abdulaziz Al Saud, the founder of Saudi Arabia, and current King Salman bin Abdul Aziz. Colour spaces are used to form the logo and incorporate mountain drawings to depict the rocky texture of Tuwaiq mountain. Geometric motifs (Fig. 26), based on the popular heritage of Saudi cities, especially the villages and areas of ancient cities, are used as the third element in the logo design. These decorations were painted on the walls of houses or sewn into carpets and fabrics and are inspired by architectural elements of popular areas. Eighteen different decorative units are used to draw geometric shapes built on regular grids inside a square frame. The drawings comprise basic geometric shapes: rectangles, squares, circles, and triangles. The manual does not include the meanings of these decorations, their connotations, or their basic sources, but they are readily found in ancient folk heritage motifs in some Saudi cities, most notably Asir, represented in the art of “Al-Qatt Al-Asiri” (Fig. 27). Each decorative unit cannot be attributed to a particular city, as Saudi cities do not, in general, have their own branding identity.

What distinguishes the national identity from other identities is that it has been made available to all entities and individuals for use in various applications, whether

Fig. 20 Princess Nourah Univ. visual identity icons (Princess Nourah bint Abdulrahman Univ., 2019)



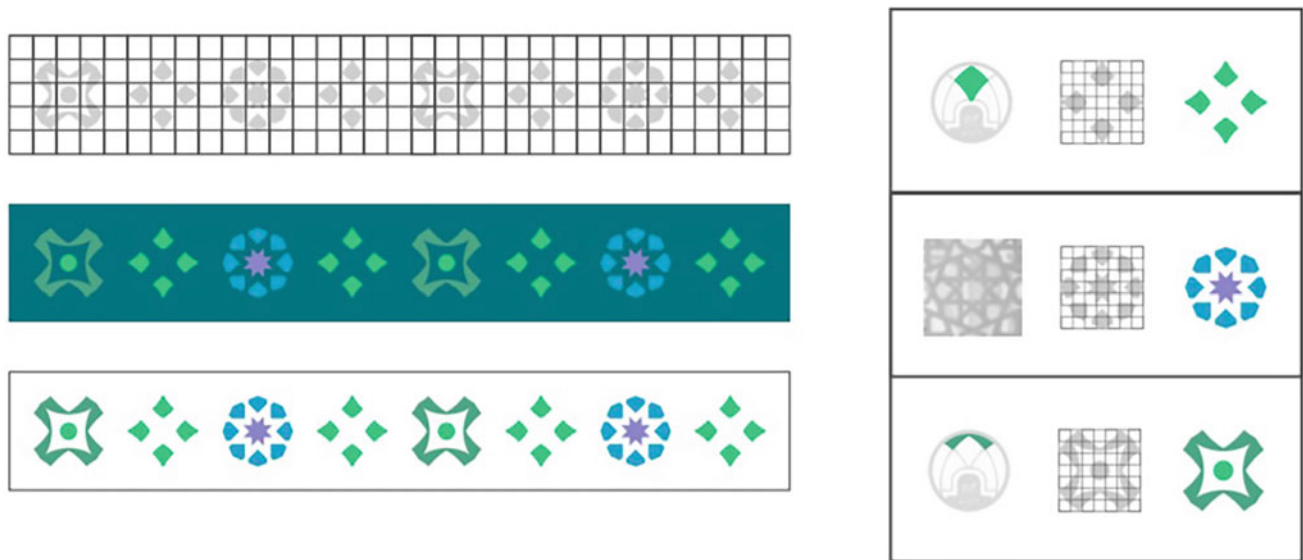


Fig. 21 Motifs used in the visual identity of Princess Nourah Univ. (Princess Nourah bint Abdulrahman Univ., 2019)

Kingdom of Saudi Arabia
Ministry of Education
Princess Nourah bint
Abdulrahman University
(048)



المملكة العربية السعودية
وزارة التعليم
جامعة الأميرة
نورة بنت عبدالرحمن
(٠٤٨)



Fig. 22 An envelope to which is applied decoration from the visual identity of Princess Nourah Univ. (Princess Nourah bint Abdulrahman Univ., 2019)

advertising, printed materials or stereoscopic products and tools. In 2019, for almost two months, all brands largely sidelined their original identities and voluntarily included the National Day identity in their advertisements and on their products (Fig. 28), allowing recipients of all ages, groups, and social classes to engage with the vocabulary of this identity and link to the decorative heritage and geographical desert nature of the place. In the years leading up to 2019,

the green of the Saudi flag was the dominant identity used for National Day. In this year, however, a variety of colours that fit into the square colour scheme appeared (Fig. 29): gradients of blue, green, yellow, and red, giving greater joy and a stronger link to the visual identity. This diversity fits different cultures across Saudi Arabia's cities, suits all ages and groups of society, and allows great freedom to parties to use colours that are best suited to their identities.



Fig. 23 Colour scheme used in Princess Nourah University's visual identity. (Princess Nourah bint Abdulrahman Univ., 2019)



Fig. 24 90th Saudi National Day logotype. (General Entertainment Authority, 2020)

Here, we must point out that we are studying the identity of the National Day season and not the permanent identity of Saudi Arabia as a country; and on this point, it is recommended to conduct further studies. It should be noted here that the visual identity files launched in 2019 and 2020 fulfilled an unprecedented role in introducing different segments of society to how all basic aspects of a graphic design need to be taken into account. They also tied people to their heritage through an understanding of how these symbols were constructed, dismantled, and re-assembled. It also seems that officials noticed the success of this visual identity in 2019, which prompted them to develop it without departing from the basic idea, so the same elements were used the following year and the same colour palette.

6 Findings and Discussion

The elements used in the visual identities show the geographical and cultural nature specific to the cities in which they originated. The visual identity of “Winter at Tantora” can be seen as belonging to an archaeological city, “Bu Khalaf” to a coastal city, “Saudi National Day” to a desert and heritage country, “Bodega” supermarket to a commercial city, while the logo of “Princess Nourah University” is connected to an academic entity. This is one of the most important factors that make logos and visual identities strong features to preserve a city's identity. The elements used can be summarized as follows:

- Architectural elements: doors, façades of buildings, and horizontal plans.
- Archaeological architectural elements: tombs, rock sculptures, and sundials.
- Fonts: contemporary fonts, traditional fonts such as Kufic, Persian, Diwani, and Ruqqa. Famous ancient bloodlines in Arabia, such as Musnad and Humayri.
- Nature: Geographical features, such as desert and coastline, also animals.
- Islamic patterns: geometric, ornamental, or architectural buildings.
- Manuscripts: handwritten letters and signatures.

The design of logos has foundations and rules that impose certain limits which control communication of the reality of architectures' and cultures' elements, such as abstraction, simplification, observance of design rules and foundations,



Fig. 25 Mountain of Tuwaiq



Fig. 26 Icons colour options for Saudi National Day. (General Entertainment Authority, 2020)

replication of modern styles, adherence to customer opinions and impressions, and the characteristics of target groups. These restrictions require designers to produce new templates for these architectural and cultural heritage elements and symbols that connect their recipients to cities in different and indirect ways, while contributing to documenting and preserving heritage in multiple ways.

In order to assess the effectiveness of visual identities in documenting heritage, this study has identified stimuli that motivate their recipients to interact with a brand through its packaging and which can enhance their belonging to the city. The integration of regional culture into packaging design, as an opportunity to trigger people's emotional resonance with regional culture, helps to build consumers' trust



Fig. 27 Al-Qatt Al-Asiri



Fig. 28 Using elements from Saudi National Day visual identity in advertisements

in and recognition of the product (Shen, 2020). Using a visual identity to package products for everyday use transforms them from concrete architectural and cultural elements into a visual identity that is both recognized by individuals and merged into their lifestyle, indirectly implanting love for the city itself. Examples include Winter at Tantora's T-shirts with their interesting and exotic symbols, Bo Khalaf Café's coffee cup that is used every morning, transparent Bodegas bags with their bright colours, Princess Nourah University's souvenirs that attract students, or the National Day products

and gifts that everyone has acquired. "An ethical design [means] to produce a suitable product that fulfils the needs of people's ideal healthy lifestyle and improves their quality of life" (Bi-Bo, 2018). "When designers refine the colour language of regional culture, they must dig deeply into the connotations of regional culture and use its colour language to shape the cultural mood of the product. By combining packaging design with colour language, they need to give packaging a deeper concept of regional culture, which helps to meet the psychological needs of consumers" (Shen, 2020).

The colours used in the visual identities of the case studies always have connotations of a city's heritage or geographical nature and are, therefore, a new way to connect recipients with the city in an indirect relationship. The analogous colour scheme of Winter at Tantora's visual identity invokes a harmony between the desert terrain and the secrets of ancient civilizations. The complementary colours of the visual identity of Bo khalaf Café enhance the consumer's belonging to the nature of the coastal city while drinking their coffee. The relationship between warm red and cold blue in Bodega's visual identity expresses the association of the supermarket as a business with the most important commercial port overlooking the Red Sea. The adoption of the visual identity of Princess Nourah University with its analogous hues of green is closely related to the Saudi flag's colour scheme and, thus, contributes to documenting the national heritage. The diversity of colours in the Saudi National Day's identity is a powerful tool to communicate Saudi Arabia and promote the diversity of architectural and cultural Saudi heritage.

City branding is not utilized by Saudi Arabia's cities, as cities do not have a visual identity, according to Saudi



Fig. 29 Colour scheme used in Saudi National Day visual identity. (General Entertainment Authority, 2020)

designer Mohammed Al-Amar. It is clear that the visual identity of Winter at Tantora is an effective example of its adaptation to the city of Al-Ula to become a permanent identity. The remaining cities can follow a similar path to create their own visual identities, which will, thus, greatly influence the quality of the visual identities created by institutions within those cities. On the other hand, a visual identity inspired by a city's identity can be constructed that represents Saudi Arabia as a permanent identity. This experience will be one of the best procedures that can contribute to the preservation of architectural and cultural heritage in an international phase.

These logos and visual identities serve as the engine that drives all the activities of the organization, from marketing and commercial to administrative and social dealings. They work to document the architectural and cultural heritage of cities in multiple settings, whether digital or realistic, and contribute to preserving it, even if it is exposed for any reason to hazards mentioned earlier in the research.

7 Conclusion

Logos and corporate visual identity are seen as effective and creative tools to document and preserve a city's heritage. The analysis of the elements of the corporate visual identities of five different entities has revealed the connotations of these elements and their architectural and cultural value. The adoption of a Saudi visual identity on tangible products contributes to promoting the country's heritage and involves citizens and tourists in the cities. These products are involved in an interesting buying process, starting with awareness and ending with the loyalty of their owners. In this way, the architectural and cultural heritage remains preserved in designs are preferred by the individual, but there are other factors that affect them and change their

attitude towards this heritage. This study sheds light on new methods to preserve architectural and cultural heritage, making room for conducting various studies on design ethics, designers' attitudes, audiences' responses, and commercial implications.

References

- Alamar, M. [@Mohd_Alamar]. (2020). Bo Khalaf Café Corporate Identity. Twitter. Retrieved October 24, 2021, from https://twitter.com/Mohd_Alamar/status/1242901700836556802
- Bold Agency. (2018). Winter of Tantora corporate identity. <https://www.bold.com.sa/projects/winter-tantoura>
- Bi-Bo, W.U. (2018). Design education corresponds social responsibility: Regarding to the social responsibility of brand identity design. In *3rd annual international conference on education science and education management* (ESEM 2018). <https://doi.org/10.12783/dtssehs/esem2018/23891>
- Erqsous, R. (2018). Analisi grafica sui disegni della Sacra Moschea della Mecca (dal XI al XIX secolo) [Graphical analysis of drawings of the Holy Mosque of Mecca (from the 11th to the 19th century)]. Unpublished Doctoral Dissertation, *Scuola Nazionale di Dottorato in Scienza della Rappresentazione e del Rilievo*, Università della Sapienza.
- Foroudi, P., Melewar, T. C., & Gupta, S. (2017). Corporate logo: History, definition, and components. *International Studies of Management & Organization*, 47(2), 176–196. <https://doi.org/10.1080/00208825.2017.1256166>
- General Entertainment Authority. (2020). 90th national day identity. <https://www.gea.gov.sa/events/>
- Hajjaj, A., Qitayah, H., & Aldowaik, A. (2014). مفهوم الفن الرمزي ، ومدى إرتباطه بالرمز في الفن المصري القديم ، وأثره علي فناني الجرافيك [The concept of symbolic art, its relation to symbols in ancient Egyptian art, and its impact on graphic designers]. 831–875, *مجلة بحوث التربية النوعية* (36), 831–875, Mansoura University.
- Haya Design Studio. (2020). Bodega supermarket corporate identity. http://www.haya-design.com/portfolio_category/logo-design/
- Javani, A., Khazaei, M., & Kolahkaj, M. (2016). The nature of Iranian visual culture represented graphically. *The Scientific Journal of NAZAR research center (NRC) for Art, Architecture & Urbanism*, 13, 40.

- Kim, M. J., & Lim, J. H. (2019). A comprehensive review of logo literature: Research topics, findings, and future directions. *Journal of Marketing Management*, 35(13–14), 1291–1365. <https://doi.org/10.1080/0267257X.2019.1604563>
- Melewar, T. C., & Karaosmanoglu, E. (2006). Seven dimensions of corporate identity: A categorisation from practitioners' perspectives. *European Journal of Marketing*, 40(7/8), 846–869.
- Miltenburg, A. (2019). *Brand the Change, the branding guide for social entrepreneurs, disruptors, not-for-profits and corporate troublemakers*. BIS Publishers.
- Minaei, L. (2018). Recognizing the capability of national and traditional images in identifying the packaging of products for export (Case study: Iranian edible export). *Journal of History Culture and Art Research*, 7(1), 205–214. <https://doi.org/10.7596/taksad.v7i1.1368>
- Ooi, C.-S., & Stöber, B. (2008). Authenticity-in-context: Embedding the arts and culture in branding Berlin and Singapore. Imagine. CBS. Creative Encounters Working Paper No. 6.
- Paley, L. (2019). What Is a Bodega? And why do New Yorkers love them?. *StreetEasy Reads*. <https://streeteasy.com/blog/what-is-a-bodega/>
- Princess Nourah University. (2019). Brand guidelines. <https://www.pnu.edu.sa/ar/Identity/Documents/PNU-Brand-Guidline-Digital.pdf>
- Royal Commission for Alula. (2018). Winter of Tantora corporate identity. <https://www.rcu.gov.sa/>
- Royal Commission for Alula. (2019). Winter of Tantora [Promo Video]. https://uqadmin-my.sharepoint.com/:v/g/personal/raerqsous_uqu_edu_sa/EdTF0bN8w4pOt87uxd2DUrMBHpr8zdG7jdw-5kpbAauvfw?e=IOPoPZ
- Sedek, S. (2019). تطويع فن التبيوغرافي في التصميم الإعلاني لتأصيل الهوية البصرية. [Adaptation of typography art in advertising design to enhance touristic advertising visual identity]. *مجلة العمارة والفنون الإنسانية*, 13(4), 287–267. <https://doi.org/10.21608/mjaf.2018.20401>
- Shen, Q. (2020). Research on the application of regional cultural visual language in the packaging design of local specialties. *Advances in social science, education and humanities research (ICADCE 2020)*. Atlantis Press. <https://doi.org/10.2991/assehr.k.210106.124>



Co-design as Play: Junk Sounds and Architecture in Urban Space

Guido Robazza and Matt Smith

Abstract

This article reflects on the challenges and discoveries in the process of designing and building the SoundGarden (2017), a junk music play installation (making music using instruments made from junk objects) in a neglected underpass in the heart of Somerstown, Portsmouth, UK. The authors discuss the challenges of working on co-design with groups of students from Priory School, a secondary school, in collaboration with students from the University of Portsmouth. A series of creative responses and methods are explored and critically discussed; including modular design, junk music play, practical making, and the extension of the ‘classroom’ into the site-specific setting of an underpass contained by a roundabout. The project evaluation suggests a positive outcome within the context of community-applied practices in architecture and community music. The voice of the participants is captured from written and graffitied words and phrases composed by the students. The article aims to present how we can apply projects in an interdisciplinary way, involving making and doing that is noisy, playful, and impactful in an urban setting. The objective of the SoundGarden is to positively impact the urban environment and increase participation in music and creative activities for young people. The article reflects on the efficacy of the project regarding how

temporary interventions in urban spaces can impact communities participants and their experiences and thoughts about community and urban futures.

Keywords

Temporary urbanism • Public art co-design • Junk music • Community music • Creative workshops

1 Introduction

‘Let’s make some noise!’ is a shouted invitation by the facilitator to a group of participants as he delivers junk music workshops. This invitation is a challenge to bring new noise and new energies into spaces and places. This junk noise-making (Smith, 2008) involves rhythm-based drumming on plastic containers with sonic explorations using a myriad of recycled materials. Hainge in *Noise Matters* (2013, p. 23) emphasises that noise co-exists within cultural networks as a relational entity. Hainge’s sonic ontology presents noise as a fluid, operating within and between boundaries. Purposefully making a noise intervention in urban space disrupts quotidian sounds, problematizes sonic experience within, around, and seeping through spaces, between objects. This disruption of urban space with noise and positive intentions was one of the key aspects explored in the *SoundGarden* project. The aim was to make noisy architectural interventions in an urban space that was underused and antisocial. Throughout this article we discuss the issues of how the use of junk instruments creates ‘noisy architecture’, generates interactions, and changes urban space. The discussion looks at how a collaborative project in the community using junk sounds and architectural design affects participants. The focus of this reflective article is the development of the project up until the culmination of a week-long residency in which a large crowd assembled to listen to the *SoundGarden* and then interact with the

G. Robazza (✉)
School of Architecture, University of Portsmouth, Portsmouth,
England
e-mail: guido.robazza@port.ac.uk; robazza@port.ac.uk

M. Smith
School of Art, Design and Performance, University of Portsmouth,
Portsmouth, England
e-mail: matt.smith@port.ac.uk

structure themselves. After this event, there were some less positive aspects of vandalism, complaint, and vulnerability of the *SoundGarden* structure. Discussed in this account are the issues around a noisy architectural intervention in urban space and the responsibility around this type of creative work. It is clear that in this project noise was not a benign force or element, but a very active aspect of the practice often responsible for some of the issues. These ‘noise matters’ (Hainge, 2013) are part of the project at the time of writing as the structure is still making noise beyond the energies of its co-creation. Other studies have emphasised the need for young people to make noise within urban environments and highlight the need to appropriate these sites for these activities (Bloustien & Peters, 2011, p. 190). It is clear after this project that young people like to be heard in urban space and this is something we should pay attention to.

The situation for young people’s involvement in urban design is rather poor and as Freeman and Tranter (2012, p. 6) suggest children are not part of the process, and in planning and design most spaces ignore children as users. In the *SoundGarden* project, the intention was to put children at the heart of the process through creative participation and so enable more meaningful participation in urban design for the young people. Kimbro et al. (2011, p. 675) suggest that to counter the poor trends in children’s place in urban planning, there is a need ‘for safe, open spaces near homes in urban areas for poor children’ which should include ‘outdoor activities, community-based programs which seek to facilitate trust, and neighbourhood social networks’. The recommendations of Scott (2010, p. 23) based on case studies globally suggest that children need spaces to explore and also play to counter the poor provision of play in the UK context. This sense of play can be combined with learning goals when the ‘informed environment’ is considered when working with young people. This environment can ‘encourage active learning across body mind and spirit’ (Taylor, 2009, p. 31). For the young people involved according to the findings and recommendations of Taylor (2009), architecture can promote active learning and increase positive citizenship. This inclusion of young people in a ludic space which remoulded urban space is a theme developed through this article discussion.

The *SoundGarden* project conducted in 2017 was led by senior lecturers in Architecture and Applied Theatre at the University of Portsmouth, developing a co-created music installation located in an underused open space in Somerstown, Portsmouth. The installation aimed to provide an accessible and user-friendly urban ‘orchestra’ made of several sound-producing ‘junk’ instruments to facilitate the musical inclusion of children in the local community. It involved collaborators and participants organising a series of workshops led by interdisciplinary practitioners, delivering an intensive project in a one-week residency where

University of Portsmouth architecture and drama student’s collaborated with schoolchildren from Priory School, Portsmouth. The teacher who led the school involvement was the Head of Expressive Arts. The project was developed as a partnership of local stakeholders including the University of Portsmouth, Portsmouth City Council, Priory School, and Portsmouth Music Hub.

The project was the third iteration of the work of the Portsmouth School of Architecture into promoting and developing architectural interventions in urban public spaces looking at co-design and co-creation processes (Robazza, 2020; Robazza & Melis, 2021). The authors began collaborating at the celebrations of the architectural installation *#IHeartPompey* (2015) when delivering junk noise playing with a student group as part of *#IHeartPompey*’s unveiling. There were a number of phases to the *SoundGarden* project to enable co-creation involving junk band workshops, modular architecture workshops as well as the one-week residency. A clear aim from the start of *SoundGarden* was that the creative way of working would collaboratively and inclusively involve all participants from both institutional educational spaces. Another aim was making and crafting urban spaces as a matter of care of the city, as a way to actively participate in crafting one’s own surroundings. This connected to how we explored the impact on well-being and ownership, developing from the act of making collectively. The less tangible aspects, involving the wider public and community who interacted with the final structure, were hard to capture, even though this was partially attempted via a survey and video monitoring.

2 Methods

This project was conducted as a practice research project foregrounding the use of creative methods in inclusive architecture and drama to engage the participants. The methods described were adopted to manage the short time frame and availability of the participants. The interpretative methods are based on embodied discussions of the practice as both the authors were lead artists in the field of the practice. Informal discussions and anecdotal observations form much of the capturing of this project. Overall, the data and findings are qualitative and based on experiential evidence of practice. This work was conducted as part of the Creative and Cultural Industries commitment to widening the reach and civic duty of the university through local community projects.

The project engaged the group of participants in a sequence of pre-designed key activities including two approaching ‘Taster sessions’, a ‘Co-design workshop’, and a five-day ‘Construction workshop’. The project included quantitative and qualitative evaluation of the engagement of the young people and the wider community. The research employed different methods embedded in an interactive,

participatory, and creative approach to research involving young people. We were well aware of the issues involved as described by Askins and Pain (2011) as part of the complex space of participation. Be-spoke feedback questionnaires were designed for each of the activities, following a very simple and user-friendly structure, setting up a Likert scale (from strongly disagree to strongly agree), with smiley faces and a small box for open comments. In some cases also more informal feedback was collected through verbal interaction and using creative approaches, such as asking children to draw with chalk on the floor. Throughout the project, researchers took field notes during the activities (on paper and on their phones), as a means to capture the key moments. These specific methods were employed throughout the activities, including the taster sessions, co-design workshops, and construction workshop: participant observation, visual questionnaires simultaneous to activities, movement-detection devices for filming, semi-structured qualitative interviews, and focus groups.

Ideally, co-production would imply an egalitarian (in lieu of a hierarchical) production mode—one that is an active or pro-active attitude of all parties involved. Collective endeavour and awareness-making are, therefore, indispensable (values) to understanding the embodied nature of the co-production of a public artwork (Zebracki & Palmer, 2018, p. 6). Zebracki and Palmer (2018, p. 6) emphasise in their introduction to *Geographies of Co-Production* the contextual pressures on public art-making endeavours. Co-production is multi-faceted and complex involving wider issues around belonging, citizenship, and ownership. The university was at the time of the project developing research initiatives in regards to citizenship and its role in the wider community. The experience developed with *#IHeartPompey* installation offered significant insights on participatory and community engagement processes with young people (Liddy-Owen et al., 2018). We were aware that the project would affect the bodies of participants and this could be produced through egalitarian methods. The powerful feelings that making a significant public art intervention can engender in individuals were recognised and certainly in *SoundGarden* rather pronounced. The final structure encouraged haptic experience, as it was full of kinetic junk instruments, and this meant that the ownership of the installation was very much in the ‘hands’ of the local populace. The process of *SoundGarden* also felt ‘transgressive’ in the way that it inhabited a contested and issue-ridden urban space. This transgressive approach to space and place relates well to cultural geographer Tim Cresswell’s concept

of transgression (1996) where counter-narratives rub up against the overwhelming ideologies found in place-making.

2.1 The Context: Participants and Location

The installation was built within a short distance of Priory School, in Somerstown, a residential area of the city of Portsmouth, UK. The project targeted young people within the age range of 12–13 years as this is a key age when ideas, musical preferences, and self-identification are formed. As described by Laiho (2004), music is a resource for young people that can assist with emotion regulation and develop safe strategies for mental health and well-being while youth are going through turbulent periods in their life. Priory School is a mixed 11–16 secondary school with around 1200 students from diverse backgrounds and presents a higher than average proportion of students supported by pupil premium funding. Just under half of all pupils attending Priory qualify for this additional money. Research by Cullinane and Montacute (2017) indicates that 76% of parents say that their children regularly participate in extracurricular activities, which include sports and non-arts cultural activity. However, there are often significant costs associated with extracurricular opportunities, which in conjunction with financially challenging situations, put our target group at a distinct disadvantage in relation to extracurricular musical participation. Furthermore, the provision of musical education and inclusion is in constant decline within the education system. Figures taken from the National Statistics on School Workforce in England (Department for Education, 2017) show that since 2010 the number of all arts subjects teachers in schools has fallen by 15%, and Music subjects has 8% fewer teachers with a decline of 8% in hours taught. Therefore, the opportunities for musical development and inclusion for this group are dramatically reduced.

According to a detailed description from the Head of Expressive Arts at Priory School: ‘Musical instrument take up at Priory has always been historically quite low. Some improvements have been done, but there’s still a rooted fixed mind-set that music is “not for me” or “I’m not musical”. I envisage that a project such as this will take steps in the right direction with regards to inclusivity ethos and will genuinely engage and improve the local community and environment. It will be an exciting journey with a tangibly beneficial outcome’ (personal communication).

The *SoundGarden* musical installation is situated in the geographical core of Somerstown. Despite investment in

social and economic regeneration initiatives in previous years, the area as a whole continues to perform poorly across a range of deprivation indicators. According to the 2015 Index of Multiple Deprivation (2015), Somerstown is in the top 10% of most deprived areas in England. Low levels of skills and income and high unemployment have meant that the residents of Somerstown continue to be excluded from opportunities offered by Portsmouth's growing economy. A local authority consultation with residents in this area found that a lack of open space used for recreation was a common concern (Slater, 2012).

2.2 Taster Sessions: Junk Orchestra and Towering Tower

The first engagement activity with young people from Priory happened through two parallel taster sessions, one exploring noise-making and one making physical towers. The purpose of the workshops was to introduce the children to the two main creative areas of architecture and community music. These sessions aimed to involve a wide cohort of students and identify a few of them who would engage in the following stages. University lecturers and students facilitated approximately eighty Priory School pupils who were involved in the activities, in two groups of forty students. The *Junk Orchestra* session was led by the University

researcher in Performative Arts and university students. A set of noise-making junk objects were distributed in a circular arrangement in the big open space provided by the drama studio. The forty pupils joined in, sitting with a specific junk object, and started familiarising themselves with how to play the dissonant object (Fig. 1). *The Towering Tower* architecture taster session was led by University researchers and students in Architecture and aimed to engage the pupils with a few basic structural principles and required them to playfully build paper card towers as tall as possible, with the aid of staples. The task set up the challenge for the pupils to create tall and beautiful structures. The forty students were divided into teams of three to four and started building and engaging with the activity. At the end of the session, the lecturers commented on the tower's structural integrity (Fig. 2). Priory school teachers attended the session and also took part.

After the two taster sessions, the Priory Head of Expressive Arts followed up with the students who demonstrated a keen interest in taking part in the subsequent stages of the design and making process. The next stage was described to the students in more detail. Approximately fifteen students volunteered to join the next stage and through a series of other workshops, design and build the urban music installation. Architecture students from the University of Portsmouth worked on a modular model system that was playful and engaging enough to develop the children's

Fig. 1 Junk music session.
Photo Credit Guido Robazza



Fig. 2 Towering tower session.
Photo Credit Guido Robazza



architectural ideas. From this, the *SoundGarden* could be initially conceived, and the structured idea of the modular framework for the structure that contained the instruments was designed. The modular structure was proposed and used as a method in which the children could effectively have a significant impact in determining the design output of the installation. A simple enough physical modular system could create different spaces and mould as flexibly as possible engaging pupils in spatial thinking about space, and physical relationships between different sound-making objects (junk instruments) then seemed relevant and appropriate (Fig. 3).

2.3 Co-design Workshop

The co-design workshop was the first step into the co-design activities. Pupils were encouraged to play with a miniature modular system model that simulated the future actual constructive system. The construction game was based on a system of timber joints and beams that could be attached through pins. This system resembles the toy system Mecano but is readapted with the measures needed for its workshop purpose (Fig. 4). The workshop involved the participation of about ten pupils, assisted by three lecturers and four university students (Fig. 5). The session started

Fig. 3 Construction game. *Photo Credit* Guido Robazza

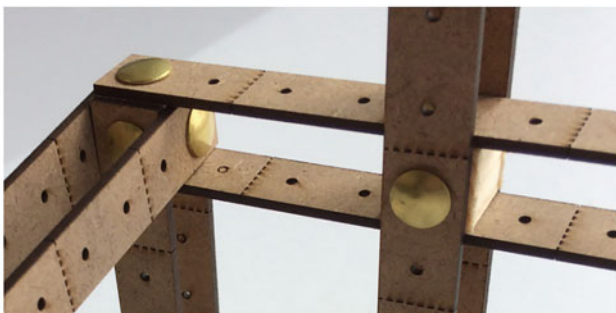


Fig. 4 Modularity. *Photo Credit* Guido Robazza

with an introduction where the facilitator explained the aims of the day, making clear that young people should assume the ‘mantle of the architect’ in the workshop and design a music installation using the construction game (Fig. 6). This playing of the expert role was welcomed by the participants who engaged consistently in the design tasks and gave very positive feedback. This idea of assuming the ‘mantle of the expert’ was influenced by drama educator Dorothy Heathcote (1995) and her concept and activity of role-playing. Playing the role of the expert empowers the participants in gaining confidence within a generative process of making and problem-solving.

The university students facilitated the process showing the pupils how to assemble the scaled models and guiding them through how to develop the possible solutions involved in making a pavilion with music objects embedded within it. Many pupils went beyond the expected use of the modular system, creatively using the system in an unexpected way, pinning the joints and the beams in ways that expanded the basic rules and the basis of the ideation (Fig. 7). These creative responses were positive within the context of the workshop and definitely welcome in this aspect of the process; unfortunately, the activity established formal solutions that wouldn’t have been structurally feasible in the actual ‘real’ installation. One technical limit was that the metal pins to be used as fixing elements were slightly hard to push into the timber and that made the process a bit more difficult, but still attainable. Another limit of the activity was perhaps the lack of a more precise problem-solving setup approach,



Fig. 5 Co-design workshop. *Photo Credit* Guido Robazza

which would have triggered a more focused and solution-based making activity.

2.4 Design Development

After the workshops, the architecture students started the process of developing the design, interpreting the ideas and spatial configurations arisen from the workshop with Priory schoolchildren. They took the designs from the children and rendered them in Computer-Aided Design software and developed the design into a detailed and buildable construction project including the design and resourcing of the junk instruments (Fig. 8). The architecture students from the University of Portsmouth developed the instruments through designs they rendered after researching junk instruments, after some consultation with a local company that makes sound-making instruments for the public. An intention was to tune the instruments to a specific musical scale but this was dropped in favour of random percussion sounds. In the spirit of noise-making and based on the previous practice of Smith (2008), the designs were simplified in reaction to the practicalities of the project. The random noise potential of

the instruments was embraced as opposed to the adoption of a scale or sequenced sound system. The university students were asked to design a modular structure that could adapt to any design outcome. This involved the definition of a simple structural principle which could be developed in many different ways and give different results. In the attempt of employing a participatory method of design, the role of the 'expert designers' triggers and supports meaningful 'diffuse design', performed by everybody (Manzini, 2015). From the experience gained from previous projects, modularity was considered to be the most appropriate way to enable a full design collaboration between students and pupils and make the participatory workshops more effective in involving and including the non-expert designers (pupils) in the design process.

The co-designed scaled modular model structure became the essential tool for pupils to make clear decisions on the design outputs. Furthermore, the modular principle of the structure allowed real decision-making and collaborative design process during the construction phase. Architecture students came up with various options and built small models to be tested. They were encouraged to implement the simplest versions based on a clear logic of joints and beams

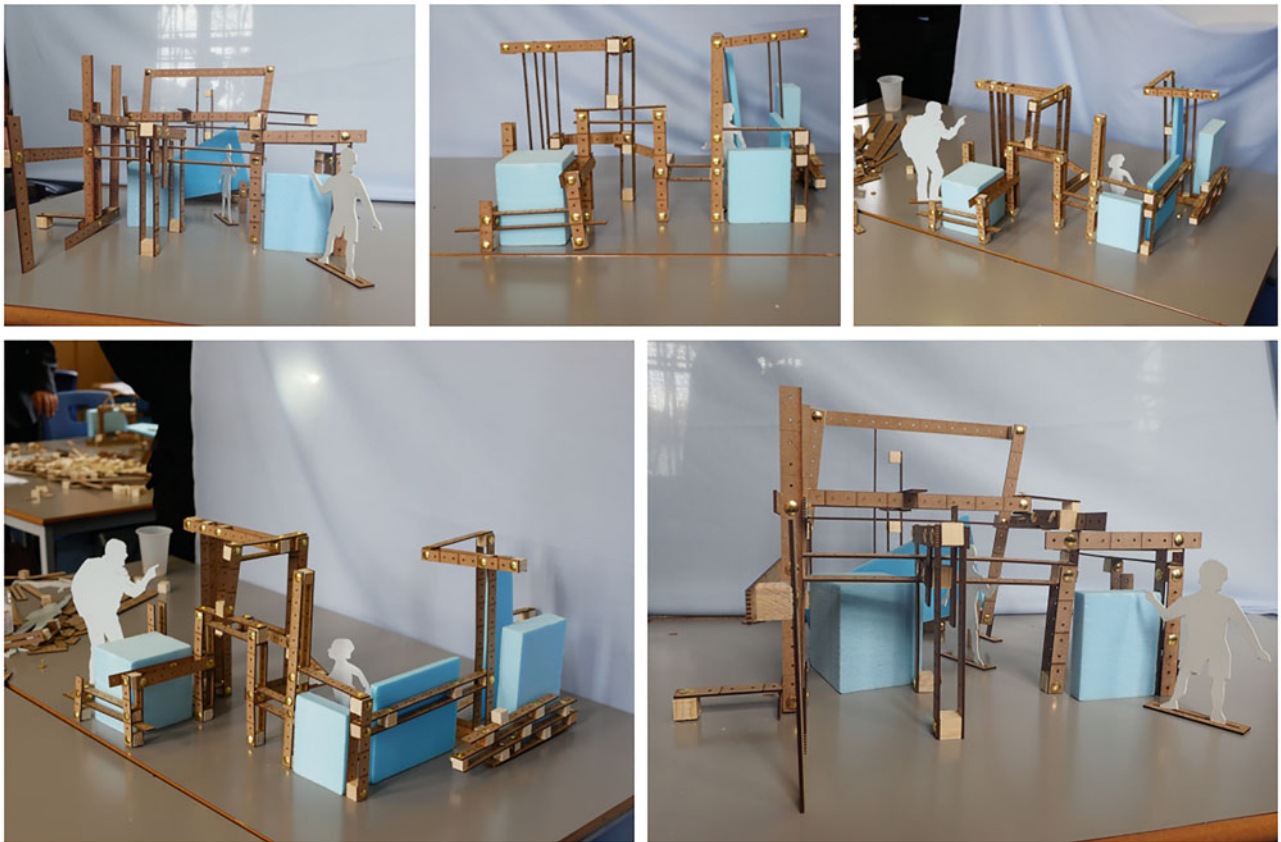
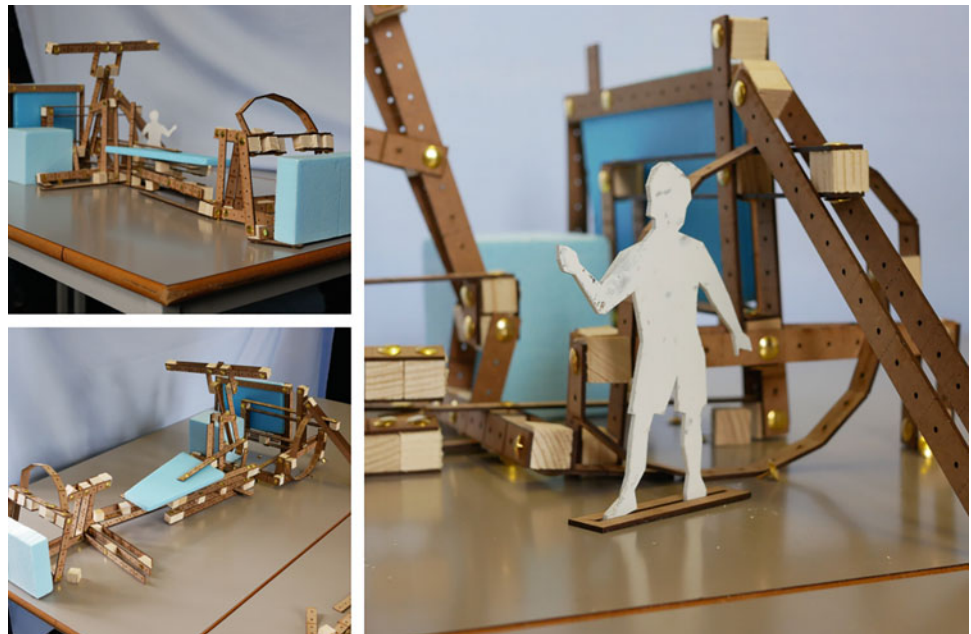


Fig. 6 Co-design workshop outcome models. *Photo Credit* Guido Robazza

Fig. 7 Co-design workshop outcome models alternatives. *Photo Credit* Guido Robazza



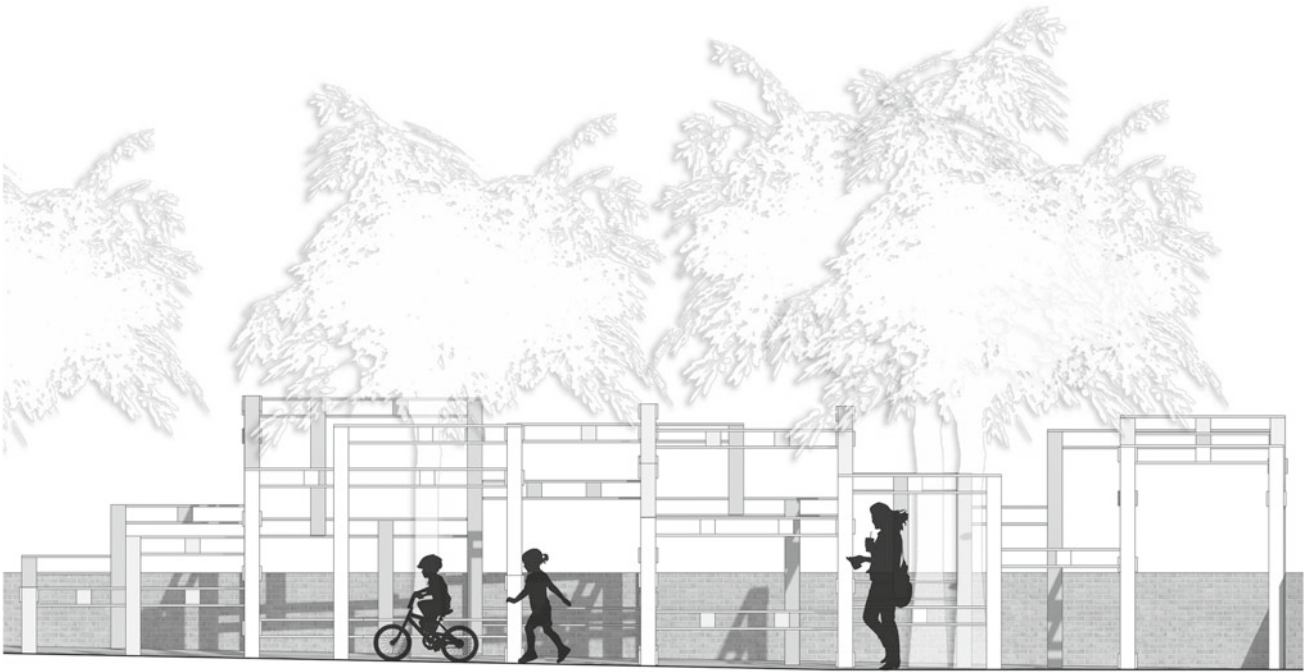


Fig. 8 SoundGarden elevation drawing. *Author* Jacob Lucas

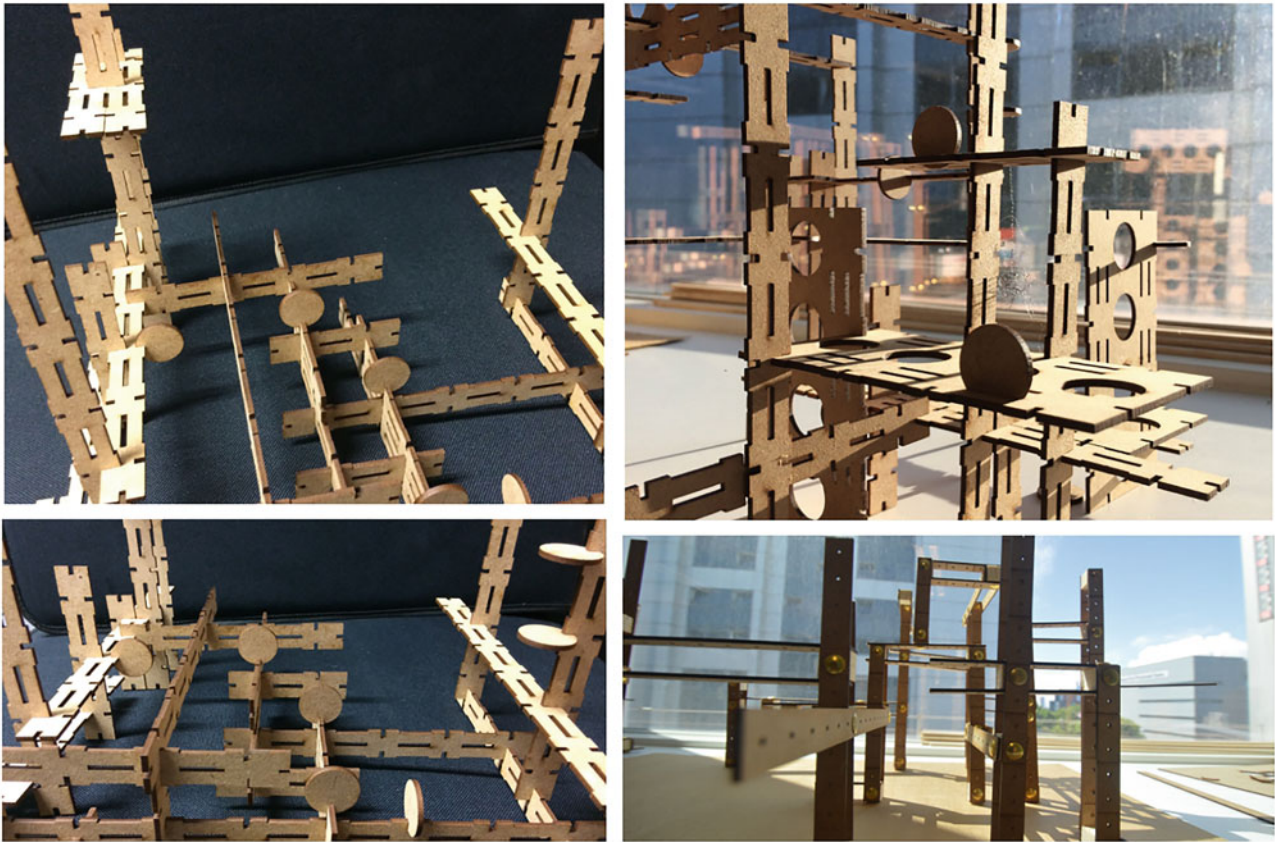


Fig. 9 Modularity alternatives. *Author and Photo Credit* Guido Robazza



Fig. 10 Junk instruments build. *Photo Credit* Guido Robazza

(Fig. 9). The structural principle had to be the same for both the final 1:1 built object and the co-design workshops. The models were used to define a set of design outcomes during the co-design workshop including pupils. These outcomes were then re-interpreted and transposed to technical drawings by the architecture students. This rendering of the design allowed us to accurately control the final output and make sure we achieved a high-quality output at the end of the residency.

The design of the structural principle worked in parallel with the creative process of the set of ‘instruments’ embedded in the structure. During weekly meetings with tutors, the students started developing about twelve sound-making objects that they subsequently engineered. Each student took responsibility for designing a set of instruments and developed its sonic quality. The process also included trips to junkyards collecting scrap materials that could be useful in producing sounds. Students collected lorry disk brakes, engine pistons, plastic barrels, all sorts of metal plates and pans, etc. Some of the most creative and successful junk instruments included an Airbed Pump Organ; a set of five airbed pumps connected through coloured hose pipes to truck horns. A Tubulum; a set of sewage pipes with a standard diameter but different lengths

with a Kevlar membrane at the end of it that made a bass sound. There was a series of corrugated service pipes with adapted traffic cones at one of the ends as resonators, used by people mainly to talk into one end that produces a response at the other end. There were drums built around car tyres, bucket drums, metallic car brakes as chimes, steel bars as gongs, and a wooden xylophone (Fig. 10).

2.5 Residency Workshop and Unveiling Event

During the five days of intensive construction workshop phase of the project, the students from both University of Portsmouth and Priory School came together and assembled the *SoundGarden* structure (Fig. 11). The group worked on making the modular frame initially then constructing the instruments in the frame from their designs. The construction workshop integrated the young people’s participation in a simple way. Young people and architecture students were offered two different sets of parallel activities, including noise-making sessions and building sessions. Construction contributions would happen under the supervision of the research coordinators and university students. The



Fig. 11 Completed SoundGarden. *Photo Credit* Guido Robazza

schoolchildren started with sawing the timber boards that had to be cut to size according to the design. There were three sawing teams, each one composed of pupils and architecture students. The pupils also engaged with tree wrapping in colourful rags the trees that surrounded the site of *SoundGarden*. This tree wrapping created a visual impact and did not require advanced manual skills with dangerous power tools. Day after day, the pupils engaged in more complex activities, handling screwdrivers and drilling holes in the timber, then screwing on the pieces belonging to the instruments (Fig. 12).

One of the final acts of making was to fill gaps in the structure with donated plants from the local hardware store and then *SoundGarden* felt complete. The juxtaposition of the modular frame with the industrial tubes, car parts, and paraphernalia with the plants in flower was aesthetically pleasing and inviting. After the week-long process, the harsh environment of the subway within the roundabout was changed. This change challenged the use of the space, as it had been well known as a crime-ridden area. A local council operative expressed surprise and was interested to see how this intervention would affect the usual drug deals in this urban space. Having young people frequent the space

because of the making and playing of the junk instruments certainly changed the perception of the space (Fig. 13).

At the end of the five days construction workshop, the project coordinators organised an opening and celebrative event. The event was attended by several public figures from Portsmouth City Council and the University of Portsmouth and many families of the pupils from Priory School. Priory School Head of Expressive Arts led his pupils with a music performance with the instruments in the installation, and after that, the University of Portsmouth research coordinators invited all present to play the instruments. This opening event at the end of the construction workshop demonstrated a crucial celebration, where the work developed received attention and recognition of the positive collaboration between different groups (Fig. 14).

3 Results and Discussion

In regard to interpreting and understanding the findings and outcomes in this project, it was clear that what was most effective was the powerful sense of how important the informal creative learning appeared to be for the school



Fig. 12 Construction workshop activities. *Photo Credit* Guido Robazza



Fig. 13 SoundGarden pavilion. *Photo Credit* Guido Robazza

children. They thrived on the open space to collaborate with staff and students from the university in making something that had an impact on the community. They engaged with haptic skills with materials in the making of the *SoundGarden*. The effect of the project to produce a sound installation that was in some ways harmonious with the location and the environment was less understandable and complete. In fact, it was the random sound elements in the modular structure that seemed to create a sort of dissonance that was hard to control or regulate. It was clear that the *SoundGarden* did elicit play in locals whose urban space was limited in scope for this type of activity. The one area that surprised us was the pedagogic potential of this type of project. The Priory Head of Expressive Arts was very pleased with how the junk music installation had pushed the boundaries of his music teaching geographically and extended his classroom. Though temporary, this type of practice disrupts the normal structure of state education and brings a creative rupture within which children thrive. It was hard to discern the impact of the structure beyond the very pronounced experiences of the children who joined us during the week of residency. Their sense of joy and engagement is the most important discovery in this type of unusual

project. The most salient finding was that putting the participant at the heart of the process produces overwhelming positive results and can produce significant social values. One important lesson learned is that the control of the design outcome is a negotiated process and that relinquishing the aesthetic judgement can play substantially in favour of fulfilling the desires of the community.

3.1 Pupil's Perception

According to the feedback received in the co-creation activities, the process was perceived as inclusive, as all the pupils felt that their ideas were listened to and part of the process and they were engaged with their design output. They all also felt that their contribution was valued and the university students worked with them. One individual found the activity entertaining and therapeutic.

The week-long collective endeavour of creating and making an art installation in the urban space generated a positive environment in which participants helped and supported each other, creating a collaborative space through bonding and being together (Fig. 15). After the week of



Fig. 14 Unveiling event. *Photo Credit* Guido Robazza

construction workshops, the ten pupils who participated were asked what they enjoyed most and what they didn't enjoy. From their answers, they expressed a high level of involvement and enjoyment. Apart from those who particularly enjoyed some specific activity such as 'decorating the trees', it is noteworthy that the enjoyment of a strong social experience enabled them to 'meet new people, learning new things' and this involved 'confidence building'. Of particular interest was the emergence of the pupil's perception of a civic concern, notable in answers such as 'I enjoyed building something that people will use and enjoy [sic] using it and may inspire some people to help the community as well' or also advising others to take part 'so they can get to help the local community'. Pupils enjoyed the process and were only disturbed by the midweek rain.

The responses from schoolchildren emphasised the social aspects of the project as well as its development of their learning outside the classroom environment. Some respondents felt compelled to describe in feedback how this experience can encourage well-being beyond the practical and creative skills employed. Below is a summary of points made by the schoolchildren who were part of the residency week and final making:

decorating the trees... meeting new people... I learnt many new things... building confidence... helping... Playing the wheel drum... relaxing while nothing happened... building something that people will use... may inspire some people to help the community... building something new... disliked... the rain on Wednesday... disliked the music today... so much fun... learnt so much... met lots of really nice and funny people... had to blag to my teacher to stay two extra days... recommend it to everyone above the age of seven or eight... no matter what pain you're going through, this is the remedy... give that opportunity to me, because of its life experiences... you can get to help the local community... the GREATEST garden ever!... so happy I did this.

The social theme is evident in this feedback and reminds us that the role of community-based art projects of this kind impact upon the relational nature of art. The participants in the project emphasised the role that the making of an installation in a contested and dysfunctional urban space could affect lives beyond their own. This social aspect is surprising, given the relatively small experience of art-making the children had in their lives before the project. Art in this context appears to be something that connects within the vibrant space of urbanity presenting a clear purpose to affect lives daily. This reaction was extended beyond the schoolchildren towards the neighbourhood and was indicated by a local man, (who self-identified as an



Fig. 15 Pupils collaboration. *Photo Credit* Guido Robazza

immigrant) who saw the *SoundGarden* as a space giving his family a place to play within.

A remarkable comment from one of the pupils stressed the positivity of the experience in advising others to participate ‘Do it! I had so much fun. I learned so much and met lots of really nice and funny people. I had to blag to my teacher to stay two extra days. I recommend it to everyone above the age of seven or eight’. Another pupil seemed to be valuing the therapeutic positivity of the experience advising people to do something similar: ‘Yes do it. Because no matter what pain you’re going through, this is the remedy’.

Schoolchildren were also involved in writing their feedback on the pavement around the structure with chalk. Their response to this task was to emphasise the purpose and positivity of the project and appropriation of the space. Feedback and responses by school participants that were drawn on the pavement in chalk on Thursday, one day before the conclusion (Fig. 16):

Inspirational. Educational. Fun. So fun I had to blag to come back. Fun. Exciting. Social meeting new people. Lol. Life

experience. Helping. Proud. Awesome. Joyful. Amazing. Outstanding. Enjoy. Funny. Wonderful.

The overall legacy for the authors involves the positive way that taking control and adapting urban space can create a ludic learning environment with positive haptic experience for young people, especially the children from Priory School. This project could be seen as a monument to the temporary nature of positive playful collaborations in our cities.

In a short interview in *The Portsmouth News* during the unveiling event pupils who helped with the project said: ‘It has been really good building the frame and drilling too. But it was also nice meeting everyone too. It is a very good idea’. Another pupil agreed: ‘It has been really fun and I liked sawing the wood and screwing it together. This is a great idea and I liked getting involved’. The Priory Head of Expressive Arts concluded the short interview and said: ‘This is a fantastic blend of design, architecture and music. Somerstown is one of the most deprived areas so to have this here for anyone to use is incredible’ (*Portsmouth News*).

This positivity was shadowed by the vandalism that the structure suffered within days after the opening. We repaired this damage but this meant that the structure had less instruments. The modular system is still intact at this point in writing (2021) with some of the junk playable instruments intact. This organic adaption of the structure due to its vulnerability as an object has changed the *SoundGarden* from a very noisy installation combining with the sounds of cars and the urban setting into an object that is quieter. Making noise in urban space bounces back in unexpected ways and leaves a sonic memory. How this noise-making operates with an intersectional community environment was one of the powerful lessons learnt in this project.

3.2 Construction Games as Co-designing Tools

The *SoundGarden* design development helped to test an interesting technique of co-design. The experience from previous project *#IHeartPompey* demonstrated how difficult it is to engage participants into thinking architecturally (Leddy-Owen et al., 2018). Drawing from the most traditional and widely applied Planning for Real techniques for community engagement (Gibson & Dorfman, 1981), the aim was to allow people to express their views on specific issues through the application of different visual, tactile, and community-led techniques. In this project, the idea was to develop an architectural game that could allow modelling, making, and generating ideas for the structure. Although using ludic techniques opens the mind, it is difficult to translate into a purposeful design in practice. The questions



Fig. 16 Pupils floor feedback. *Photo Credit* Guido Robazza

posed by ludic activities create information that is general. A way of working beyond this is presenting the community co-designer a set of options that are tangible. This activity enhances the understanding of possible designs and creative outputs. The project coordinator in Architecture created an architectural construction game as a modular system to encourage this form of play with form and structure.

In the co-design process of the *SoundGarden* structure, one process was the simulation of a small-scale version of what could have been the 1:1 size object. During previous projects, alternative methods were used such as bamboo sticks or 3D printed objects. Although engaging and flexible tools, the bamboo sticks offered a non-realistic simulation of the final outcome. Instead, for the *SoundGarden* co-design process, we produced a playable tool able to realistically simulate a potential final installation design, that enabled participants to produce a physically realistic and to-scale vision for a specific space (Fig. 17). Following this aim, the modular game tested the flexibility and appropriateness to simulate the ideas into a 1:1 scale. Tests on modularity were made and these models were drawn digitally and laser cut from plywood sheets and small timber elements, with metal pins to hold them together (Figs. 9 and 17). The model is a simple beams and columns structure with easy connection joints reproduced at 1:10 scale. The simplicity of this

structural principle derived also from the fact that it had to be produced in a 1:10 scale model created the possibility of crafting and re-crafting the design idea with realistic input from the schoolchildren. Scaled human figures also were made, to create a more tangible and imaginable environment. In the co-design workshop, some pupil's teams re-interpreted the system in their own way producing models that did not follow the assembly principle, but still worked, effectively opening up different possibilities and design options. The benefit of this method of work is in the possibility of producing a quick scaled realistic version of the final installation, which enables a deeper understanding with a more informed decision-making. This use of playful modelling also generates the important.

The design outcome of the co-design workshops for the overall structure had to be developed and transformed slightly due to structural requirements and closed before the commencing of the construction workshop. The constraints of time of delivery and cost of the materials didn't allow flexibility in the construction phase. The team also had to deliver a finished installation within five days and so it was hard to take the time to engage in design discussions and decisions during this residency phase. Ultimately, the modularity and simplicity of the structure weren't sufficiently flexible and adaptable to allow for an onsite, 'on the go'



Fig. 17 Modular system models and as built. *Photo Credit* Guido Robazza

design process. A modular principle that uses much smaller elements, where the single decision or action on the structure affects a minimal or smaller part of the overall result, may have enabled more freedom and decisional autonomy to all participants and therefore more flexibility to design decisions taken directly on site. The components that were designed in situ were the location and adaptation of the different junk instruments to the timber structure, some smaller elements of the timber frame, and the tree wrapping.

3.3 Playing Community Music in an Urban Space

The sounds the group developed during the week were based on simple rhythms, adaptations of West African Djembe calls for drumming, Taiko riffs, and simplified Samba forms. The group also followed some inspirational systems for playing that Priory Head of Expressive Arts employed. One of these was to use postcode numbers as ways to count rhythms collectively in group playing. The relationship that developed with the project grew in the week and the Priory Head of Expressive Arts was filled with joy at the final

achievement and event. One comment he made was that the project and the space the *SoundGarden* inhabited ‘extended’ his classroom. This stood out as an unintended pedagogical outcome in a challenging urban space. Learning how to extend learning out of the boundaries of schools and universities in reflection was a major achievement of this project. So the problem-ridden space was changed into a learning place through the intervention of architecture and junk sound-making. Through noisy architecture young people could learn to play together and create new unexpected forms and inventions.

The noises that the *SoundGarden* produced transgressed the usual sonic space of the roundabout. This usual sound was quotidian noise produced by cars and other vehicles. The cacophony of the junk noise produced on the instruments, some made from car parts, tyres, piston cases, and brake disks, shifted the meaning of the space, and this oscillated the sonic information produced in the circular space between played and mechanically produced. The rhythm of the everyday was shifted by the new rhythms played on junk instruments. Tim Cresswell the cultural geographer describes the way that unusual interventions can transgress space (1996). In the *SoundGarden*, this act of

transgression was built into the intended design as a way to change a negative urban space into a ludic environment that could be experienced beyond its usual cultural confines and users; drunks and drug users. From observation, it was clear that this space was somewhere not very inviting to the general public to spend time within; instead, the space encouraged people to try and leave as soon as possible. During the residency and afterwards, it was clear that the space had changed from this off-putting position, as parents with young children used the *SoundGarden* to explore sounds and noise-making, when we returned intermittently after the residency.

The noise-making experiences of people who came upon *SoundGarden* after the residency was left undocumented as part of the transient ephemeral nature of the urban space. As artists, this legacy was one of the difficult aspects and responsibilities of the project. The sonic legacy of this project is easily forgotten, apart from the experience of our meetings with families who played the instrument or when we were tidying up the *SoundGarden* after vandalism. This playing of the structure was captured by some people who uploaded the recording to a website. The noise did generate a few complaints directed towards the horns, which were thereafter removed. Other noisy parts were broken by vandals. Part of this legacy as the *SoundGarden* is still in situ is the responsibility to the object from the artists and makers of the installed object. The ‘temporary/permanence’ of *SoundGarden* caused a sense of responsibility for an object in urban space. *SoundGarden* continues to perform (as to 2021) in unknowable ways, disruptive noisy events in urban space. The normative assumption about architecture reducing noise and containing noise is here challenged as objects change sound, and this intervention reminds us that all architecture creates sonic markers.

3.4 Further Research Developments

The work and research undertaken with the *Soundgarden* has been continued and further developed by the authors of this article, who maintained a close collaboration during 2019 to initiate two projects at the University of Portsmouth: The *Puppet City* and the *Multicultural City ChatterBox*.

The *Puppet City* created in 2018 developed the model-making aspect and took this further. We commissioned a playable kit to build a city out of cardboard that then allowed children and families to actively look at urban futures. The city was built for puppets who acted as models of humans and this element was very successful and popular with participants. *Puppet City* clearly is a great tool for eliciting play with families. The modular aspect of *SoundGarden* inspired the geometric cardboard shapes used in *Puppet City*. This method further proved that playful

strategies in thinking about urban space are engaging and joyful activities to offer participants.

The *Multicultural City Chatterbox* replicated an initiative similar to the *SoundGarden* and continued investigating co-production processes and interactivity in the urban sphere. The intervention engaged a Black, Asian, Minority Ethnic and Refugee community, local to Somerstown, in designing and building a temporary structure aimed to be interactive, playful, and to welcome and celebrate diversity. The co-production process was designed building upon the key outcomes learned from the *SoundGarden* process, employing construction games as the core innovation tool, and obtaining feedback via creative activities adapted to the different age range and background of the participants. The *Multicultural City ChatterBox* employed and tested further the social innovation methodologies at the core of these types of interventions. The *Multicultural City ChatterBox* further developed the way in which community participants are involved as even more active agents in the design process and making. The process started from an early consultation with the community group, engaged in developing what they believed to be the purpose of the proposed temporary urban architectural intervention. The key strategy of the process was to carefully plan a sequence of events with community collaborators implying their active involvement in the process. Building on previous experiences, this project employed a more accessible form of data collection that captured the participant’s voice through a number of modes and mixed social sciences methods. Through this process, the authors aimed to fully align research and practice methods to achieve meaningful outcomes for both the researchers and the participants.

4 Conclusion

One clear important outcome in the project was the way that cooperation was encouraged and supported by the research and participant teams. Urban sociologist Richard Sennett discusses the spaces of cooperation in his book *Together: The rituals, pleasures and politics of cooperation* (2012) against the context of inequality and capitalism. Against this context, the workshop for Sennett stands out as a possibility to shape using dialogical practice and haptic work, which can engender the possibility and pleasure of togetherness. Reflecting back on *SoundGarden*, this was not an explicit aim of the project, but an implicit value. This implicit value was positively reflected upon by the young people involved in the workshops as an outcome they enjoyed. Sennett makes it clear that we must cooperate to make art (2012, p. 18) and this cooperation is wrapped in the experience of mutual well-being and pleasure (2012, p. 5). Sennett also promotes the workshop as the model for sustained

cooperation (2012, p. 56). This togetherness in the workshop played a part in motivating the Priory Head of Expressive Arts as a teacher in a very busy urban inner-city school to see the onsite making and playing as an extension of the classroom. This extension of the classroom into the workshop space is a liminal place shaped between the institutions and boundaries of everyday structures and knowledge-making. This ephemeral bonding of young people in university and school with academics and teaching staff is not measurable like a modular system of wood and joints. Looked at in this way incommensurable togetherness and bonding are the strongest legacies of this experiment in co-design with a specific community. One key recommendation is that interdisciplinary work involving junk music and architecture can produce exciting results but the synergy of research and practice methods needs to be fully aligned within this type of project. The risks in mixing methods at times are overcome by playful and exciting creative leadership and enthusiasm. We recommend that making noise in urban interventions should be unpredictable and joyful. At the time of writing children still play with the *SoundGarden*.

References

- Askins, K., & Pain, R. (2011). Contact zones: Participation, materiality, and the messiness of interaction. *Environment and Planning D: Society and Space*, 29(5), 803–821. <https://doi.org/10.1068/d111109>
- Bloustien, G., & Peters, M. (2011). *Youth, music and creative cultures: Playing for life*. Palgrave Macmillan UK. <https://doi.org/10.1057/9780230342491>
- Cresswell, T. (1996). In place/out of place book subtitle: Geography, Ideology, and Transgression. <https://doi.org/10.5749/j.cttt1xt.6>
- Cullinane, C., & Montacute, R. (2017). Life lessons, improving essential life skills for young people. In *The Sutton trust* (Issue October).
- Department for Education. (2017). School workforce in England: November 2016. In *National statistics*.
- Freeman, C., & Tranter, P. (2012). Children and their urban environment: Changing worlds. *Routledge*. <https://doi.org/10.4324/9781849775359>
- Gibson, T., & Dorfman, M. (1981). *The planning for real report*. Development Plans and Regional Policy Directorate, Department of the Environment.
- Hainge, G. (2013). *Noise matters: Towards an ontology of noise*. Bloomsbury.
- Heathcote, D., & Bolton, G. M. (1995). *Drama for learning: Dorothy Heathcote's "mantle of the expert approach to education."* Heinemann.
- Kimbrow, R. T., Brooks-Gunn, J., & McLanahan, S. (2011). Young children in urban areas: Links among neighborhood characteristics, weight status, outdoor play, and television watching. *Social Science & Medicine*, 72(5). <https://doi.org/10.1016/j.socscimed.2010.12.015>.
- Laiho, S. (2004). The psychological functions of music in adolescence. *Nordic Journal of Music Therapy*, 13(1), 47–63. <https://doi.org/10.1080/08098130409478097>
- Leddy-Owen, C., Robazza, G., & Scherer, L. (2018). Participatory design, temporary structures and the appropriation of urban space by marginalized youth: The problem of the Odd Triangle. *Journal of Urban Design*, 23(5), 780–797. <https://doi.org/10.1080/13574809.2018.1458583>
- Manzini, E. (2015). *Design*. An introduction to design for social innovation. In MIT Press.
- Robazza, G. (2020). Build art, build resilience. Co-creation of public art as a tactic to improve community resilience. *The Journal of Public Space*, 5(4). <https://doi.org/10.32891/jps.v5i4.1388>.
- Robazza, G., & Melis, A. (2021). Temporary urban practices of co-production. Including unrepresented voices in the making of the city. In J. Montgomery (Ed.), *AMPS Proceedings Series 24.2. Cities in a Changing World, Virtual*. (pp. 263–274). Architecture, Media, Politics, Society.
- Scott, S. (2010). *Architecture for children*. Australian Council for Educational Research.
- Sennett, R. (2012). Together: The rituals, pleasures and politics of cooperation. *Yale University Press*. <https://doi.org/10.5860/choice.49-6591>
- Slater, J. (2012). *Somerstown and North Southsea Area Action Plan (AAP)*.
- Smith, M. (2008). PickleHerring and Marlsite projects: An interdisciplinary approach to junk music-making. *International Journal of Community Music*. https://doi.org/10.1386/ijcm.1.2.159_1
- Smith, M., Noble, M., Noble, S., Wright, G., McLennan, D., & Plunkett, E. (2015). The English indices of deprivation 2015. *Ministry of Housing, Communities & Local Government*, 11–14. <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015>.
- Taylor, A. (2009). *Linking architecture and education: Sustainable design for learning environments*. UNM Press.
- Zebracki, M., & Palmer, J. M. (2018). Introduction to special issue: Urban public art: Geographies of co-production. *City and Society*, 30(1), 5–13. <https://doi.org/10.1111/ciso.121512>.



Investigating the Relation Between Culture and Architecture: The Case of Rasem Badran's Style of Architecture

Hazem Abu-Orf and Sulaiman Wafi

Abstract

This article investigates the relation occurred between architecture, culture, and identity by addressing how a tradition has been maintained in the architecture design of the present. Two opposites, however arguably relevant, categories exist in the literature. One conceives identity as being merely a 'static' entity coined with one meaning regardless of the history. By contrast, the other category pays attention to the history. It echoes a 'contextual construct' of meanings in its theory to help architecture configure a place's identity through each place's peculiarities infused by culture. A 'contextual construct' weighs up history laying, therefore, the seeds for a profound architecture design of the present. Analysis in this article follows the second category's path and turns to Rasem Badran's synthesis considered in this article as a particular case. The conclusions, drawn here, are not intended to offer utopias solutions, but rather, evoke further exploration and investigation.

Keywords

Architecture identity • Cultural heritage • Local context • Locality • History • Modernist architecture

1 Introduction

This article addresses the relation between culture and identity which architects yet appear hard to handle in contemporary architecture design. The latter distances its concept from literally copying a traditional design into the present while equally denying a direct import of modern

technologies inherited in the universal design (Abdel Azim, 2017). Two issues are worth noting. One lays emphasis upon a cultural tradition (Ashfina, 2014) by associating the history with a contemporary architecture. The second issue goes further and has at its core incorporated the universal modern techniques into a contemporary architecture, yet carefully paying attention to the cultural tradition of the past. Albeit differences, both issues are centered on identity marked by a contrasted duality; one is the 'old' (or, a tradition, that is, the past) while the other is the 'new' (or, a modernist architecture) (Al-Suliman, 2016). An identity in both issues heavily draws on 'cultural identity' (Lahoud, 2008), yet it is flagged by a twisted duality; that is, a tradition versus a modernist architecture. This is because identity withstands the changes that occurred as a result of modern technologies.

What is perhaps remarkably interesting is identity's dual concept incorporating in its theory architecture to suggest what Pallasmaa calls a sense of 'rootedness' (Pallasmaa, 2012). A context is relevant. It moves away from conceptualizing identity as being merely a 'closed entity'; primarily associated with, for example, race, color, or gender, towards viewing identity through the daily interaction occurred within a place: 'as I settle in a place, the place settles in me' (Pallasmaa, 2012). What emerges is an identity essentially derived from a place while context associates the built environment with its culture (Ashfina, 2014). The latter leans upon cultural values, which have passed throughout the history and are evident in their footprint in places and/or regions. How this might happen essentially blames identity. To explain, an identity—passed through cultural values of the history—has transformed into a set comprised of traditions, beliefs, or ideas. Such set not only weaves together a human culture of a particular place but also distinguishes our architecture from theirs (Ashfina, 2014). A 'continuum of culture' arises which configures a place through a set of architecture vocabularies (Hayaty, Fazeli, & Alipoor, 2016). Surprisingly, architecture itself uses this 'continuum' to exercise its role. Schultz Christian-Norberg, therefore,

H. Abu-Orf (✉) · S. Wafi
Faculty of Applied Engineering and Urban Planning, University of
Palestine, Al Zahra, Palestine
e-mail: h.orof@up.edu.ps

associates cultural identity with its place through architecture by arguing that a ‘human identity presupposes the identity of place’ (Salman, 2018). Architecture accordingly becomes a ‘vocation’ of the place which appears to be the product of people (Salman, 2018), place, and culture; that is, it is ‘one facets of identity’ (Salman, 2018). It is added that architecture, where the latter’s vocabularies being configured by its culture, not only draws from but also responds to the ‘uniqueness’ of its place (Salman, 2018). Hence, one could argue that a place interlocks the relation between architecture, culture, and identity. This article has at its aim investigating this relation using Rasem Badran’s synthesis of design which is considered here as a particular case. Before going into the case’s discussion, the subsection that follows presents the theoretical frame adopted here to narrate this case.

2 Coexistence of the Past and the Present

The question for addressing in this subsection concerns how knowledge has theorized the relation between architecture, culture, and identity. Two broad categories are relevant (Tran, 2012). The first assumes that architecture encompasses a single identity that remains stable (or, ‘static’) throughout the history while holding upon visual geometry to conceptualize architecture as physically shaped objects (Tran, 2012). Classical architects, for example, Leon Krier, John Simpson, and Jean-Francois Gabriel, endorse the argument that architecture’s ‘vocabularies’ symbolically represent in their physical design meanings, yet being interpreted through culture (Tran, 2012). And hence, architects rely on their intention to aspire their conceptual design by conceptualizing identity through the lens of a continuous narrative throughout the history (see, for example, Frankel’s Frank Lloyd Wright’s Guggenheim Museum or the Jewish Museum in Berlin designed by Daniel Libeskind). However, the ‘timeless’ outline of symbolizing identity yet remains ‘permeated with flaws’ (Tran, 2012).

The second category concerns Kenneth Frampton’s critical regionalism labelled as the ‘architecture of resistance’. Frampton accordingly cast doubt on the ‘dogmatic principles’ of Modernism, which views regionalism as being primarily centered on the Postmodernist Movement of the 1980s. Instead, Frampton calls for a rather distinct regionalism that seeks a response to Paul Ricoeur’s question: ‘How [can we] become modern and yet return to the sources. Or, how [can we] revive old dormant civilizations and [yet] take part in universal civilization’ (Frampton, 1983, p. 16). In response, Frampton’s notion has twisted regionalism with a Postmodernist contribution to architecture theory. Culture accordingly becomes the chain necessary to underpin regionalism with Postmodernist Movement. Frampton

appears to pump new life into ‘culture’ that has been overlooked by modernist architecture (Frampton, 1981, p. 17). In doing so, Frampton suggests a *Critical Regionalism* that its notion underlies a ‘bearer of world culture’ (Frampton, 1981, p. 21). ‘Critical’ is not naively self-critical but rather being conscious of what might influence a culture. Furthermore, being ‘critical’ poses critiques to the productions of the world: particularly our culture, by being aware of the various factors that ultimately form it. ‘To deconstruct world culture’, Frampton suggests ‘to remove oneself from that eclecticism of the fin de siècle which appropriated alien, exotic forms in order to revitalize the expressivity of an enervated society’ (Frampton, 1983, p. 21).

Frampton’s regionalism might be, therefore, outlined as an ‘architecture style that distances itself equally from the Enlightenment myth of progress and also from the reactionary impulse to return to pre-industrial styles’ (Frampton, 1983, p. 20). Instead, his regionalism redefines the concepts of ‘place’, ‘region’, ‘culture’, and ‘civilization’ towards celebrating the ‘architecture of resistance’. What emerges is a *Critical Regionalism* that ‘mediate[s] the impact of universal with elements derived indirectly from the peculiarities of a particular place’ (Frampton, 1983, p. 22).

Yet, one problem remains unresolved which blames Frampton’s regionalism for not incorporating the vernacular aspects (Frampton, 1981, p. 21). Indeed, Frampton conceptualizes the environment by squeezing tactility into his regionalism. To explain, the latter has at its heart established closed ties with a Post-Modern thought that strives to withstand modernist technologies (Mallgrave & Goodman, 2011, p. 101). It appears that Frampton initiates a phenomenological stance concerned with consciousness, which distances its theory from an abstract geometry, while being infused with ‘the moods, emotions, and contextual layers of meanings to act of perception’ (Mallgrave & Goodman, 2011). In essence, Frampton also appears to overturn a common assumption of identity which may be coined with ethnicity, nationality, and/or hegemonic principles. Frampton suggests an alternate, arguably idiosyncratic and tactile, which may be realized by the *Visual versus the Tactile* (Frampton, 1983, p. 29).

To explain further, Frampton captures an identity from the perspective of production of the civilization, overwhelmed by the hegemonic forces. A sense of self seems to be, for Frampton, an appropriate approach towards combatting the hegemonic/modern forces. In doing so, architecture remains tactile so that we feel comfortable within our spaces. In practice, critical regionalism is yet stained with not being universal because its theoretical basis shows a peculiar notion for a supposed condition to suggest a *sustainable, environmentally conscious architecture*. Moreover, the idea of embracing the region’s peculiarities appears attractive, nevertheless, remains deeply impractical.

Paradoxically, Frampton suggests adopting ‘modern civilization’ of the colonizers while evoking a resistance within it (Botz-Bornstein, 2015, p. 2).

By further search, local architects, for example, Abdel Wahed El-Wakil, Henning Larsen, Rasem Badran, and Rifat Chadirji, have sought to challenge the changes brought by the modern technology, yet exploring the value of ‘local architecture’ (Radoine, 2017) by rendering identity as being expressive of its region and/or culture. These architects have ‘shifted the paradigm of modernity’ laying the seeds for both ‘a fresh appraisal of constructive regionalism and a premise of an environmental and contextual design’ (Radoine, 2017, p. 387). Nevertheless, most local architects have not only failed in addressing the contextual requirements of a place but also appear to struggle when in their designs adopting and/or maintaining a tradition into the present. This failure has resulted in ‘misleading illusions’ emerged due to the existing gaps of knowledge that occurred in the previous research and/or practice (Tran, 2012). Not surprisingly, therefore, Jennifer Tran invites scholars to gain an insight into a cultural identity to grasp an announced understanding of the built environment (Tran, 2012), while Radoine Hassan calls for addressing ‘contextualism’, or ‘globalism’, in architecture design of the present (Radoine, 2017). What is yet missing is arguably a ‘conceptual construct’ (Radoine, 2017). To fill in the gap, this study attempts in the section that follows to present a framework, which is arguably helpful towards investigating the relation of architecture, culture, and identity.

3 Rasem Badran’s Synthesis

Local architects in the Arabic world, for example, Hassan Fathy and Refa Chadirji, have in the 1950s called for promoting local architecture by considering cultural values in the architecture design. To elaborate, each society’s culture produces a ‘tradition’ laid the template to configure this society’s identity within a particular valued traditional heritage (Salman, 2018). Unfortunately, such calls have been only acknowledged in the 1970s, and precisely in the early 1980s, by Abdel Wahed El-Wakil and Rasem Badran, for example. Albeit in different ways, both architects have held on history conceived as an ‘inspiring icon’ (Asfour, 1991) to sketch each architecture concept of the present.

For Badran, ‘architecture is the reflection of a notion’s culture’ (Ali, 1989) and its values are deeply anchored in its society. As Badran further reports, ‘I believe architecture to be the mirror of society in all its aspects and a historical document that is hard to forge’ (Badran, 1987, p. 75). Hence, for Badran, the architecture design of the present evolves from a society’s culture which considerably varies within the different regions (see, the concept of a ‘continuum of

culture’, Pallasmaa, 2012). An architecture design has to be, therefore, fitted in with its ‘region’ to accommodate the many differences that mark this region’s society (Badran, 1987). The question that begs itself now: how an architecture design of the present might address its society’s culture.

A ‘culturally bound’ concept responds to the question by primarily dealing with ‘how contemporary design practice can make use of the cultural heritage of a society and still meets the requirements of contemporary life’ (Badran, 1987, p. 77). Badran goes further and views a traditional architecture from the perspective of a ‘local tradition’ and interprets culture through a ‘cultural heritage’. That is, Badran’s philosophy in architecture design, therefore, moves away from playing with a pure geometry that subtracts meanings towards a synthesis that rejects both direct copying of the traditional models into the present and, equally, a straightforward importation of the universal examples borrowed from a modernist architecture. This is because, as Badran suggests, ‘the final outcome we expect [...] stand[s] in confrontation with foreign imported theories and ways of life that brought the Arab Muslim into isolation within his own surrounding’ (Ali, 1989, p. 110). (See also, Fig. 1, Asfour, 1991).

Essentially, Badran’s synthesis revolves around two realms: one concerns a local context and the second is a ‘cultural heritage’ (Ali, 1989). Badran addresses the former using a locality and ties an architecture design to culture

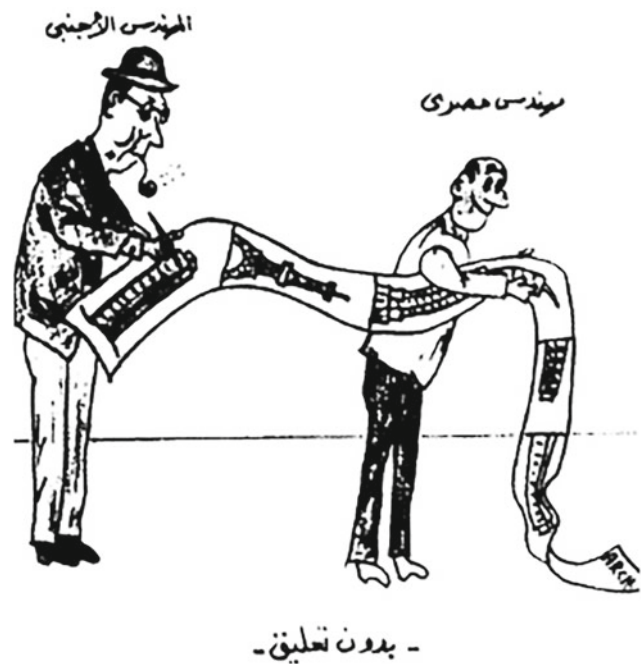


Fig. 1 On the left side stands a western (foreign) architect sketching his concept on a high-rise building. On the right side stands an Egyptian architect, who happily appears to overtake others’ drawings while inserting his own additions

through the theory of a local tradition. A locality accordingly suggests an architecture design that naturally evolves from its place, thereby its role lies in evoking both the place's 'precedents' and this place's culturally rooted values (or, 'rootedness', Pallasmaa, 2012). Albeit variations, both realms have helped Badran to weave together an 'architectural narrative' centered on a 'dialogue' that slides back and forth between architecture and the latter's history while calling for a 'local image and the intelligence of the place' (see also, the concept on 'place' and 'place identity' Salman, 2018; Al Khalifa, 2017): every place has its own events, lived experiences, or stories, which all encompass this place's 'spatial organization or identity' (Al Khalifa, 2017).

Badran carefully goes further and clarifies what might underpin 'precedents' of the history, or when the architects strive for the historical information relevant to their locality, including, for example, books, photos, site visits, or the analyses of other similar cases (Steele, 2005). This information will be interpreted into free-hand sketches (Fig. 2a, b, Steele, 2005) that depict the varied levels of analyses; for example, abstract geometric order, spatiality, broad arrangements, architectural elements, visual compositions, symbolic forms, or details (Steele, 2005). Which level, for Badran, has to be considered in a conceptual first sketch relies on the architect's intention and also on the key issue of concern to the locality. As a note, the sketches do not literally copy the historical models. Rather, as Asfour (1991) reports, these depart from 'rationality'. The visual and/or the conceptual sketch of architecture design has accordingly had to be relevant on the basis of historic reasoning to accommodate the context's changes.

Now, the remainder of what follows addresses why Badran's synthesis has been chosen in this article as a particular case. A response lies in a comparison made between El-Wakil's approach and Badran's synthesis. Both architects have been followers of Hassan Fathy's 'topological system' (Steele, 1996). Briefly, Fathy has admired the 'typologies' embodied in the medieval Cairo and has, thus, applied their traditional vocabularies using the ancient Nubian structural system (Steele, 1996). Fathy's synthesis has in this application benefited from the sustainable criteria of a tradition. Nevertheless, Fathy has overlooked incorporating a local tradition in his architecture design. El-Wakil has applied slight differences to Fathy's system, while Badran has taken this system further, namely at the urban scale (Steele, 1996). El-Wakil and Badran have, therefore, maintained Fathy's typology; however, each has followed his own path (Steele, 2010).

El-Wakil has held on to a traditional style to be maintained into the present, however, ignoring the latter's context (Steele, 2010). One may, therefore, argue that El-Wakil's remains purely 'photographic' in his architecture design of the mosques. This is because El-Wakil firstly views a traditional architecture from a narrowed perspective, namely its physical vocabularies—that are not only 'artistically' applied in 'new forms' marked by pure geometry but also firmly copied (either as they are, or applied with minor amendments) (Asfour, 1991). Second, El-Wakil visually recalls the historical source using a 'visual abstraction' (Steele, 2010), which lays the template for his simple architecture—as far as the details are concerned (Asfour, 1991). Remarkably, El-Wakil's philosophy goes beyond his 'mentor' despite

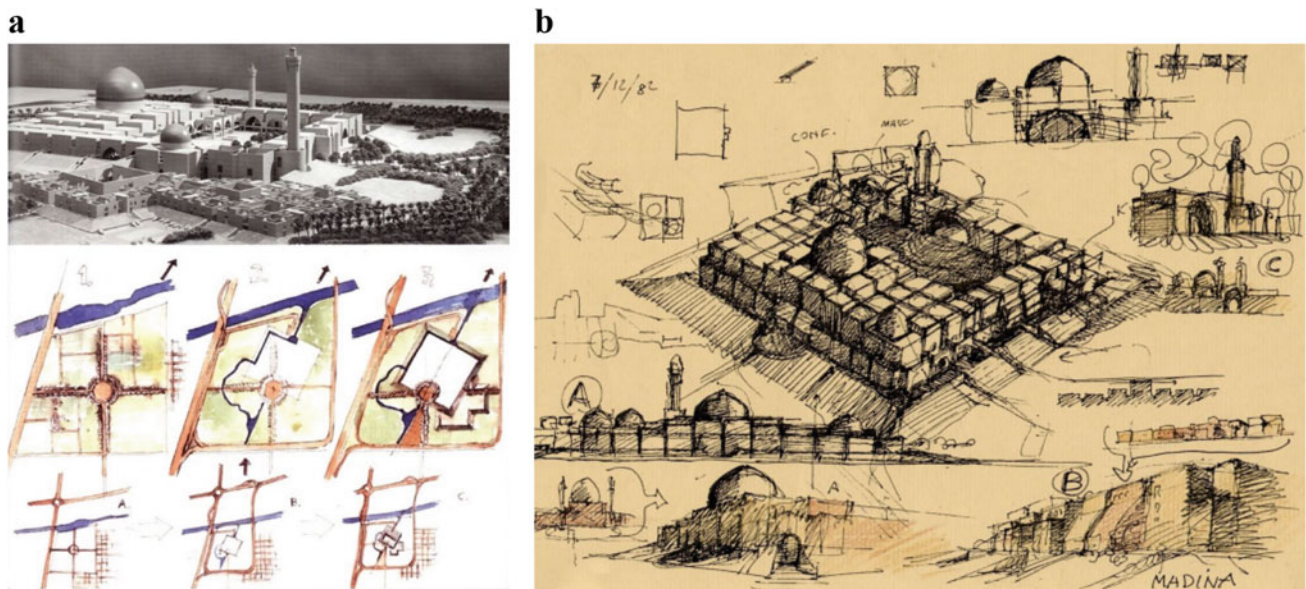


Fig. 2 a Badran's conceptual sketches; b Badran's analytical sketches

remaining anchored in Fathy's structural solutions (Steele, 1996). An additional argument concerns El-Wakil's formal language borrowed from Fathy, however, has been applied in more 'durable and acceptable materials' (Steele, 1996). Another addition places an emphasis on echoing the traditional techniques—as Fathy does, however, with the aid of El-Wakil's pragmatism and his knowledge of the geometry visually applied by the software applications (Steele, 1996). Not surprisingly, El-Wakil's design has been critiqued by Jamil Akbar in the Award Symposium as seeking to merely 'copy and improve on the [historical] model' (Steele, 2010, p. 16). Nevertheless, El-Wakil's architecture design remains the 'first trend' that adopts Fathy's typology across the Arabic World (Asfour, 1991).

Differently to El-Wakil's philosophy, Badran's synthesis conceives the history as a criterion applied in architecture design at the principal level (see, Henning Larsen). The method adopted in doing so involves an anatomy of a traditional architecture (For Badran, this architecture has been seen as an 'inspiring icon' to configure an architecture design of the present, Asfour, 1991). The anatomy would reveal elements that are conceptually transmitted into the present while naturally evolving from their design's context (Asfour, 1991). The end product, in Badran's synthesis, would avoid a straightforward 'visual semblance' to vocabularies of the tradition, yet depicting a footprint of the modernist technologies.

Despite variations, both El-Wakil's design and Badran's synthesis are united in the use of geometry borrowed from a modernist architecture. Yet, Badran's synthesis remains distinct because its concept is not a straightforward approach to maintain a tradition in architecture design of the present, either visually or conceptually (Asfour, 1991). Rather, it addresses the visual and the conceptual aspects through the lens of rationality. Furthermore, while both architects view the history as an 'inspiring icon', El-Wakil narrows down the history to its physical vocabularies reconstructed visually using software applications. Such vocabularies, for El-Wakil, have been the only source for inspiring the architecture design of the present, however, without touching upon their source's relevance to a context—as Basim Hakim suggests. And here lies the importance of Badran's synthesis that firstly weighs up a context by using a locality and, second, adheres architecture to its culture through a local tradition.

3.1 Example to Rasem Badran's Synthesis

The concern, here, is with gaining an insight into Badran's theoretical language by analyzing his design philosophy applied to the Justice Palace (or, 'Qasr al-Hokum' in the Arabic language) located in the Riyadh city (Saudi Arabia).

The guide necessary to narrate this analysis is in accord with two headings; namely a local context and a cultural heritage.

3.1.1 'Qasr Al-Hokum'

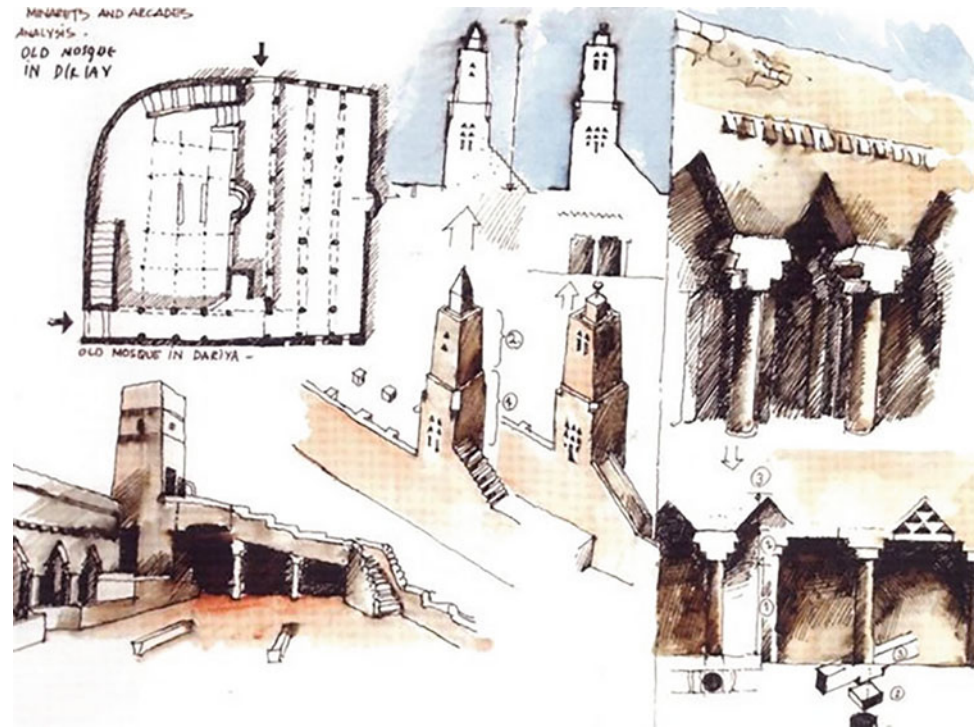
The below description is mainly based on Al Khalifa's (2017) description. A Najd traditional architecture (or, an 'inspiring icon'), and in particular the Dir'iyah mosque (Fig. 3, Steele, 2005), lays the template for the local context which has stirred Badran to formulate his 'architectural narrative' for his concept design of 'Qasr al-Hokum'. The latter resembles the central district of the Riyadh city (Riyadh is a Najd town), which essentially comprises three components: cultural, political, and architectural parts. These have been constructed in a 'compact' manner labelled as the 'Qasr al-Hokum' district, including the Presidential Palace, the great mosque, the 'Al-Masmak' Palace, the 'Al-Murabba' Palace, in addition to the squares, the shopping plaza, and the gates. To incorporate Najd traditional architecture, Badran has initially visited the central district, and in particular the 'Al-Masmak' and the 'Al-Murabba' Palaces, and the Friday Mosque in the 'Dir'iyah' village.

3.1.2 Local Context

Badran's visit has revealed three remarks, which characterize the Najd architecture; namely (1) the construction techniques and the materials being adopted, (2) a building geometric shape, and lastly (3) a 'traditional spatial context'. Firstly, the material used for the construction in the Najd area is unfired-mud brick. A limestone has been also utilized; however, its use goes for walls and columns. The latter, in a conjunction with the wooden beams of the 'tamarisk', lay elements of the structural system. To back off the heat, the external walls are remarkably thick, their finishes are plastered with mud, and the openings take on triangles or lancet in shape which are placed at the upper level to provide for a passive cooling while easing for a natural lighting. Worth noting, the external walls lack any decoration, while the painted decoration has been placed on the wooden entry doors.

Second, the form's geometry is rectangular in the floor plans, together with two stories' buildings. To organize the inner functional space, a courtyard (that is, irregular in shape) is placed towards cooling the space while acting as a vibrant area for social gathering. The buildings commonly show at their corners squared towers, reminding us of a fortress, to strengthen structural stability. A further remark is a 'boundary' wall that is commonly equipped with few openings positioned at the upper level, similar to the external walls, thereby resembling a horizontal 'band' of a 'V-shaped' decoration to minimize the heat's entry while holding the dust outside. A particular emphasis has been placed on the mosques. Their form's geometry shows a

Fig. 3 Badran's sketches of the 'Dir iyyah' mosque



rectangular minaret directly connected with an external staircase (Fig. 3, Steele, 2005) that is built against the northern wall of the mosque's enclosure and has also direct access to the courtyard. The *mihrab* area has been distinguished by a curved recess in the *qibla*'s wall marked by a vaulted keel arch. Worth noting in the Najd traditional architecture is the lack of arches, except the keel arch.

A last characteristic concerns the spatial context marked by several features. One relates to the tinny bridges hanged over the alleys to access the neighboring relatives. Another feature is the open spaces (or, the plazas labelled as *sahat* in the Arabic language) surmounted by buildings. The plazas serve as an 'integrated social system' while equally easing smooth access for the users' circulation. A further feature concerns cultural value. The mosque is in this vein located at the center emphasizing its importance while confronting the plaza. A connection with the latter would be established at the ground level to create a space for the shoppers at the southern side of the mosque. At the upper level, a bridge constructed above the colonnades associates the mosque with the plaza. The space underneath the colonnade ensures the King's security. A particular feature of the spatial context evolves from the *Masmak* Palace and concerns the plazas, the round towers situated at the further ends, and the rectangular layout of the floor plan. In addition, the interior layout witnesses three remarks and concerns: (1) an external staircase that leads to the above floors, (2) the courtyard, and (3) the colonnades. The interior walls, constructed of mud bricks, are decorated with motifs marked by geometrical and

botanical shapes. Towers' cornice shows a decoration of a triangular shape.

The question that begs itself concerns how Badran's synthesis has benefited from the above context? Before proceeding, it is worth noting that Badran has been responsible for phase II, including the *Qasr al-Hokum*'s mosque, its palace, and the *Al-Ada'al* square (Fig. 4a, b, Al Khalifa, 2017).

Badran has not been merely concerned with a physical design. Rather, his focus has been on what occurs in the plaza (see, the 'vocation' of a place, Salman, 2018), or settling in a place (Pallasmaa, 2012) by associating the mosque with its surroundings. Badran's analysis, derived by a historical narrative of the plaza (or, 'a network', Salman, 2018), has revealed many urban issues and in particular (1) how the mosque, the palace, and the market are spatially associated, and (2) how the pedestrians access the district.

The spatial relation has been already existing. However, Badran has reconfigured this relation by carefully avoiding isolating either the palace or the mosque (Steele, 2005). Badran has in doing so introduced two spatial vocabularies; one concerns *Mohammed ibn Saud*'s Plaza, which leads to an intermediate plaza labelled as the *Al-Safat* (Fig. 4, Al Khalifa, 2017). Both plazas are landscaped marked by arcades. The other spatial vocabulary concerns the two bridges (Fig. 4), which at the ground level not only connect the mosque with the palace but more importantly act as boundaries for the *Al-Safat* plaza. Worth noting, both vocabularies are not new to the Najd traditional architecture.

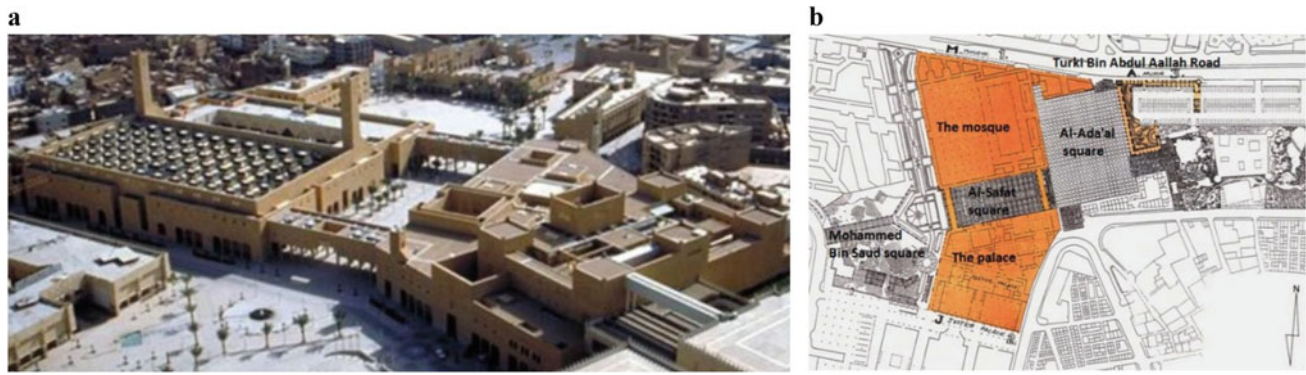


Fig. 4 a Site plan, b Qasr al-Hokum's mosque and palace

Badran's synthesis has in this respect not only sought an 'integrity' of the already existing spatial arrangement but also neatly twisting a tradition with a modernist language. A particular example concerns the bridge element. Badran's synthesis has borrowed the bridge's 'precedent' from Najd traditional context and has coated it by echoing a Bauhaus' philosophy—a bridge accordingly associates varied space's functions. Twisting a tradition with modernist language has led to a change occurred in what the elements borrowed from the past would mean. This element has not been copied as it is but rather witnesses a deviation in its use which has arisen as a result of a modernist architecture, nor due to the individuals.

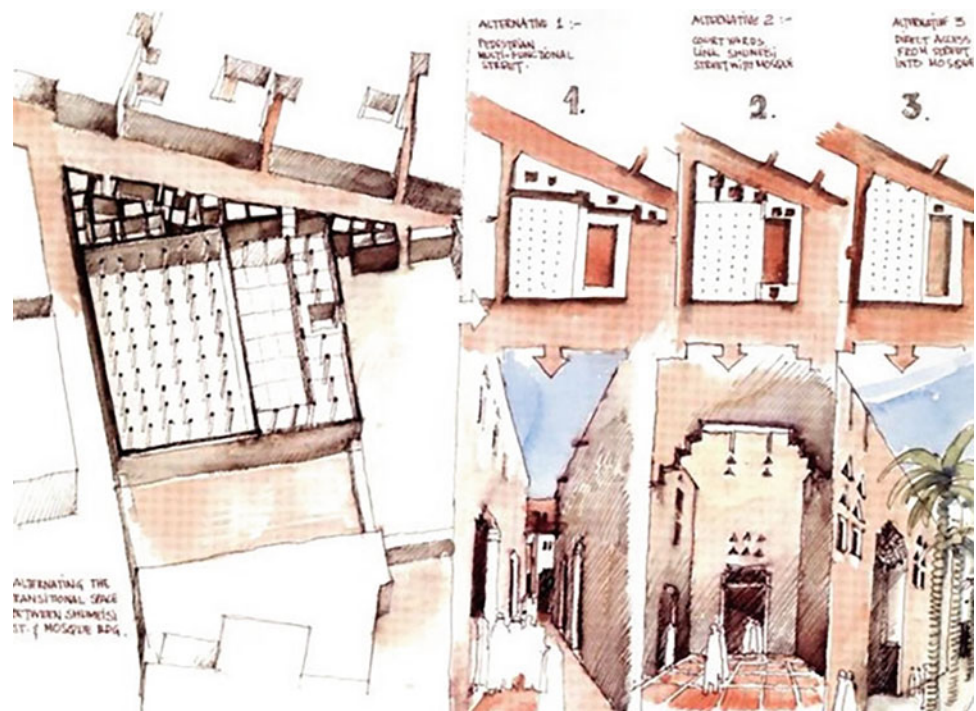
Back to 'integrity', the sociopolitical spaces surround a mosque to emphasize the latter's centrality through redefining the mosque's location while acting as boundaries—as it has been evident throughout the Muslims' history. As a result, the notion of an 'integrity' suggests continuity; that is, it not only interlocks the varied functions but, more importantly, lays the template for a harmonious relation between the many urban parcels (or, zones). The two plazas of *Al- A'adli* and *Al-Safat* (Fig. 4, Al Khalifa, 2017) clarify this argument. Both essentially serve a social context by functioning as a courtyard while being oriented to *qibla* direction (here, the function concerns a religious context). Badran's synthesis in the two plazas eases more space for the worshipers when the capacity of the prayer hall would be exhausted. And here is a further example, where a tradition has been maintained into the present. Indeed, Badran's synthesis has borrowed the courtyard (or, the plaza)—which has been common to Najd traditional architecture—necessary to organize the many spaces and, in turn, achieves sustainability by adding multiple uses to the courtyard (that is, the latter for both social gathering and praying). Such an addition would accommodate a change arisen as a result of the present.

How the mosque has been spatially associated with the market. Badran suggests in response three alternatives

designed at the urban scale (Fig. 5, Steele, 2005). The alternatives altogether seek to retrieve the mosque's centrality (a religious context) combined with a commercial activity witnessed throughout the Moslem's history in an attempt to interlock various urban functions. A commercial activity has accordingly remained in close ties with the front street.

One alternative separates the commercial 'triangle'—labelled in Badran's synthesis as an 'infill' that lies at diagonal axes to the mosque and is in parallel to the front street—from the mosque through a 'service' alley (or, a pedestrian route). By contrast, the second alternative establishes a connection to the 'rectilinear' wall of the mosque; however, it holds on the functions of both the mosque and the market by conceptualizing them as two separate buildings, namely through the interior courtyard (or, a semi-public space). A third alternative allows the prayer hall to spread beyond its actual size and, therefore, to extend its space towards the front street occupying well over the half of the commercial triangle. The final design goes for the second alternative. At its core is the plaza (Steele, 2005). The latter encompasses two aspects; one concerns revitalizing the already existed historical connection (as it has occurred in the past) and the other aspect establishes a 'mixed use' space (an aspect of the present). Both aspects bring to the fore a decrease in the plazas' size. The result is not only a transformation from being a public space into a semi-public 'realm' but also uniting the religious and commercial activities (Steele, 2005). And here, again, a tradition and a modernist architecture are twisted in the architecture design of the present. Indeed, a semi-public realm transforms the plaza (a public space—or, a large open space) into a traditional courtyard (a social context) that not only accommodates a social gathering but also is appropriate to a human scale—as it has been in the past. Badran's synthesis has here held on the essence of a traditional courtyard while equally borrowing aspects of a modernist design, namely a multiple-used space. Examples include the triangle site and the plazas (Fig. 5) to be used for

Fig. 5 Badran's three alternatives



the shoppers and the worshipers as well as serving gathering and praying, respectively.

3.1.3 Cultural Heritage

In an effort to tie architecture to culture, Badran's synthesis holds on a 'balance' between the cultural values inherited from the history and contemporary values of the region (Steele, 2005). Badran, therefore, aims at bumping life into the values embodied in a historical place. Or, Badran has sought to bring back the 'sacredness' while equally strengthening a place's historical label, namely by evoking a place's cultural memory by what Badran calls as the 'sacred historic place' (Steele, 2005, p. 13).

A 'balance' sheds light on first fine-tuning the monumental vocabularies of the mosque (these are represented mainly by the high minarets and also by the domes which, both for Badran, do not 'really play a significant role'). Secondly, architecture design related to the Palace of Justice emphasizes less dominance by '[...] a modest architectural elegance that is more in harmony with the urban character of Riyadh' (Steele, 2005, p. 23). Hence, Badran's synthesis has sought 'modesty', instead of 'monumentality' that literally copies and/or updates a tradition, by realizing a 'harmony' with contemporary values of a particular region. 'Balance', being infused by 'harmony', has arguably initiated the seeds for a rather strong relation existed between the mosque and its surroundings. Badran's synthesis has accordingly addressed how the chosen 'precedents' of the past might be adopted, adjusted, or modified to fit in the present project's site environment. The latter (Fig. 4) has an ancient fortress

(that is, *Al-Musmak*) coined with a vernacular architecture and exists next to the commercial quarter (the 'uniqueness' of a place, Asfour, 1991). The overarching arrangement of the site heightens an interlocking of the mosque with its surroundings to draw from a culture that revolves around ties (or, traditional values) already inherited from the relation occurred between the mosque and the *madrassa* (the name for a school in Arabic) (Steele, 2005).

The mosque has in this relation played in the past multiple and varied roles: mainly religious and educational ones. In an effort to interlock these roles, Badran's synthesis has sought multiple uses commonly bound with a plaza while bringing into a play a number of *sahat*. Yet, his synthesis holds on buildings and wall arcade, as it has been in the past, to serve as boundaries that define a plaza's territory. The *Iman Mohamed ibn Saud Plaza* (nearly 11,200 m²), which faces the suggested Palace of Justice and goes into, but smaller in size, *Al-Safa plaza*, is a good example. This latter plays the role of an 'intermediately' space that associates the palace with its mosque (Steele, 2005). Thus, the plazas from the perspective of being a 'transitional' space function as easing access for the worshipers to merge into the mosque. Moreover, the commercial area represents the chain that underpins the mosque with the front street, thereby reflecting upon the Prophet Mohammed's style of life (namely, a cultural system). Worth noting, the commercial area, as it is discussed in the second alternative, which has been closely related to the mosque, however, does not interfere with the mosque's 'own integrity'—remarkably, such a vision of the commercial activity has been quite common throughout the

Islamic history. A tight urban fabric, which encompasses the worshipers and the shoppers, has been also part of this history.

How Badran has spatially reconnected the mosque with the commercial triangle suggests in response an approach that compensates for the withdrawal of a cultural center (which has been set to be included at the initial requirements of the design committee) (Al Khalifa, 2017). To do so, the mosque exterior's walls show a 'second skin' (inspired from the *Dir'iyyah* mosque) to keep the dust outside. This skin is assembled of arcades labelled by Bardan as the 'Living Walls' (Steele, 2005). The result is a passage that reflects upon traditional Najd towns' spatial fabric by the walls being not only positioned in parallel to the *qibla* but also located at western and northern sides of the mosque (Al Khalifa, 2017). Such walls stem from a wall arcade drawn from Badran's State Mosque in Bagdad. A wall arcade suits large mosques because it adjusts the interior space to a human scale by breaking the spaces into smaller ones that would be flexible to accommodate varied human uses of a space. In particular, the notion of a wall arcade evolves from the *Al-Musmak* fortress which has been used here as a 'metaphor', or as a 'visual urban composition' (Al Khalifa, 2017). To explain, it first unifies the style character of various buildings while equally avoiding the monumental impression of a particular building to dominate a place. Secondly, it creates a 'transitional auxiliary' space to exist between the building and its front street which mainly serves both the commercial and the social activities—as it has been portrayed in a multiple-used space of the present.

Many 'precedents', adopted in Badran's synthesis for *Qasr al-Hokum's* Mosque, have been borrowed from the *Dir'iyyah* mosque (Steele, 2005). For example, one concerns the two minarets, being small in a scale and rectangular in shape while having a sloping basis, which face the *qibla* direction (a cultural value). Another 'precedent' notes the post-lintel arcades of a hypostyle prayer hall which show the keel arches while having a wide columns' space dimension (namely, nine multiple nine meters of a geometrical grid) to accommodate a praying activity and also enhance the visibility. The round columns, together with the wooden beams, borrowed from the historical structure of the *Qasr al-Hokum*, have accordingly to be structurally thick and the beams have to be deep enough (the traditional values). Badran's synthesis has benefited from the structural requirements of the past by incorporating these, yet coined with the changes that are akin to the present.

To illustrate, the beams have been firstly made of wood to achieve light construction. Their depth has been placed with 'v-shaped' openings (the cultural symbols) (Fig. 6, Steele, 1996) to smoothen the air breeze into the interior. Second, Badran has adjusted the columns' design to accommodate insulation. The columns, thus, encompass, besides their

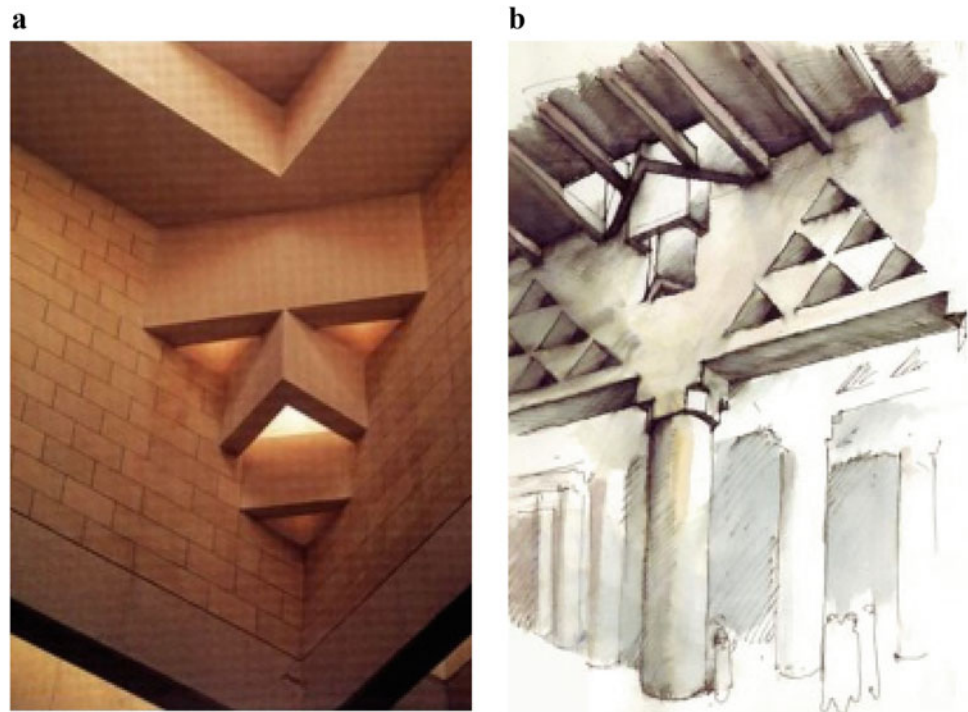
primarily structural function of the past, the ventilation ducts connected to the 'non-central air conditioning units' being placed in the ceiling (Steele, 2010). As a result, it is unnecessary to incorporate in Badran's synthesis a suspended ceiling, thereby permitting the roof structure to be 'exposed' (Steele, 1996), which would arguably resemble the Pompidou Centre in France. And here is a further example, where a tradition (namely, the structural requirements) and a modernist technology (an insulation) co-exist in the architecture design of the present. This example furthermore cast light on Badran's synthesis of a 'modesty' (Steele, 2005).

To illustrate, common to a traditional architecture are the domes to provide for natural lighting and ventilation within the mosques. By contrast, there has not been any dome yet placed in the mosque designed for *Qasr al-Hokum*. This is because the dome has been for the Saudi's society coined with the tombs (see, Wahhabi faith of the Muslims). Badran's synthesis, thus, shows sensitivity to the cultural values while holding on to sustainable aspects of a traditional dome. In doing so, the openings (Fig. 6) have been inspired from the *Al-Musmak* fortress and are positioned above each column's crown placed in the roof to help the natural lighting and air circulation sneaking into the mosque (Al Khalifa, 2017). Each opening could be opened manually, thereby a reduction in both the energy and the costs (Al Khalifa, 2017).

The above paragraph addresses how Badran has chosen 'precedents' and, more importantly, how his synthesis has reused them to maintain the historical narrative of the place. An important aspect in doing so concerns avoiding 'offending rationality or tradition' (Al Khalifa, 2017, p. 51). Two examples are offered in Badran's synthesis. One advocates abandoning figural decoration within the interior, and hence, fitting within the Muslims' cultural values. Not surprisingly, the interior has been built of 'blank' walls while using a locally constructed limestone marked by a brighter color (the emphasis is on more natural lighting within the interior). Badran's synthesis in this example borrows simplicity marked by abstraction that is a remark of a modernist architecture. For Badran, the aim is not to hang on a modernist design. Rather, his synthesis has sought support to the adoption of a tradition into the present while carefully avoiding to fall into a conflict with the traditional values. In this vein, Badran's synthesis has turned to artificial lighting to substitute for the less use of decoration. Notably, the use of lightning within the interior has been a characteristic of a modernist architecture, too, as it is in the Candle House.

Another example, which draws on technology, concerns a pre-casting concrete. Many would, therefore, argue that the use of concrete obviously stands in contrast to the traditional materials (Al Khalifa, 2017). This is true; however, the reason behind such a use lies in viewing a 'craft' as a culture

Fig. 6 a The system of lighting,
b The system of ventilation



being 'legible' through the on-going change witnessed in a technology that distinguishes 'one culture, region or nation from another' (Steele, 2005, p. 10). Besides, the use of a pre-casting concrete in the prayer hall's ceiling has enabled a wide span. To avoid offending the traditional value, Badran's synthesis has utilized a local limestone to be constructed within the exterior walls and at the upper level of the interior ones. The lower part of the interior walls and also the columns are, therefore, plastered by an 'imported white marble' (Steele, 2005, p. 2). On the ceiling surface, Badran's synthesis has turned to both locally made gypsum and the wooden beams to not only achieve a light structure but also texture the ceiling with strips, as it has been shown in the Najd traditional architecture.

4 Conclusions

The article has at its core the relation between architecture, culture, and identity. Its analysis in doing so uses Badran's two realms; 'local context' and 'cultural heritage'. The concluding remarks of this analysis are presented below. The analysis, cited in this article, has firstly examined 'local context'. What does this analysis allow us to conclude?

In response, Badran's synthesis goes beyond Frampton's theorization. The former offers a response to Radoine's call laying out the initial steps towards refining in practice the

concepts concerned with a context. Critical have been the changes that occurred in the history which shed light on a 'cultural crisis', together with a dichotomy observed between the 'old' and the 'new' architecture design. These changes occur in a social science discipline due to the question of how individuals construct the meanings associated with their surroundings, thereby shaping their identity. Badran's synthesis stands in contrast to the 'timeless' outline of symbolizing identity and goes further addressing 'hybridity' through 'modesty' (rather than through 'monumentality'). In doing so, the synthesis points to the 'precedents' borrowed from traditional architecture to act as 'inspiring icons' while leaning upon 'rationality'. It also echoes harmony with the contemporary design's values of the region to accommodate the changes arisen due to modern technologies. Architecture for Badran shows a concern for a place that establishes ties between the traditional values and the changes that occurred throughout the history. Badran's synthesis, thus, agrees with Thiele Ashfina, Juhani Pallasmaa, and Maha Salman and adds that a place embodies the chain that underpins the relation between architecture, culture, and identity using an 'architectural narrative', or—as Badran's synthesis suggests—a 'dialogue' between a contemporary architecture and its history. Architects in their capacity towards creating this 'dialogue' remain vital—as analysis in this article suggests. This role has been less discussed in Frampton's regionalism of resistance.

The second focus of this article is Badran's perspective of a 'cultural heritage'. Frampton's regionalism refers to a cultural context that shapes architecture identity through the tactile versus the visual, however, without specifying what this context might entail. Badran's synthesis goes further and refines this context by tying architecture to culture through a 'cultural heritage'. Accordingly, the synthesis has sought to evoke, or awaken, the values inherited in a historical place by using the strategy of 'balance' that not only fine-tunes traditional vocabularies of a place but also targets the dominance of contemporary values that occurred due to the modernist architecture to be less overwhelming through a 'modest architectural elegance'. What marks a 'balance' is a concept seeking harmony between the traditional values and the contemporary ones to develop a language for architecture design of the present. In this vein, Badran's synthesis arguably introduces a rather fresh concept labelled as a 'craft' that legitimizes culture as being transmitted into a historical change arisen as a result of modern technologies and this change distinguishes this culture from another. It remains to note that a culture legitimacy has neither to offend a modernist architecture nor a tradition. The twist of a tradition and architecture of the present shows here that the latter has been borrowed in support to accommodate the tradition. Badran's synthesis discussed here illustrates two examples in this respect: one concerns the less use of decoration within the interior, while the other example shows the use of a prefabricated concrete treated in its finishes with local materials.

The two realms of Badran's synthesis are dedicated to architecture practice taking the idea of Frampton's regionalism further by considering vernacular aspects of a traditional design, namely through the strategy of 'craft'. Vernacularity has been acknowledged in Frampton's theorization; however, the latter has been trapped into the architecture of the present's issue concerned with arguably ignoring the vernacular aspect of architecture. The argument brought forward in this article is that the two realms lay the seeds to investigate in practice the relation between culture, identity, and architecture, and thus, the invitation is made here for other scholars to further explore these two realms' potential.

References

- Abdel Azim, G. (2017). Towards contemporariness of local architecture: Lessons learned from previous experience. *Open House International*, 42(1), 102–110.
- Al Khalifa, H. (2017). *The Friday Mosque of the Arabian Gulf: Defining its spatial and formal languages*. Cardiff University.
- Ali, M. (1989). *The use of precedents in contemporary Arab architecture: Case studies Rasem Badran and Henning Larsen*. University of Jordan.
- Al-Suliman, S. (2016). Architecture as a tool of editing history the case of Saudi Arabia's King Abdulaziz historical center. *TDSR xxvii*, 39–53.
- Asfour, K. (1991). *The villa and the modern Egyptian intelligentsia: A critique of conventionalism*. MIT University.
- Ashfina, T. (2014). Redefining cultural identity. *International Journal of Scientific & Engineering Research*, 5(7), 159–164.
- Badran, R. (1987). The Jamea Mosque: Qasr al-Hokum. *Al-Bena'a*, 74–80.
- Botz-Bornstein, T. (2015). *Transcultural architecture: The limits and opportunities of critical regionalism*. London and New York: Taylor and Francis Group.
- Frampton, K. (1981). *The city in conflict*. Mansell.
- Frampton, K. (1983). Towards a critical regionalism: Six points for an architecture of resistance. In *The anti-aesthetic*. Washington: Bay Press.
- Hayaty, H., Fazeli, Z., & Alipoor, N. (2016). A review on the identity of Iranian architecture. *A review on The Turkish Online Journal of Design, Art and Communication*, 1518–1532.
- Lahoud, A. (2008). The role of Cultural (Architecture) factors in forging identity. *National Identities*, 389–398.
- Mallgrave, H., & Goodman, D. (2011). *An introduction to architectural theory: 1968 to the Present*. Print.
- Pallasmaa, J. (2012). Newness, tradition and identity: Existential content and meaning in architecture. *Architecture Design*, 14–21.
- Radoine, H. (2017). Contemporary Arabic architecture: A quest for a sense of regionalism. *Hesperis-Tamuda LII*, 377–404.
- Salman, M. (2018). *Sustainability and vernacular architecture: Rethinking what identity is*. IntechOpen.
- Steele, J. (1996). The translation of tradition: A comparative dialectic. *International Association for the Study of Traditional Environments*, 19–34.
- Steele, J. (2005). *The architecture of Rasem Badran: Narratives on people and place*. Thames and Hudson.
- Steele, J. (2010). Traditions, technology, and sustainable architecture and urbanism. In *The first built environment development symposium: Real estate and sustainable housing*. Dammam: University of Dammam.
- Tran, J. (2012). Static illusions, architecture identity, meaning and history. In *Proceeding of Humanities Graduate Research Conference*. Perth: Curtin University.



The Urban Plan of Lúcio Costa and the Infiltrated Cerrado: Phenomenology of a Performative Body in the Capital of Brazil

Thaís P. Khouri

Abstract

The body of an artist, which permeates the city and penetrates its interstices, perceives subtle marks engraved in four dimensions, which are part of what Hansén and Verkaaik (Introduction—Urban charisma on everyday mythologies in the city. SAGE Publications, 2009) called the city charisma. This goes beyond the architectural structures, extrapolating the urban planning of Lúcio Costa and the utopia that was projected on Brasília, whose elements are auspicious in camouflaging narratives stigmatized by the colonization system. In other words, when the capital was established in the core of the country, the pre-existing communities became invisible, as well as the wealth of the Cerrado biome. This research unfolds in an autobiographical path, in which the artist experiences/knows practices and artworks that seek to resignify the vocabulary of the city, as well as create new archetypes for contemporary urban mythology, in hybrid narratives of colonial and ancestral knowledge. Poetry, performance, and artist residency were the chosen manifestations. These will be interpreted in their relations with the environment, understanding art as a generator of meanings in the identity of the city, aiming to map the symbolic patterns that emerge from this friction, between the socio-environmental perception of the body that inhabits the city producing art and the idealized and sovereign architectural structure of the capital founded in 1960.

Keywords

Brasília • Cerrado • Performance • Artist residency • Phenomenological research

T. P. Khouri (✉)

Master of Visual Arts, Universidade de Brasília, Brasília, Brazil
e-mail: thaiskuri@gmail.com

1 Introduction

Internationally known for its bold architecture, Brasília is experienced in different ways by its inhabitants. Cartographic coordinates determine residential and business addresses (Ex: 102 north, 415 south). The fun is organized into sectors, as well as banks, commerce, and the church. The politic is monumentalized, iconic, occupying the national and international imagination. There are also submerged identities, emerging between the lines, which are diverse, changeable, and ancestral.

As a phenomenological research, the investigation path was not clear at the beginning and was developed as such by the measure that the experiences were lived. Gil (2010, p. 7) affirms that phenomenological research has diffuse questions, so the aims and objectives are not recognizable in the beginning. It responds to certain disturbances caused by a phenomenon. In this case, the *phenomenon of diagonals*, urban trails generated by the insistence of pedestrians to disobey the straight lines designed to be traversed, venturing through the lawns and open fields.

Because of this characteristic methodology, it is more honest to use the first-person voice in scientific writing, understanding that there is no separation between life and science/art. This choice leads to the truth of the researcher not being an impartial observer, but a real person, with historicity, emotions, and beliefs, that are shaping the creation of knowledge.

As I went on living in the city being an artistic body, the friction between ancestor's legacy and colonial imposition became more and more visible. Urban performances, dancing poetry, and an art residency were the responses to this and other discomforts generated by the friction of the body in the city. It unfolded in a trajectory of poetic encounters, organized now in research, with the objective of synthesizing the relations of the architecture and urban planning with the artistic insights.

We will see that the city-utopia was built from the highest civilizing ideals. Lúcio Costa (1902–1998) was the winner of the competition held to choose the planning of the new capital, in 1956. The urbanist architect not only presented the layout of a city destined for public administration, endowed with grandeur, but he also proposed a whole concept of life, based on the colonial patriarchal values.

The young sexagenarian city today is far beyond what was designed. The construction process itself generated social inequalities and led to the emergence of Administrative Regions, previously called “satellite cities”, in a hierarchy that today no longer matches reality, given that economically and culturally they play a fundamental role. Despite having a large number of artistic experiences in many of those regions, I decided to share my experience with trajectories in the Plano Piloto, which was planned by Lucio Costa and owns the monuments that occupy the imagination of Brazil and the world as representative icons and, therefore, forms the city’s charisma. Such monuments danced on my body, marking my identity. I danced in the city, crossed paths, and connected with artists, to discover other identities.

The outcome of the research is a proposition of a new way of looking at the Brazilian capital, perceiving the presence of the Cerrado biome—a life system that inhabits the central plateau—through the geometric solid form of the city. At the confluence of artworks, elements appear to indicate the construction of other identities for the city-utopia.

2 Ground Zero

“There was nothing here

Just a big void

A desert

Then the capital was inaugurated

And the Cerrado appeared soon after” (Behr, 2005, p. 71).

With few and eloquent words, the poet Nicolas Behr ironically describes the general thought about the epic construction of Brasília, destined to be the capital of Brazil, completed in the 1960s. The city with a modernist layout, monumental constructions, and bold urban plan won the world in its fame and beauty, but the living system that inhabited the region for thousands of years was reduced to nothing: “here, there was nothing, a great void, a desert”. This desert, indeed, was the savanna with the greatest diversity on the planet, guardian of the springs of the rivers of the most important hydrographic basins in Brazil (Amazonas, São Francisco, and Araguaia).

There is an image that supports this notion in the popular imagination with the title *Marco Zero: a photograph* that

shows a cross marked by two open roads in the middle of the Cerrado, where later was built the capital (Fig. 1). In the black and white photo, we only discern a gray, diffuse texture, which can really give the impression of emptiness. The cross refers to the Cartesian plane, the basic structure of rational thought, which allows the cartographic representation of three-dimensional spaces in two-dimensional schemes. This visual reduction in the photo (from 3 to 2D) shows metaphorically the tendency to simplify history, which defines the colonization processes experienced in the Americas and reproduced in the creation of Brasília.

This biome, despite its vital importance for the country’s environmental health, because it guards the springs of the main hydrographic basins in the country (Fig. 2), is not considered national heritage, as is the case of the Pantanal, Amazon, and Atlantic Forest and does not have specific protection legislation. Thus, it is systematically deforested to make way for agribusiness plantations, especially soybeans. At the time of the implantation of Brasília, therefore, it was expected that what was here would be seen as a desert. Soon after, as said by the poet Nicolas Behr, or after the city was inhabited by activist groups and idealistic artists in the 70s, the Cerrado began to be seen.

Even so, the civilizing epic and architectural grandeur continue to occupy much more people’s imagination.

Brasília, in the late 1950s and early 1960s, was a promising project. The ideological composition made up of rationalism, nationalism and humanism worked as a strong attraction for the possibility of building and carrying out a work, identified with the nation, yes, but also with the future, with the utopia of an entire civilization (Madeira, 2013, p. 20).

The show *Cidade em Plano* (2005), developed by ASQ Companhia de Dança (*ASQ Dance Company*) and directed by Luciana Lara, had in the core of its creative process the utopic feeling that arouses from the city. Understanding that “Brasília bears the sign of the dream, the hope¹ of a new life, of a more orderly, organized and efficient, progressive society, the cradle of a new civilization” (Lara, 2010, p. 95), the director started to ask herself how living in a city such as this interfered in her conception of the world, in the construction of her imagination, personality, desires, and choices at her work and relationships? The reflection aroused numerous questions that said a lot about identity: “the city of Brasília was shown as a universe apart, as an immense potential that deserved to be explored further” (Lara, 2010, p. 77).

Several castes performed this show, and I participated in the 2009 version. Mixing choreographies with structured improvisations, the scenic composition addressed the aesthetic and sensory aspects of life in Brasília. In the scenes of

¹“Capital of Hope” is one of the forms that the city was popularly called.

Fig. 1 Aerial photography of the Cerrado where later the city of Brasília was built, by Mário Fontenelle, 1956

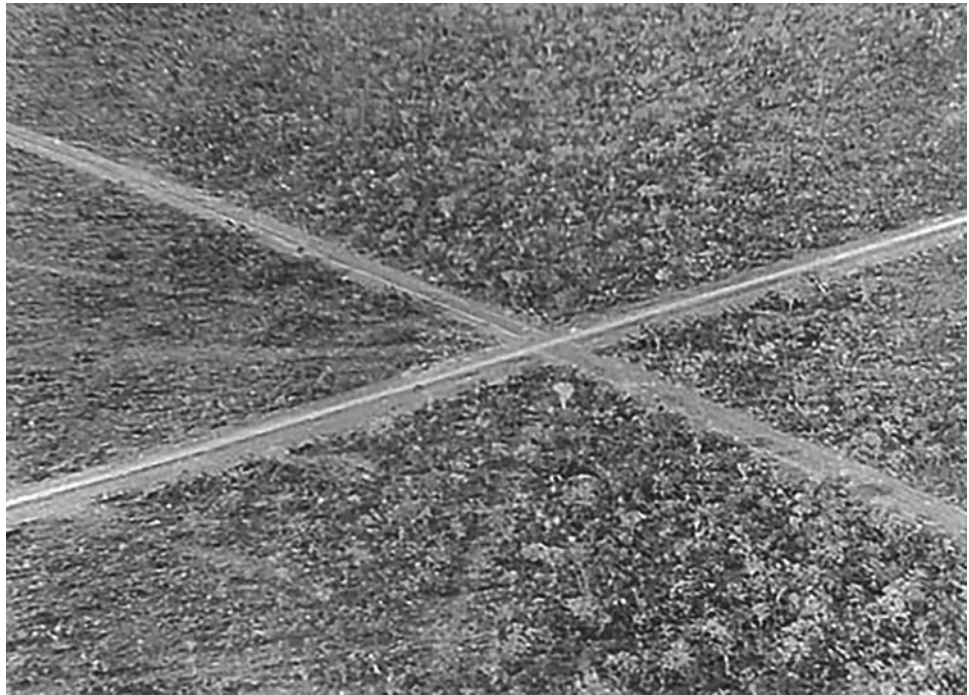


Fig. 2 Spring of Cerrado, in the Brasília Botanical Garden. Photo by Alessandra Tótolli, 2019



structured improvisation, the creative process for the development of interpretive nuances passed through the artist's personal experience in the city. My body became an instrument of research and creation, through which life and urban paths were translated into movement, feeling, and scenic expression. In a feedback process, the experiences in the city reverberated into movements on the stage, and the experience of the stage gave new meaning to the experience in the city.

I will stress two scenes of the show that are more significant for the objectives of this investigation. The first is the “Cartões-postais” (*Postcards*), in which the interpreters used postcards of the famous monuments created by Oscar Niemeyer—the buildings of political power—as vests. This scene expresses the relationship with institutional power and architecture in the body and ends up becoming visceral, even violent, translated into fast, repetitive, and impact movements. The postcards were affixed to the body through

elastic bands, and the point where they touched was the root of the movement. This scene unfolded until the final scene of the show, the “Monumental”: a character dressed in an exuberant dress, walking in an imposing way toward the light that symbolized a sunset (Fig. 3). According to the director, this end represents the power of the dream and the emotion of the hope for a fairer society that is still alive despite the contradictions of reality. “Brasília mirrors the paradoxes of our culture” (Lara, 2010, p. 109).

Immersed in this creative process in which the body dresses the city, I could also integrate other types of Brasília’s inhabitants. This happened in the scene “Memória Afetiva” (*Affective Memory*), in which the bodies of the interpreters mimic the Cerrado trees, typically twisted, to the sound of cicadas. The method of intersemiotic translation for dance creation brings awareness of a tree-body. From this approach to the vegetable being, a movement research started. I was curious about the possibilities of dancing by touching and supporting different parts of my body on the tree trunk, so I started to play with a mango tree in my backyard. This is how the performance “Eles Passam Enquanto Ela Pássara” (*She as a Bird*)² was born in 2009. Many years later, in January 2015, I decided to take this investigation to another level: the urban scene, with the intention of marking the everyday landscape of the passer by and defying the condition of urban trees as decorative items, rather than a living being (Fig. 4). By repeating this performance in different cities of Brazil and other countries, I also study western urbanities, identifying the variables in the designs of the public space, and how trees occupy these spaces. “Art not a monument, not a work, not an object, an urban composition” (Aquino & Medeiros, 2011: 18).

The performance happened in ten other cities: Rio de Janeiro (Brazil), Nova Friburgo (Brazil) Berlin (Germany), Curitiba (Brazil), Dresden (Brazil), Portland (USA), Rome (Italy), Florianópolis (Brazil), Olhos D’água (Brazil), and Governador Valadares (Brazil). In each of them, I could perceive a specific configuration of how the trees are arranged in space. In some cities, they are cramped on sidewalks, between the facade of buildings and the asphalt. In others, I was only able to find them in the parks. Some are in squares, with a good lawn area around and under their crowns. It was very common to find them lined up in alleys, shading the vehicles. But in the Plano Piloto, they lead a life proposal.

² The title in English plays with the Beatles song “Free as a Bird”, as the title in Portuguese makes reference to a poetry of Mario Quintana, that says “Eles passarão, eu passarinho”, which cannot be satisfyingly translated to English without losing its poetic power. It plays with the word *passarinho*, which is a diminutive of bird, and has similarities with *passarão*, which means “they will pass”.



Fig. 3 Thais Kuri playing the role “Monumental” in *Cidade em Plano* show. Photo by Marconi Valadares, 2009

3 Inhabit the City

Brasília’s urban plan was the result of a nationwide competition, promoted in 1956. Lúcio Costa was the 22nd participant in a total of 26 contestants, which indicates that he was reluctant to engage in the competition. His presentation was in a humble language, handwritten pages, with some hand-drawn sketches, and that came to cause embarrassment when he was declared the winner. He explains himself:

Initially, I would like to apologize to the direction of the Urbanizadora Company and the Contest Judging Commission for the summary presentation of the party suggested here for the new Capital, and also justify myself. I didn’t intend to compete and, in fact, I don’t compete—I just dodge a possible solution, which was not sought, but appeared, as it were, ready-made. I attend, not as a properly equipped technician, as I do not even have an office, but as a simple “maquis” of urbanism, which does not intend to pursue the development of the idea presented, if not eventually, as a mere consultant. And if I do so candidly, it is because I support myself in an equally simple reasoning: if the suggestion is valid, these data, although summaries in

Fig. 4 Thaís Kuri performing *Eles Passam Enquanto Ela Pássara* (She as a Bird) in Brasília. Photo by Roberto Peixoto de Araújo, 2021



appearance, will already be enough, as they will reveal that, despite the original spontaneity, it was, afterwards, intensely thought out and resolved; if it isn't, the exclusion will be easier and I won't have wasted my time or taken anyone's time (Costa, 2003–2005).

Not humble were the intentions for the modern city, that in his opinion, should be conceived not as “any modern city, not only as *urbs* but as *civitas*” (Costa, 2003–2005), and with a desirable monumental character, destined to follow the colonial measures. Called by him as the archi-secular dream of the patriarch, the Plano Piloto was “born from the primary gesture of someone who marks a place or takes possession of it: two axes crossing at right angles, that is, the sign of the cross itself” (Costa, 2003–2005).

His report contains 23 topics covering the issues of adaptation to the local topography; applying frank principles of road technique; disposition of government buildings and entertainment center; maximum uniform template for residential buildings and integration of those with natural landscape; separation of vehicular traffic from pedestrian traffic; convenient distribution of the population; economic balance and stability in the region; location and style of the cemeteries; preservation of the lagoon edges from residential and commercial buildings; and address numbering—using the North and South coordinates as references.

Once elected the winner, the construction followed his guidelines, generating what today is called the *four scales*: the *Monumental* scale, the *Gregarian* scale, the *Residential* scale, and the *Bucolic* scale. The first one is the most prominent identity of Brasília, houses the original architecture of Oscar Niemeyer, monuments known worldwide which feature the city's postcards.

The buildings destined to the fundamental powers stand out in the set, which, being three in number and autonomous, found in the equilateral triangle, linked to the architecture of the most remote antiquity, an appropriate elementary form to count them. A triangular embankment was then created, with exposed stone support, raised in the surrounding meadow, which is accessed by the ramp of the highway that leads to the residence and the airport. At each angle of this square — PRAÇA DOS TRÊS PODERES — one of the houses was located, with the Government and Supreme Court at the base and the Congress house at the apex, also facing a wide terrace on a second terrace, rectangular in shape and the highest level, according to the local topography, equally supported by stones along its entire perimeter. The application, in current terms, of this millenary oriental technique of embankments, guarantees the cohesion of the whole and gives it an unexpected monumental emphasis. Along this esplanade — the Mall of the English —, an extensive lawn for pedestrians and parades, ministries and local authorities were placed. (...) The Cathedral was also located on this esplanade, but in an autonomous square placed laterally, not only for a matter of protocol, since the Church is separated from the State, as well as for a matter of scale, with a view to enhancing the monument, and also, mainly, for another architectural reason: the whole perspective of the esplanade must continue unimpeded until beyond the platform, where the two urban axes intersect (Costa, 2003–2005).

The described center of power, thus, became the monumental axis of the system, where the civic and administrative centers, the cultural sector, the entertainment center, the sports center, the municipal administrative sector, the barracks, the areas for storage, supply and small local industries, and the railway station were organized and arranged.

“Intersecting axes

People who are not meeting” (Behr, 2005, p. 11).

The *Gregarian* scale refers to the commercial centers, entertainment sectors, and so on, where the human circulation should be denser and constant.

Lateral to the intersection of the two axes, but functionally and in terms of urban composition of the monumental axis, were located the banking and commercial sector, the sector of corporate offices and liberal professions, and also the broad sectors of commercial retail (Costa, 2003–2005).

For the *Residential* scale, Lucio Costa predicted specific kinds of plants for each housing block, these with a height limit of 6 floors, thus allowing the contemplation of the sky. “Car traffic takes place without crossings, and the ground is restored, in a fair measure, to the pedestrian” (Costa, 2003–2005).

The blocks would only be leveled and landscaped, with the respective belts planted with grass and immediately wooded, but without paving of any kind, nor curbs. On the one hand, road technique; on the other, landscape technique for parks and gardens. Brasília, air and road capital; park-city (Costa, 2003–2005).

The poet Nicolas Behr plays with this title of park-city: “Not everything is trees
In the park-city
Not everything is flowers
In the garden-city

Not everything is everything
In the nothing-city” (Behr, 2005, p. 58).

The *Bucolic* Scale permeates and integrates the other scales, with extensive grassy strips, ornamental beds, parks, and wooded and leisure areas. This scale is especially connected with the residential area. The abundant shade and green make the experience of walking through the

superblocks very pleasant. With sidewalks designed for pedestrians and the recent construction of a cycle path, it is interesting to observe the *phenomenon of diagonals* (Figs. 5, 6, and 7). These paths are formed by the pedestrians’ insistence on disobeying the straight lines designed to be traversed, venturing through the lawns and open fields, creating urban trails.

If, on the one hand, urban planning is the language of power - disciplinary, supposedly omnipresent and panoptic -, the city and its inhabitants never cease to generate counterflow movements, circumventing the system, working in its interstices in an almost invisible way (Konrath, 2017: 111–112).

There is something mysterious in the substratum of the bodies’ creativity movement. Hanssem and Verkaaik (2009) coined the term *urban charisma* to refer to the city’s *charisma* as its soul, or mythology that is emitted from its buildings, infrastructure, and the historicity of its places. The authors also address the sense of charisma in the city—in its crowds, in the styles and reputations of the people, their knowledge, special skills, and extraordinary acts. The charisma would be the arrangement of energy fields created by the magnetic movement of bodies and their connections with architecture. By this understanding, artists and artworks are constantly producing charisma, and so interfering with city identities.

How are those fields transmitted in the artworks selected for this research? The show *Cidade em Plano* expresses a charisma that has the dimension of linearity, of ecstasy, of

Fig. 5 Urban trails (*phenomenon of diagonals*). Photo by TKuri, 2020



Fig. 6 Urban trails (*phenomenon of diagonals*). Photo by TKuri, 2020



Fig. 7 Urban trails (*phenomenon of diagonals*). Photo by TKuri, 2020



spatial breadth, giving prominence to the monumental scale, and with a participation of the bucolic scale, in the “Memória Afetiva” scene. The gregarious scale can be transmitted in the style of organization of the performance, which happens to the audience on the stage, moving between the

artists. This human movement hardly happens on residential scales, where people prefer to travel by car. There is also a reference to the social inequality generated at the construction process, when men from impoverished areas of Brazil came to look for work, and many died with inappropriate

security conditions provided by construction companies. It's another history of Brasília, far from the elevated ideals of *civitas*. The poet Nicolas Behr, who came to Brasília in the 70s, reflects in his writing a charisma much more linked to social elements and to feelings such as loneliness, inequality, and disappointment.

“The city is that
You are really
Seeing even though
You are not
Seeing anything” (BEHR, 2005: 9.)

Me-body, who danced monuments, also danced Behr's poetry, in the show *Profunda Superfície (Deep Surface)*, 2016, created and performed by Juliana Victória and me, based on a movement research integrated with the sound of the spoken word. We circulated this show at small theaters in different cities (Administrative Regions) of the capital. The dance aroused the desire to go deep, to find the submerged identities, emerging between the lines, which are diverse, changeable, and ancestral.

Some of the Administrative Regions were cities that already existed before Brasília arrived. One of them, Planaltina, has its creation dated from 100 years more than Brasília. Several other rural nuclei and villages existed in the region and were integrated into the territory of the Federal District. Despite that, prevails the myth of the creation of the city “in the middle of nowhere”. This notion highlights the tendency to look at life forms different from what is in the eurocentric colonial pattern of living as non-existent, wrong, or less important. But in its four scales of construction, the *bucolic* one becomes an infiltration that lets the power of the Cerrado emerge, in the encounter with urban trees, and with the open trails that activate the memory of the original peoples that lived in the area for many centuries, opening trails through the savanna, now marked by the steps of who inhabits the present. Poetry emerges as a protest that reclaims the cultural legacy of ancestor cultures.

“For a folk Brasília:
Wattle and daub palaces
Straw-covered adobe blocks
Mowing instead of lawns
Ox-carts carrying ministers” (Behr, 2005: 66).

4 Cerrado Ecoarte: Immersion Experience

“Feeling, apprehending, surprising, adding, making mistakes, sniffing can be attitudes that constitute questioning. (Aquino & Medeiros, 2011: 18)”. Me-body, as an artist in the city provoked and was provoked in different ways. In transit, it found narratives different from those presented in

official history and institutional disclosures. *Monumental's* ecstasy was confronted with the depths of the political questions that subvert the official history of the construction of Brasília.

Inspired by this experience, I propose a new way of looking at the Brazilian capital, manifested by the creation of an artistic residence, destined to an encounter in the place between the natural and civilizing forces of the Capital: the Botanical Garden. The place is an environmental reserve, studies center, and also a tourist place. However, the areas destined for tourism are not inhabited with Cerrado life forms, but planned gardens in the molds of international styles. Another illustration of the contradictions left by the colonial system.

Considering artists as people who have unusual, profound tools, and involvement in the social fabric, they are, therefore, privileged to participate in the composition of the charisma of a city. Cerrado Ecoarte was an experience created to promote the encounter between artists, especially artists of the body and performance. Two of them bring important contributions to this investigation in identities.

Aila Beatriz developed a participatory action, in which the public was invited to understand their own body as a territory, awakening the senses for the experience of the here and now to receive information in the body that translates space into meanings. “We left a non-place for the construction of an affective territory that was established with the presence, connection and interaction with the environment and with other people” (Oliveira, 2020). The artist's work is deeply connected with the process of territorial occupation and urban construction, because she was born in Vila Planalto, one of the Administrative Regions formed from the camps of construction workers in the capital. She also tells the stories of the woman that came with the constructors, highlighting their role in conquering social development for the areas that were before simple camps.

It was not in the *Capital of Hope's* dream that these workers' camps would become a village in the heart of the Plano Piloto. But thanks to the efforts of the women who were here, the Vila Planalto was created and it is for me a territorial body that represents the resistance of women (Oliveira, 2020).

Luciana Meireles is an artist of popular culture and her creative research involves indigenous ancestral knowledge, creating a dialogue with the public through an enchanted figure, Dona Maria das Alembraças (Fig. 8). “Traditional knowledge unites the visible and the invisible” (Kimmerer, 2016: 149), and for this reason arouses the forces that engender the marks of charisma, recorded in memories, feelings, and beliefs about and in the city. With storytelling, Luciana Meireles awakens the power of reconnecting those who today inhabit the urbanized space with all the ancestral

Fig. 8 “Maria das Alembraças” at Cerrado Ecoarte. Photo by Alessandra Tótolí, 2019



power of the knowledge and cultures that lived there before the implantation of the capital.

The disobedience of pedestrians in relation to architecture, creating the trails within the city (...) crossed me, making me think that these trails are probably memories of the trails of our ancestors who walked here. Because this is a part of Brasília's history that is not told. There were stories, there was memory, there were paths before the arrival of the city (Meireles, 2021).

These stories surface in traces. Captured by artistic sensibility traces weave poetry that reframes the memory of the city, renewing its charisma.

The work of these artists fulfills the identity of Brasília with an authenticity rooted in the affective experience of those who inhabit the city and experience the transit in the scales of urban planning permeated by invisible memories of the ancestral culture that remains alive, even if submerged. The Cerrado Ecoarte project started as an artist residency, unfolded in a digital book, and today produces visual content for free sharing on social networks and video streaming platforms. It aims to contribute to the meeting of those who are affected by the invisible, ancestral powers, mapping and organizing creative material that emerges from this friction, between the socio-environmental perception of the body that inhabits the city producing art and the idealized colonial legacy at urban planning. Thus, we expect to enrich the identity matrix of the capital of Brazil, offering elements that are not commonly shown.

5 Conclusion

This city known worldwide as a utopian enterprise was built along the lines of the highest civilizing ideals. Repeating the history of colonization in the Americas, the natural world and the cultures that lived there were left behind. In its four construction scales, a charisma emanates that repeats this formula of the ideal, but that also allows the Cerrado's power to emerge, in the encounter with urban trees, and with the trails opened by the daily walk of those who work and live there.

Uncertainty as a fundamental part of phenomenological research makes the investigation path only recognizable in a memorial report. This made it possible to recover the memories of my artistic experiences in Brasília and to confront them with the official history and documents, opening a new field of hybrid meanings, encompassing elements that were previously invisible, and thus recontextualizing the utopian narrative of this civilizing enterprise.

With Cerrado Ecoarte, we highlight narratives underlying the architectural and imposing lines of the modernist city, organic and resistant as the Cerrado. We show the paths traced to understand them as potential delimiters of new identities for the Brazilian capital. By generating bibliographic and audiovisual material that register the experience of artistic residency and share the knowledge of those who make art in the city, we hope to contribute to the

transformation of Brasília's identity, making it more connected with the reality of natural life and the history of Brazilian cultures.

References

- Aquino, F. & Medeiros, B. (2011). *Corpos Informáticos Performance Corpo Política*. Editora do Programa de Pós-Graduação em Artes da Universidade de Brasília.
- Behr, N. (2005). *Braxília Revisitada*. (2 ed.). LGE Editora.
- Costa, L. (2003–2005). Plano Piloto de Brasília. In *Brazilia.jor.br*, Flávio R. Cavalcanti. <http://doc.brazilia.jor.br/plano-piloto-Brasilia/relatorio-Lucio-Costa.shtml>.
- Gil, A. C. (2010). *O Projeto na Pesquisa Fenomenológica*. Anais IV SIPEQ – ISBN – 978-85-98623-04-7.
- Kimmerer, R. W. (2016). *Two ways of knowing in signal fire Unwalking Lewis + Clark part four: Upper Missouri*. Signal Fire.
- Konrath, G. (2017). Fábulas e Fronteiras na Poética Urbana de Francis Alÿs. *Palindromo*, 9(18), 106–127.
- Khouri, T. P. (Org.) (2020). *Cerrado Ecoarte* [ebook]. Cena Criativa. <https://drive.google.com/file/d/1DXhcLY3vPOK-YZ6gD61v9-syMZ82UrvE/view?usp=sharing>.
- Lara, L. (2010). *Arqueologia de um Processo Criativo*. Antistatusquo Cia de Dança.
- Madeira, A. (2013). *Itinerância dos artistas—A construção do campo das artes visuais em Brasília 1958–2008*. Editora Universidade de Brasília.
- Meireles, L., Batriz, A., & Khouri, T. P. (2021). *Brasília e o Cerrado Infiltrado* [video conversation]. Cerrado Ecoarte. <https://www.youtube.com/watch?v=u51aYIZMURc&t=176s>.
- Oliveira, A. B. (2020). *Corpo é Território*. In *Cerrado Ecoarte*, Khouri T.P. (org), Damacena B. (trad.). Cena Criativa.
- Verkaaik, O., & Hansem, T. B. (2009). *Introduction—Urban charisma on everyday mythologies in the city*. SAGE Publications.

Regulation, Integration and Sustainability of Identities



Evaluation of Ecovillage Movement as an Alternative Approach to Sustainable Preservation of Traditional Patterns: Case of Marmariç, Turkey

Cansu Saçan Bombar and Müjgan Karatosun

Abstract

The building culture, in which human beings are objects and subjects, has been developing since ancient times, and it contains construction and demolitions and also produces old and new due to its nature. The concept of protection, located in this tension, has transformed with changing life and current issues, and extended its scope from a single-scale structure to a holistic view including tangible and intangible values. In this context, they interact with sustainability thought, which derives from environmental destruction, which is a similar starting point, and emerge as concepts that nourish each other. The concept of sustainability, which extends its environmental scope through the economic and social dimensions, is a holistic approach to life. With this quality, it triggered the formation of many sustainability-oriented social movements. Ecovillages, which stands out as one of these, is one of the movements aiming at social, cultural, economic and ecological sustainability. The aim of this study is to discuss the possibility of evaluating the ecovillage movement in the context of sustainability as an alternative approach to the preservation of traditional patterns. In this context, the problems that traditional patterns face will be defined first. Then, the concepts of conservation and sustainability in traditional patterns will be considered through the literature, and sustainability movements will be examined. Finally, the positive and negative effects of traditional patterns in the context of sustainable conservation will be discussed, through the Marmariç eco-village movement established in the Mersinli locality of Dernekli village. The aim of this study is to determine the positive and negative effects of the ecovillage movement on the sustainable conservation of traditional patterns.

Keywords

Ecovillage • Conservation • Sustainability • Sustainable preservation • Sustainable movements • Traditional patterns

1 Introduction

The constructive art has developed in parallel with the needs of protection and shelter, with an interaction in which human beings are both object and subject. This interaction, which inherently includes construction and destructions and produces the concept of old and new, reveals a building culture that has evolved from primitive living spaces to metropolises. The concept of preservation is also located in the tension created by this transformation. The concept of preservation, which continues to be shaped by the current problems arising from the dynamic structure of the building culture, has expanded the scope of the focus of singular monumental structures to a holistic view of the texture scale and intangible values.

Another concept that can be evaluated in relation to the construction and destruction in the development of humanity has been sustainability. The concept, which emerged with the need to protect the environmental resources of human beings, has expanded its scope through economic and social dimensions. In this context, the concepts of conservation and sustainability emerge as two approaches that feed each other. Contemporary conservation, shaped in modern life, aims to protect the built environment with the life that continues in it by feeding with the idea of sustainability. In this context, it has developed as a dynamic approach that seeks to feed the natural flow from the past to the future instead of freezing the existing. Today, there are many sustainability movements that do not prioritize protection, but that overlap with the understanding of protecting goals, aiming to maintain life and therefore the environment where life lives. Some of the

C. Saçan Bombar (✉) · M. Karatosun
Faculty of Architecture, Department of Architecture, Dokuz Eylül
University, Izmir, Turkey
e-mail: mim.cansusacan@gmail.com

prominent of these are New Urbanization Movement, Compact City, Ecological Cities, Smart Growth, Slow Cities, Ecovillage and Smart Cities (Sımmaz, 2013).

Ecovillages, one of the sustainability movements that take the idea of sustainability in social, cultural, economic and ecological contexts with a multidimensional approach and stand out with this aspect, is defined by Dawson (2017) as the formations that contain such diversity that they cannot fit into a single definition. Although there are no strict criteria for evaluating a settlement as an ecovillage, ecovillages intersect on some of the principles they have. These principles are expressed on the website of the Global Ecovillage Network (GEN), which was established at the second Habitat meeting held in Istanbul in 1995 to facilitate the communication and interaction of ecovillages around the world, as a common social, cultural, economic and ecological vision, goals and objectives. This approach, which sets common goals and objectives instead of strict criteria, can be interpreted as a non-totalitarian free individual and society ideal that the concept of ecovillage includes. It is seen that there are two approaches in the establishment phase of ecovillages. These are structures built on an empty area in line with ecological concerns and the transformation of an existing settlement.

In the conceptual framework described above, the aim of this study is to determine the direct and indirect effects of the ecovillage movement on the sustainable conservation of traditional patterns. In this context, traditional patterns and sustainable conservation concepts have been defined first. Then, the ecovillage movement has been examined in the context of sustainability movements. In the last section, the effects of the eco-village movement on the traditional pattern, local production and traditional life have been discussed in the context of the sustainable preservation of traditional patterns, based on the example of Marmariç Ecovillage established in the Mersinli locality of Dernekli village.

2 Sustainable Preservation of Traditional Patterns

Traditional textures are patterns shaped as a combination of the possibilities provided by the natural environment in which they are located, the needs created by life and the culture of civilizations. Examples such as structuring in the direction of topography, positioning according to climate and the change of open-semi-open space balance, the distribution of solid-empty surfaces guided by the perception of privacy and the symbolization of belief systems in structural details are indicators of this formation. At the same time, daily life practices such as neighborhood relations and production patterns are dynamics that affect structuring in

planning and volumetric dimensions. All these construction activities take place within the boundaries of the technology acquired during the period. When approached in this context, traditional patterns are the reflection of the cultural accumulation of civilizations that have lived through centuries.

These patterns, which continue to take shape in the natural flow during the period of traditional life, are in danger of losing their qualities today, where the forms of association and production are transformed, technology is developing rapidly and local values are melted into a common life culture. Conservation discipline, which is positioned in this context, has expanded its scope by shifting to a ground where it problematizes the relationship of the modern world with the past with the changing world order while trying to keep the existing one alive during the periods of traditional life (Özaslan, 2010). Kayın (2007) describes this process that spans the nineteenth and twentieth centuries as the transformation of protection from an instinctive behavior into a discipline. In this context, the Industrial Revolution, whose radical effects in economic, social, cultural and technological terms spread to the nineteenth century and the Second World War, which took place in the mid-twentieth century and caused intense structural damage, is a breaking point in terms of conservation discipline (Erder, 2018; Eres, 2013). The destructions experienced in different geographies and on large scales caused the focus of protection to expand from single-scaled buildings to settlement size.

While the working area of the conservation discipline has expanded, its content has reached a dimension that includes social and cultural values. This dimension, which is expressed as the holistic protection of tangible and intangible values, includes not only the group of structures but also vital values that are other dynamics that make up this whole. The current objectives of the conservation discipline are expressed by Akkurt (2010) as the active integration of the cultural and natural heritage of the past into the current life and the determination of the interventions to be carried out in this direction with regional and national policies. Tekeli (2009) evaluates the development process taking place in the conservation discipline under four headings. These are the expansion of the object to be protected from the singular to the settlement size, the transformation of the concrete protection focus to the holistic view that includes the intangible, the development of decision mechanisms that affect protection indirectly and finally the placement of the sustainability idea on conservation.

While the concept that developed over the architectural dimension of environmental destruction was protection, the concept developed over the destruction of the natural environment was sustainability. The destruction of environmental resources and the emergence of environmentalist movements based on concerns about this are dated to the end

of Industrial Revolution. In the beginning, the approaches that emerged as environmentalist movements to draw attention to the destruction of natural resources triggered by the changing production and consumption habits and revolutions and globalizing life started to be conceptualized within the framework of the idea of sustainability in the 1960s. In this period, the first global conference in line with environmental concerns was held in Stockholm in 1972 under the name of the United Nations Conference on the Human Environment. The definition of sustainability, which surpasses the environmental focus that is accepted today, was defined in *Our Common Future* (Brundtland) report published in 1987. The concept, which indicates a flow from the past to the future due to its content, is defined in the report with the expression: “Sustainable development is meeting the needs and aspirations of the present generation without compromising the ability of future generations to meet their needs.” (Brundtland, 1987).

Within this framework, with the concept of sustainable conservation, it is understood that both the dynamic structure of the conservation concept enriched with the idea of sustainability and the sustainability of the interventions to be carried out in the context of conservation discipline. Environmental, social and economic components, which are three basic dimensions of sustainability thought, appear as basic values in terms of protection concept. While environmental sustainability directly corresponds to maintaining the use of the historical building stock, which is the main purpose of conservation, the social and economic dimensions include the socio-cultural dynamics in the background of the historical structure and the protection of the local economy, which is one of the foundations of the survival of life with realistic economic decisions. Protection interventions that are carried out without considering these values or considering them as holistic remain as superficial practices and cannot be sustained.

3 Ecovillage Movement as a Sustainability Approach

Although the concept of sustainability can be handled singularly through its social, economic and environmental dimensions, it basically includes a lifestyle in which these three dimensions are intertwined. According to Tekeli and Ataöv (2017), weak and strong sustainability concepts are defined considering which of these dimensions are given importance. Weak sustainability sees economic and environmental dimensions as interchangeable values; strong sustainability thought emphasizes the environmental dimension and places it in the indispensable category. However, the idea of sustainability in its broadest sense

expresses the continuation of the “place”, which is the environment in which all living things live, by changing and transforming in a self-sufficient way (Tekeli & Ataöv, 2017). When the environment is described as a “place”, the life in that environment and the inhabitants are included, and the concept is assigned a meaning and locality comes into prominence (Tekeli, 2009). This approach will ensure that the environment is addressed in a holistic manner with its socio-economic and cultural values, and will eliminate the possibility of separating sustainability through its dimensions.

The idea of sustainability, which offers a holistic life perspective, has created movements carried out with goals and objectives in this context and settlement models in the continuation of these movements. The broad scope of the concept of sustainability makes the definition of the concept of sustainable settlement undetermined. Definitions vary by individuals or institutions. However, the main feature that makes sustainable settlements common is that they are settlements where ecological values are taken into account, as well as being integrated with their social and economic components (Çetinkaya & Cıraoğlu, 2016). According to Sinmaz (2013), the priority examples of sustainable settlement models that have emerged since the 1990s are New Urbanization Movement, Compact City, Ecological Cities, Smart Growth, Slow Cities, Ecovillage and Smart City. These settlement models are also called sustainability movements; they are not settlements shaped in the natural flow of life, but are realized in line with a certain thought system.

The concept of ecovillage (ecological village), which stands out as one of the sustainability movements due to its vision of a holistic life in environmental, economic, cultural and social context, was first introduced in 1991 by Robert and Diane Gilman’s Ecovillages and Sustainable Communities and defined comprehensively.

According to Gilman (2015), an eco-village settlement should have the following features:

- human scale;
- full-featured settlement;
- in which human activities are harmlessly integrated into the natural world;
- in a way that is supportive of healthy human development and can be successfully continued into the indefinite future.

Robert and Diana Gilman’s research has made a lot of impression and has been effective in various practises. For example, the Hildur Jackson and Ross Jackson couple, influenced by Gilman’s research, founded the Gaia Trust. The Gaia Trust initiative consists of an ecovillage called

Gaia Village in Denmark and the Gaia Technologies (Güteryüz, 2013). In 1996, the Global Ecovillage Network was inaugurated in United Nation’s HABITAT conference on Human Settlements in Istanbul in order to ensure the communication and cooperation of ecovillages on an international scale. With this conference, the concept of ecovillage was tried to be defined in different ways in order to create an ideal ecovillage model. In these definitions, Gilman’s thoughts have also been criticized. In the conference held in Findhorn Eco-Village in 1995, it was stated that Gilman’s definition of ecovillage had deficiencies, and it was emphasized that Gilman’s definition did not include the social and spiritual aspects of sustainability. It has been stated that the word “featured” in Gilman’s definition does

not include the feature of being a multicultural settlement that includes modern and past local lifestyles (Jackson, 1998). For these reasons, GEN, leading the Global Ecovillage Movement, has created new and more comprehensive definitions for the concept of ecovillage (Güteryüz, 2013). The idea of making these definitions over four elements, as seen in Fig. 1, came to the fore (Jackson, 1998).

Ecovillages, which are defined by Dawson (2017) as having a diversity that cannot be fit into a single description, are considered as one of the sustainability movements with their visions aimed at the continuity of life. The establishment story and methods of each ecovillage settlement are different from each other, the geographical features of the place where it is established and the purposes of

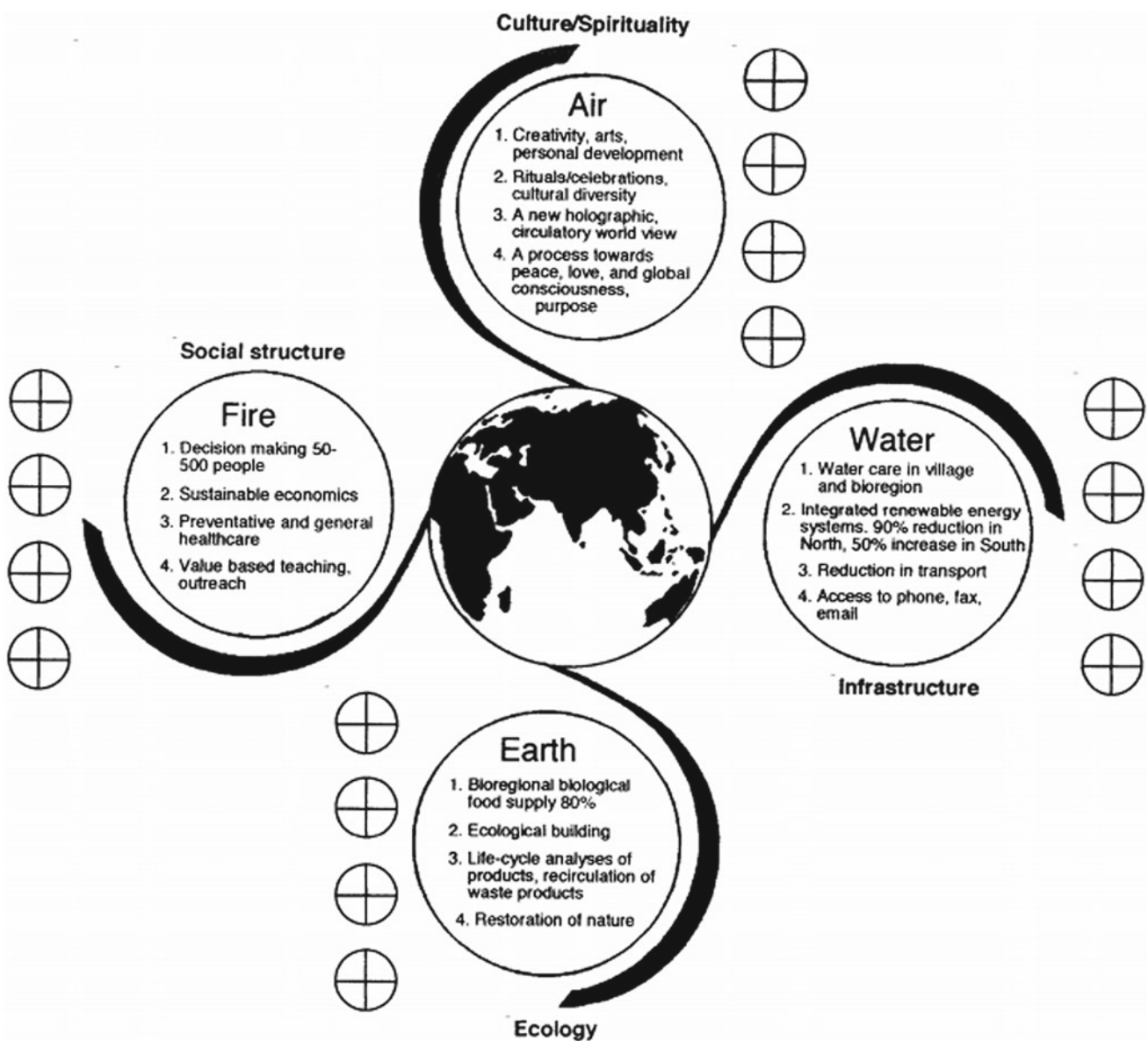


Fig. 1 Defining the dimensions of the concept of ecovillage over the elements (Jackson, 1998)

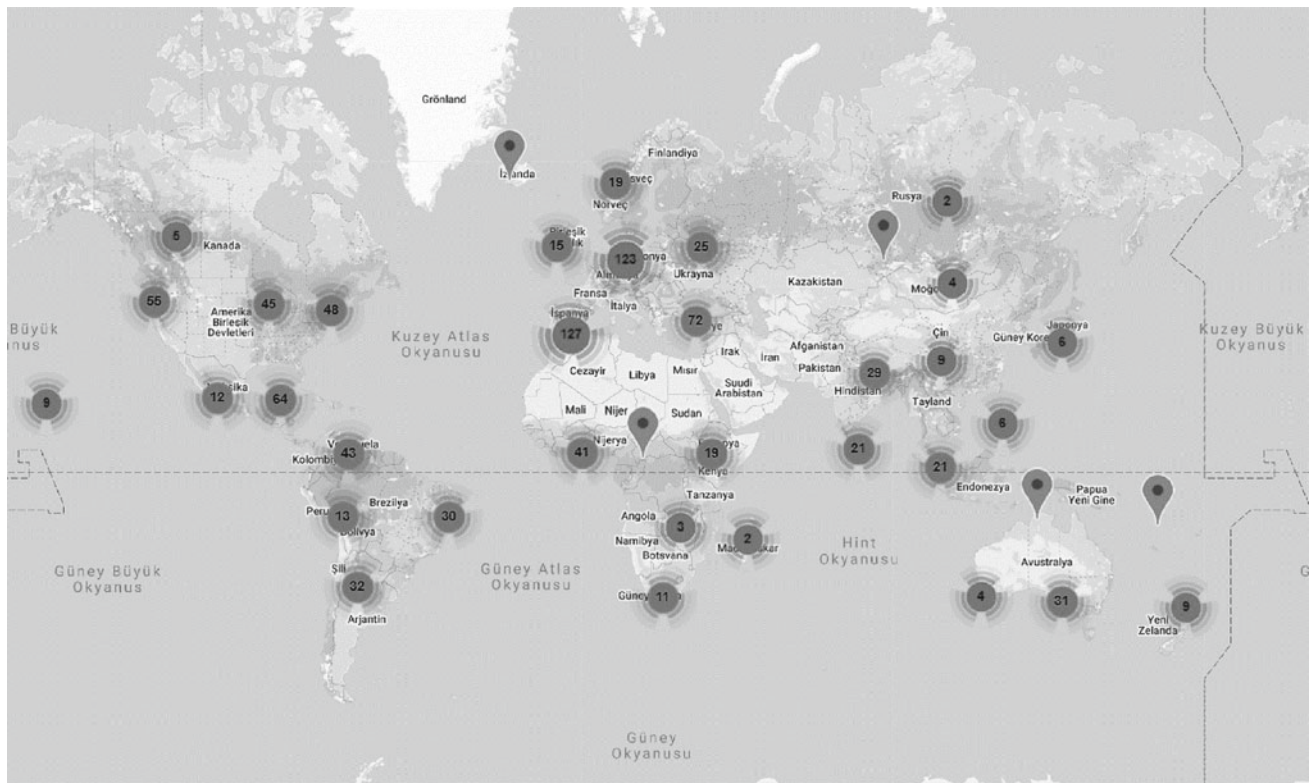


Fig. 2 Distribution of settlements that are members of the Global Ecovillages Network in the world. <https://ecovillage.org/projects/map/>, 2020

establishment vary. Nevertheless, some researchers have tried and are working to identify the stages required for an ideal and sustainable ecovillage establishment. Some of these works are by Robert Gilman, Diana Christian and Hugh Barton. Although there are no clear criteria for ecovillages, the similarities of ecovillages in different geographies and different cultures are as follows: having strong common values, often starting out with ecological, social and spiritual interests or concerns, ecological improvement, strengthening community life, revitalizing local economies and deepening spirituality. The common point of these concerns is the problems that are constantly felt in the social structure based on consumption. The communities living in ecovillages are constantly trying to find solutions to these problems in an experimental study (Asimgil, 2017a, 2017b).

Sociologist Karen T. Litfin, who visited fourteen eco-villages in five continents in a nine-month period in 2007 and prepared a book called *Ecovillages*, defines ecovillages as learning homes. Litfin makes another observation on the socio-economic dimension and defines the focus in ecovillages in developed regions as the search for a way to overcome social alienation and material consumption, and states that the main goal in the lagging regions is to make the existing villages economically and ecologically sustainable. Litfin (2017) groups the ecovillages it has experienced in accordance with geography, population,

establishment date and world views. Accordingly, the rural nature of nine of the fourteen ecovillages shows that the rural nature is prominent in terms of shaping the eco-village settlement, and the fact that four of them are urban indicates the diversity of the establishment areas of eco-village settlements.

Although Litfin's book is a comprehensive study on ecovillages in itself, there are many examples of ecovillages on an international scale as shown in Fig. 2, apart from the ones examined in the book. When the GEN criterion is considered, the total number is 409, and the number of ecovillage practises performed in traditional texture is 36. It should be known that there are also non-GEN ecovillage practices and this number should actually be higher. A study conducted in Nepal stands out in that it is based on the transformation of traditional settlements into ecovillages. Women's Rehabilitation Centre (WOREC), an organization working mainly with the premise of women's rights and social justice, is working to transform 15 traditional settlements into ecovillages in Nepal (<https://www.worecnepal.org/camp/4>). In this direction, the organization has determined the necessary criteria for the selection of the settlements to be converted first and then for that settlement to be accepted as an ecovillage. Among the 12 criteria shaped in line with ecological, economic, social and ecological sustainability concerns as shown in Tables 1 and 2, criteria

Table 1 WOREC'in ekoköy kriterleri

Ecological	Economic	Cultural	Social
Optimum use of renewable energy	Commercialization of bio-intensive farming system	Conservation of the identity of local culture	Model (exemplary) society with collective leadership and social justice
Active participation of community in natural resources and conflict management		Protection and promotion of indigenous knowledge and traditional technology	Substantial reduction of all forms of violence against women
			Substantial reduction of all forms of discrimination between male and female children as well as violence against children
			Specific health needs of women adequately addressed
			Ensured access to education for all
			Ensured access to primary health care for all; and society free from malnutrition

Table 2 Evaluation of Marmariç settlement in the context of ecovillage concept

Ecological	Economic	Cultural	Social
Permaculture studies	Use of renewable energy sources	Common life experience	Volunteer-based accommodation
Repair and reuse of abandoned dwellings	Building ponds and rainwater channels to reach and protect water	Permaculture workshops and training	
Use of local materials			
Traditional building techniques			

come to the fore in the context of sustainable preservation. These are the criteria for the preservation of local identity and the preservation and development of local knowledge and traditional technologies.

Turkey has ten eco-village settlements according to data contained in the website of GEN. These are Dutlar Collective, Imece House, Dedetepe Farm, Bayramiç Yeniköy, Garp Eco-Village, Yeryüzü Eco-village, Güneşköy, Ekoyer, Knidia Farm and 8100 Gündönümü Farm. However, this number is insufficient to express the current situation. In addition to the fact that there are currently inactive ones among the mentioned ecovillages, there are also those that are ecovillages but are not included in the GEN website because they are not registered. The Ekoyer said the ranking is not ecovillage, founded in 2009, is an association Turkey Ecological Sites Network. Union has been established to support those who created ecological campus initiatives in Turkey. There are 8 ecological sites that are members of the Union: Buğday Çamtepe Ecological Life Center, Dedetepe Farm,

Dutlar Collective, Güneşköy, Knidia Eco-Farm, Pastoral Valley, Bayramiç-Yeniköy and Marmariç Eco-Site (Güler-yüz, 2013).

Marmariç eco-site which is the subject of this study is not a member of GEN. But it is one of the eco-villages in Turkey. Considering GEN's definition of eco-village in Table 2, the reason why Marmariç eco-site is considered as an eco-village is that a group that has determined permaculture works as a common goal and has also aimed to enliven the environment in an economic and social context by expanding this vision. The Marmariç movement, defined as an eco-site by its members, will be referred to as the Marmariç Ecovillage in the continuation of this study focusing on eco-villages. The movement, set up in an abandoned traditional texture in the Mersinli locality of the village of Dernekli in Bayındır district of İzmir province, continues through the restoration works carried out in the existing texture as well as new buildings produced with local materials and traditional techniques.

4 Marmariç Eco-village Movement

The Marmariç Eco-village movement started in Mersinli, which is 4 km away from the central settlement of Dernekli as shown in Fig. 3, one of the mountain villages of Bayındır district, where the traditional buildings abandoned by the local people in the 90s were rented from the state for 49 years. In the study, Mersinli locality where the eco-village is established will be handled together with the central settlement of Dernekli village to which it is affiliated (Fig. 4). In this direction, in the next section, the history of

the study area will start from Küçük Menderes basin and Bayındır district where it is located in the upper scale and will be transferred together with the village of Dernekli. Then, the architectural texture of Mersinli location where Marmariç Eco-village was established and the central settlement of Dernekli village will be defined, and finally, the effects of the transformation of the settlement in the Mersinli locality into the Marmariç eco-village on Dernekli central settlement and Mersinli locality will be evaluated in the context of sustainable preservation of traditional patterns.

Fig. 3 The location of Dernekli village in Bayındır district

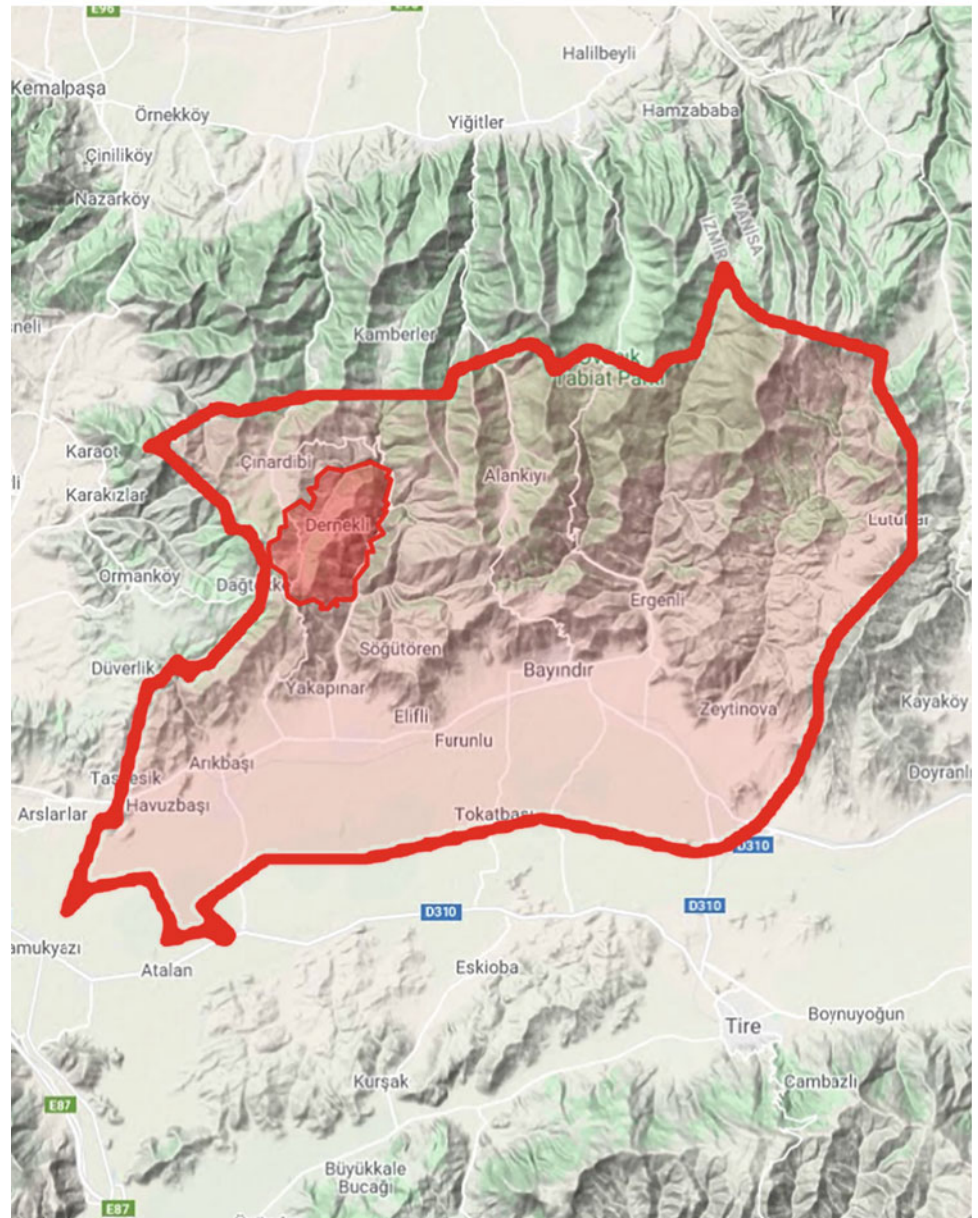


Fig. 4 Central settlement area and Mersinli locality within the borders of Dernekli village



4.1 Historical Process of Dernekli and Mersinli Settlements

Marmariç Eco-Village was founded in Mersin site of Bayındır district of İzmir province which is located on the western coast of Turkey. Bayındır is one of the settlements located in the southeast of İzmir, 75 km from the center and located in the Küçük Menderes basin, which has agriculturally fertile lands. The history of the settlement in the Küçük Menderes basin is based on the Early Bronze Age through the mounds found in the region. In the sources, the region is referred to as being fertile in terms of agriculture since ancient times. It was dominated by Hittite, Lydian, Roman, Byzantine, Aydınogulları and Ottoman civilizations (Meriç, 1988). The mention of the name Bayındır in history began with the settlement of the Bayındıran tribe in the region as a result of the settlement policy of the Ottoman Empire in the eleventh century (Hepkarşı, 2001). The settlement, which was under the control of the Aydınogulları

Principality in the fourteenth century, came under Ottoman rule as of the fifteenth century and its current historical pattern began to form with the settlement of the nomadic Turkmen tribes in the region. Another important development in terms of the architectural pattern of the settlement is the placement of non-Muslims in the region in line with the commercial policies of the Ottoman Empire as of the nineteenth century, and thus cultural diversity is formed and reflected in the architectural construction in the form of churches, synagogues and different types of housing production (Hepkarşı, 2001). In the twentieth century, with the declaration of the republic, with the effect of the commercial developments in the settlement, the settlement in the city spread to the flat area in the south (Akkurt, 2015).

Mersinli location where the Marmariç Eco-village movement has been set up is situated in the mountainous region north of Bayındır. This region consists of small and large mountain villages scattered due to the rugged topography. Although the information about the historical process

of Mersinli location and the Dernekli village to which it is affiliated cannot be accessed through written sources, the information obtained during the interviews held in the village of Dernekli that it is a nomadic village of approximately 400 years corresponds to the information obtained regarding the historical process of Bayındır. Another information obtained during the interviews is that the residents of Dernekli migrated from Osmanlar village, which is 4 km north of the settlement. Similarly, the knowledge that the people living in Mersinli locality, where Marmariç Eco-Village is located today, migrated to the live settlement located in the plain part of the further south of the settlement in the 90 s can be interpreted as the traces of the nomadic culture of the people from the past.

4.2 Architectural Pattern of Dernekli Village

The population of Dernekli village, to which Marmariç Eco-Village is affiliated, consists of 156 people according to 2019 data. The population is generally engaged in agriculture, and animal husbandry, which was engaged in the past, continues with a limited number of small cattle due to insufficient grazing opportunities. Agricultural products grown are vegetables such as olives, cherries and cucumbers, black-eyed peas and potatoes. Another source of income of the settlement is beekeeping. It is stated that the young population migrates to nearby provinces and districts due to limited cultural, economic and social opportunities. It is an issue mentioned in the meetings held both in Dernekli and in Marmariç that the problems experienced in establishing social relations due to reasons such as limited population and gender imbalance caused migration. Local people living in Dernekli express that they have doubts about the continuity of life in the current village by saying that the people living in the settlement will be the last generation.

Dernekli village is a mountain settlement located on a sloping topography as shown in Fig. 5. Agricultural areas are located on the periphery of the settlement. The residential texture of Dernekli village consists of structures and organic streets located around a central square with coffee and mosques, according to the sloping topography. The buildings settled on the slope are generally two-storey as shown in Fig. 6. The buildings located in the courtyard do not have any openings on the surfaces facing the street or are located at the upper levels. This situation has been interpreted as a result of the privacy understanding seen in the Turkish house typology. However, it was determined that there are window openings that were found to be opened recently.

The buildings were built in the masonry system with slate, the local material of the region. The ground floors of residential buildings, which are generally two-storey, are designed as storage and barn by shaping the livestock and

agricultural activities, which are the livelihoods of the settlement. The upper floors are the living space. It has been determined that the houses generally have open halls. At the same time, within the scope of recent interventions, it has been determined that terraces that will serve the living spaces of the buildings with reinforced concrete materials are commonly built.

It was determined that the settlement, which was found to generally preserve its original traditional texture, built additional units with materials incompatible with the texture due to the current needs of the people or intervened for repair, as seen in Figs. 7 and 8. No original roof example was found. As a result of the interviews with local people (Fig. 9), it has been learned that the mosque structure in the settlement was demolished and a new one was built, as well as the new residential buildings were built without considering the traditional texture of the settlement. It has been determined that no documentation study has been carried out for the settlement. The fountain structures built in the same form and in time in Dernekli and Marmariç reveal the connection of the two settlements (Figs. 10 and 13).

4.3 Architectural Pattern of Mersinli Location

Mersinli location, where Marmariç Eco-Village has been set up, is located approximately 4 km west of the central settlement of Dernekli village. The original traditional pattern of the settlement has lost its integrity except for the mosque, school and lodging structure, and turned into a ruin. For this reason, the determinations of the original pattern were made with limited data, and by examining the Dernekli settlement in detail, it was aimed to pave the way for comparative studies and to determine the effects of the transformation created by the Marmariç eco-village movement on Dernekli village.

The area where Marmariç Eco-Village has been set up is located approximately 4 km west of Dernekli village. The original traditional texture of the settlement has lost its integrity except for the mosque, school and lodging structure, and turned into a ruin as shown in Fig. 11. For this reason, the determinations of the original tissue were made with limited data, and it was aimed to pave the way for comparative studies by examining the Dernekli settlement in detail.

The settlement, which is a mountain village, consists of scattered structures settled in the plain part of the region. No trace of a courtyard was found in the settlement, and no data on the texture of the street could be found. The buildings were built with a slate masonry system similar to the Dernekli village. The existence of qualified stone masonry, mosques, schools and lodgings suggests that there may be other structures, traces of which have disappeared, in the settlement. Although the buildings have lost their integrity, it is thought that they are single-storey structures, considering

Fig. 5 General view of Dernekli Village. 2020



Fig. 6 A view of the traditional house building from its court in Dernekli Village. 2020



the height of the chimney remains from the ground, although it is prevented to reach precise information about the number of floors (Fig. 12). It is estimated that the spaces required by livestock and agricultural activities may have been provided by different sections in the courtyard instead of the ground floor. In addition to the remains of buildings in the

settlement, it was determined that there was a fountain, which is the same as the one in the Dernekli village (Fig. 13).

With the onset of water problems in the 1990s, the settlement abandoned by the local people was rented from the state in 2003 by a group of friends who live in Istanbul and



Fig. 7 Unqualified intervention with brick material in the traditional housing building of Dernekli Village. 2020



Fig. 8 Material change in the windows of the traditional residential building in Dernekli Village. 2020

are interested in permaculture and started its transformation as Marmariç Eco-Village. The group has legal personality under the name of Marmariç Ecological Life Association. Within the scope of the study, meetings were held with the residents of Dernekli Village and members of the Marmariç Eco-Village movement, and the transformations that have occurred since the establishment of Marmariç have been evaluated on traditional life, traditional pattern and local production in the context of preserving traditional textures.

4.4 Evaluation of Marmariç Ecovillage Movement in the Context of Sustainable Preservation of Traditional Patterns

The start of an eco-village movement under the name of Marmariç in Mersinli locality of Dernekli Village dates back to 2003. Until this date, the settlement remained abandoned for about 15 years, and it was during this period that it fell into ruin. This situation of the region, which consists of structures produced with stone workmanship in the same quality as the central settlement of Dernekli village, shows how effective the abandonment of traditional buildings was in the disappearance of Dernekli compared to Dernekli. Within the scope of the study, the effects of the transformation created by the Marmariç eco-village movement on the Mersinli locality, where it was established, and the



Fig. 9 People interviewed in Dernekli Village. 2020



Fig. 10 The fountain dated 1968, of which an example is found in the Marmariç Eco-Village. 2020

Dernekli village, which is the surrounding settlement, will be examined through the traditional texture, local production and traditional life, which are determined as the equivalent of environmental, economic and social dimensions of sustainability in a traditional settlement.

The founders of the Marmariç Eco-Village consist of people who have collaborated and have friendship ties with each other within the scope of permaculture studies, which express the understanding of sustainable agriculture. Years of friendships are interpreted as containing cultural/spiritual dimensions that a sustainable eco-village should have. The purpose of the Marmariç Eco-Village movement is expressed in the bylaws of the Marmariç Ecological Life Association as to make the settled area and the surrounding villages a social, economic, cultural, residential, technological and productive settlement that is compatible with nature, where local values are respected, and at human scale. Projects carried out in this context are expressed in Permaculture Handbook and Marmariç Example which is prepared in cooperation with Turkey Permaculture Research Institute and Buğday Association for Supporting Ecological Living (Fig. 14). Projects implemented: the construction of rain ditch and pond, food forest, compost production, creation of a permaculture garden with local and various seeds, obtaining drinking water from rainwater, transfer of experience and knowledge to the producers in the surrounding villages and introductory permaculture courses for



Fig. 11 The traditional pattern of the Mersinli location where Marmariç eco-village has been set up, the mosque structure on the left, the house in ruins on the right. 2020

Fig. 12 The traditional texture of the Marmariç Eco-Village. 2020



volunteers (Bakır et al., 2011). During the interviews held in the Marmariç Eco-Village, it was learned that the population of the settlement decreased after 2015 and there are 4 households living fixedly today. It was stated that the primary reason for leaving the settlement was the educational needs of the members' children. In addition, it was determined that the child of a family continuing to live in the settlement continues their education in the village school in the vicinity. This situation is interpreted as an indication that, at the end of 17 years, urban facilities can be put aside in order to maintain traditional life.

The primary and fundamental transformation of the Marmariç Eco-Village, which was abandoned and turned into a ruin, has been determined on the traditional texture as seen in Fig. 15. Thirteen of the seventeen buildings identified in the settlement belong to the members of the Marmariç Eco-Village, two to the local people who left the settlement in the 90s, and two to the people who came from the surrounding provinces and districts (Fig. 16). It has been determined that two households from the local population do not use the houses continuously, but because of their ongoing agricultural ties. Members of the Marmariç



Fig. 13 The fountain dated 1968, of which an example is found in Dernekli Village. 2020



Fig. 14 Marmariç Eco-Village plan, 2011, Marmariç Permaculture Handbook

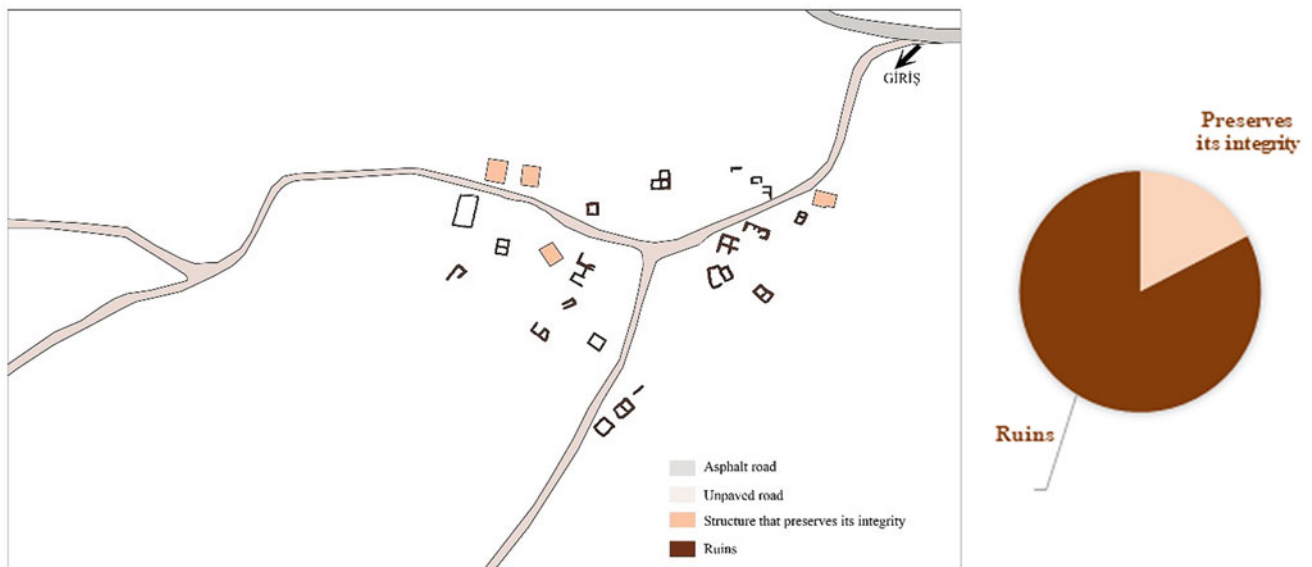


Fig. 15 The situation of Mersinli location before transformation as Marmariç Eco-Village. 2003



Fig. 16 Ownership analysis of Mersinli location after transformation as Marmariç Eco-Village. 2020

eco-village movement have carried out various studies in the structures they own. Structural studies determined to be carried out in this context are as follows: simple repair works, re-functioning studies, construction with existing materials and traditional techniques over building remains, construction with existing materials and contemporary materials together with over building remains, new construction with cob technique, new construction and new construction over the remains (Fig. 17). When the studies were evaluated, it was determined that protection was provided by simple repairs, and their use values were

maintained by re-functioning the idle school, lodging and mosque buildings (Fig. 18). Practices that are partially complementary to the traces with the use of traditional techniques and existing materials have been evaluated positively in terms of utilizing the existing material, maintaining the traces and its compatibility with the texture (Fig. 19). At the same time, the applications carried out are in accordance with the scale of the settlement. In terms of the three residential buildings evaluated within the scope of the new construction, although the application performed with the masonry soil (cob) technique is not a local technique, it has

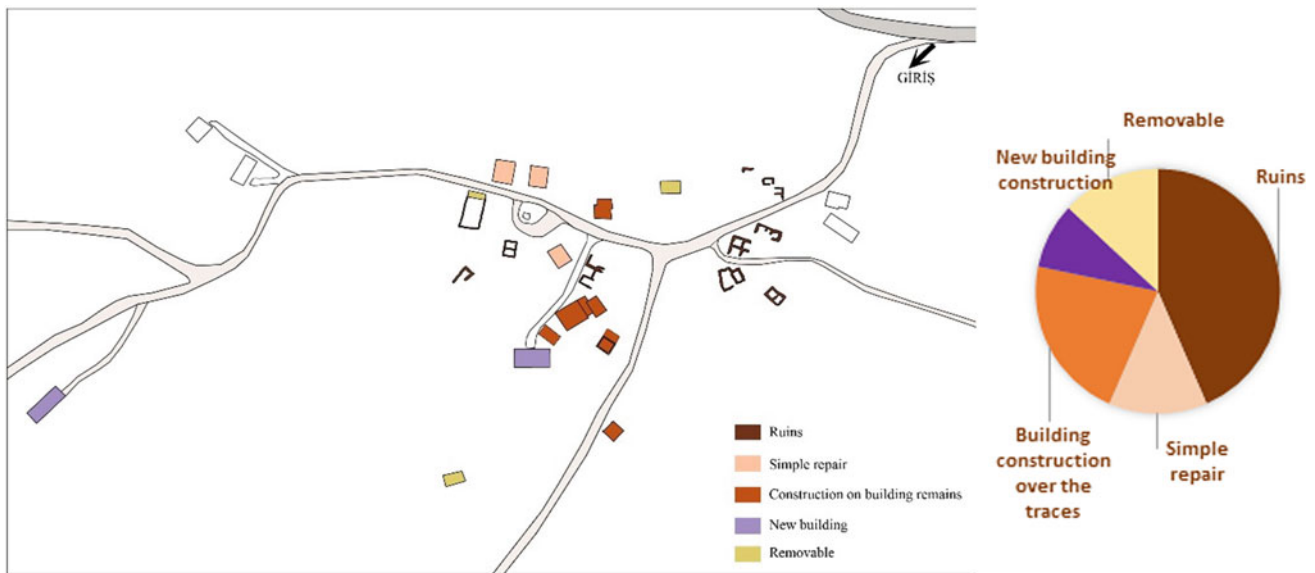


Fig. 17 Structural situation analysis of Mersinli location after transformation as Marmariç Eco-Village. 2020

Fig. 18 School building with simple repairs



been evaluated positively in the context of the similarity it establishes without imitating the traditional quality and texture (Fig. 20). Other new construction practises are the application carried out over the remains as shown in Fig. 21, and the application carried out in an area that was not built before as shown in Fig. 22. The use of local materials is observed in both buildings and this point is interpreted as the positive part. However, the single-storey structure of the buildings, built in a non-residential area, seems compatible

with the scale of the texture in third dimensions, while its linear structure appears to be in contrast to the texture in terms of typology. The other building, which consists of two floors, creates a dominant image by being pointed in the existing texture in terms of volume and does not match the plain architectural qualities of the texture, which is a rural settlement (Fig. 23). These two conditions were interpreted as not adequately and comprehensively evaluating the properties of the existing tissue during the structural

Fig. 19 Completion application with existing material over the tracks



Fig. 20 New construction application with the masonry soil technique



interventions performed in a traditional pattern. The migration of urban dwellers to rural areas has the possibility of turning into a situation where rural values are not observed, the urban culture is placed in the rural areas and the local life is suppressed. In this case, even if the use value is

maintained, it is not possible to talk about the sustainable protection of settlements that have lost their local values. On the other hand, it was learned that local building masters were worked with during the construction works, and this situation was determined as positive effects on both

Fig. 21 New construction with existing material and contemporary materials over the remains



Fig. 22 New construction in a non-residential area



contributing to the local people and maintaining traditional techniques.

Another area where the effects of Marmariç Eco-village were evaluated was in the context of its effects on traditional production (Table 3). In this direction, it has been

determined that olive, cherry, apple and vegetable production, which are traditional products produced in Mersin, is continued and additionally lavender production has started.

The transformation of the abandoned traditional settlement into an eco-village, in the context of traditional life,

Fig. 23 New construction over the remains



Table 3 The situation of Mersinli and Dernekli settlements before and after the transformation of the Marmariç Eco-village

	Mersinli settlement		Dernekli settlement	
	Before eco-village transformation	After eco-village transformation	Before eco-village transformation	After eco-village transformation
Traditional pattern	Structures out of use	Structures in use	Structures in use	No effect on traditional pattern was detected
	School, lodging and mosque structures are moderately damaged	Simple repair practices		
	Nineteen buildings in ruins	One new building application		
Wooden bungalow construction				
Traditional life	Life is interrupted	Life goes on	Life goes on	Contribution to the continuity of life by supporting local production
		Traditional collective working is kept alive		
		Village square is in use		
Local production	Olive, cherry, apple and vegetable production	Olive, cherry, apple and vegetable production continues	Olive, cherry, apple and vegetable production	Olive, cherry, apple and vegetable production continues
		Lavender production started		

could be evaluated as limited by the local people living in Mersinli settlement, as there was no long life. On the other hand, the collaborative works carried out in the eco-village could be determined as a common equivalent of traditional life, and the use of the village school by people from the urban culture was interpreted as an effort to adapt to the traditional life in the surrounding villages. On the structural scale, it has been determined that the use of the square that develops around the mosques and school buildings seen in traditional rural areas is continued in the settlement where the building-street relationship is not read. Continuing the use of the square, which is a part of life as a socialization space in terms of traditional spaces, is considered a positive approach in terms of preserving traditional life.

When the effects of the Marmariç Ekoköy movement on the village of Dernekli are examined, it has been determined that it has no effect on the traditional texture. However, it was determined that members of the Marmariç movement provided a market for sale to the local people living in the village of Dernekli. This situation has been determined as the positive effects of the ecovillage movement in the context of traditional life and local production, in terms of contributing to the economic life of the local people and thus making their lives sustainable and encouraging them to produce. In the meetings held with the local people in the village of Dernekli, it was determined that they also made positive comments about the life and agricultural practices carried out in Mersinli within the scope of the Marmariç Ecovillage.

5 Conclusions

The eco-village movement has emerged with the aim of establishing a sustainable life in social, economic, cultural and environmental contexts. In this direction, settlements are established where the prototype of idealized life will be implemented. Sites can be built by applying ecological architectural principles or by transforming existing settlements. The transformation of existing settlements becomes an issue that should be discussed in terms of conservation discipline when carried out in traditional settlements.

Today, it is a generally accepted fact that traditional textures, which are a reflection of the life of human beings in the historical process, the culture and technology they have, should be preserved in a holistic manner by considering all these values. Interventions within this scope should likewise be carried out with a comprehensive perspective. Within the scope of the study, the effects of Marmariç Eco-Village established in the abandoned traditional settlement in Mersinli locality of Dernekli village of Bayındır district on

Dernekli and Mersinli settlements were examined in the context of traditional life, local production and traditional texture as the conservation equivalents of the social, economic and environmental dimensions of sustainability.

While the Marmariç ecovillage movement had an impact on the Mersinli settlement in which it was established in the context of traditional texture, traditional life and local production, it had an impact on the surrounding settlement, Dernekli village, in the context of traditional life and local production. An effect on the traditional texture in Dernekli village has not been determined. In this context, it is possible to say that the effect of eco-village transformation is more intense where it is locally established. On the other hand, the relationship with the local people living in Dernekli settlement through production and market provision has been interpreted as positive effects in the context of traditional life and local production. In the context of sustainable preservation of traditional tissues, survival is in relation to economic continuity. For this reason, in addition to maintaining local products, contributing to local people in terms of sales is seen as a positive approach.

It is a priority to maintain traditional buildings and textures made up of building groups by protecting them with their original users and original functions. However, in cases where this is not possible, solutions are sought by considering the current needs together with the original values of the building and patterns. In abandoned settlements such as Mersinli locality where the Marmariç Ecovillage is established, it is not possible to talk about the authentic user. In this direction, a new user settlement that will maintain the use value of the buildings is a positive initiative in terms of the sustainable protection of tissues. However, it also carries risks. Especially, the current problems created by modern life and urbanization have strengthened the phenomenon of urban-rural migration. In this case, while the citizens of the city carry their own lives to the countryside, they must also adapt to the ongoing life in the region they come from. Urbanization of rural areas may result in the socio-economically developed population transforming rural areas in line with their own needs and tastes. It can cause these areas to lose their qualities, to lose their identity and to alienate the local people from the region they live in with consequences such as gentrification. In this context, the transformation of abandoned traditional settlements in the context of a movement that aims at the sustainability of life such as eco-villages in social, economic, environmental and cultural contexts and glorifies the importance of local values has been seen as a positive initiative because its principles coincide with the principles of sustainable preservation. In the example of Marmariç eco-village, continuing local production, supporting local producers, relations with local

people as the local people find positive efforts to adapt to traditional life are seen as positive in the context of sustainable preservation of the values of a traditional settlement.

It has been determined that structural interventions carried out in Mersinli settlement in the context of traditional patterns are practices that take into account the values of the texture, except for new construction processes. New construction practices in traditional textures are a matter of debate in terms of conservation discipline. In this context, there are design approaches that either duplicate the existing texture or conflict with the existing texture. Both approaches have risks in the context of preserving the values of the tissue. As the structural interventions carried out in the Marmariç Eco-village, the practices that are partially complementary to the existing building traces, existing materials and traditional techniques were deemed positive. Two practices that were considered problematic in the context of structural interventions were the new construction application in the area where there was no construction and the new construction process carried out over the building traces. It has been determined that there are applications that will damage the architectural identity of the traditional texture if similar applications are continued in the future.

Within the scope of the study, when the WOREC organization's project of transforming traditional settlements into ecovillages, which is considered among international examples, is examined, it has been determined that there are two criteria that come to the fore in the context of sustainable preservation among the criteria of being an ecovillage. These are the conservation of the identity of local culture and protection and promotion of indigenous knowledge and traditional technology. It has been determined that these criteria are also tried to be applied in the practice of Marmariç Ecovillage. Repair and reuse of abandoned dwellings, use of local materials, traditional building techniques have been interpreted as putting this purpose into practice in Marmariç. These joint studies carried out in different geographies and cultures without being aware of each other have been interpreted as one of the indicators that the ecovillage movement can be considered as an alternative approach in the context of sustainable preservation.

It has been determined that the Marmariç eco-village example examined within the scope of the study had positive effects on both Mersinli and Dernekli settlements in terms of traditional life and local production in the context of sustainable preservation of traditional tissues. In the context of traditional tissue, it has not been found to have an effect on the settlement of Dernekli and although there are positive effects in Mersinli settlement, it has been determined that the practices have risks in the context of sustainable preservation

of traditional tissues, and the studies to be carried out in this context should be interventions where the protection principles are observed more comprehensively.

References

- Akkurt, H. B. (2010). Mimari Koruma Disiplininde Sürdürülebilirlik; Hedefler, Olasılıklar. In N. Özaslan & D. Özkut (Eds.), *Mimari Korumada Güncel Konular* (pp.154–171). Anadolu Üniversitesi Yayını.
- Akkurt, H. B. (2015). Bayındır geleneksel konut alanı ve koruma sorunları. *Taç*, 7, 66–73.
- Asımgil, B. (2017a). XVI. Yüzyıldan Günümüze Eko-Köylerin Tanımlama Yaklaşımlarına Göre Karakteristik Özelliklerinin Saptanması. *Trakya University Journal of Engineering Sciences*, 18(2), 95–111. ISSN 2147-0308.
- Asımgil, B. (2017b). Eko köylerin tanımlama yaklaşımlarına göre karakteristik özelliklerinin saptanması. *Trakya Üniversitesi Mühendislik Bilimleri Dergisi*, 18(2), 95–111.
- Bakır, M., Akhuy, S., & Aydemir, G. (2011). *Marmariç Permakültür El Kitabı*. Mengi Basım Ambalaj Yayıncılık.
- Brundtland, G. H. (1987). Our common future—Call for action. *Environmental Conservation*, 14(4), 291–294.
- Çetinkaya, Z., & Ciravoğlu, A. (2016). Sürdürülebilir yerleşim modellerinin karşılaştırılması: Eko-kent ve yavaş kent. *IDEAL-ENT*, 7(18), 246–267.
- Dawson, J. (2017). *Ekoköyler Sürdürülebilirliğin Yeni Ufukları*. Sinek Sekiz Yayınevi.
- Erder, C. (2018). *Tarihi Çevre Algısı*. Yem Yayın.
- Eres, Z. (2013). Türkiye'de geleneksel kırsal mimarinin korunması: Tarihsel süreç, yasal boyut. editör) Prof. Dr. Nur Akın'a Armağan—*Mimari ve Kentsel Koruma, İstanbul, YEM Yayınları*, 457–469.
- Gilman, R. (2015). The eco-village challenge. In *Context: living together* [online]. <https://www.context.org/iclib/ic29/gilman1/>
- Güleryüz, M. (2013). *Bir ütopya hareketi olarak eko-köyler: Türkiye'deki örnekler üzerine bir inceleme*. Doctoral dissertation, İstanbul Kültür Üniversitesi/Fen Bilimleri Enstitüsü/Mimarlık Anabilim Dalı/Mimari Tasarım Bilim Dalı.
- Hepkarşı, D. (2001). *19. yüzyıl ortalarında Bayındır kazasının sosyal ve ekonomik yapısı*. Doctoral dissertation, Yüksek Lisans Tezi, Ege Üniversitesi Sosyal Bilimler Enstitüsü.
- Jackson, H. (1998). What is an ecovillage? In *Gaia Trust Education Seminar*.
- Kayın, E. (2007). Modern bir kurgu olarak koruma paradigmasının dönüşümü ve modern mimarlık mirası. *Mimarlık*, 338, 25–29.
- Litfin, K. (2017). *Ekoköyler: Sürdürülebilir bir toplum için dersler* (Çev: Pınar Ercan). ALFA Basım Yayın Dağıtım.
- Meriç, R. (1988). Antik dönemde Küçük Menderes Havzası'nın tarihsel coğrafyasına genel bir bakış. *Ege Coğrafya Dergisi*, 4(1), 202–213.
- Özaslan, N. (2010). Mimari Koruma Düşüncesinin Tarihsel Gelişimi. In N. Özaslan & D. Özkut (Eds.), *Mimari Korumada Güncel Konular* (pp. 2–15). Anadolu Üniversitesi Yayını.
- Sınmaz, S. (2013). Yeni gelişen planlama yaklaşımları çerçevesinde akıllı yerleşme kavramı ve temel ilkeleri. *MEGARON*, 8(2), s. 76–86.
- Tekeli, İ. (2009). *Kültür politikaları ve insan hakları bağlamında doğal ve tarihi çevreyi korumak*. Tarih Vakfı Yurt Yayınları.
- Tekeli, İ., & Ataöv, A. (2017). *Sürdürülebilir toplum ve yapıtlı çevre: stratejiler yelpazesi*. Bilgi Üniversitesi Yayınları.



The Importance of Urban Regeneration in Cities' Identity: Industrial Heritage Potentials of İzmir

Gülner Ballice, Gizem Güler Nakıp, and Eda Paykoç Özçelik

Abstract

Historical urban areas have great importance in terms of having memory, belonging, and place identity. They have a tendency to create an urban identity for the remaining parts of the city. Existing industrial buildings being an important value of historical areas contribute to the identity of the city in terms of their architectural characteristics. Different functions including museums, culture and art centers, education and working spaces, research centers, and housing can be proposed in the regeneration of industrial buildings. The location of the buildings, their size, and architectural features play a great role in defining their new functions. All these functions create a potential for urban regeneration and in this way, it contributes to the cities' identity by providing sustainability of abandoned buildings.

Urban regeneration, art and architecture's role in the city identity, industrial heritage, co-living/public spaces, and sustainable approach within the existing industrial buildings are included in the theoretical infrastructure of the study. Within the scope of this study, the existing potentials of the city of İzmir, Turkey, are analyzed through the recent studies on the restoration of the contemporary examples. Additionally, co-living scenarios are proposed to the selected industrial buildings which will be re-functioned. The importance and contribution of this function are also discussed in terms of urban identity. While this study focuses on the potentials of industrial buildings in terms of city identity, it also emphasizes the contribution of the concept of co-living to the

socio-cultural sustainability of society and the importance of creating this awareness in the urban regeneration process.

Keywords

City identity • Industrial heritage • Urban regeneration • Co-living • Socio-cultural sustainability • İzmir-Turkey

1 Introduction

As stated by United Nations Habitat as follows, both the protection and revitalization of cultural heritage has great importance: "As a result, planning is being required to preserve and promote cultural heritage, tangible and intangible, of the communities living in cities, since heritage has been recognized to have a role in shaping the city's identity". Through urban regeneration, the uniqueness and distinctiveness of the city can be promoted (Noussaa, 2018). The re-functioning of industrial heritage areas, which are an important part of cultural heritage, contributes to the concept of sustainability from different perspectives by ensuring the preservation of their social, historical, architectural, and technological values and acts as a catalyst for the renewal of cities.

Environmental quality, economic aspects, infrastructure elements, and architectural features are important for the revitalization of industrial buildings. The most appropriate re-use scenario can be decided by conducting interviews with different decision mechanisms and creating some evaluation stages such as evaluation matrix, identification of the preference function for each criterion, criteria weighting, and overall preference index. The feasibility of the different scenarios can be determined by composing a range list of criteria including accessibility, availability of building/property, the flexibility of the building, architectural quality, presence of nearby facilities, etc. (Bottero et al., 2019).

G. Ballice · E. P. Özçelik
Yaşar University, Bornova, Turkey
e-mail: gulnur.ballice@yasar.edu.tr

E. P. Özçelik
e-mail: eda.paykocozcelik@yasar.edu.tr

G. G. Nakıp (✉)
Silesian University of Technology, Gliwice, Poland
e-mail: Gizem.GulerNakip@polsl.pl

Existing industrial buildings in cities create a potential for co-housing which are representative of individual and collective life together in urban areas. The concept of co-living, which transforms urban life into an interior, is a common indicator of individual and collective life. These urban interiors provide collaboration within the city. Moreover, the increasing number of co-living spaces give rise to community engagement. With this engagement, society is shaped, accordingly, socio-cultural sustainability is provided. Investigating better approaches for living and making home in contrast and looking for the meanings of co-living declaration, for example, community alongside individuality, openness, collaboration, sharing, inquiry, experimentation, responsibility, and action, are among the issues that the paper will explore.

Due to the change of housing architecture over time, new concepts such as co-living and co-housing have emerged. The term co-living can be assigned as “a modern version of housing where inhabitants share their living spaces, values, interests, and/or intentions.” In spite of the fact that co-living and co-housing advance shared residential life, co-housing takes into account generously more security/privacy, keeping certain, more close to home spaces (for example, kitchens and washrooms) separate. Notwithstanding sharing noteworthy indoor living spaces, co-housing places a solid spotlight on incorporating shared highlights, for example, specific workspaces, recreation centers/gyms, and game areas (Big Eye Agency, 2020).

This study aims to examine the re-functionalization of İzmir’s existing industrial buildings with co-housing proposals by considering the connection of cultural heritage and socio-cultural sustainability which has a critical role in city identity. It is also an important issue to raise awareness of social and cultural issues in individuals and society while reviewing cultural and industrial heritage in the context of re-functionalization. While raising awareness, housing architecture is important where the relationship between individuals and their environment intersect. In this context, literature is searched on the concepts of city identity, urban regeneration, existing industrial heritage potentials of İzmir city, co-living/co-housing, and socio-cultural sustainability. As a case study, existing potential industrial buildings in Bayraklı, İzmir, have been selected in which all these issues can be addressed and analyzed. Also, socially oriented co-housing scenarios are suggested for each case study building selected. These suggestions have changed and interpreted depending on the location of the building and its surroundings, the architectural characteristics of the building, and its inhabitant potential.

As a result, the re-functioning of existing potential structures and their use for the benefit of society both increase the welfare of society through community engagement and

contribute to city identity by preserving the historical traces. The socially oriented scenarios proposed were evaluated together with the physical requirements of each structure. As a result of these evaluations, the socio-cultural sustainability of society will be contributed, and the importance of cultural heritage in city identity will be revealed.

2 Basic Concepts on Urban Regeneration and Industrial Heritage

2.1 The Role of Urban Regeneration in the City Identity

Urban regeneration can be defined as the strategies to evolve the built environment for enhancing economic growth while keeping the urban identity (Noussaa, 2018). The reasons why urban regeneration is needed can be put forward as follows (Roberts, 2000):

- Creating a link between the physical situation and the social problems of urban,
- Redesigning the areas with the help of new physical, economic, environmental, and infrastructural systems,
- Proposing a new economical method, and
- Creating new strategies that will enhance the efficient use of urban areas.

When the principles of urban regeneration projects are analyzed, they are three in common (Özbek Eren, 2014):

- Having a common idea about the possible results of regeneration,
- Having proposals to regenerate the declining zones in the city, and
- Having a comprehensive and holistic approach which will develop the economic, physical, social, and environmental conditions.

In the evaluation of urban regeneration, there should be a holistic understanding which should both include its physical and social aspects. As one of the aspects of urban regeneration, urban identity is a distinctive characteristic which is created via differences, not with similarities (Özbek Eren, 2014). While defining the identity of space, the main focus is on the appearance and imageability of the physical elements (Ujang & Zakariya, 2015). Its three components are the physical structure, activities conducted within this structure, and the meanings assigned to these structures by the users (Özbek Eren, 2014). The five aspects that strengthen the effect of urban identity are as follows (Noussaa, 2018):

- **Continuity:** link between the past with the help of traditional elements that can be used in new designs;
- **Uniqueness:** differentiation between the local areas from other places;
- **Significance:** protection of the monuments and historical areas with the sense of belonging;
- **Compatibility:** creation of contextual fit in new buildings with the existing historical environment;
- **Cohesiveness:** creation of homogenous built environment without any fragmentation.

With all these aspects, urban identity is an inseparable part of the historical urban area which is on the turn of regeneration (Özbek Eren, 2014). As being a whole built by urban values of environment, history, society, culture, functions, and space (Özbek Eren, 2014), city identity has an important role in the continuation of urban in the present and future (Noussaa, 2018).

2.2 Socio-cultural Aspects of Industrial Heritage

As stated by Bayındır (2009), the concept of “industrial archeology” creates a simple theoretical base for “industrial heritage”. 1955 is the first time that the industrial archeology term was used by Micheal Rix in an article for the journal entitled *Amateur Historian*. Twelve years later than this publication, he defined industrial archeology as “recording, preserving in selected cases and interpreting the sites and structures of early industrial activity, particularly the monuments of the Industrial Revolution” (Kılınc, 2009). With this definition, he tried to emphasize the industrial traces of the eighteenth and the nineteenth centuries, especially the Industrial Revolution. Although it was first defined in 1955, the interest in industrial residuals dates from the early 1950s which is the period of process and change right after World War II (Köksal, 2005 in Bayındır, 2009). According to Rix, industrial archeology contains the following different functions: steam machines and locomotives, factories, workshops, cast iron water arches, first metal-roofed structures, railways, bridges, and canals, which all belong to the eighteenth and the nineteenth centuries (Bayındır, 2009).

Starting from the middle of the twentieth century, awareness was raised about industrial heritage and the term was introduced in England during the period when the industrial buildings were destroyed (Loures, 2008). The reason why there is an increasing awareness of industrial heritage is the changes in the way of production due to the Industrial Revolution which led to rapid urbanization and the migration of rural people to the urban environment. Because of this rapid urbanization, migration to urban areas, changes in the pattern of production, new technological developments, and

decreases in productivity, industrial facilities started to lose their function (Bayındır, 2009). In other words, cities tended to expand and the industrial areas which are located within the center became leftover. In addition to migration-related issues and changes in technology, factories started to need larger areas and spaces for new equipment and sped up their production. As a result of these, factories left their original locations and moved away from the city centers. So, these leftover industrial areas started to become unusable, vulnerable, fragile, abandoned, and destroyed areas. With this demolition, these heritages attracted the attention of specialists and professionals (Kılınc, 2009). The list of industrial heritage can be put forward as follows: structures and machinery, mills and industrial facilities, workshops, mines and sites for preparing and refining, warehouses and stores, places where energy is produced; transmitted and used, transport, and all its associated infrastructure, as well as places used for social activities related to the industry, for example, housing, religious worship, and education (Günay, 2014).

When the industrial heritage is analyzed from the perspective of which aspects it contributes, 7 main values can be listed as follows. As the very starting point and the 1st value, historic and more intrinsic values of industrial heritage are so important in terms of carrying memories and customs (Günay, 2014). From the historical perspective, industrial heritage also includes data of human-related activities for a certain time. Although the heritage remains less over time, when the history of an industry lasts more, its values also get higher (Yanfang & Yinling, 2012). Like the 2nd value, industrial heritage has artistic and aesthetic values. The architectural characteristics that belong to a specific period are the main parameters of this value. Not only in architectural scale, but these values can also be found and are visible in urban scale with the main body of the material elements and spiritual elements (Yanfang & Yinling, 2012). The 3rd value of industrial heritage is its scientific and technological contributions. These contributions include the historical characteristics of manufacturing, engineering, and construction (Günay, 2014). It should also be put forward that by meeting the scientific and technological needs of the standards, 82% of the world's industrial heritage is up to registration criteria (Yanfang & Yinling, 2012). The economic value of industrial heritage is the 4th contribution of it. So briefly, economic value mainly accepts that the weakening and disappearance of previous economic value are followed by the new economic value coming about because of its blend with new types of industries or functions (Yanfang & Yinling, 2012). The 5th value is a social value that signifies the sense of identity, the 6th value is universal aspects due to being proof of activities with profound historical results, and the 7th one is scarcity in terms of the survival of particular processes or landscapes (Günay, 2014).

All these values contribute to the city identity with their tangible and intangible characteristics in different scales ranging from urban to architectural elements.

3 Industrial Heritage Potentials of İzmir

3.1 Historical Process of Industrial Areas of İzmir

İzmir, whose population rapidly increased in parallel with the change in its economy in the seventeenth and eighteenth centuries, continued its movement in a limited area, unsystematically and organically, for about two centuries until the mid-nineteenth century. The most radical change was realized with the orientation of world trade to İzmir and the Trade Agreement of 1838 increased its popularity. The need for the raw material created by the industrial revolution was provided from the İzmir hinterland and turned toward the İzmir port, so the city changed rapidly with investments and technological innovations. The main indicators of this change are the 1858–61 Alsancak Aydın Railway line, the opening of the 1864 Basmane Kasaba Railway line, and the construction of 1868–74 Passport Pier and a port (İzmir Büyükşehir Belediyesi, 2020).

With the Republic period that started in 1923, it has entered into a powerful transformation process. The first effects of industrialization and urbanization were seen in these years with the formation of the first industrial zone of the city in the back of the port area extending from Alsancak Port to Halkapınar. Many industrial buildings such as the “Electricity Factory” built after the Republic, flour factories, industrial storage areas, and “Sümerbank Cloth Factory” are located in this area after the structures such as the “Coal Gas Factory” and “Water Factory” were built in the nineteenth century (Şekerci & Örmecioglu, 2020).

Alsancak Port location was affected by the decisions on the industrial district of the city of İzmir in the 1951 plan.

With the development of the port and Alsancak industrial zone, the main structure of the city plan was composed, and accordingly central and industrial functions were determined (Bilsel, 2009).

In 2001, with the international urban design competition for the Alsancak Port area, a transformation process was started and new boundaries were determined. Spatial, historical, and geographical characteristics of the region played an active role in determining the sub-zones which are classified as Turan, Salhane, and Alsancak Port districts (Acar, 2011). The historical process of the developments in the industrial areas of İzmir is listed in Table 1.

The northern part of the planning area, *Turan District*, was declared as tourism, entertainment, and housing-related functions in the Development Plan of İzmir Port District in 2003 (Acar, 2011).

The second region, *Salhane*, where the case study buildings are located, includes the Bayraklı Archaeological site, and Meles and Laka rivers. The Development Plan envisages Salhane District as a production and trade center. Also, it was pronounced as the significant intersection purpose of transportation organizations. Regardless of its significance, it has become an abandoned land because of the absence of demanded ventures (İzmir New City Center Development Plan, Plan Notes, 2003).

Moreover, as the intercity light railroad transport line used the current railroad system, this area became dismissed and neglected. Although the Bayraklı Archaeological Site is located on the north side of the area, it is in danger of haphazard urban development. The Salhane district was declared as a central business district in the Development Plan of İzmir Port District in 2003.

The third area, *Alsancak Industrial District*, includes Alsancak Train Station and the railroad Alsancak Port Meles River, and Mürsel Paşa Boulevard (Acar, 2011). The first initiatives of the Alsancak industrial district were Levantine citizens of the city in the nineteenth century. The development of the industrial zones of the area, whose former name

Table 1 The general plan of the process (Acar, 2011)

Year	Developments in the industrial areas of İzmir
1924	The transfer of port capacities to the north side of Alsancak and the foundation of an industrial district according to the 1924 Rene Danger Plan
1930–1950	Mayor Behçet Uz founded a planning department in the İzmir Municipality
1951	An international urban design competition was held
1973	Metropolitan Planning Bureau was prepared—a city plan
1978–1989	Revision of the 1973 Plan. Alsancak region was declared as a central business district in 1978 by the Revision Plan. Second revision was made in 1989 (http://www.izmimod.org.tr)
2001–2002	The International Competition of Urban Design Ideas for İzmir Port District was accomplished
2003	Development Plans of 1/5000 for İzmir Port District
2005–2010	Development Plans of 1/5000 for İzmir Port District were revised several times

was Punta, was supported by the Alsancak train station and the port (Bilsel, 2000). The area being the most complicated part of the planning boundaries, includes different functionalities, historical patterns, and varied social structures (İzmir New City Center Development Plan, Plan Notes, 2003). Most of the historical industrial buildings in the area are registered by the Preservation Board (Atılğan et al., 2009).

3.2 Restoration of the Contemporary Examples in İzmir

When the restoration projects in İzmir are analyzed, the most well-known ones can be clustered into four groups according to their current functions as commercial (food, shopping, health), educational, cultural and art, and accommodation (hostel, hotel, house) (Ballice & Paykoç, 2014; TARKEM Tarihi Kemeraltı'nın Yeniden Keşfi) (Table 2).

Table 2 Process of functional change in most well-known restoration examples from İzmir, Turkey

Ist function	2nd function	Current function	
Customs building	Fish market	Konak Pier shopping mall	Commercial (food, shopping, health)
Albayrak passage	–	Local craftsman and artist center—food and workshop	
De Jongh mansion	Tennis club	State hospital	
Güzel İzmir hotel	Güzel İzmir Inn	Clothing shop	
Çukurhan İzmir	–	Social center—food, shopping, art galleries	
Buca Kasaplar square buildings	–	District center	
Dewilux dye factory and bisan bicycles	–	Yaşar university campus in Bornova	
Sümerbank facilities	–	Educational campus	
Şark industry	–	Educational campus	
Pasquali pavilion	Bornova agriculture school	Ege University club	
Belhomme pavilion	–	Atatürk library	
Coal gas factory	–	Cultural center by İzmir metropolitan municipality	Cultural and art
İzmir fire station	–	Ahmet Piriştina City Archive and Museum (APIKAM)	
İzmir old tobacco storage	–	İzmir architecture center	
Flour factory	–	Municipality occupation factory	
Old flour factory and storage	–	News ege	
Konak-Göztepe trolley line administration building	–	Music and performing arts center	
Ayavukla church	–	Cultural center, publication museum, Mukhtar, children library	
Ali Galip Old Chocolate Factory (ALGA)	–	Cultural center—museum, workshop, exhibition	
Davut Fargoh pavilion	Buca municipality service building	Buca municipality culture art center and library	
Ahmet Aga mansion	–	Museum and culture center	
Emir Sultan tomb	–	Museum, library, and exhibition saloon	
Vakıflar mansion	–	Culture and art center/youth hostel	
Mesrure mansion	–	Culture and art center/youth hostel	
Tuzakoğlu flour factory	–	Selçuk Yaşar Museum in Halkapınar (In Process)	
Soap factory	–	Konak municipality Hamdi Dalan soap museum (in process)	
Central bank	–	Key hotel	Accommodation (hotel, hostel, house)
Şark coffee	Şato restaurant	Guest house	
Tevfik Paşa mansion	–	Historical boutique hotel	
Kortejo/family house	–	Mavi Kortejo hostel	
Ay Yıldızlı mansion	–	Hostel	
Vakıflar hotel	–	Hostel	

4 An Urban Regeneration Proposal for the City of İzmir

4.1 The Concept of Co-housing as a Re-functioning Model

The way of living in the city needs to change in direct proportion day by day. People tend to seek new ways of living typologically and conceptually. The concept of co-living and co-housing is formed as a result of alternative new ways of living. This concept is built on coexistence, openness, interaction, flexibility, and cooperation of the inhabitants. On the other hand, it offers an environment that can be lived both individually and collectively.

The term co-housing is similar to a traditional neighborhood that has adapted to the changing society. The main point of this concept is that it is based on common social activities that contribute to the sense of belonging to the residents. With the help of this concept, daily activities come together and allow the integration of work and home life, and public and private life (McCamant & Durrett, 2011). For co-housing where communal life is the focal point, the design should be suitable for a diverse group of different people to live in. The design should encourage both privacy and community by considering the daily pattern of life.

The co-housing term first originated in Denmark in 1960 when a group of families sought a way to share their income. In the late 1980s, this term came to the USA from Denmark. Over the years, this concept has evolved into a phenomenon that appeals to everyone, from young families to retired couples (Scotthanson & Scotthanson, 2005).

According to McCamant and Durrett (2011), co-housing has generally common characteristics such as size, location, type, and design. Six common characteristics of this term are.

1. Participation: It is the active participation of residents in matters such as planning, design, and decisions.
2. Facilitating Community: The design of the co-housing encourages sociality while enhancing the neighborhood atmosphere.
3. Extensive Common Facilities: Common areas design is suitable for daily usage of the citizens. Also, private areas satisfy the citizens' individual use.
4. Complete Resident Management: The residents manage themselves and make common decisions.
5. Non-hierarchical Structure: The decisions taken are shared by the adults of the community.
6. Separate Income Sources: The community does not generate income for residents; they have their income.

Co-housing, which is an indicator of collective life, transforms urban life into the interior. Urban interiors occur at the point where the term co-housing intersects with the city. These urban interiors provide collaboration and participation within the city. Moreover, the increasing number of co-housing spaces in society gives rise to community engagement. Community engagement is the work of a defined group of people who compose society. Although many people in society are alone and isolated in their homes, co-housing enables individuals to participate in society. People want to contribute to the society they live in and develop it. Besides, people determine the needs and problems of society and contribute to more comfortable, safe, and developed societies. As co-housing supports community practice and the operation of community engagement, its design has crucial importance on the progress of the community.

According to McCamant and Durrett (2011), practical and social opportunities are provided with the help of residents by sharing resources. Moreover, this provides environmental and economic advantages to society. In other words, as a result of the common use of resources, less material is used, and less energy is consumed. This is also a result of the community engagement process and increases the power of society.

4.2 Case Study Area

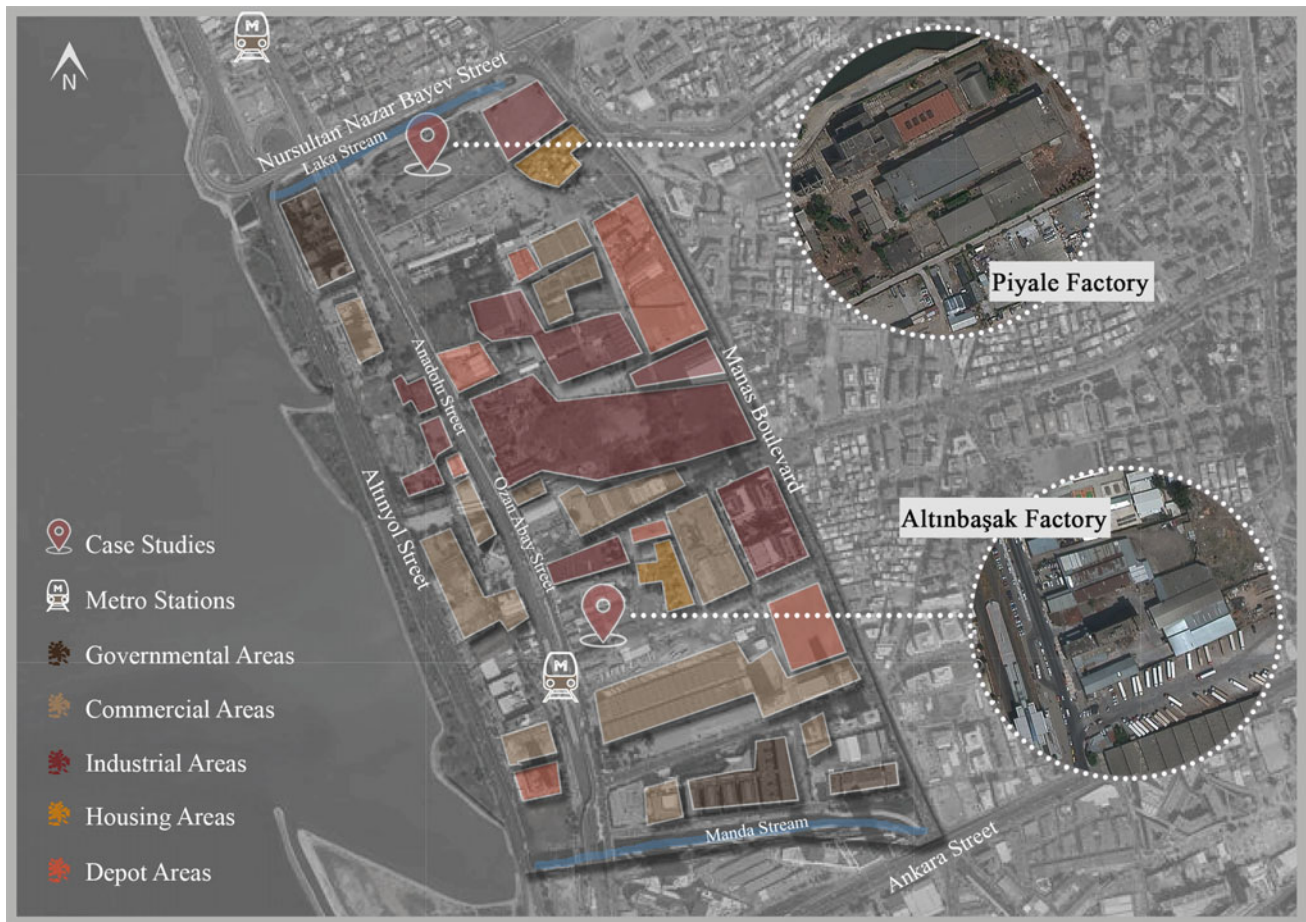
Apart from selected industrial buildings—Piyale Pasta Factory and Altınbaşak Flour Factory (Table 3)—the Salhane district includes commercial, industrial, residential, religious, and educational buildings, headquarters, depots, two becks (Manda and Laka rivers), governmental institutions, and metro stations. Current projects within the case study area are Tepekule Business Center, Hitay Plaza, Salhane Business Center, and Sunucu Plaza (Fig. 1).

The projects planned and under construction in the study area are as follows: Saygın Plaza, Megapol Tower, Folkart Towers, Mistral Towers, İş GYO Rezidans (Ege Perla), Tekfen Oz Rönesans Towers, Mertaş Premium Tower, Carrefoursa Shopping Mall, and Körfez Kule.

In the urban service center area, which is expected to be predominantly office function, when the functions of current and future projects are examined, it is seen that the highest square meter belongs to the office function. Following the office function, the shopping malls come. While the use of offices, shopping malls, and residences is quite intense, the fact that the functions related to socio-cultural activities are so scarce contradicts the role of the study area as an urban service center that appeals to the whole city (Kaya, 2012).

Table 3 Identification tag of selected case studies

	Piyale pasta factory	Altınbaşak flour factory
Address	1595 Street; Block Number: 8722; Parcel Number: 1	4599 Street; Block Number: 1134; Parcel Number: 86
Construction year	1922	1969
People involved with the building project	Ali Şeker, Galip Feşci, Erdoğan Tözge, Hikmet Baraz, Mert Artun, Şeref Aldemir	NMB Architecture Office: Fahri Nişli, Özdemir Arnas, Erhan Demirok
Purpose of usage	Production, depots, administrative, and social areas	Production, Depots, Administrative, and Social Areas
Parcel area	35,463 m ²	1245 m ²
Total building area	1510 m ²	381 m ²
Structural system	Reinforced concrete	Reinforced Concrete
Number of floors	1–8	3–6
Functions	Pasta factory, wheat warehouse, soup factory, soup warehouse, depots, social facility, administration building	Flour factory, administration building (Manager's Room, Waiting Room, Office, Cashier's Office, Archive, Dining Area, Kitchen, Living Rooms, Bedrooms)

**Fig. 1** The map of location and immediate surroundings of selected case studies (Source Produced from Yandex and designed by authors)

The coastline project area is divided into four, namely Mavişehir–Alaybey, Alaybey–Alsancak, Alsancak–Konak, and Konak–İnciraltı districts, which has been initiated by İzmir Metropolitan Municipality since 2009. The second district covers an area from Alaybey Shipyard to Alsancak Harbour, which includes the new city center and the Ancient Smyrna settlement. In Salhane, public buildings, central business districts, shopping centers, and recreational spaces are planned. Some of the design application ideas are city lift, artificial islands, footbridge, shuttle line, cycle path, beaches, wooden terraces, picnic areas, service units, squares, playgrounds, demonstration areas, gastronomy center, and a ferry port (Türkmen Çelebi, 2018).

Reasons for the case study area (Salhane District) selection:

- The urban transformation that is taking place in the area behind the port and in Bayraklı has the potential to make the new city center belong to the present and unique without breaking its ties with the past. There are many industrial structures, including high-quality factories, warehouses, towers, and hangars, that this region has carried since the period when the port was fed by the railway.
- If a holistic city vision to transform this industrial memory and qualified building accumulation while preserving could be put into practice; the new Central Business District can become a more qualified public and urban space within a unique port/industrial city identity. A holistic transformation vision for these areas should be put forward, and a transformation model should be developed that takes these regions from a different perspective than the “plot” and adopts an industrial memory (Özdel & Özdel, 2016).
- The Salhane District is one of the most crucial parts of the industrial heritage area of the city of İzmir as the plan decisions announced this area as Central Business District

(Tekeli, 2017). Turan, Salhane, and the back of the Port regions within the boundaries of the İzmir New City Center Master Development Plan are in a rapid transformation according to the last approved plan in 2010. Nowadays, most of the industrial buildings in that area are abandoned.

4.2.1 Piyale Pasta Factory

Piyale Pasta Factory in the area is an industrial heritage that has a favored place in the city's memory (Fig. 2). It was Turkey's first pasta-producing factory, founded in 1922 by Hasan Tahsin Piyale in İzmir (Karataş, 2010).

After the Balkan War, Salonika who migrated to Turkey and İzmir immigrants who settled in Hasan Tahsin, in 1922, “Turkish Pasta Factory” opened its first manufacturing by name. In 1923, at the Izmir Economy Congress and the 9 September Izmir Exhibition, the products produced by the Turkish Pasta Factory brought a gold award. In 1930, a new factory was built in Alsancak and started production with these first pasta molds. In 1936, Hasan Tahsin Bey took Piyale, the name of his grandfather, both as his surname and as the brand of his pasta.

Piyale continued to produce pasta in his new factory built on 49 acres in Bayraklı with a loan from the Industrial Development Bank in the 1950s. Piyale, who founded the “Maktaş Makarnacılık ve Ticaret Anonim Şirketi” in 1955 with Nimet Baraz, Mustafa Gago, Adil Aktoluğ, Burhan Maner, and Yılmaz Adıgüzel, diversified its product range in the 70s. The factory was then managed by the founder's son, Oktay Piyale. The initiative that Hasan Tahsin Piyale established in Istanbul, where he moved due to health reasons, was also successful. Piyale, dealing with imports and representation, once again entered industrial production in the 1950s with Fuat Süren, which he hired. After the death of Piyale on 17 October 1984, Piyale Company was sold to the “GıdaSa” company of Sabancı Holding. The name of the brand and facilities was changed as Marsan Gıda; Yıldız



Fig. 2 Piyale Pasta Factory, 14–16 Blocks, 3–5 Blocks, Open Area-B, and 13–15 Blocks, which are indicated in Fig. 1 (Source Authors archive, 2020)

Holding of Ülker Group purchased the firm in 2012. Currently, other flour products are produced at Marsan's Piyale Factory in Hendek, İstanbul (Ulusal Düzensiz Dergi, 2016).

4.2.2 Altınbaşak Flour Factory

The building project was prepared by NMB Architecture Office, Fahri Nişli, Özdemir Arnas, and Erhan Demirok, who were leading modernist architects of the city of İzmir in 1969 (Fig. 3). The Altınbaşak Flour Factory was included in the İzmir Region factories' list with the daily wheat breaking capacity (280 wheat/tones) in the "Flour and Flour Products Industry Catalogue of 1977".

Nowadays, the building is in danger of demolition as indicated by the owner: "Remzi Doğan is planning to build two 24-story skyscrapers on the 10 thousand square meter plot of Altınbaşak Flour Factory, which he owns." (<https://www.aksam.com.tr/guncel/egenin-manhattani-74950h/haber-74950>).

4.3 Proposals for Selected Case Studies

As the conservation and revitalization of the cultural heritage are limited except for historical or famous buildings, which is always the problem of society, this issue can be offered as the subject of the co-housing project design. Piyale Pasta Factory and Altınbaşak Flour Factory are important potentials in İzmir that contribute to the city and citizens with the proposed co-housing scenarios. Apart from their industrial heritage value, these buildings contribute to the collective memory of the citizens and the identity of the city. Moreover, they represent the development of the industrialization of society as part of the historical process of the city. Accordingly, two selected case studies were considered holistically with their physical and cultural context, without damaging their unique properties.

Common design decisions: Structures should be physically sustainable (self-sufficient, following ecological

architectural standards), construction systems, and material selection should be environmentally friendly. They should also include activities that will encourage community engagement and socio-cultural sustainability. They should be a flexible and transformable design proposal that allows for different uses.

Design scenario: The scenarios suggested for both factories consist of 5 different stages.

- First stage: Creating projects for the renovation/revitalization of the building according to user needs (determining the user profile and number and creating the building program accordingly).
- Second stage: Planning an organization for the active participation of the users who will live here (support can be obtained from the municipality, the chamber of architects, relevant departments of universities, non-governmental organizations).
- Third stage: Getting support from different business lines (e.g. architects, civil engineers, contractors, and material producers).
- Fourth stage: Production and construction phase.
- Fifth stage: Living and actively participating in activities.

As a result, a sustainable life proposal has been developed in terms of design, construction, production, and then living here.

Proposal for Piyale Pasta Factory: The solid-void relationship of Piyale Factory creates a potential for outdoor (open area) usage. Also, different usage/function suggestions can be made due to the buildings with different story heights and numbers. For example, high blocks can allow individual and private use for inhabitants as co-living areas after the first floor. Spaces suitable for collective use (public) can be created that can interact with open spaces at the ground and first floor levels: co-working, cultural and social activities, etc. Moreover, application and production-oriented spatial volumes such as studios can also be considered in these



Fig. 3 Altınbaşak Flour Factory, 1, 2, 3 Blocks, and open area-A, which are indicated in Fig. 5 (Source Authors archive, 2020)

levels. The target user profile of this co-living project can be teenagers, elderly and unemployed ones with different abilities and professions. The active participation of people coming from different backgrounds with diverse abilities in the design and construction phases enables them to accomplish design practices for more democratic processes. This process also contributes to the aim of co-living notion by designing with the community by creating an installation of communication mechanisms. Environmental consciousness is tried to be achieved in different scales through social responsibility projects, use of recycled materials in educational activities, and eco-friendly projects (seminars, workshops, etc.) aiming to empower the idea of a sense of environment. For economic revitalization and support, local eco-markets will take place and natural enhancements in recreation areas (water sports training, yacht design, and boat tours) are proposed. In a social context, places for hobby gardens and the application kitchen of ecological agriculture are reserved (Fig. 4).

Functions planned for Piyale Pasta Factory (Table 4):

- For individual usage: Bedroom Units, Wet Areas.
- For common usage: Outdoor Activities (open-air cinema, theater, concert, exhibition, conversation, bazaar, and workshops-sculpture), Common Outdoor Production Areas (Hobby garden, ecological agriculture area),

Outdoor Recreation Areas (Water sports training on the shore of Laka Creek—sailing, rowing, surfing, and boat maintenance-repair workshops, excursions—Splash Tour; and gulf tour), Common Interior Spaces (Piyale Museum, cultural events-exhibition, workshop, co-working, sports hall, and ecological agriculture practice kitchen).

- Landmarks with conserved functions: Steel Silos, Concrete Silo, Water Tank, Sports Hall, Printing House, and Entrance Door.

As a result, with the proposed scenario, it is expected that all these activities encourage local consultation/participation, “greening” the city, and environmental/civic responsibility, especially in young people. With the integration of the green areas and water, the area will be an attraction point offering diverse recreational activities within the city.

Proposal for Altınbaşak Flour Factory: Since the factory’s current location is easily accessible in terms of transportation, it allows the use of all citizens. Therefore, spaces for different uses and different activities should be considered. A design proposal has been developed where young people aged 18–25 can experience independent living, take responsibility, and participate actively. The proposed scenario includes design, organization, implementation, and a sustainable living environment. In this way, the effective cooperation of young people in the design and construction phase and the fact that they live here

Fig. 4 Site plan of Piyale Pasta Factory (the numbers indicate their new design proposals) (Source Produced from Bayraklı Municipality archive)

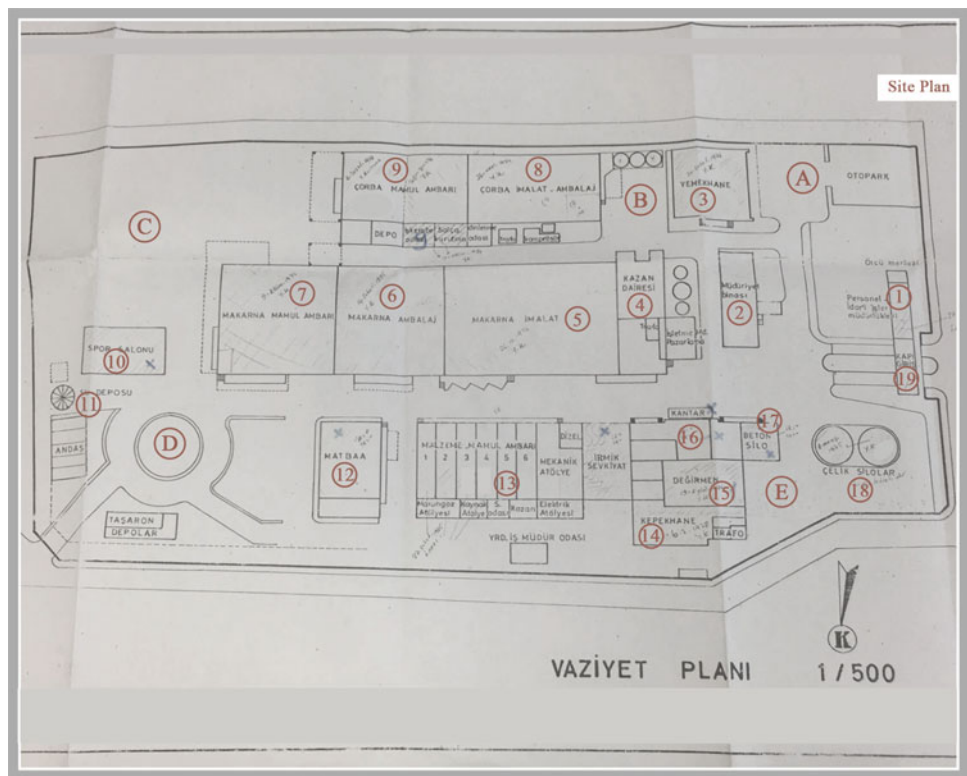


Table 4 Previous building functions and proposed functions for Piyale Pasta Factory

	Previous functions	Future scenarios
1	Personnel administrative affairs directorates	Public education and sales/promotion center + Piyale Museum
2	Directorate building	Administrative/management building
3	Dining hall	Public common space
4	Boiler room—transformer—exploitation management/marketing	Cultural activity (exhibition, workshop)
5	Pasta manufacturing	
6	Pasta packaging	
7	Pasta products warehouse	
8	Soup manufacturing/packaging	
9	Soup products warehouse	Ecological agriculture practice kitchen and restaurant
10	Sports hall	Sports hall
11	Water tank	Water tank
12	Printing house	Printing house
13	Material product warehouse/mechanical atelier/semolina delivery	Education area (workshop)/co-working
14	Bran depot	Yacht design workshops/water sports training
15	Grain mill	Co-living
16	Steelyard	
17	Concrete silo	Concrete silo
18	Steel silos	Steel silos
19	Entry	Entry
A	Open areas	Common rest and recreation area
B		Hobby garden
C		Greenhouses and ecological agricultural land
D		Outdoor cultural events—ecological market
E		Water sports recreation and application areas

afterward will contribute to society; the material usage and design ideas used will contribute to the environment; different activity proposals will contribute to the economy. In addition, as this region becomes a point of attraction, it will be revitalized by enriching the city's urban identity and moved to a position that supports the city economically.

Each block in the structure consisting of 3 adjacent blocks has a different number of floors. The first block on the street side consists of ground +3 floors, the second block consists of ground +5, and the third block consists of ground +6 floors (Fig. 5).

Functions planned for Altınbaşak Flour Factory (Table 5):

- For individual usage: Bedroom Units, Wet Areas.
- For common usage: Open Areas, Sitting and Resting Areas, Dining Areas, Kitchen, Laundry, Sports Area,

Cultural and Social Event Areas (cinema, theater, bazaar, conversation, exhibition, concert, etc.), and Production and Workshop areas (culinary arts, garden, computer and robotic coding, sewing, clothing production technologies, graphics, pictures, photography, ceramics, foreign languages, etc.).

Although the user group who will live here is young people aged 18–25, interaction with young people will be ensured by participating in activities and workshops with people from different socio-cultural and demographic backgrounds. As a result, with the proposed scenario, while young people learn to live independently, they will be involved in social life by interacting with different segments of society. With the participation of the citizens in different activities, the concept of community engagement will be supported by different segments of the society in economic, social, and cultural terms.

Fig. 5 Site plan of Altınbaşak Flour Factory (the numbers indicate new design proposals) (Source produced from 2D City Guide, İzmir Municipality)



Table 5 Previous building functions and proposed functions for Altınbaşak Flour Factory

	Previous functions	Future scenarios
1	Depot/production/service area	Sports area, cultural and social event areas
2		Production and workshop areas
3		Co-living
A	Open area	Social activities and green areas

5 Conclusion

In this paper, the potentials and the importance of regeneration of industrial heritage in İzmir and their contributions to city identity and socio-cultural sustainability were discussed. Afterwards, co-housing scenario proposals by re-functioning over two selected case studies, Piyale and Altınbaşak factories located in Bayraklı, İzmir, were put forward. Both selected buildings have been addressed by focusing their previous functions, site plans, locations, and surroundings in detail for the co-housing scenario proposals. Apart from these focuses, potential user groups and activities were determined while making suggestions for revitalizing and re-functioning the buildings. The co-housing scenarios are also proposed from the perspective of community engagement, social well-being, and socio-cultural sustainability which all support city identity creating different values. Both revitalization proposals include community alongside individuality, openness, collaboration, sharing, inquiry, experimentation, responsibility, and action, which are the main purposes of co-housing scenarios.

The 1st value, historic and more intrinsic values of industrial heritage are so important in terms of carrying

memories and customs is realized by creating memory spaces in Piyale Pasta Factory with the museum, silos, printing house, and open area activities. The 2nd value, industrial heritage, has artistic and aesthetic values, and is provided by preserving the existing buildings and their materiality not only on an architectural scale but also on an urban scale by creating open-air activities and integrating the citizens with the users of the building. For the 3rd value which offers scientific and technological contributions of industrial heritage, production technologies of the factories will be exhibited with different media facilities, and industrial buildings' construction details/materials will be preserved like the concrete and steel silos of Piyale Factory. The economic value of industrial heritage, which is the 4th contribution, is trailed by the new economic value coming about because of their combination with new functions and activities: workshops, educational activities, recreational facilities, etc. Both design proposals include social value, the 5th one, by creating a sense of identity with their specific activities unique to the site, city, and environment, namely eco-friendly projects, city-gardening, workshops, sports areas, and integrating different socio-cultural groups from different ages in various platforms. They have universal aspects due to being evidence of activities with historical

results, and a minority in terms of the survival of particular processes: both located in the newly developed business district of the city have a very close relationship with the İzmir Seashore.

After the literature review and the suggestions made for the selected examples, it can be concluded that the re-use and revitalization of industrial heritage, which is important in terms of cultural heritage and socio-cultural sustainability, are of great importance for the city identity. With the re-functioning of the industrial heritage, the public awareness in the citizens will increase, and not only structures will be revived but also this approach will contribute to the environment in terms of effective usage of resources. In this way, the physical and cultural contribution of revitalization is not only architectural but also on an urban scale.

As concluding remarks, the reconsidering and re-functioning of industrial buildings contribute to social life as well as to community traditions. When these structures in the community are considered as a design issue, they will be valued and distinguished by citizens. Thus, the building will be successfully conserved with its physical (tangible) and cultural (intangible) values. With the guidance of these values, selected case areas will be started to be evaluated as monuments of the industrial heritage of the city and they enrich the soul of the city.

References

- Acar, Y. (2011). *Urban transformation within the interface of design and administration: The case of İzmir Harbor District* (Publication Number 305131) [Master thesis, Middle East Technical University] Council of Higher Education Thesis Center.
- Ançın, H. K. & İhlamur, S. G. (2011). *Piyale - 87 yıllık bir markanın yol haritası*. slideshare. Link: <https://www.slideshare.net/hubbudunya/piyale-son>.
- Atılğan, D., Birol Akkurt, H., Savaşır, G., & Alpaslan, H. İ. (2009). Alsancak Liman Arkası Bölgesi için senaryolar. *Ege Mimarlık*, 72, 44–48.
- Ballice, G., & Paykoç, E. (2014). Re-architecture of existing building stock with sustainable approach: The analysis of the city of İzmir. *Journal of Environmental Protection and Ecology*, 15(4), 1610–1618.
- Bayındır, E. A. (2009). *Integration of industrial heritage areas into the city through urban design: The case of Sümerbank Nazilli Textile Factory Campus*. (Publication Number 613238) [Master thesis, Middle East Technical University] Council of Higher Education Thesis Center.
- Big Eye Agency. (2020). *What's the difference between co-living and co-housing?*. <https://www.bigeyeagency.com/insights/whats-the-difference-between-co-living-and-co-housing/>.
- Bilsel, C. (2000). 19. yüzyılın ikinci yarısında İzmir'de büyük ölçekli kentsel projeler ve kent mekanının başkalaşımı. *Ege Mimarlık*, 36, 34–37.
- Bilsel, C. (2009). İzmir'de Cumhuriyet Dönemi planlaması (1923–1965): 20. yy. Kent Mirası. *Ege Mimarlık*, 12–17.
- Bottero, M., D'Alpaos, C., & Oppio, A. (2019). Ranking of adaptive reuse strategies for abandoned industrial heritage in vulnerable contexts: A multiple criteria decision aiding approach. *Sustainability, MDPI, Open Access Journal*, 11(3), 1–18.
- Ege'nin Manhattan'ı (2011). *Akşam*. Link: <https://www.aksam.com.tr/guncel/egenin-manhattani-74950h/haber-74950>.
- Google. (2019). [Google Street Image of Altınbaşak Un Fabrikası]. Retrieved September 11, 2020 from <https://www.google.com/maps/uv?pb=!1s0x14bbd8080838e26b%3A0x36a193e01d34f170!3m1!7e115!4shttps%3A%2F%2F5.googleusercontent.com%2Fp%2F-AF1QipOcHyipUnpWINLWXMyeMaJ-2yMskZbKAQuRrYGm%3Dw206-h160-k-no!5salt%4%B1nba%5C%9Fak%20un%20fabrikas%4%B1%20izmir%20tarih%3C%A7e%20-%20Google%20Search!15sCgIgAQ&%3Bimagekey=!e10!2sAF1QipOcHyipUnpWINLWXMyeMaJ-2yMskZbKAQuRrYGm&%3Bhl=en&%3Bsa=X&%3Bved=2ahUKEwiZqb-0n9zrAhWHaQKHQDCC5AQoiowCnoECBIQBg>
- Günay, Z. (2014). The golden horn. *Uludağ Üniversitesi Mühendislik Fakültesi Dergisi*, 19(2), 97–108.
- İzmir Büyükşehir Belediyesi (2020). Kentsel ve ekolojik omurga olarak Meles Çayırı: Ulusal ve Kentsel Tasarım Fikir Projesi Yarışması - alan tarihçesi. Link: <https://melesyarisma.izmir.bel.tr/CKYuklenen/2-1.pdf>.
- İzmir Büyükşehir Belediyesi. (2001). İzmir Liman Bölgesi için Kentsel Tasarım Uluslararası Fikir Yarışması. *Ege Mimarlık*, 40–41, 58–90.
- Karataş, N. (2010). Sabancı'dan aldı Ülker'e sattı. *Finans Gündem*. Link: <https://www.finansgundem.com/haber/sabancidan-aldi-ulkere-satti/296088>.
- Kaya, M. (2012). *İzmir-Salhane Bölgesinin kentsel hizmet merkezine dönüştürülmesi deneyiminde gayrimenkul geliştirme sürecinin değerlendirilmesi*. (Publication Number 328146) [Master thesis, İstanbul Technical University] Council of Higher Education Thesis Center.
- Kılınç, A. (2009). *Value assessment for industrial heritage in Zonguldak*. (Publication Number 255650) [Master thesis, Middle East Technical University] Council of Higher Education Thesis Center.
- Loures, L. (2008). Industrial heritage: The past in the future of the city. *WSEAS Transactions on Environment and Development*, 8(4), 687–696.
- McCament, K., & Durrett, C. (2011). *Creating cohousing: Building sustainable communities*. New Society Publishers.
- Noussaa, D. (2018). Urban regeneration and the search for identity in historic cities. *Sustainability*, 10(48), 1–16.
- Özbek Eren, İ. (2014). What is the threshold in urban regeneration projects in the context of urban identity? The case of Turkey. *Spatium International Review*, 31, 14–21.
- Özdel, D. & Özdel, İ. (2016). *İzmir'deki yaşam temposu 'Taşra' dinamizmini kaybetmemeli*. <https://www.arkitera.com/soylesi/izmirdeki-yasam-temposu-tasra-dinamizmini-kaybetmemeli/>.
- Roberts, P. (2000) The evolution, definition and purpose of urban regeneration. In P. Roberts, H. Sykes (Eds.), *Urban regeneration* (pp. 9–36). London, Thousand Oaks, New Delhi: Sage Publications, cited in Akkar, M. (2006) Kentsel dönüşüm üzerine Batı'daki kavramlar, tanımlar, süreçler ve Türkiye, *Journal of The Chamber of City Planners*, UCREA, 36, 2, p. 29.
- Scotthanson, C., & Scotthanson, K. (2005). *The cohousing handbook. Building a place for community* (Rev). New Society.
- Şekerci, Y., & Örmecioglu, H. T. (2020). Yakın tarihin önemli bir endüstri mirası olarak İzmir Tarihi Elektrik Fabrikası. *Ege Mimarlık*, 30(106), 38–43.
- TARKEM Tarihi Kemeralı'nın yeniden keşfi. (n.d.). Retrieved June 26, 2021, from <http://www.tarkem.com/>.
- T.C. Başbakanlık Devlet Planlama Teşkilatı. (1978). *IV. beş yıllık kalkınma planı özel ihtisas komisyonu raporu: Un ve unlu mamüller*. Devlet Planlama Teşkilatı.
- Tekeli, İ. (2017). *İzmir-Tarih Projesi: Tasarım stratejisi raporu*. (H. G. Kutlu, M. Çalışkan, G. Akyıldız, Ç. D. Kaplan & A.

- Korkmaz, 5th Ed.). Dinç Ofset. ISBN: 978-975-18-0180-7. Link: <http://www.izmirtarih.com.tr/pdf/TasarimStratejisiRaporu.pdf>.
- Türkmen Çelebi, B. (2018). *Urban transformation in İzmir/Bayraklı district*. (Publication Number 530533) [Master thesis, İzmir Institute of Technology] Council of Higher Education Thesis Center.
- Ujang, N. & Zakariya, K. (2015). The notion of place, place meaning and identity in urban regeneration. *Procedia: Social and Behavioral Sciences*, 170, 709–717.
- Ulusal Düzensiz Dergi. (2016). *Dünya sanayide kim kimdir: Hasan Tahsin Piyale - el presinden modern makinelere*. interpress. Link: <http://web.interpress.com/app/document/viewer/c5d3d7e7-4d73-4d7a-9818-b5a7e55737e8?cid=AZniyYewJwM%3D#.VuvxOo9OKUk>.
- Yandex. (2015). [Yandex Street View of Ozan Abay Cad.]. Retrieved September 11, 2020 from https://yandex.com.tr/harita/org/altinbasak_un_fabrikasi/1302655412/panorama/?l=mrc&ll=27.172700%2C38.451500&panorama%5Bdirection%5D=86.500000%2C10.000000&panorama%5Bfull%5D=true&panorama%5Bpoint%5D=27.172329%2C38.451482&panorama%5Bspan%5D=120.000000%2C61.538500&z=16.
- Yanfang, X., & Yinling, C. (2012). Cultural industrialization: A value realizing path for industrial heritage. *Cross-Cultural Communication*, 8(6), 104–107.



Revitalization of a Cities' Core: Visually Marking National and Orthodox Christian Identity Through the Institutional Buildings in Novi Sad

Natalija Stokanović

Abstract

This paper is about the reconstruction of three historical buildings in Novi Sad at the beginning of the twentieth century. The town was founded by the Orthodox people, mostly Serbs, who fled from the Ottoman-ruled Balkans to the Habsburg territories in 1690 and throughout the eighteenth century. After gaining national and religious autonomy, the Serbian people raised a cathedral church dedicated to Saint George in the center of Novi Sad. A Bishop's Palace was built next to the church, as well as the first elementary school, which later became *The First Orthodox Gymnasium*. These three buildings represented a core of the Orthodox part of the city, and since the Church dignitaries were the main representatives of the Orthodox people before the Emperor and other state authorities, Novi Sad soon became the religious, political, cultural, and educational nucleus of the Serbian people in this Catholic country. It was called *Serbian Athens*. After the Austro-Hungarian Compromise of 1867, the new Hungarian government began a process of Hungarization—a forced assimilation of non-Hungarian people—in order to preserve the unity of the Hungarian nation and territory. The authorities ordered the demolition of the Serbian Gymnasium in Novi Sad because the building was old, which Serbian people viewed as an attack on their religion, national identity, culture, and education. As the Cathedral church building was also old, the Serbs decided to rebuild these two important buildings, and to build a new, magnificent Bishop's Palace. Since these three buildings were among the most important buildings for Serbian people in Austro-Hungarian Monarchy, their representative rebuilding was a matter of freedom, reputation, and honor. The great importance that reflected in these buildings led to their representative architectural

appearance influenced by official political ideology. This paper explains why the Church administration intentionally invited two famous architects, Vladimir Nikolić and Herman Bolle, already proven in designing in Neoclassical and Neo-Byzantine styles. The façade of a building designed in Neo-Byzantine style had to have the recognizable elements of medieval Serbian churches, since it was believed the Middle Ages were *the Golden age* of the Serbian nation. National and religious identity was also expressed in icons, wall paintings, and stained-glass windows inside the temple. The national significance of the architectural and the artistic ensemble is recognized by the Ministry of Culture and Information of the Republic of Serbia, which is now financing the research and the digitization of its treasures, through the project *The artistic and archive treasure of Cathedral of Saint George in Novi Sad* (kultura.rs).

Keywords

Novi Sad • Saint George's Cathedral • Bishop's Palace • Gymnasium • Orthodox church • Serbian identity • Historical architecture • Serbian saints • History paintings • Neo-Byzantine architecture • Neoclassical architecture

1 Great Exoduses of the Serbs (1690)

Novi Sad is the administrative and cultural capital of the Autonomous Province of Vojvodina.ⁱ It was founded in the last decade of the seventeenth century, when territories north from Sava and Danube rivers became a part of Habsburg Monarchy, during *The War of the Holy League* (1683–1699).ⁱⁱ During its three-century long and dynamic history, many factors were shaping the city's different identities. Due to a range of layers, for the purpose of the conference *Cities' Identity Through Architecture and Arts*, the emphasis will be

N. Stokanović (✉)
Curator in Museum of Serbian Orthodox Church, Belgrade,
Republic of Serbia
e-mail: natalija.stokanovic@yahoo.com

put on the oldest part of the town as the core of what should become a European Capital of Culture for the year 2021.ⁱⁱⁱ

Novi Sad was founded by the Serbian people who fled from the Balkans in fear of the Ottoman revenge in 1690, and throughout the eighteenth century (Чакић, 1990, pp. 60; Слијепчевић, 1991, pp. 320; Бешлин, 2014, pp. 70). From the late Middle Ages onwards, the Orthodox people often migrated from the Balkans, but the Great Exodus of the Serbs in 1690 was bigger, massive, the most important in Serbian history, because this time, the focus of Serbian religious and political life was shifted from the Balkans to the Habsburg Monarchy (Слијепчевић, pp. 26; Бешлин, pp. 70). Old Serbia collapsed. The higher and lower clergy fled, led by the Patriarch, and they left centuries-old churches and monasteries, carrying the shrines and relics of Serbian saints with them. Many people fled, led by the community elders and merchants (Слијепчевић, pp. 26; Бешлин, pp. 70). They settled in a state whose ruler was a patron of the Roman Catholic Church. The laws of the state were based on the principles of Roman Catholic ecclesiastical laws, and they were binding for non-Catholics too (Точинац, 2001, pp. 151).

Since there were no noble leaders of Serbian people in the Ottoman Empire, there was only the Orthodox church clergy. As the only people with some education gained in monasteries, only the clergy members were competent to stand up for the people and organize a new life in the foreign land. Traditionally, up until the nineteenth century, until the rise of the national idea, religious institutions held together all dimensions of identity: the community dimension through organized diocese, parish, and gathering of believers; the ethnic dimension through values and norms of behavior; the cultural dimension through the specific cultural heritage; and the emotional dimension through traditional rituals and celebrations (Halpern-Ruano-Borbalan, 2009, pp. 13–14).

The Serbian Orthodox clergy, with Patriarch Arsenije III Čarnojević and his inheritors, gained *The Privileges* (1690, 1691, 1695, etc.) from the Habsburg Emperors. *The Privileges* were legal acts that should have assured the autonomy of the Orthodox Church, educational institutions, and freedom of ethnical identity in strictly Catholic Monarchy (Давидов, 1994). The territory where they settled was the land of Hungarian nobles, who fled before the Ottoman invasion. The Catholics, both Austrians and Hungarians, viewed the Balkan settlers as *Others* (Said, 2008). They were allowed to live on that land, under the command of the Patriarch, and directly under the Austrian Emperor's protection as his army. In return, they were to protect the Monarchy borders and to stay loyal to the Emperor. With the first *Privileges* issued in 1690, Leopold I made Military Frontier against Non-Christian enemies, made of Serbs, who were familiar with the fight against the Turks (Давидов,

1994; Србуловић, 2011, pp. 25; Чакић, 1990, pp. 60; Слијепчевић, 1991, pp. 320).

For immigrants, especially for those who have been forcibly expelled from the native country in which they grew up and formed values, identity building is a continuous dynamic of conflict with the dominant values of the society of the country of immigration, and the affirmation of one's own individual values (Halpern-Ruano-Borbalan, 2009, pp. 9–10). The Serbian Orthodox Church had the key role in establishing, forming, and keeping already formed individual and collective identities, especially in this situation, in which the Patriarch and the Bishops established conditions to settle in a foreign Catholic country, even before moving, anticipating trouble with the Ottoman authorities.

Novi Sad was one of many new settlements. It was known under the names *Šanac*, *Petrovaradinski Šanac*, *Shantz of Petrovaradin fortress*,ⁱ due to a medieval fortress that was restored (1694) across the river Danube. But also, today's Novi Sad was called *Ratzenstatt*,^{iv} *Serbian village*, *Serbian settlement*, etc. (Миросављевић, 1991, pp. 17; Станчић, 2014а, 2014б, 2014с, pp. 101–106; Бешлин, 2014, pp. 70). From the beginning, statistics and censuses showed that the majority of the population were Orthodox Serbs (Шмит, 1991, pp. 9–11; Бешлин, 2014, pp. 71–72). Only half a century later, in 1748, this settlement officially became a city, by the proclamation for *Libera Regiae Civitas* assigned by Empress Maria Theresia. Her Highness gave the city a Latin name *Neoplanta*, German *Neustadt*, or *Novi Sad*, translated into Serbian (Стари Нови Сад, 1991, pp. 43–51; Србуловић, pp. 49; Бешлин, pp. 74). Because of its good strategic position on the *Imperial road*, the whole region started gravitating toward Novi Sad, and Novi Sad began to expand in all directions toward periphery, inhabited by Orthodox and Non-Orthodox traders (Ђурчић, 2007, pp. 96–114). Only half a century since the foundation, the city gained multi-confessional, multi-ethnic, and multi-national identity. The cultural diversity of this newly formed city was reflected in urbanistic, architectural, and artistic solutions. Today, it can be seen only in temples of different faiths in the city.

The focus of this research will be on shaping these very important Serbian institutional buildings, Saint George's Orthodox Cathedral, Bishop's Palace, and *The First Orthodox Gymnasium* in Novi Sad, at the beginning of the twentieth century. Together with auxiliary buildings, they were built during the first half of the eighteenth century as an ensemble, and they represent an attempt of visually marking and presenting Orthodox Christian and Serbian national identity. Religious and national identity were expressed in architecture, liturgical items and books, icons, and stained-glass windows inside the temple. Most of them were

ⁱ Ger. Shanze, eng. trench, ditch.

made from 1899 to 1906, during the complete old-town reconstruction.

The research started as a master thesis of the author of this paper, and it involves fieldwork, archival research, multi-disciplinary approach, as well as the conclusions of the earlier researchers, since Novi Sad has always been interesting for the researchers from all fields of social and human sciences. By considering multiple lines of evidence, this paper is a review of different perceptions and the significance of this institutional ensemble in Novi Sad, Republic of Serbia, and Europe today. The importance of this subject is recognized by the Serbian Ministry of Culture and Information, which is now financing the research and digitization of its treasures, through the project *The artistic and archive treasure of Cathedral of Saint George in Novi Sad*.

2 New Settlement

From 1692² to 1748,³ *Serbian village* was the military settlement on the new Habsburg southern border with the Ottoman Empire. In this part of its course, the Danube is at its narrowest point near the Petrovaradin fortress (Ђурчић, pp. 97), suitable for the construction of bridges and harbors. A restored medieval fortress at that point had to be protected from the Ottoman invasion. Logically, the first habitants of the settlement were mostly not only soldiers but also merchants and craftsmen (Србуловић, pp. 26; Бешлин, pp. 72). There was a rule that non-Catholic folk could not mix with Catholics, so they couldn't live in the Fortress of Petrovaradin, not even around it. That's why Orthodox settlers made a military station on the swampy land of the Danube shore, across the Fortress of Petrovaradin. They built Mostobran,⁴ which was connected by a pontoon bridge with the Fortress (Ibid; Ibid).

In this early time, the settlement formed as a *ville spontainée, chance-grown, or geomorphic settlement* (Kostof, 2017, pp. 43). The settlers expected to return to their lands, believing their homeland would soon be free, so the first houses, church, and school were made for temporary use only. Šanac looked like a semi-oriental town, with narrow muddy streets, houses made of wood and mud, with doksat balconies (oriental bay windows), and trade and craft shops on the ground floor, opened to the streets, similar to bazaars, since the Balkan immigrants adopted the oriental way of building after living under the Turkish rule for several centuries (Полит-Десанчић, 1899, pp. 10–16, pp. 24–26; Стари Нови Сад, 1991, pp. 97–101). Houses were erected

on alluvial timbers, raised from floodplain land. They formed the oldest streets and squares, Golden timber, Danube street, Ћурчијска⁵ street, and Fish market (Fig. 1). These places can be seen on the first military maps (1698, 1716, etc.) (Станчић, 2014a, 2014b, 2014c, pp. 101–109), and they still exist. Today, these streets are protected as a historical and cultural heritage, as a nucleus of *Old Novi Sad*, made up on the basis of the condition of the soil around the Danube, professions of a group of people, and confession, which tells us a lot about layers of community identity. Those names are a product of the everyday life of eighteenth century people, with no political toponym manipulation (Radović, 2013, pp. 16). Street and square names significantly form the identity of the city (Radović, 2013, pp. 15), and before Novi Sad was declared a *free royal city* in 1748, the urbanization of the city wasn't politically controlled (Obšust, 2020, pp. 132). It developed with the passage of time, with instinctive growth on the lay of the land, depending on the daily life of the citizens (Kostof, 2017, pp. 43).

During the last decade of the seventeenth century, the main concern of the settlers was to establish a normal, functional life. On the military maps, the emphasis was on the strategic objects—on the Fortress and Mostobran—and the sacral objects were not depicted (Станчић, 2014a, 2014b, 2014c, pp. 101–109). Despite that, it is known that at the turn of the centuries there was a military church, made of wood, dedicated to Saint George, The Holy Warrior. By the end of the first decade of the eighteenth century, the settlement developed so quickly that the Patriarch decided to move the seat of the Bishop of Diocese of Bačka from Szeged to Petrovaradin Šanac, and make a new political center of this place (Миловановић–Јовић, 1988, pp. 20). A school building in the churchyard was first mentioned in 1703 (Ђурђевић, 2018, pp. 151). In the same churchyard, there was also one of the first graveyards, made on a confessional base (Обшуст, 2020), all around the church, as the archaeological excavation reports are showing us.^v

Part of the town bounded by these streets represents a block of “identity buildings” that would soon become the nucleus of the Orthodox Balkan immigrants' confession, politics, culture, and education, in all Habsburg Monarchy and wider. The Orthodox people lived here under military authority, and under different kinds of laws than the rest of the fast-growing town. It is even possible to see that on the map from 1745, where the red zone is a military part of the town, and the yellow zone is under the county administration (Fig. 1).

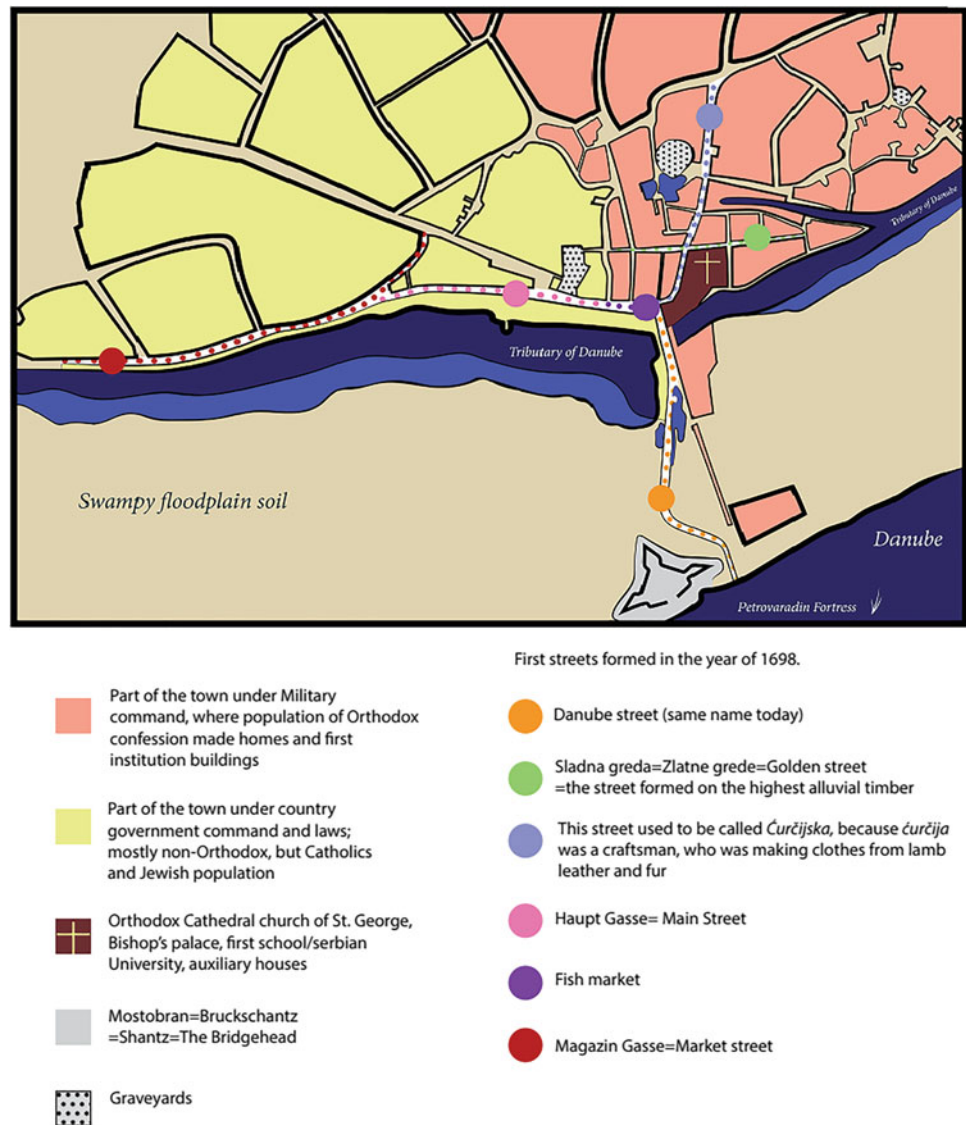
² First time mentioned in military reports.

³ Since founding at the time of *The War of the Holy League*, until it became *Libera Regiae Civitas* (1748).

⁴ Ger. Der Bruckschantz; eng. The Bridgehead.

⁵ Ћурчија was a craftsman who was making clothes from lamb's leather and fur. In this street, there were a lot of craftsmen, and craftsmen were united in guilds.

Fig. 1 Map based on the maps of Petrovaradin Šanac from years 1698, 1716, and 1745 (Author Nataša Životić)



3 Orthodox Bishop Visarion Pavlović

When it became clear that the Balkans would not be liberated soon, and that they would not return to their homes, the Serbs began building churches from stronger materials. They wanted to set up schools and to maintain their ancestral religion where they settled. Official instructions from the top of the Orthodox Church were that every new settlement should have a magnificent church, lit and equipped for the Orthodox liturgy, with the necessary objects and books (Кулић, 2007, pp. 26). They started building baroque churches, modeled on Central European temples, appositely as a model of representativeness and dignity, on a par with the institutions and churches all around Europe (Медаковић, 1980, pp. 165). Small and gloomy churches, made of wood

and mud, couldn't stand for the institution that should have protected autonomy.

Bishop of Bačka Visarion Pavlović built a baroque church in Petrovaradin Šanac (1731), with bell-tower higher than the town's homes (Матић, 2010, pp. 10–11) (Fig. 2). He also built the first Bishop's Palace in the churchyard (1741) (Петковић-Николић, 2020, pp. 5), and formed the first higher education institution for Serbs, a Latin-Slavic school named *The Church of the Nativity of the Holy Theotokos school*, active until 1789, which is considered the first University among Serbs (Шијаковић, 2012). Bishop Pavlović and the Serbian Orthodox Church Community were aware of the fact that only solid education in the Latin language could ensure a better future for the Serbian people in the Habsburg Monarchy, so they wouldn't be irrelevant *Others* (Said, 2008). At a time when even many officials of

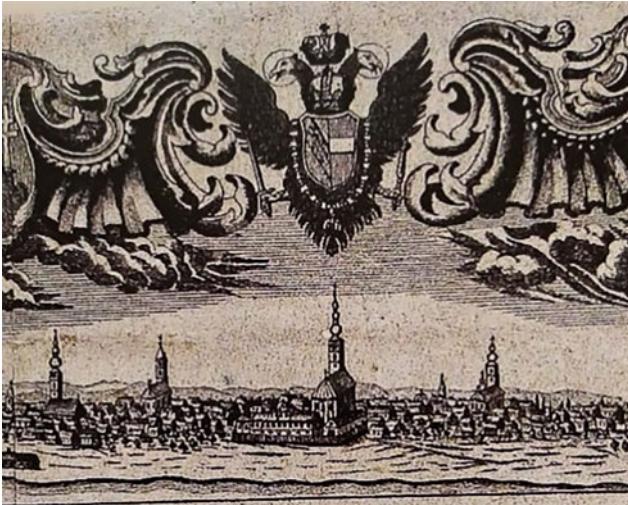


Fig. 2 Part of the graphics of Novi Sad from the year 1772, with the Orthodox Cathedral presented as the center of the town (Author Zaharije Orfelin. Graphic is kept in Museum of Serbian Orthodox Church and in many other institutions)

the Empire still did not know how to read and write, the bishop educated many generations of Serbs, allowing them to engage in normal life in the new state (Страјић, 1947, pp. 105; Ђурђевић, 2018, pp. 160).

Petrovaradin Šanac went through various forms of urban reorganization, but the political interventions of the secular authorities did not occur until 1748, when Novi Sad was declared a free royal city (Обшуст, 2020, pp. 135–136). That's why we can tell that the first foundation of purposely formed urban nucleus happened when bishop Visarion was at the head of the Church, since he established the aforementioned buildings as the most important religious, political, cultural, and educational centers of the Serbs in the Habsburg Monarchy and wider. He did it because of a humanistic vision of a brighter, prosperous future, in every way, for Serbian people.

4 Hungarian Bombing of Novi Sad in 1849 and the Hungarization

When the Hungarian revolt against the Habsburg authorities broke out in 1848, the Serbs at first wanted to stand aside and not to interfere. In their fight for independence, the Hungarians started to put the pressure of *Hungarization*^{vi} on non-Hungarian people in the Habsburg Monarchy, so the Serbs had to fight back to preserve their autonomy (Србуловић, pp. 85–98; *Стару Нову Сад*, pp. 102). The Hungarians believed they had a historic duty to maintain their kingdom's independence, and recognized that strength to this end would come from the linguistic and cultural homogenization of the population (Lyon, 2008, 61). Serbs

started resisting political and cultural assimilation by burning parish books written in the Hungarian language in the churchyard of the Saint George Cathedral (Бешлин, 2014, pp. 67; Крстић, 2013, pp. 87). It happened after the government told them there were no Serbian people in Hungary, only Hungarian people. When the imperial army arrived in Novi Sad to quell the Hungarian rebellion, Hungarians fled to the Petrovaradin Fortress and fired cannons at the city. The Hungarians destroyed almost the whole Novi Sad (1849) (Ibid; ibid). After the rebellion was quelled, Serbian representatives went to Vienna before the Emperor, asking him to help them rebuild their homes and churches. For staying loyal to the Crown, Emperor agreed to help them (Гавриловић, 2016, pp. 116). Many cities in Hungary were destroyed, but Novi Sad, as the most important city for Serbian people, was almost completely razed to the ground. After that, Novi Sad became the center of the Serbian autonomy movement. The Cathedral church and school were repaired for basic use only, and the Bishop's Palace was built only half a century later (1901) (Станчић, 1989, pp. 214).

Hungarian Revolution brought results two decades later. Magyar control of Hungary proper was near-total after the Austrian concessions in the *Ausgleich* of 1867, known also as *The Austro-Hungarian compromise* (Lyon, 2008, pp. 60). Magyar nationalism became increasingly imperialistic in Hungary after the 1880s, when "it became a political axiom that either the Magyars would assimilate the nationalities or the nationalities would destroy the Hungarian state" (Jaszi, 1929, pp. 318; Ibid, pp. 62). The complex political situation in the last decade of the nineteenth century in the Austro-Hungarian Monarchy culminated in *The Millennium celebration* in 1896 (Миловановић, 2016). The Catholic Church was also a promoter and vehicle of Magyarization (Lyon, 2008, pp. 62). There was a demographic increase of Catholic Magyar population, which caused the necessity for building up monumental *Name of Mary Church* (1895) (Станчић, 2014a, 2014b, 2014c, pp. 639). It is a romantic, Neo-Gothic church, with a 72 m high tower (Станчић, 2014a, 2014b, 2014c, pp. 639), which, at that moment, overtopped all other buildings in the city. It was underlined with the fact that the year 1895 was a Thousand years of alleged founding of the Millennial Kingdom of Hungary (Миловановић, 2016, pp. 6).

5 Great Renovation

A situation like this required all possible measures to be taken to protect religious and school autonomy, as well as the religious and ethnic identity of Serbs in the Dual Monarchy. One of the most important strongholds was found in the media of artistic expression of religious and

ideological beliefs. This also meant the architecture renovation of institution buildings. The situation culminated in the last decade of the nineteenth century, when the Hungarian authorities ordered the demolition of the building of *The First Orthodox Gymnasium* in Novi Sad due to its age. It was one of the oldest educational centers among Serbs in general, so Serbian people viewed that as an attack not only on their culture and education but also on their religion and national identity (Попадић, 1989). During the last decade of the nineteenth century, it was decided that it was time to renew the most important buildings in all their details—The Gymnasium and The Cathedral church of Saint George—and to build a new magnificent Bishop's Palace. Since these three buildings were among the most important buildings for Serbian people in Austro-Hungarian Monarchy, their representative rebuilding was a matter of freedom, reputation, and honor.

5.1 First Orthodox Gymnasium

The building of today's *Gymnasium Jovan Jovanović Zmaj* is considered to be one of the most representative palaces in Vojvodina from the beginning of the twentieth century, and the most modern school in Hungary. After the closure of the Latin School of bishop Visarion Pavlović (1789), the previous smaller building was still used for *The First Orthodox elementary school* (1781), and then *The First Orthodox Gymnasium* (from 1816) (Станчић, pp. 146–147). Generations of Serbs were educated in that school, who then conscientiously and dutifully fulfilled the mission of spreading culture, education, and ideology among Serbian people. This did not correspond to the interests of the educational and state policy of the Hungarian government, and therefore the autonomous and national character of the Gymnasium had to be preserved and maintained with great caution, wisdom, and ingenuity. By educating and through the ranks of students and professors, this high-school fought against Germanization, Hungarization and clericalism, and for national freedom (Драгосављевић–Савин, 2017). The petition of the Patronage of *The First Orthodox Gymnasium* was already announced in the September of 1892, but only after the urgent gathering of former students in 1896, a committee was set up to collect donations for school-building reconstruction (Петковић & Николић, 2020, pp. 3). The biggest contributor was baron Miloš Bajić, the grandson of Miloš Obrenović.^{vii} Gymnasium Patronage was led by Patriarch Georgije himself. After the competition, the plan of architect Vladimir Nikolić, the main architect of Patriarch Georgije, was accepted (1898), and the Neoclassical, academic architecture building was completed at the beginning of 1900. Above the front of the main portal, it was written *Baron Miloš Bajić to the Serbian people*, and today it reads:

Serbian Orthodox High School (Станчић, 2014а, 2014б, 2014с, pp. 439–440; Петковић & Николић, 2020, pp. 3). Not only the exterior looked impressive but also the interior had the most modern arrangement. It served the numerous needs of Serbian society. The Gymnasium hall was used by the Gymnastics association *Serbian Eagle*, for the students of *Girl's Gymnasium*, by The Singing society *Neven*, The Music school *Isidor Bajić*, and for *The Evening school of Youth Trade*. For the biggest Serbian religious holiday of Saint Sava, the great celebration was held in the Gymnasium hall. After the Second World War, the care of the school was taken over by the communist government, and the yard was divided by a fence into the schoolyard and the churchyard.

5.2 The Bishop's Palace

Bishop's Palace (Fig. 3) is an official residence of church dignitaries, and it was typically built next to the cathedral church (Кулић, 2012, 50). The first palace in Novi Sad, which was built by bishop Visarion Pavlović (1741), was burned to the ground in the Revolution of 1848/9. The bishops of Ваčka had tried for 50 years to build a new court, but without success. With the enthronement of Bishop Mitrofan Šević (1900), the present building of Palace was built (1901). The project for the construction was also made by Vladimir Nikolić, the main architect of Patriarch Georgije, without previous project-competition (Станчић, pp. 146–147; Петковић & Николић, 2020, pp. 7). It has impressive forms which represented the significance of the Orthodox Church institution in the public life of the Bishop. The facade of the court is crowned with a heraldic symbol of the Diocese of Ваčka (Миловановић–Јовић, 1982–1983, pp. 113). For the half of the century, Bishop's Palace was the center of public life.^{viii} From the post-war period to the present day, the life of the court takes place strictly in church administrative tasks related to the life of Diocese of Ваčka (Петковић & Николић, 2020, pp. 8–9).

The architectural characteristics of the Palace are eclectic style in the spirit of Teophil von Hanzen's decorations, and leaning toward national style of the early modern architecture (Миловановић–Јовић, 1982–1983, pp. 112–113; Кулић, 2012, pp. 96). It's a mixture of terracotta bricks and eastern lines, Italian Neo-renaissance and Neo-baroque elements, romantic biphora and triphora, which maintain the spirit of the Serbian-Byzantine heritage, and citations of Serbian-Byzantine medieval stone plastics—interweaves, herbal entanglements, capitals, etc. (Кулић, 2012, pp. 88, pp. 96).

The ambience of the court is preserved authentic. Inside, there are not only workrooms, and the rooms for the residence of the Bishop and his closest church associates, court chapel, but also a treasury, a library, and archive (Петковић

Fig. 3 Postcard from the beginning of the twentieth century, showing new-built Bishop's Palace (Digitalna biblioteka Matice Srpske 1905)



& Николић, 2020, p. 8). The furniture also corresponded to the function and many rooms, salons, and offices for the reception were luxuriously furnished, mostly in *Biedermeier style*, typical for civic intelligence. The guests were hosted in the salon with portraits of church dignitaries: Patriarchs, Mitropolit, Bishops, etc. The ceremonial dining room is also worth mentioning, decorated on the model of the old dining rooms of Serbian medieval monasteries and decorated with Serbian-Byzantine frescoes (Петковић & Николић, 2020, pp. 10).

5.3 Orthodox Cathedral of the Great Martyr Saint George

The first mention of the Cathedral renovation is found during 1892, while Patriarch Georgije was the administrator of the Diocese of Bačka. Despite the church building being repaired in the 50s of the nineteenth century, after the Revolution, it was very clearly stated that the long-standing urgent need for renovation was encouraged by the aspiration of Serbian people in Dual Monarchy to preserve Church and School autonomy, national identity, and dignity. When Bishop Mitrofan finished the Palace (1901), the Church Community raised again the issue of the new church: *Finally, harmony demands that the gap between the Episcopal court and the First Orthodox Gymnasium, which are characterized by beauty and imposingness, fills the magnificent temple worthy of numerous Serbs in this city* (Administrative Board of Eparchy of Bačka, No. 1958/727 ex 1903). It was also said that *The Community was full of will to renovate its St. George Cathedral as best as possible, all to the Glory of Serbian Orthodoxy, and for the sake of*

strengthening the feelings of that Orthodoxy in the local Serbian life (Administrative Board of Eparchy of Bačka, No. 3366/1253 ex 1903; Church Convocation 36/1903), so they used all the sources they had, the donations and foundation sources.

It is known that the Serbian people in Novi Sad wanted for decades to build a new church in the Serbian-Byzantine romantic redesign. Emphasizing national identity at the Cathedral architecture was especially important for the Community, because it would influence ideologically from the outside as well (Савић, 1905, pp. 129). There was a desire among the people that new church should be erected in the Neo-Byzantine style, according to the model of monastery Ravanica, the foundation of Medieval Serbian Prince Lazar (Савић, pp. 129). That's why Church Municipality first got in touch with Herman Bolle in 1896, who submitted architectural plans for building and iconostasis in 1897. He considered that baroque and neoclassical churches were not suitable styles for Orthodox churches. In accordance with that, Bolle designed in the Neo-Byzantine style, which was in his case extremely eclectic, because he combined motifs from Byzantine architecture with those from Early-Christian and Russian art, Romanesque and Renaissance (Damjanović, 2013, pp. 227) (Figs. 4 and 5). He said he used those shapes in combination with shapes from Serbian old temples (Bolle, 1907, pp. 20). It was expected from him to use for models the art of medieval Serbia (Damjanović, pp. 229). These plans are considered Bolle's most decorative Byzantine project, but they were not realized, because they were too expensive, and because experts from Belgrade decided that Bolle's plans would not provide the Community the monumental temple it needs (Станчић, 1987, pp. 218). In Serbia, there was an *autochthonous form*

Fig. 4 Bolle's plan for renovation in Neo-Byzantine style (The Archive of Zagreb County)



Fig. 5 Bolle's plan, front plan (The Archive of Zagreb County)

of Serbian-Byzantine style, formed by the reinterpretation of elements of Moravian architecture of monasteries Lazarica, Ravanica, Manasija, Kalenić, etc. (Макуљевић, 2007, pp. 233). At the end of the century, sacral buildings were built according to plans based on this group of temples, which became a model from the *Golden age* of Serbian national culture and sacred art (Макуљевић, pp. 233). It was believed that by building the Cathedral in Novi Sad on the model of Serbian medieval monastery Ravanica, together with the portrait of Prince Lazar inside the church, the temple would be a supplement to the monastery Ravanica in Srem, close to Novi Sad, where the Relics of Prince Lazar are kept (Савић, 1904, pp. 163). Since material possibilities of the Church Community were still modest, the plan of another architect, Mihael Harminc, was chosen and realized (Станчић, 1987, pp. 218) (Figs. 6 and 7). Cheaper renovation in Baroque-Classicistic style, following the example of the church in Budapest, still represented high cultural achievements and status of the nation and the Orthodox Church (Макуљевић, 2006, pp. 182).

The Church Municipality completely renovated the interior of the Cathedral. Everything was new—iconostasis, wall painting, stained-glass, wall coverings, furniture, crosses, icons, chandeliers, etc. Invitation to Paul Jovanović, the most famous Serbian painter in the world at that time, was



Fig. 6 Orthodox Cathedral in Novi Sad (1902–1905) (SDMCIR, 2020)

Fig. 7 Orthodox Cathedral in Novi Sad, reconstructed by the plan of the architect Mihailo Harminc (1902–1905) (SDMCIRS, 2020)



deliberated, and aroused great interest in Novi Sad and wider. It was believed that a celebrated Serbian painter would give the best contribution to the magnificence and the significance of the Bishop's Church of *Serbian Athens*.

Without diminishing the primary liturgical significance, the basis of the art program was also the national ideology. It was created in the function of strengthening national identity through the characters of Serbian Saints, Archbishops, Medieval rulers, and Heroes, who were respected by the people as Saints (Макуљевић, 2003). Their emphasis was on the service of both religious and national determination, as the protectors and representatives of the Serbian people before God (Ibid.).

Two important events from the life of Saint Sava, the founder of Serbian Orthodox Church and its first Archbishop, are presented in the choirs. These are the compositions *Saint Sava reuniting the brothers* (Fig. 8) and *Saint Sava crowning Stefan the First-Crowned* (Fig. 9). In the medieval past, Church found the elements of continuity, the basis of legitimacy and independence, as well as arguments for its activities, referring to its founder, which is why the cult of Saint Sava had a prominent place in Serbian church life and art from the eighteenth century, the time when it was endangered (Макуљевић, 2003, pp. 205). Also, Saint Sava was the protector of Vojvodina (Грујић, 1935, pp. 133). Apart from being the saint, he was also regarded as a hero of the nation, and the celebration of his day has become one of

Fig. 8 Saint Sava reuniting the brothers (Jovanovic, P. 1905)



Fig. 9 Saint Sava crowning Stefan the First-Crowned (Jovanovic, P. 1905)



the most important Serbian traditional manifestations since the middle of the nineteenth century (Макуљевић, 2006, pp. 101–106). Also, these two historical compositions from the choirs of the Cathedral are based on significant historical events of Serbian rulers from the Nemanjić dynasty. Thus, they transcended the religious meaning, and acquired a national-propaganda meaning (Костић, 2013, pp. 33), in accordance with the current political and social situation of Serbian people in Austro-Hungarian Monarchy (Арађанин, 2020).

Saint Stefan of Dečani, the Venerable Mother Angelina, Tzar Uroš, Olivera (a daughter of Prince Lazar), and Princess Milica (a wife of Prince Lazar) are painted on the stained-glass windows (Станчић, 1997).^{ix} Icons of Serbian medieval rulers and saints are painted on the iconostasis, the most important liturgical element of interior—Saint Simeon, Saint Stefan of Dečani, and Saint Peter of Cetinje, all of them with the models of monasteries they founded, as well as Saint Prince Lazar, as a Holy Warrior and Protector of the Serbian nation.

Fig. 10 Saint Simeon
(Jovanović, P. 1905)



Fig. 11 Saint Peter of Cetinje
(Jovanović, P. 2020)



Saint Simeon (Fig. 10) is painted in his monk's robe, with a model of the church of the Hilandar monastery in his hands, and his monastery of Saint George on the hill, painted behind him. On a purple pillow next to him are royal insignias—scepter, orb, and crown. His state-building role was also pointed out, as well as his renunciation of secular authority for the sake of consecration to the Church and God. Saint Peter of Cetinje (Fig. 11) is painted at the

same place on the opposite end of the iconostasis. He was dressed as the Archbishop. The monastery and the city of Cetinje are represented behind him, which he restored after it was burned by the Turks, and it was a place of his rule (Pejović, 1981, pp. 443). He holds the Book of Gospels in his hands, which clearly represents his mission of maintaining Orthodoxy among the Serbian people of Montenegro. Also, he holds a sword in his hands, as a symbol of his

active struggle for the establishment of the Montenegrin state at the time of weakening the Turkish feudal system (Peјовић, 1981, p. 443).

By presenting two Serbian Saints who established Serbian autonomous countries by the principle of mirror, it was pointed out that the Serbian Orthodox Church is the heir of their spiritual heritage and the guardian of the national unity of the Serbian people. Prince Lazar was the Martyr (Fig. 12), one of the main figures of Kosovo myth, extremely actual and present in Serbian national ideology in the nineteenth century. His relics represented at that time one of the most important pilgrimage centers of the Serbs (Макуљевић, 2003, pp. 198). His relics were of great importance, because they established the faith, were the part of church's legitimacy, and were an important element of national maintenance (Ibid). Prince Lazar's helmet had bull's horns, as shown on the money of Prince Lazar and his successors, but here was replaced the helmet with an imperial crown on its forehead, and a double-headed eagle symbol, which shows an attempt to derive ruling and state legitimacy from the glorious Serbian Medieval Empire (Ацовић, p. 202).

The red triangular shield with the Serbian coat of arms is also an anachronism, because such a shield was defined during the proclamation of the Kingdom of Serbia in 1882, when the coat of arms of the Principality of Serbia was combined with a honorary cross with four points, and old flags of Medieval Nemanjić Serbia (Соловјев, 2000, pp. 92–94). With this shield, the painter Paja Jovanović pointed out the essence that Prince Lazar gained martyrdom as a warrior and protector, in the fight for the Serbian people and countries (Ibid). Saint King Stefan of Dečani (Fig. 13) is painted in the Byzantine royal costume and marked as *the king of all Serbian lands*. Historical compositions of Serbian saints had a certain function in the space of temple, to remind believers of events and saints from the national past, encourage patriotic feelings and convey complex moral and didactic messages (Макуљевић, 2003, pp. 207–208). Thus, through the art, the Church nurtured respect for Serbian Saints in the faithful, referred to certain events in history, shaped religious and national identity, and ensured its duration in future (Макуљевић, 2007, pp. 72–81).



Fig. 12 Prince Lazar (Jovanović, P. 1905)



Fig. 13 Saint Stefan of Dečani (Jovanović, P. 1905)

6 Novi Sad Today

To understand the identity of Novi Sad today, it would be a mistake not to mention three political incidents that happened during the twentieth century. At the beginning of the First World War, non-Hungarian citizens of Novi Sad were suffering under occupation. Also, in the Second World War, a misunderstanding culminated in a massacre of civilians in southern Bačka. Hungarian royal military troops killed 1246 civilians in Novi Sad only,^x and threw their bodies in the frozen Danube river. Today the memory of this incident is very much alive, especially since some of the witnesses of the occupation are still alive. It shaped the identity of this city forever, just as the Hungarian bombing of the city the century before. In 2012, Eparchy of Bačka made a movie *Children of Immortality* (Буловић, И & Стокановић, Д 2012) dedicated to the victims, with archival documents, video material, and interviews with the witnesses who lost their family members. In this movie, Production of Eparchy of Bačka presented the horrible event as *the fruit of the hatred of evil individuals*, not the whole political nation, even if it is well known it was an official political movement of the Hungarian government to get back Vojvodina. The message of the movie: remember but forgive. In 1999, Novi Sad was bombed by NATO forces, in the operation *Merciful Angel*, when all the bridges were demolished—*The Bridge of Petrovaradin Fortress*, *The Bridge of Freedom*, and *The Bridge of Žeželj*—just as many other important points of the city (NATO bombing of Serbia, 1999).

Since the 2000s, there is an official implementation of city branding typical today for societies with a conflicted past and without a unique national identity (Guld, 2015, pp. 373–374). Nowadays, it is constantly emphasized that 26 national minorities live in Novi Sad, next to the Serbian people. Through *Exit festival* and platform *Novi Sad 2021—European Capital of Culture*, the reconsideration of old values is promoted by creating new international character and decentralization of the town (Jovanov, 2002, pp. 180–188), which should contribute directly to the process of European integration of Serbia, as a key policy of the Government of the Republic of Serbia (Information Service of the Project, 2020). Symbolically, the name of the flagship project for the manifestation *European Capital of Culture* is *For new Bridges: Freedom, Rainbow, Hope and Love* (Information Service of the Project, 2020).

On the other side, everything is done to preserve the identity of the town where the first Serbian magazine was launched, where Eparchy of Bačka and Matica Srpska, the oldest cultural-scientific institutions of Serbian people, have been operating continuously for centuries, where the first national theater was opened, where the Serbian language was first adopted as the town's official language in a foreign

country, since the 1860s. There is a strong effort of the Government to keep and revitalize Serbian history and tradition. This scientific paper and support for the research of the Cathedral temple of Saint George, making the exhibition of the treasure of the Bishop's Palace for the year 2021/2, and general reconstruction of the facade the Palace also prove it. Looking back, in 2018, to commemorate the end of the First World War and the unification of Vojvodina with the Kingdom of Serbs, Croats, and Slovenians, the Government erected an equestrian monument dedicated to King Peter the Liberator, next to the Bishop's Palace, and in front of the First Serbian Orthodox Gymnasium. This year, Miloš Vučević, the Governor of Novi Sad, presented the November Award of the City of Novi Sad to his Eminence, the Bishop of Bačka, Mr Irinej. In his speech, the Governor said: *His Eminence has been the head of the Serbian Orthodox Church in Bačka for more than 30 years, and has made a great contribution to the renewal of the spiritual life and humanitarian engagement in Novi Sad. Bishop Irinej initiated an interfaith dialogue, was aware of his responsibility as a shepherd in a spiritual aspect of the life of our City, but also of the whole of Bačka; it permeated and connected various cultural institutions and citizens. This is the recognition for his work and commitment* (Informative Service of The Serbian Orthodox Church, 2020, October 23rd). Since the November Award is given to commemorate the end of the First World War, in his speech, after mentioning NATO bombing and demolition of bridges, Episcopate Irinej said: *This recognition actually belongs to our faithful people in Novi Sad and Bačka, as well as to all people of good will with whom we have cooperated and are cooperating, regardless of their religious or national affiliation. Novi Sad is an open city, a city for everyone, and that virtue was at least partially given to it by the Serbian people and its Orthodox ethos, as well as many individuals like today's laureates who made this city Serbian Athens with their hard work, dedication, sacrifice and love* (Informative Service of The Serbian Orthodox Church, 2020, October 23rd).

In the year 2016, Orhan Pamuk, the Turkish writer and Nobel laureate for Literature, expressed his desire to visit St. George's Cathedral, when he visited Novi Sad, where he was introduced to its history. Since the restoration at the beginning of the twentieth century, the Cathedral has been visited by many important people from culture and politics, but on this occasion an unusual event took place: after expressing gratitude to the fraternity of the temple for the warm welcome, the writer was the first person in history who got the honor to write something down in *The Annals of the Cathedral*, expressing strong feelings and experiences, while getting acquainted with the essence of this Orthodox shrines: *The beautiful and ancient temple, which has been demolished and renovated several times, represents the heart of*

this city and the source of the identity of the Serbian people (Diocesan Informative Service, 2016, December 20th).

Notes

- i. Today's territory of the Autonomous Province of Vojvodina was the part of Austro-Hungarian Monarchy, until the end of the First World War, when it officially became the north part of the new-born Kingdom of Serbs, Croats, and Slovenes, internationally accepted in the Paris Peace Conference (1919–1920).
- ii. Or *The Great Turkish War* was a series of conflicts between the Ottoman Empire and *The Holy League*, which consisted of the Habsburg Monarchy, Poland-Lithuania, Venice, and Russia. Intensive fighting began in 1683, and ended with the signing of *The Treaty of Sremski Karlowitz* in 1699. Losing the war, the Ottoman Empire lost its territories in Hungary and the part of the western Balkans. These lands became the part of Habsburg Monarchy until the First World War. Soon after, Serbian people and other the Balkan immigrants settled on that land (Mitchell-Kicošev, 1997).
- iii. During the process of writing this paper, it is decided that, because of the Covid-19 pandemic, Novi Sad will be *European Capital of Culture* for the year 2022.
- iv. It's a name which Germans and Hungarians used for Serbs, who lived in the Pannonian Basin. The name came from Medieval name of Serbian state Raška, Rascia. Over time, Germans and Hungarians started using it in a pejorative sense, and the Serbian people started insisting on using name Serbs.
- v. The archaeological excavations were done during the year 2007.
- vi. Magyarization may be best described as a kind of "soft oppression," or perhaps a "guided repression", because the main instruments were education, Magyar monopoly on the public sphere and administration, discrimination, prejudice, the reflexive assumption of Magyar cultural superiority, and finally the expectation that professional success in Hungary necessarily and self-evidently required assimilation (Lyon, 2008, 60).
- vii. Miloš Obrenović was the founder of the House of Obrenović. He was the ruler of Serbia for the first time from 1815 to 1839, and for the second time from 1858 to 1860. He led Serbian people in the Second Serbian uprising against Ottoman oppression. During his time, Serbia became an autonomous principality within the Ottoman Empire (Фажфрић, 2014).

- viii. Bishop Mitrofan used to receive the city intelligentsia in the court. After the end of the of the First World War and unification of Vojvodina with the Kingdom of Serbia, regent Aleksandar Karadjordjević, future king, appeared on the balcony of the palace, and the citizens of Novi Sad greeted him enthusiastically. The court was also a shelter for Russian emigrants between two World Wars. It is important to mention that during the time of Bishop of Irinej Ćirić, a hero who saved more than 3000 kids from the concentration camp in Ševar during the occupation, international gatherings were held in the Palace, and Serbian Orthodox church had a great importance in the international church movement (Петковић & Николић, 2020, 5–8).
- ix. Since stained-glass were restored several times, because they were crushed in World Wars, they won't be emphasized. It is not known to what extent they were faithfully restored. It is only known that originally those were the Saints who were firstly painted on the glass.
- x. It is known that there were 3809 victims in *Raid in southern Bačka*.

Acknowledgements I kindly thank MA archeologist Mihailo Radinović from Faculty of Philosophy in Belgrade, and translator Dijana Radinović for proofreading my paper. Also, I thank Marija Stanković, curator of Gallery Rima, and Teodora Dobrosavljević, MA art historian, for their professional advice, and great support as friends. I also thank MA art historian Ivana Arađan and historian Miroslav Nikolić, for lending me their research papers before they were published this year. I thank Duško Filipović and Rastko Stokanović for the great photographs, and for their dedicated work on the project *The artistic and archival treasure of the Saint George Cathedral in Novi Sad*. I thank them all because they selflessly shared their knowledge with me. I owe special gratitude to the Sector for Digitization of the Ministry of the Culture and Information of the Republic of Serbia, because it enabled me to photograph and scan the artistic and the archival treasure of the Cathedral, and to prepare the monography about the Cathedral. It is also important to mention that the church plans made by Herman Bolle are given to the author of this research paper by the Archive of Zagreb County, and that they were published before in the monography of the author Dragan Damjanović *Arhitekt Herman Bollé*.

References

- Administrative Board of Eparchy of Bačka, No. 1958/727 ex 1903.
 Administrative Board of Eparchy of Bačka, No. 3366/1253 ex 1903;
 Church Convocation 36/1903.
 Арађанин, И. (2020). Ликовни програм певница у Саборној цркви Светог Ђорђа у Новом Саду: историјске композиције припадника лозе Немањића, *Научни скуп Епархија Бачка кроз векове*, Нови Сад.

- Ацовић, Д. (2008). *Хералдика у Срби*, Завод за уџбенике и наставна средства, Београд.
- Бешлин, Б. (2014). Историја Новог Сада, *Уметничка топографија Новог Сада*, Матица српска, Нови Сад.
- Bolle, H. (1907). *Osnova za obnovu grčkoistočne diecezanske crkve u Novom Sadu, Vijesti hrvatskog društva inžinira i arhitekata*, 2.
- Буловић, И., & Стокановић, Д. (2012). *Children of Immortality. Production of Eparchy of Bačka*. <https://www.youtube.com/watch?v=u77dXDdysvU>.
- Гавриловић, С. В. (2016). *Записник новосадске Црквене општине из 1849. године*, Зборник Матице српске за историју, бр. 94, Нови Сад.
- Грујић, Р. (1935). Култ Светог Саве у Карловачкој митрополији XVIII и XIX века, *Богословље*, св. 2–3, Београд.
- Guld, M. (2015). *Brendiranje zemlje sa burnom prošlošću: Severna Irska, Destinacija kao brand*, Clio, 373–374.
- Давидов, Д. (1994). *Српске привилегије царског дома хабзбуршког*, Нови Сад.
- Damjanović, D. (2013). *Arhitekt Herman Bollé*, Leykam international, Muzej za umetnost i obrt, Zagreb.
- Digitalna biblioteka Maticе Spске. (1905). *Digitalised Postcard of The Bishops Palace in Novi Sad from the Beginning of the 20th Century and after restoration of The Cathedral Church*. <http://digital.bms.rs/ebiblioteka/pageFlip/reader/index.php?type=publications&id=630&m=2#page/1/mode/2up>.
- Diocesan Informative Service. (2016). *Orhan Pamuk visiting Serbian Orthodox Church of Saint George*. <https://eparhijabacka.info/arhiva/eparhija-backa.rs/sr/novosti/turski-knizevnik-i-nobelovac-orhan-pamuk-u-poseti-sabornom-hramu-u-novom-sadu.html>.
- Драгосављевић, С. Љ. (2017). *Српска православна велика Гимназија*. <https://www.kcns.org.rs/agora/srpska-pravoslavna-velikagimnazija/>.
- Ђурђевић, П. (2018). Утицај владике Висариона Павловића на развој школства у Новом Саду, *Епархија бачка кроз векове*.
- Informative Service of The Serbian Orthodox Church. (2020, October 23rd). *Епископу Иринеју Новембарска повеља града Новог Сада*. http://www.spc.rs/sr/episkopu_irineju_novembarska_povelja_grada_novog_sada.
- Јакшић, И. (1966). Из пописа становништва Угарске почетком XVIII века, *Војвођански музеј: прилози и грађа*, 2, Нови Сад.
- Jaszi, O. (1929). *The dissolution of the Habsburg monarchy*. The University of Chicago Press.
- Jovanov, A. (2002). *Uloga festivala Exit u razvoju identiteta Novog Sada*, *Kultura*, br. 122/123, Beograd.
- Кондић, П. (2014). Духовни стожер српског Сиона и Спарте, *Зборник радова са научног скупа Три века Карловачке митрополије 1713–2013*, Сремски Карловци: Епархија сремска; Нови Сад: Филозофски факултет, Одсек за историју: Мало историјско друштво.
- Костић, А. (2013). Представа *Свети Сава мири браћу* у српском црквеном сликарству XIX века, *Зборник Матице српске за ликовне уметности*, бр. 41, Нови Сад.
- Kostof, S. (2017). *The city shaped: Urban patterns and meanings through history*. Thames & Hudson.
- Крестић, Ђ. В. (2013). *Срби у Угарској 1790–1918*, Матица српска, Нови Сад.
- Кулић, Б. (2007). *Новосадске дрворезбарске радионице у 18. веку*, Галерија Матице српске, Нови Сад.
- Кулић, Б. (2012). *Дворци и летњиковци Војводине*, Покрајински завод за заштиту споменика, Нови Сад.
- Lyон, W. Ph. (2008). *After Empire: ethnic Germans and minority nationalism in interwar Yugoslavia*, dissertation submitted to the Faculty of the Graduate School of the University of Maryland, College Park.
- Макуљевић, Н. (2003). Средњовековне теме у српском црквеном сликарству XIX века: прилог рецепцији националног средњовековног наслеђа у српском сликарству XIX века, *Поствизантијска уметност на Балкану*, том I, ЗЛУМС 32–33, Нови Сад.
- Макуљевић, Н. (2006). *Уметност и национална идеја у XIX веку*, Завод за уџбенике и наставна средства, Београд.
- Макуљевић, Н. (2007). *Црквена уметност у Краљевини Србији (1882–1914)*, Филозофски факултет, Катедра за историју уметности новог века, Београд.
- Матић, В. (2010). *Саборна црква у Новом Саду*, Беседа – Платонеум, Нови Сад.
- Миловановић, Ј. (2016). *Миленијумска прослава 1896. године и њени одјеци у јужној Угарској*, Филозофски факултет Универзитета у Београду.
- Миловановић–Јовић, О. (1982–1983). Валоризација и обрада архитектонског наслеђа уже зоне старог језгра Новог Сада, *Грађа за проучавање споменика културе Војводине XI–XII*, Покрајински завод за заштиту споменика културе, Нови Сад.
- Миловановић–Јовић, О. (1988). *Уметност у Бачкој у XVIII и првој половини XIX века: архитектура*, Нови Сад.
- Миросављевић, В. (1991). Нови Сад око 1716. године, *Стари Нови Сад*, Књижевна заједница Новог Сада, Нови Сад.
- Michael, B., & Kicošev, S. (1997). A brief population of the Vojvodina 1683–1718. *Geographica Panonica*, 1, 18–21.
- NATO bombing of Serbia. (1999). <https://www.youtube.com/watch?v=5nQmqUWz3NI>.
- NATO bombing of Varadin Bridge. (1999). https://www.youtube.com/watch?v=wLg2JA4r_g.
- Information Service of the Project. (2020). *Novi Sad: european capital of culture 2021/22*. <https://novisad2021.rs/novi-sad-2021>.
- Обшуст, К. (2020). *Прилог проучавању званичне културе сећања Новог Сада у контексту истраживања антропологије града*, Гласник Етнографског института САНУ LXVIII (1).
- Sector for Digitalisation of The Ministry of Culture and Information of Republic of Serbia (SDMCISR). (2020). *The artistic and archive treasure of Cathedral of Saint George in Novi Sad*. <https://kultura.rs/zbirka/141>.
- Пејовић, Д. Ђ. (1981). *Црна Гора у доба Петра I и Петра II: оснивање државе и услови њеног опстанка*, Народна књига, Београд.
- Петковић, Г., & Николић, М. (2020). Архитекта Владимир Николић и Владичански двор у Новом Саду, Нови Сад.
- Полит-Десанчић, М. (1899). *Покојници*, *Стари Нови Сад*, Књижевна заједница Новог Сада, Нови Сад.
- Information Service of the Project (2020). *Novi Sad: european capital of culture 2021/22*. <https://novisad2021.rs/novi-sad-2021/programski-koncept/>.
- Radović, S. (2013). *Grad kao tekst*, XX vek, Beograd.
- Said, E. (2008). *Orijentalizam*, XX vek, Beograd.
- Савић, М. (1903, 25th December/1904. 7th January). Код Паје Јовановића, *Бранково коло*, бр. 9.
- Савић, М. (1905). *Обнова Саборне цркве новосадске*, *Летопис Матице српске*, св. 4.
- Слијепчевић, Ђ. (1991). *Историја Српске Православне Цркве*, књ. 2, БИГЗ, Београд.
- Соловјев, А. (2000). *Историја српског грба и други хералдички радови*, Правни факултет Универзитета у Београду – Досије.
- Србуловић, М. Ђ. (2011). *Кратка историја Новог Сада*, Прометеј – Завод за заштиту споменика културе града Новог Сада.
- Српски Сион*. (1892, 15th november), бр. 49.
- Стајић, В. (1947). *Грађа за политичку историју Новог Сада*, Матица српска, Нови Сад.
- Станчић, Д. (1997). *Витражи: Нови Сад, Петроварадин, Сремски Карловци, Футог*, Општински завод за заштиту споменика културе Нови Сад, Нови Сад.

- Станчић, Д. (2014а). Урбанизам и градитељство, *Уметничка топографија Новог Сада*, Матица српска.
- Станчић, Д. (2014б). Градитељско наслеђе, *Уметничка топографија Новог Сада*, Матица српска, Нови Сад.
- Станчић, Д. (2014с). Каталог објеката: Нови Сад и Петроварадин, *Уметничка топографија Новог Сада*, Матица српска, Нови Сад.
- Станчић, Д. (1987). Историјат обнова Саборне цркве у Новом Саду (1851–1853. и 1902–1905), *Зборник Матице српске за ликовне уметности*, св. 25.
- Стари Нови Сад*. (1991). Књижевна заједница Новог Сада.
- Стевановић, З. (2018). *Борба за очување привилегија и улога Епископа бачког Висариона Павловића*, Епархија бачка кроз векове, Бачка Паланка.
- Точинач, И. (2001). *Прописи митрополита Мојсија Петровића за свеитенике и парохијане*, Историјски часопис, књ. XL VIII.
- Halpern, K., Borbalan, Ž. K. R. (2009). *Identitet(i): pojedinac, grupa, društvo*, Clio, Beograd.
- Ђурчић, С. (2007). *Насеља Бачке: географске карактеристике*, Матица Српска, Нови Сад.
- Фајфрић, Ж. (2014). *Династија Обреновић*, Табернакл, Сремска Митровица.
- Чакић, С. (1990). *Велика Сеоба Срба 1689/90 и Патријарх Арсеније III Црнојевић*, Добра вест, Нови Сад.
- Шијаковић, Б. (2012). Висарион Павловић епископ бачки од 1731. до 1756. године, *Универзитет и српска теологија*, ПБФ, Београд.
- Шмит, Р. (1991). Најстарији попис становништва Новог Сада, *Стари Нови Сад*, Књижевна заједница Новог Сада, Нови Сад.



The Interconnectedness of Pueblo Arts and Architecture and Its Significance in the Sustainable Regeneration of the Northern New Mexico's Cultural Landscape

Selena Bagnara Milan

Abstract

Pueblo architecture in Northern New Mexico has been characterized by an interesting continuity in building practices during the last millennium, which embraces distinct periods of architectural development—all dependent on the use of native materials—until the most recent centuries, when various new building materials were introduced and systematically adopted. As a result, the transient and plastic nature of the traditional 'adobe' was replaced by the durable and unmalleable properties of substitute imitative materials. Along with new resources and groups of people moving to the area, new architectural forms and everyday practices were assimilated, initiating a debate concerning the historical compatibility of such choices, and the Pueblo communities' ability to protect and lead the historical continuity of the region's authentic architecture, customs, and traditions. In the Pueblo culture, stories, myths, and all ceremonial and liturgical expressions evoke a world in which a dwelling and its elements are part of a cosmological realm characterized by interconnectedness and multiplicity—both in time and space—linking a multitude of experiences and realities. Objects, in all their artistic expressions, are integral parts of this mythical materialization, and are able to regenerate and re-propose weakened connections, becoming central means in the collective quest for cultural continuity. From the above perspective, this paper aims to explore the profound interconnectedness of Pueblo arts and architecture in the Rio Grande Valley of New Mexico, recognizing both the cosmological and empirical aspects of these merging, multiple worlds, in which the materiality of the cultural form is

unceasingly projected toward the cultural human environment. In doing so, arts and architecture are symphonically able to restore and reinvigorate languishing meanings and linkages to the past, fostering a new sense of community and place grounded in the essence of the Pueblo traditions, but focused on the future of the observing communities, re-making and re-establishing their identities in an increasingly complex world, which has experienced both continuity and discontinuity of practice. This kind of approach represents an opportunity to increase awareness through the creative enhancement of cultural heritage. The ultimate purpose of this paper is to provide a valuable contribution to the regeneration of the landscape in Northern New Mexico with the following outcomes: (1) Opening a debate about the critical elements and issues that surround the relations between the traditional architectural and artistic expressions of Northern New Mexico and the extant physical environment; (2) Defining the objectives upon which depends the regeneration of the physical environment through an integrated approach that encompasses the active involvement of the Pueblo communities in the enhancement of their cultural heritage, through capability building and co-creation; (3) Identifying those strategies and tools that allow Pueblo communities, planners, and decision-makers in specific geographical areas of New Mexico to include all the above objectives in actual planning, promoting sustainable local development.

Keywords

Cultural landscape • Sustainable regeneration • Identity • Pueblo architecture • Pueblo communities

S. Bagnara Milan (✉)
University of Nova Gorica, Nova Gorica, Slovenia
e-mail: sbagnaramilan@gmail.com

University IUAV of Venice, Venice, Italy

1 Introduction

In Pueblo societies and culture, stories, myths, and ritual manifestations refer to a cosmological realm in which a house and all its elements are characterized by interconnectedness, cyclical temporality, and multiplicity, embracing a kaleidoscope of experiences and realities (Swentzell, 1990). Objects, which artistically evoke and symbolize relationships and memories, are integral parts of this mythical quintessence, and partake in the regeneration of weakened connections between the physical and spiritual worlds, becoming central means in the collective pursuit of cultural continuity.

Currently, there are nineteen pueblos, or tribal settlements, in New Mexico (Sando, 1998). Historically, each pueblo had its distinctive pottery style, associated with the use of selected clay extracted from local sites, decorative dyes derived from autochthonous plants, valuable and rare minerals, such as Turquoise, and other raw materials (tail hair of horses, wood, and manure, among others). The distinctive material cultural expressions are also denoted by specific patterns of transmission over time and space, which are the result of the heterogeneous social organizations, distribution, and practice characterizing the Pueblo societies along with their ethnological similarities (Whiteley, 2018). To the same degree, architectural and artistic manifestations are denoted by both continuity and discontinuity between the Ancestral Pueblos' formations and the Pueblo's both late prehistoric and historic typologies, with noteworthy similarities and variations (Morgan, 1994; Rapoport, 2005).

The purpose of this contribution is to propose a new synthesis on the regeneration of the cultural landscape in Northern New Mexico by reconnecting the thread of the discourse concerning the ancestral relationship between material expressions and physical environment through the elaboration of the concept of landscape in a relational connotation, which fosters diverse and dynamic ways of valuing landscape linked to the approaches people have when connecting to the natural and built environment.

The 'cultural landscape' of reference of this scholarly study is comprised of the vast regions that extend from the Panhandle Plains in Texas to Northern New Mexico, and encompasses Arizona and a small portion of Nevada and Western Colorado, areas characterized by landscapes of high deserts and scattered forests, all bowing into the great Colorado Plateau. From the Grand Canyon to Chaco Canyon, and from the Rio Grande Valley to the Mesa Verde, there are nine national parks, sixteen national monuments, and a multitude of protected areas of historic and cultural significance, such as the pueblos of the Anasazi culture (a Navajo name usually translated as 'the ancient ones'), which first

settled in the Four Corners Region, known as the San Juan Basin.

The Ancestral Pueblo People transitioned to an agricultural lifestyle about two thousand years ago and until approximately seven hundred years ago, reaching a peak in the eleventh century A.D., building countless masonry structures, efficient systems of communication engineered for the exchange of goods—mainly handmade pottery—and developing sophisticated ceremonial and ritual practices, in a constant state of the cultural movement that mirrored the changes of the landscape (Childs, 2007; Stuart, 2014). While the remains of the Anasazi hamlets, farmsteads, and district towns are found in this region, today, Pueblo people live more practically in compact villages, built of both stone and *adobe*, and consisting in multistory room blocks facing a plaza or a street, like in the old town of Albuquerque in New Mexico.

Glossary

acequia	a Spanish word, borrowed from Arabic, meaning 'irrigation ditch'
adobe	a building material of sun-dried mud, made from a mixture of water, earth or clay, and sand
katsina	a spirit being in the religious beliefs of the Pueblo people
kiwa	a Hopi word, meaning 'ceremonial room'
olla	a Spanish word indicating a large bulging wide-mouthed earthenware vessel
pueblo	a Spanish word, meaning 'village'
sipapu	a Hopi word, meaning 'small hole' (or indentation) in the floor of a kiwa or pithouse
viga	a horizontal wood beam supporting a roof or floor structure

2 Literature Review

The main contributions to the drafting of this article come from scholarly publications and the integration of a variety of resources from readings, lectures, and international conferences. It is substantiated by the direct observation of the material expressions of Pueblo arts and architecture that occurred during the investigation of historically significant sites and associated museum collections in New Mexico, as well as from conversations with representatives (cultural descendants, witnesses, and recorders) of local communities with the purpose of gathering 'eyewitness' or cultural viewpoints.

The current study on the interconnectedness of Pueblo arts and architecture and its significance under the perspective of the sustainable regeneration of the cultural landscape draws upon the work of the following distinguished scholars and writers: Morgan (1994) on the investigation of the architecture in the southwestern United States and northwestern Mexico from the early migrations to the present day; Sando (1992, 1998) on the culture and history of the nineteen pueblos of New Mexico and their ability to retain their identity through resilience and creativity; Stuart (2014) on the rise and fall of the southwestern Chacoan civilization and its replacement by the Pueblo society, and their fundamental parallelisms with reference to time and space; Swentzell (1990) on the relation between Pueblo cosmology and the built environment; and Whiteley (2018) on the socio-cultural aspects of the Pueblo society over time, including architectural practice and environmental adaptation.

The author refers to ‘cultural landscapes’ as in the well-accepted definition set out by the World Heritage Committee, designating them as cultural properties representing the ‘combined work of nature and man’ (Fowler, 2003; UNESCO, 2019), the character and appearance of which are the result of the interaction between cultural and natural values over time in a topographically defined territory. The associations and interpretations that arise from the interaction and perception of cultural landscapes evoke the culture which created them, endowing landscapes with meanings and cultural perspectives, thus contributing to the community’s identity and continuity through memory and imagery, in a dialogical relationship between tangible and intangible elements (Bagnara Milan, 2016). It is, therefore, possible to learn from cultural landscapes about people, the values that influence their relationship with the land and associated natural resources, their lifestyle and behaviors, and how all these factors ‘shape culture and identity, and enrich cultural diversity’ (Rössler, 2006).

The concept of ‘relational landscape’ is borrowed from the world of the sustainability sciences to connote the place-based interactions between humans and the environment, and the associated dynamics qualifying the understanding of the physical environment and the relational values people associate with it in a diverse and fluid approach (Stenseke, 2018).

By ‘place,’ the author denotes a continuum of locations associated with the lands in which the communities of reference settled and from which they moved responding to environmental and social hindrances. This aspect is important in order to contemplate the authentic sense of home of the indigenous people as a ‘space between the earth and the sky,’ not solely defined by settlements or structures (Morgan, 1994, vii).

Over the decades, the definition of ‘sustainable development’ has evolved to include culture. This contribution

refers to the concept of ‘cultural sustainable development,’ which implies a development shaped by the shared ideas, beliefs, and values, as well as the intellectual, moral, and aesthetic standards of a community of reference. Accordingly, a sustainable regeneration of the landscape encompasses all the so-called ‘pillars’ of sustainable development (environmental, social, economic, and cultural), thus contributing to environmental protection, social and cultural capital, and economic growth (U.N. 2012).

3 Methodology

Within the illustrated conceptual framework, this research paper explores the interconnectedness of Pueblo arts and architecture in the Rio Grande Valley of New Mexico and its reverberation in the cultural human environment of reference. As it is possible to examine how Pueblo communities created meanings through the interaction with their places—which assume the connotation of cultural landscapes—by focusing on the historical, social, cosmological, and ecological links between culture and the natural environment; the author investigates how the materiality of the authentic cultural form is projected toward the overall human environment in a regenerative way through the re-establishment and merging of meanings and linkages to the Pueblo phenomenon and traditions; and how this rehabilitated alliance is capable to foster a new and invigorated sense of community and place.

The reconnection of the ancestral relationship between material expressions and the physical environment through the use and elaboration of the concept of ‘cultural landscape,’ which has a multidisciplinary nature, in a relation way allows the author to embrace an integrated perspective that involves the participation of the Pueblo communities, as well as strategies for inclusive planning and cultural resources management.

In order to achieve the desired outcome, the paper aims at offering a scholarly contribution with regard to the following aspects:

Presentation and investigation of the critical elements and issues that characterize the relations between the cultural material expressions (artistic and architectural) of the Pueblo communities of Northern New Mexico and the natural and built environment of reference;

Definition of the objectives upon which depends the regeneration of the cultural landscape through an integrated approach that includes the active participation of the Pueblo communities by means of collaborative innovation (co-creation) and the development of skills, processes, and systems they may use as a key engagement tool (capability building) to drive meaningful local advancement;

Identification of the strategies for the implementation of the established objectives in actual plans and programs aiming at promoting sustainable local development.

4 Discussion

Despite noteworthy changes that occurred between the Early Settlements period (A.D. 900) and the Historic Pueblos period (1540–till date), there are tangible continuities between the ancestral and present-day Pueblo communities under a variety of aspects, including material and ritual practice, architectural expressions, and socio-cultural forms and organizations. The ethnological homologies and substantive heterogeneity that characterize the Pueblo societies are superbly illustrated by Peter Whiteley (2018), who draws upon the insights of diverse disciplines (archeology, ethnology, linguistic anthropology, etc.) to examine in depth the historical and socio-cultural aspects of these societies, as well as their patterns of transmission and preservation over time based on kinship, associations, environmental adaptation, economic arrangements, cultural material forms and ritual, and political settings.

From the aforementioned perspective, this study seeks to emphasize the aspects of material continuity in Pueblo communities and the shared and recognized values around which it is viable to coordinate a strategy for the regeneration of the physical environment through the concept of the cultural landscape. The impasse between the novel manifestation of landscape and the traditional one can be overcome without contrast by being imaginative within the given time and space.

4.1 Critical Elements of Pueblo Arts and Architecture

The so-called ‘traditional’ architectural and artistic expressions of the Pueblo communities, which have been historically considered convenient solutions to tangible needs and are characterized by the repetition of forms and motifs, were strictly associated with two types of constraints: the physical encumbrances, linked to the primary materials available in situ and the local climate; and the socio-cultural setting, connected to the religious, social, and individual superstructures, which were systematically and methodically handed down to the new generations, along with methods of construction and artistic production, more or less adequate to specific technical problems and environmental needs.

Early settlers lived in pithouses, or semisubterranean homes, with walls plastered over mud and a wood-framed roof; these dwellings were strategically dug into the earth

and entered by a ladder through a hole at the top of the pit. As the Pueblo communities prospered and grew, they endeavored the construction of larger stone structures—as in the case of the renowned fortified ‘great houses’ at Chaco Canyon and the entire San Juan Basin—and the associated recessed circular or rectangular chambers, called *kivas* and meant for the ceremonial practices of the members of a community, became character-defining features within the pueblos. During funerary ceremonies and before the preparation of the burial to be located in the ground outside the dwelling, people prepared the deceased by folding the legs up against the chest and wrapping them to the body with a cotton cloth or yucca matting, along with personal tools and jewelry. It was believed that the spirit of the departed and its belongings would then journey back through the *sipapu*, the little hole in the floor of the *kiwa*, a symbolic passageway into the after-world.

The described practices eventually gave form to a recognizable and unique cultural landscape in Northern New Mexico, characterized by the dissemination of constructions with thick *adobe* walls and projecting *vigas*, as well as the use of ponderosa pine, seed-laden *ollas*, and the presence of decorated pottery made for trading purposes and disseminated around the typical dwellings bound together with the landscape, as well as irrigation ditches (*acequias*), catch dams, and water catchments to overcome the conditions of the occupied semiarid lands and facilitated agricultural practices (Cox, 2005, pp. 1–9).

Rina Swetzell of Santa Clara Pueblo—architect, potter, historian, author, and lecturer on Pueblo culture, among other accomplishments—points out in her writings that the primary focus of her ancestors was the intimate relationship between humans and the natural environment, as ‘they moved through the land with a sensibility that allowed nuances of the wind, sun, and ground to affect their decision making’—hence, their material expressions (Morgan, 1994, Foreword). This aspect of the Anasazi culture is still apparent in the ruins characterizing the time-honored landscape of Northern New Mexico, where the scattered houses and villages were places through which people transited, emulating the cycles of life and death. Therefore, the structures they built in a variety of configurations and the materials they employed—primarily, mud, wood, and stone—were not meant to last forever, but were of transient nature. Notwithstanding, they incorporated a sense of wholeness of both construction and artistic production, in which we recognize that a house, a structure, and an object are part of a cosmological realm characterized by interconnectedness and multiplicity, both in time and space. Under these conceptual terms, the materiality of the architectural forms is distinguished by both continuity and discontinuity, and is projected toward the cultural human environment in a generative way. Insights from relational thinking from landscape

research can improve the understanding of place-based interactions between people and the physical environment, and the associated challenges and opportunities in landscape stewardship, management, planning, and participatory local action.

The first periods of the Anasazi architectural development were mostly dependent on soil and native materials for building practice, leading to a ‘historical paradox’ (Bunting & Conron, 1966, p. 15), which consists in the contradictory relation between the cultural continuity of the Northern Mexico’s Pueblo communities with their material expressions, and the transient character and nature of the traditional construction materials historically employed. Comparably to the descriptions of the Pueblo farmsteads moving to and expanding in areas that would ensure sufficient precipitations for the seasonal activities of planting, watering, collecting, and harvesting, the production of pottery itself has been portrayed as an unceasing prayer for rain; hence, the identification of the ancestral dwellings through archetypal images such as ‘house of rain’ (Childs, 2007, Cover) to emphasize the interdependency between environmental constraints and human activities. Indeed, many painted designs and motifs on both every day and ceremonial vessels demonstrating the importance of water and rainfall, as well as the vital role of animals, such as birds with their fluctuating feathers, and supernatural beings (*katsinas*) as intermediaries between the seasons, the communities, and the ancestral gods, with little distinction between sacred and secular spheres, which are profoundly interwoven (Stuart, 2014, pp. 93–98).

The cyclical course of events, daily or recurring activities and ritual practices, is represented in the very balanced painted designs and repetition of motifs and geometric patterns that characterize the Pueblo Indian pottery of the current nineteen pueblos scattered along the San Juan Basin. At each of these pueblos, the potters have developed identifiable and distinctive local styles based on the type of clay utilized, the characteristic shape of the vessels, and unique decorative designs: many painted motifs refer to water, clouds, and rain, as well as representational figures of birds and feathers that played an important role in delivering the community’s prayers during ceremonial life, along with images of tadpoles, frogs, dragonflies, turtles, and snakes, among others.

Water symbols and motifs were also weaved into textiles and embroidered on kilts, demonstrating the vital role of water in the semiarid climate of the region.

The most important of all ‘powers’ was the Sun, and closely allied was Mother earth. Additionally, there were gods who controlled the seasonal rainfall, the growth of plants, the flow of rivers and springs, and many other natural phenomena. If there were challenges coming from natural forces, the

Ancestral Pueblo People believed that the gods were not pleased; as a result, drought or famine would follow.

The variety of pottery forms, colors and design created in the San Juan Basin is remarkable: from the yellow or yellow/orange Hopi vessels of the Black Mesa, to the light gray or white Acoma and Laguna bowls with repetitive geometric patterns, abstract curvilinear shapes (Fig. 1a), or realistic representations of birds and animals, to the distinctive shiny black-on-black pottery from San Ildefonso, Santa Clara, or Okhay Owingeh (San Juan) pueblos, and the iconic Tesuche figures known as ‘Rain Gods;’ and again, from the large Zia jars and bowls using reddish clay and representing clouds and roadrunners with flowers and plants to symbolize petitions for rain, growth, and renewal, to the thick pottery with the typical steep rim produced at Zuni using white or gray colored clay and painted with mostly black designs, to the figurative Cochiti pottery with isolated, linear motifs, and the traditional Kewa jars and bowls with repeating geometric or curvilinear themes, to conclude with the assimilation of the common puebloans designs and techniques by Navajo pottery makers, who often mixed several clays together (Fig. 1b); at each of the aforementioned pueblos, the potters developed representative local styles as their own statements of identity and creative cultural continuity.

However, the initially acknowledged ‘paradox’ is apparent. Forms, elements, and materials are characterized by a common trait, that, is their short-lived and malleable nature, along with their adaptability to different uses and functions—in a unity of forms alongside a myriad of expressions—thereby evoking the cyclical temporality and atavistic movement that characterize the spirit of the Pueblo societies, as well as their religious needs and ritual practice. Nothing is built or created to last forever, but in every single part and fragment of earthenware that is destined for deterioration and crumbling, the memory of the community rests and resonates in time and space (Morgan, 1994).

4.2 The Regeneration of the Physical Environment and the Cultural Landscape

The introduction over time of new imitative substitute materials and construction techniques that allowed the overcoming of the limits set by the human scale, concomitantly with the arrival of non-indigenous peoples and the establishment of new organizational settings, caused the ceasing of the uniqueness of the authentic Pueblo material expressions and their relegation to a visual realm (Antonides, 1971), which essentially evokes the primal architectural and artistic language without necessarily encompassing it in a contextual way.

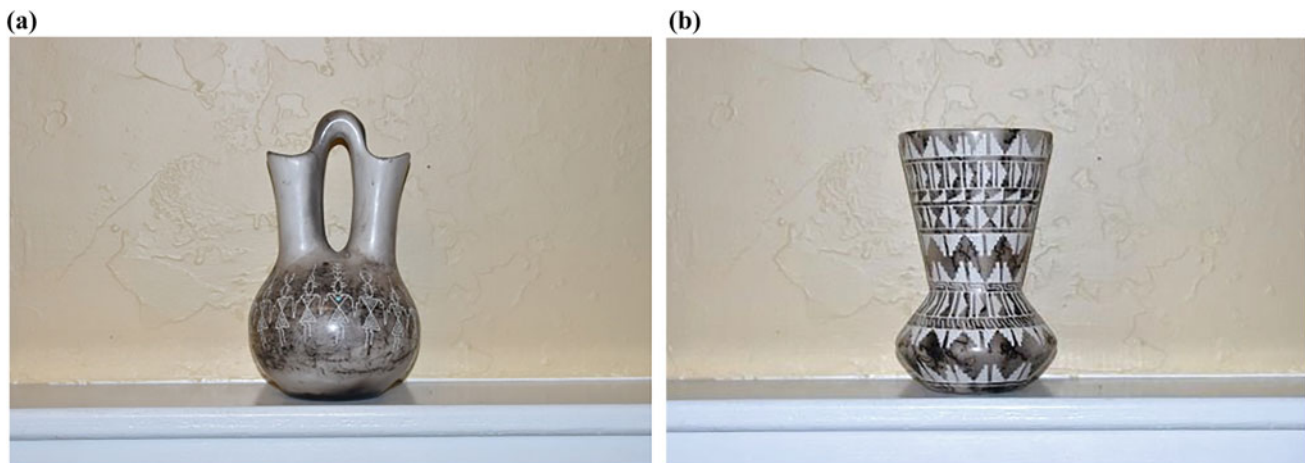


Fig. 1 a Acoma etched horsehair wedding vase; b Navajo etched horsehair white clay vase. *Source* Photographs by the author

The mere pictorial resemblance of materials and elements, that is, the romantic representation of the object, does not embody the basic and fundamental needs of the Pueblo communities, their organizational forms, liturgical sodalities, and interactions with their natural environment while losing its ancestral symbolism and meaning. As a result, it ceases its reason-to-be and becomes impersonification, entailing new socio-cultural and aesthetic comparisons.

In losing its uniqueness and methodological foundation, the object or structure becomes a newborn entity, initially aphasic, which evolves along the way into something else from its original purpose, and acquires new rules of scale, proportions, and rhythm while losing its authenticity. Furthermore, the so-called ‘mystique’ of New Mexico, portrayed so vividly by Edna Heatherington (1988) and Rina Swentzel (1990), that is meant to surround the cultural material expression—architectural or artistic entity—does no longer coexist to enhance the value and significance of the object as an epitome of a distinctive environmental, socio-cultural, and spiritual realm.

As a consequence, the cultural landscape that arises and continues to evolve from such a scenario is no longer moved and molded by the spiritual and ancestral currents; hence, it does no longer exert a profound and meaningful influence on other aspects of the experience of the Pueblo community of reference. It has lost its capacity to be a compass able to contain and guide the ancestral knowledge, the memories, and feelings associated with places and regions in a holistic way (Antrop & Van Eetvelde, 2017).

4.3 Strategies and Tools

Having recognized that there is a vibrant and dialogical relationship between the cultural material expressions of the

Pueblo communities and the historical physical environment of reference, it is clear that the regeneration of Northern Mexico’s cultural landscape is a process linked to the re-establishment of this interconnectedness at all levels of stewardship, management, and planning concerning the landscape. This goal requires a systematic and comprehensive approach to the territory that focuses on the cultural sustainability of the local development, which implies the recognition by all stakeholders that the quality of the landscape has a significant bearing on the achievement of human well-being and on the success of social and economic initiatives (Grefe, 2009).

Effective guiding principles to be considered and implemented in order to achieve the regeneration of the cultural landscape require the balancing of historic preservation strategies, community interests, and sustainable development through the enablement of the landscape as a driver for sustainable development, the achievement of integration between the cultural landscape and relatable planning tools, and the connection between applicable management systems and the Pueblo communities’ cultural perspectives.

It is the author’s belief that the abovementioned established guiding principles and objectives are adequate to support communities, administrators, and practitioners in fostering and enabling the following landscape regeneration strategies:

Dissemination of values in the territory through the encouragement of the Pueblo communities’ competence and commitment to establish synergies with the economic and social players and institutional representatives and, in doing so, become conduits of creativity;

Setting and raising of organizational and educational capacity for the support of local competencies and skills, encouraging a sustainable cultural system through

‘capability building’ (Margiotta, 2014) of local actors in order to maintain connectedness in the long term; Establishment of unity and integration between institutions and cultural agencies in planning and programming for the protection, enhancement, and congruent development of cultural landscape areas, also through local participation in the cultural governance; Institution of observatories for the monitoring of the cultural landscape and building up awareness through the identification and codification of best practices.

The above-listed plans of action are offered from a variety of insights on international landscape research (Antrop & Van Eetvelde, 2017; Cassatella & Peano, 2011) focusing on the improvement of the understanding of place-based and community-environment interactions and their dynamic role in cultural and environmental policies, as well as in cultural management.

5 Conclusions

The need for the regeneration of Northern New Mexico’s cultural landscape is a process aiming at re-establishing the lost interconnectedness at all levels of stewardship, management, and planning. It is a matter of leadership; hence, a matter of developing a vision for the landscape, which requires a systematic and comprehensive approach to the territory that focuses on the sustainability of the local development, which starts from the recognition that the quality of the landscape has a significant bearing on human well-being. Consequently, the regeneration effort shall start from the dissemination of values in the territory, the raising of organizational and educational capacity of the Pueblo communities, the integration of institutions and cultural agencies in planning and programming, as well as in the institutions of monitoring and enrichment activities.

Cultural landscapes are herewith depicted and substantiated as places of people’s identities and belief systems, rich in cultural diversity and intangible values (UNESCO, 2019), in which the level of interconnectedness between the spiritual and cultural material expressions of the Pueblo communities are to be preserved and enhanced as a whole for a sustainable future. As they have the ability to embrace multiple manifestations of the interaction between human-kind and its natural environment, cultural landscapes offer an instrumental conceptual framework for the establishment of long-term regenerative environmental strategies that are place-based and community-led, as proposed and illustrated by the author through a relational approach to the landscape that emphasizes the dynamic character of the Pueblo people’s interactions and identifications with the physical environment.

By strengthening and amplifying their relation with the cultural landscape on multiple levels and in an integrated manner, individuals and communities of Northern New Mexico will benefit in terms of individual, social, and cultural fulfillment, fostering a new sense of place grounded in the essence of the Pueblo traditions and focused on the future of their practicing communities.

Acknowledgements I am grateful to Jon Ghahate (Laguna and Zuni Pueblos), storyteller and cultural educator at the Indian Pueblo Cultural Center in Albuquerque, New Mexico—a world-class museum representing an important voice of the nineteen Pueblos of New Mexico—who answered a number of questions about the center, its permanent and rotating exhibits, and its mission in promoting the preservation and perpetuation of the Pueblo culture. Others also generously supported this effort. Irvin J. Louis (Acoma Pueblo), who is one of the few Acoma potters that still make Horse Hair Pottery and a member of the Yellow Corn Clan, shared techniques, traditions, and meanings of his hand-crafted ceremonial pottery. Lastly, I would like to commend the staff at the Research Center of the Panhandle-Plains Historical Museum in Amarillo, Texas, for their assistance in providing access to unique primary sources that document the environment and culture of the region, from prehistory to the present day.

References

- Antoniades, A. C. (1971). Traditional versus contemporary elements in architecture. *New Mexico Architecture*, 13(6), 9–13.
- Antrop, M., & Van Eetvelde, V. (2017). Landscape perspectives: The holistic nature of landscape. *Springer*. <https://doi.org/10.1007/978-94-024-1183-6>
- Bagnara Milan, S. (2016). Cultural landscapes: A framework for their holistic management. In T. Collins, G. Kindermann, C. Newman, & N. Cronin (Eds.), *Landscape values: Place and praxis. Conference, Galway, 29th June-2nd July, 2016* (pp. 19–25). Centre for Landscape Studies, NUI Galway. <http://www.uniscape.eu/wp-content/uploads/2017/06/Landscape-Values-Place-and-Praxis-2016-06-Internet-Version.pdf>
- Bunting, B., & Conron, J. P. (1966). The architecture of Northern New Mexico. *New Mexico Architecture*, 8(5), 14–24.
- Cassatella, C., & Peano, A. (2011). Landscape indicators: Assessing and monitoring landscape quality. *Springer*. <https://doi.org/10.1007/978-94-007-0366-7>
- Childs, C. (2007). *House of rain: Tracking a vanished civilization across the American Southwest*. Back Bay Books.
- Cox, W. (2005). *The Spanish acequias of San Antonio*. Maverick Publishing Company.
- Fowler, P. J. (2003). World heritage cultural landscapes 1992–2002. In *UNESCO World Heritage Centre*. World Heritage papers 6. <https://whc.unesco.org/en/series/6/>
- Greffie, X. (2009). *The economics of cultural landscapes*. Working Papers Ebla Center, 2009: New Series.
- Heatherington, E. E. (1988). Pueblo style and regional architecture: The mystique of New Mexico. *New Mexico Architecture*, 29(6), 7.
- Margiotta, U. (2014). *Capability building and cultural heritage management* [Paper presentation]. UNESCO Venice Office—SUSTCULT Final Conference, Ljubljana, Slovenia. http://www.unesco.org/new/en/member-states/single-view/news/save_the_date_for_the_sustcult_final_conference_8_april_201/
- Morgan, W. N. (1994). *Ancient architecture of the Southwest*. University of Texas Press. <https://doi.org/10.7560/751590>

- Rapoport, A. (2005). *Culture, architecture, and design*. Locke Science Publishing Co., Inc.
- Rössler, M. (2006). World heritage—linking cultural and biological diversity. In B. T. Hoffman (Ed.), *Art and cultural heritage: Law, policy and practice* (pp. 1–18). Cambridge University Press.
- Sando, J. S. (1992). *Pueblo nations: Eight centuries of Pueblo Indian history*. Clear Light Publishing. <https://doi.org/10.1086/ahr/98.4.1309-a>
- Sando, J. S. (1998). *Pueblo profiles: Cultural identity through centuries of change*. Clear Light Publishing.
- Stenseke, M. (2018). Connecting ‘relational values’ and relational landscape approaches. *Current Opinion in Environmental Sustainability*, 35, 82–88.
- Stuart, D. E. (2014). *Anasazi America: Seventeen centuries on the road from center place*. University of New Mexico Press.
- Swentzell, R. (1990). Pueblo space, form, and mythology. In N. C. Markovich, W. F. E. Preiser, & F. G. Sturm (Eds.), *Pueblo style and regional architecture* (pp. 23–30). Van Nostrand Reinhold.
- UNESCO. (2019). *Operational guidelines for the implementation of the World Heritage Convention*. Doc WHC.19/01. UNESCO World Heritage Center. <https://whc.unesco.org/en/guidelines/>
- United Nations. (2012). *The future we want: Outcome document of the United Nations conference on sustainable development*. A/RES/66/288. United Nations General Assembly. https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/66/288&Lang=E
- Whiteley, P. M. (Ed.). (2018). *Puebloan societies: Homology and heterogeneity in time and space*. Advanced Seminar Series. School for Advanced Research Press; University of New Mexico Press.



Co-Producing Risk Management to Enhance Resilience and Protect Heritage in Vulnerable Populations of the Colca Valley, Peru

Carlos Zeballos-Velarde, Cynthia Butron-Revilla,
and Gabriela Manchego-Huaquipaco

Abstract

The populations of the Colca Valley in Arequipa, Peru, have developed over the centuries a rich heritage, based on their social, economic, and cultural relationships and their extraordinary coexistence with the surrounding landscape. The way of living in the Colca Valley and the common property of the inhabitants are made up of two fundamental elements: the typical Andean house and the pre-Hispanic agricultural terraces. However, both urban and agricultural heritage have been affected by seismic activity caused by the eruption of the Sabancaya volcano. In addition to this, tradition and heritage are under threat by the enforcement of globalized political decisions, carried out from the country's capital, which are unaware of the cultural and anthropological values of these populations that have inhabited this landscape for thousands of years. For this reason, this research explores the values of material and immaterial heritage in the Colca Valley, and how vulnerable Andean populations could develop a model of co-production of risk management that seeks to increase resilience while preserving their identity. For this purpose, participatory workshops were developed in 3 towns, Achoma, Maca, and Cabanaconde, which included the participation of residents, university students, representatives of local governments, and institutions.

Keywords

Colca Valley • Risk management co-production • Andean heritage • Arequipa

1 Participatory Risk Management Preserving Identity

Participatory risk management is an alternative approach that complements the usual technical risk management method promoted by government agencies, which is often developed in big cities, far away from rural areas. In many cases, popular knowledge allows defining more concise and precise results than those developed in the agencies by risk disaster technicians and experts, thanks to empirical experience.

Several cases of participatory risk disaster management have been addressed in the scientific literature, particularly on how to incorporate popular knowledge into the technical approach, especially in economically depressed areas. Several authors have underlined the concept of participatory mapping as a transformative and creative process that can be useful in several activities such as “delineating territorial boundaries, identifying important places that sustain livelihoods and quality of life, and communicating preferences about future land use” (Brown & Kytta, 2018), and in addition, the need for more participation in the making of maps by the people who are represented in them (McCall, 2014). However, we have not found many references that use this participatory risk disaster management approach to promote the preservation of identity and tangible and intangible cultural heritage, much less in the case of the Peruvian Andes.

The purpose of this study is to propose a method to increase resilience in rural communities by means of the co-production of risk management, bearing in mind the ancestral traditions of the peoples of the Colca Valley, deeply rooted in community cooperation practices and the respect and coexistence with their extraordinary cultural landscape. This research is part of the project “Emergency Urbanism: Resettlement patterns of vulnerable populations in the Colca Valley, around the Sabancaya volcano” (Urbanismo de emergencia: Patrones de reasentamiento de

C. Zeballos-Velarde (✉) · C. Butron-Revilla · G. Manchego-Huaquipaco
Universidad Nacional de San Agustín, Arequipa, Peru
e-mail: czeballos@unsa.edu.pe

poblaciones vulnerables del Valle del Colca, en torno al volcán Sabancaya) funded by the National University of San Agustín in Arequipa, Peru (UNSA), a project which has focused on working in the villages of Achoma, Maca, and Cabanaconde.

This research combines the development of participatory workshops that allow the identification and prioritization of conflicts and potentials, with the development of community-based maps of interfaces as well as the use of remote sensing analysis utilizing GIS in order to propose measures that promote increasing resilience without losing identity values to preserve their cultural landscape and heritage.

2 Territory, Landscape, and Heritage in the Colca Valley

2.1 Introducing the Colca Valley

The Colca Valley is a geological formation located in the Arequipa region, southern Peru, formed by the tectonic activity of the Nazca Plate and the South American Plate.

The Colca River runs along the valley, through more than 200 km. In some areas, the valley narrows and forms the Colca Canyon, which reaches a depth of 3,400 m, being the second deepest canyon in the world (BBC, 2012).

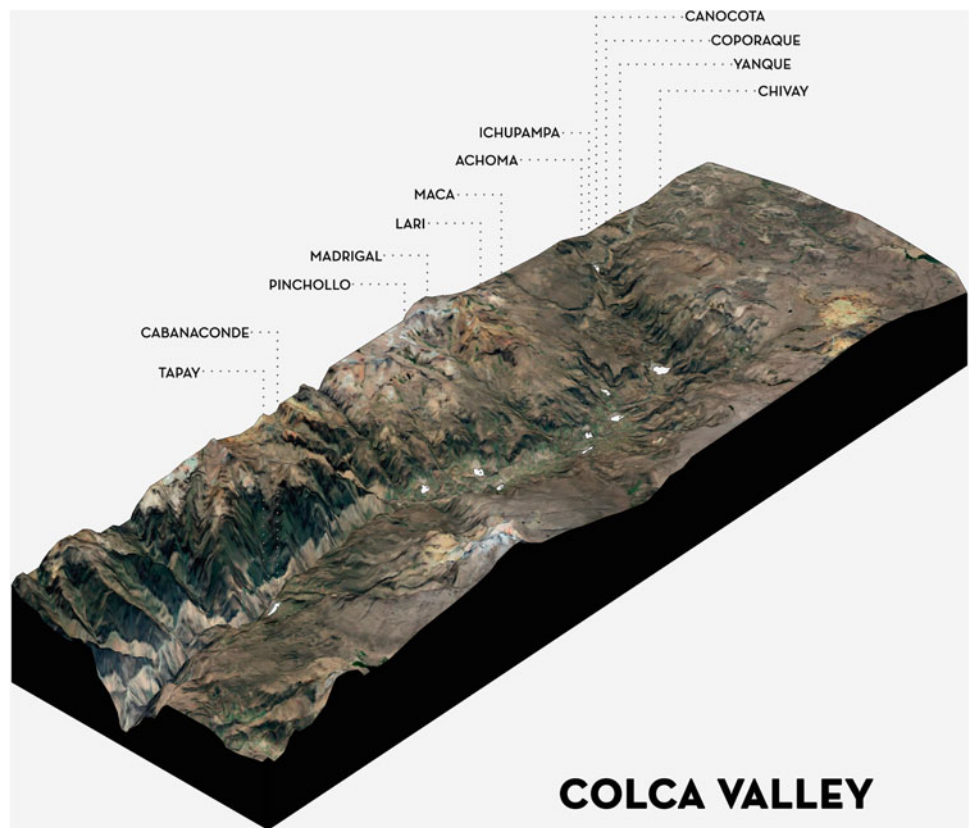
The continuous tectonic activity in the Andes has not only formed deep valleys and canyons but also high mountains (such as Coropuna) dormant volcanoes (such as Ampato and Hualca Hualca) and active volcanoes such as the Sabancaya. Volcanic activity produces events such as earthquakes, lahars, and ash clouds that affect large portions of the territory, which although are a source of hazards, also favor the fertility of the soils, characteristic of this valley (Paulo et al., 2014) (Fig. 1).

The wealth of flora and fauna that inhabits this varied ecosystem attracted many human groups for thousands of years to settle in the Colca Valley. During pre-Hispanic times, the inhabitants of these areas, mainly of Collagua origin, lived dispersed in the valley, transforming the landscape through of impressive sets of terraces created into different altitudes, which allowed the domestication of various agricultural products (Figs. 1 and 2). Later, and as a result of the Spanish conquest and the establishment of “reductions” that were jurisdictional areas that concentrated



Fig. 1 The Colca Valley. *Photo:* Carlos Zeballos

Fig. 2 Cutaway of the Colca Valley. *Source:* Gabriel Manrique



the populations in order to collect taxes more efficiently and establish a more tight political and military control, a series of small towns began to form, on both sides of the Colca Valley. The skillful Collaguas even reached the valley of Arequipa, transforming the desert into a fertile valley by means of channels and terraces (Zeballos Velarde, 2020).

2.2 Andean Cultural Landscape

The Andean rural territory houses a harmonious relationship between the natural landscape and the construction of people's habitat. During the process of inhabiting, the human being transforms the territory and, in that process, he makes it his own, impregnating it with history. Inhabiting becomes concrete when an inanimate structure, such as a shelter, merges with a living structure, such as man and his actions. Both will eventually condition themselves to their mutual coexistence. The repeated use of the space granted to the inhabitant causes it to be altered and differentiated (Ríos & Zeballos, 2019, p. 138).

Territorial heritage is the result of a permanent interaction between humans and the physical environment, a relationship that demands to observe, interpret, and manage the set of natural, cultural, and landscape components that make it up in an integrated way (Florido Trujillo, 2013). Ruiz and

Cañizares (2020) state that territorial heritage addresses not only the built object but also the “construction of the space” and clearly groups together the set of resources that have value (as legacy or heritage) in a given territory and can serve, when properly valued, as an instrument for socio-economic revitalization and dynamism, especially in disadvantaged areas.

Man recognizes the need for a collective memory and invents ways to safeguard it. Rituals, social codes, and periodic repetitions within an agreed calendar form part of an effective system to defend his culture from oblivion (Ríos & Zeballos, 2019, p. 174).

Josef Estermann (2006) in his study on “Andean philosophy” underlines the close correspondence between man and nature, the Pachamama (Mother Earth), a close and perpetual relationship that is manifested in the way of life of people, as well as their interpersonal relationships, their associations to carry out labor, ritual, and celebration. “The runa/jaqi [Andean person] ‘listens’ to the earth, the landscape, and the sky; ‘feels’ reality through his heart [...] Andean sensitivity does not give preference to ‘seeing’, and therefore, cognitive rationality is not first of all ‘theoretical’ (therein), but rather emotional-affective “Andean sensitivity and sensitivity do not give preference to ‘seeing’, and therefore, cognitive rationality is not primarily ‘theoretical’ (therein), but rather emotional-affective”.



Fig. 3 Interior of the church in Maca. *Photo:* Carlos Zeballos

In this context, when referring to the Colca Valley and in particular to the towns under study (Cabanaconde, Maca and Achoma), the coexistence of the built settlements surrounded by the natural landscape as well as the intangible cultural manifestations are blended in this territory as a cultural landscape. This cultural landscape is the result of the interaction over time of people and their natural environment, whose expression is a territory perceived and valued for its cultural qualities, the result of a process and support of the identity of each of its inhabitants (Figs. 3 and 4).

2.3 Communal Heritage

The components of the cultural landscape of the Colca Valley correspond to the natural and cultural heritage. The latter is composed of the built landscape, encompassing the buildings and agricultural terraces, and the intangible landscape, which are manifestations such as dances, agricultural communal tasks, and religious festivities.

The rural communities base their economy on farming activities, despite the rugged geography of the territory, giving rise to a modeled landscape of agricultural terraces

and studied hydraulic and irrigation systems, through channels and reservoirs that allow the consolidation of their agricultural production. Therefore, the relationship with the land allows them to interpret the territory with a spiritual character to which they pay tribute, constituting a balanced relationship between man and his environment. Water is also another symbolic element that, through communal rituals and activities, reinforces the identity of communities with their environment, developing a sense of belonging to the territory, as well as collective skills such as commonality, equity, and correspondence in society.

It is precisely these types of community activities that are used both for economic and productive activities and for cultural manifestations that can become an important force for community risk management.

3 Living Alongside Sabancaya Volcano

3.1 The Eruption of Sabancaya Volcano

The Sabancaya (altitude 5975 m) is an active stratovolcano located in the upper parts of the left bank of the Colca river



Fig. 4 Local resident in Maca. *Photo:* Carlos Zeballos

valley, department of Arequipa. The name Sabancaya means “tongue of fire” in Quechua. On the night of August 14, 2016, an earthquake of magnitude 5.6 Mw affected the Colca Valley, leaving 9 people dead, 68 injured, and more than 600 homes destroyed. This event and hundreds of aftershocks were precursors to an eruption at the Sabancaya volcano on September 27 of the same year. As of December 2016, the eruptive activity increased, with an average of 90 explosions per day, with a radius of influence of 12 km around the volcano.

In 2017, the explosions decreased in number, but events such as that of July 9 did occur when a volcanic explosion threw ash almost 7,000 m above the crater. The ash thrown during the eruptive process fell on the towns of Huambo, Cabanaconde, Tapay, Pinchollo, Maca, Achoma, Coporaque, Yanque, Ichupampa, Chivay, Tuti, Siballo, Huanca, and Lluta; affecting the health of people, fields, and livestock Sabancaya (Degg & Chester, 2005). The eruptions continue to date (Fig. 5).

However, the Colca cultures, which Cook (2007) called “people of the volcano”, are the result of thousands of years of domestication of this landscape, being one of the volcanic sites on Earth with the longest time of domestication and

intensive civilizational occupation. According to Heijman et al. (2019), coexistence with risk in rural territories implies the development of specific measures and not a one-size-fits-all approach.

3.2 Understanding Vulnerability and Resilience

In this context, understanding vulnerability is critical to disaster risk management. Disaster risk is defined as the product of the relationship of the exogenous hazard with the endogenous vulnerability of the exposed settlements (UNISDR, 2009). On the other hand, since the range of activities for controlling natural hazards is very limited, efforts tend to focus on the identification and mitigation of vulnerability in order to reduce disaster risks (Giovene di Girasole & Cannatella, 2017). Likewise, the Peruvian regulatory framework identifies several elements of vulnerability, such as exposure and fragility (as negative elements) and resilience (as positive aspect), which allow identifying critical sectors within a community (MINAM, 2015).

But what is vulnerability? Within the scope of risk management, vulnerability has been viewed from different,



Fig. 5 Aerial photo of the eruption of Sabancaya Volcano. *Photo:* Carlos Zeballos

mostly quantitative approaches which allow measuring the impact of hazards and the relative fragility and susceptibility of various settlements or structures to these events. Thus, Timmerman defined vulnerability in 1981 as “the degree to which a system, or part of a system, can react negatively to the occurrence of a hazardous event. The degree and quality of this adverse reaction are partially conditioned by the systems” (Usamah et al., 2014). Similarly, Peruvian legislation, by means of Article 2.20 of the Regulation of Law No. 29664, defines vulnerability as “the susceptibility of the population, physical structure or socio-economic activity, to suffer damages due to the action of a danger or threat” (PCM, 2011). This approach is useful to quantify the potential or actual damage to infrastructure caused by disaster events (Jenkins et al., 2014).

However, other authors tend to reject those definitions of vulnerability that focus exclusively on the ability of a system to cope with risk or loss. For Bohle, Downing, and Watts, vulnerability is a multidimensional social space composed of multiple layers, defined by the political, economic, and institutional capacities of people in specific places and times in order to face risks (1994). Blaikie et al. define

vulnerability as “the set of characteristics of a person or group and their situation that influences their ability to anticipate, cope, resist and recover from the impact of a natural hazard (an extreme natural event or process)” (Blaikie et al., 2005). The MOVE framework also emphasizes a multidimensional approach to vulnerability, emphasizing its social character (Birkmann et al., 2013).

Resilience, on the other hand, has been seen as a mechanism to emphasize the importance of pre-disaster mitigation measures in order to improve the performance of structures, and to reduce losses caused by a disaster. The United Nations defines resilience as “the capacity of a potentially dangerous system, community or society to adapt, resist or change to achieve and maintain an acceptable level of functioning and structure” (UN-HABITAT, 2010). Resilience also reflects a concern to improve the capacity of physical and human systems to respond to and recover from extreme events (Tierney & Bruneau, 2007). Peruvian legislation, in the aforementioned Law No. 29664, refers to resilience as “the level of assimilation or recovery capacity of human beings and their livelihoods in the face of the occurrence of a hazard.” This legal definition illustrates the

antagonistic position that exists in much of the literature between these two concepts: the higher the resilience, the lower the vulnerability (Folke et al., 2002; Gallopín, 2006; Klein et al., 2003).

However, some other authors establish a coexistence relationship between resilience and vulnerability (Manyena, 2006). In a study of settlements or barangays in risk areas around Mayon volcano in the Philippines, Usamah et al. (2014) conducted a qualitative analysis that revealed the strength of social relationships, as a means to help reduce the vulnerability of communities. Likewise, the social domains of the community are supported by strong perceptions about their level of resistance to the impacts of disasters, through a built-in recovery capacity as a result of the perception of disasters assumed as part of life, and their own identity, establishing strong social ties, given the permissiveness of the government on the validity of informal settlements in vulnerable areas (Usamah & Haynes, 2012).

3.3 Social Volcanology

This approach is of great importance, particularly in the case of volcanic risk cases, since various authors agree on the need to direct greater attention and resources to promote participation and risk management at the community level to achieve a balanced approach to risk mitigation from a bottom-up perspective (Dibben & Chester, 1999; Van Manen, 2014; Wamsler, 2004).

Donovan (2010) emphasizes the role of culture in social volcanology and the influence of traditional cultural values, taking as the case of the 2006 volcanic crisis on Mount Merapi (Java). His study underscores the value of oral narratives, beliefs, and geomythology in obtaining information that is not obvious from geological records. This approach emphasizes the relationship of the inhabitants with their environments and cultural landscapes and criticizes options such as the indiscriminate relocation of villages, since it is a practice that entails multiple challenges derived from poor planning and the lack of community participation, at the same time that leads to a cultural and identity rootlessness (Stern Mwakalimi Kita, 2017).

It is therefore necessary, on the one hand, to include participatory research in the discussion on disaster risk management (Mercer et al., 2008), through techniques such as the use of participatory maps (Gaillard & Maceda, 2009). On the other hand, it is important to promote a “community-based approach” in planning in which construction and design professionals learn to share their knowledge with users of structures and, at the same time, learn from them (Petal et al., 2008; Barclay et al., 2008).

4 Methodology

The methodology proposed for this research seeks to combine the wisdom of popular knowledge in the communities in the Colca Valley, which experience problems and conflicts closely, live their ancestral identity, and aspire to improve their habitability and economic conditions, and on the other hand, with computational analysis methods based on geographic information systems that allow detecting possible areas of hazard and vulnerability. The methodology is divided into three parts: comprehensive participatory diagnosis, relational analysis of conflicts and potentialities, and a proposal for the development of resilience.

To carry out the participatory diagnosis, workshops were held in the towns of Cabanaconde, Maca, and Achoma on November 10 and 11, 2018. In these workshops, residents and also children participated actively, with the help and assistance of students from the Research Methodology course of the Faculty of Architecture of the Universidad Nacional de San Agustín de Arequipa.

The objectives set were (i) to assess daily activities in rural areas, bearing in mind the cultural calendar and working hours; (ii) to assess community relations around the Colca Valley, designing a simultaneous participatory workshop, (iii) to strengthen the concept of the community in rural areas, and (iv) to know the impact of the Sabancaya volcano eruption on the life and the economy in the communities.

The design of the participatory workshops is based on Participatory Action Research, and requires knowing the problem through the real participation of the communities; to know in order to understand and to understand in order to transform. For this purpose, social cartography was used, which allows communities to build a comprehensive knowledge of their territory so that they can choose a better way of living in it. These types of maps, contrary to traditional maps that were made only by technicians, are created by the community, evidencing collective knowledge and thus legitimizing it. Therefore, this tool contributes to community empowerment (Soliz & Maldonado, 2012) (Figs. 6 and 7).

The work carried out in the Pre-Workshop included the design of the survey used to collect socio-economic, cultural, and risk management data. Then, contact was made with the community leader, since community leaders represent the demands of the community, and it is through them that the community organizes, expresses itself, and participates. The leader is then the person who represents the entire community and becomes its voice before the government, that is why they communicate the decisions of the assembly and defend them eagerly (Rojas Andrade, 2013).



Fig. 6 Workshop with children in Cabanaconde. *Photo:* Carlos Zeballos

The Workshop stage was structured as follows: First, the representation of their territory using user-friendly cartography, then the spatial identification of the strengths and weaknesses in the territory. Through social mapping, risks and problems were jointly identified, thus fostering mutual learning and joint discussion on solutions to common problems. Finally, the results produced by the participants were presented and discussed.

In the post-workshop phase, quantitative and qualitative data were processed and a participatory proposal was established by identifying interfaces.

5 Results: Integrated Diagnosis

5.1 Participatory Workshop

Identifying problems and potentials

The quantitative and qualitative instruments applied in the participatory workshop show that more than 65% of the inhabitants live in the Colca Valley for more than 15 years, and only 14% have lived in the valley between 1 and 5 years

ago. 30% of the participants are over 60 years old, older adults, and 31% range from 45 to 60 years old. These data infer the interest and commitment of adults and older adults in sharing their needs and problems to remain in the Colca Valley.

The participatory workshops showed that the inhabitants of the Colca Valley are aware that they coexist with disaster risk in the two habitats where they develop their daily activities: housing and agricultural terraces. Regarding their houses, 62% report that they built their home without professional assistance, 15% with professional assistance, and 18% through community tasks (*minka*). Likewise, 75% of the dwellings of those surveyed are 1 story high and 36% refer to an area larger than 50 m², and 32% from 50 to 100 m². In addition, 41% of the houses are made of adobe (earth construction), and 27% have stone as the predominant material. Another remarkable result is that 57% of the participants refer that the aspect they value the most of the place they inhabit is the contact with nature, that is, the agricultural terraces.

52% of the surveyed residents recognize as their main danger the fall of ash, 34% earthquakes, both dangers closely related to their daily activities; 65% of the participants



Fig. 7 Participatory workshop with adults in Cabanaconde. *Photo:* Carlos Zeballos

state that they are engaged in agricultural and livestock activity. So also in the development of the workshop, the residents express concern for the precariousness of the water resources and hydraulic infrastructure such as irrigation canals. On the other hand, regarding the earthquake hazards that affect housing, the participants state that national government proposals, such as prefabricated housing modules, do not satisfy their needs, as these are proposed without considering the characteristics of the place and without evaluating the culture, the people's identity and their ways of living. Despite the hazards and risks that the settlers identify, the communities in the Colca Valley have decided to remain in their villages because of their ancestral roots in the landscape and to protect their tangible and intangible rural heritage.

5.2 Official Versus Self-Generated Risk Maps

The susceptibility of a place refers to the greater or lesser predisposition for a disaster to occur on this territory. This will depend on conditioning and determining factors. The

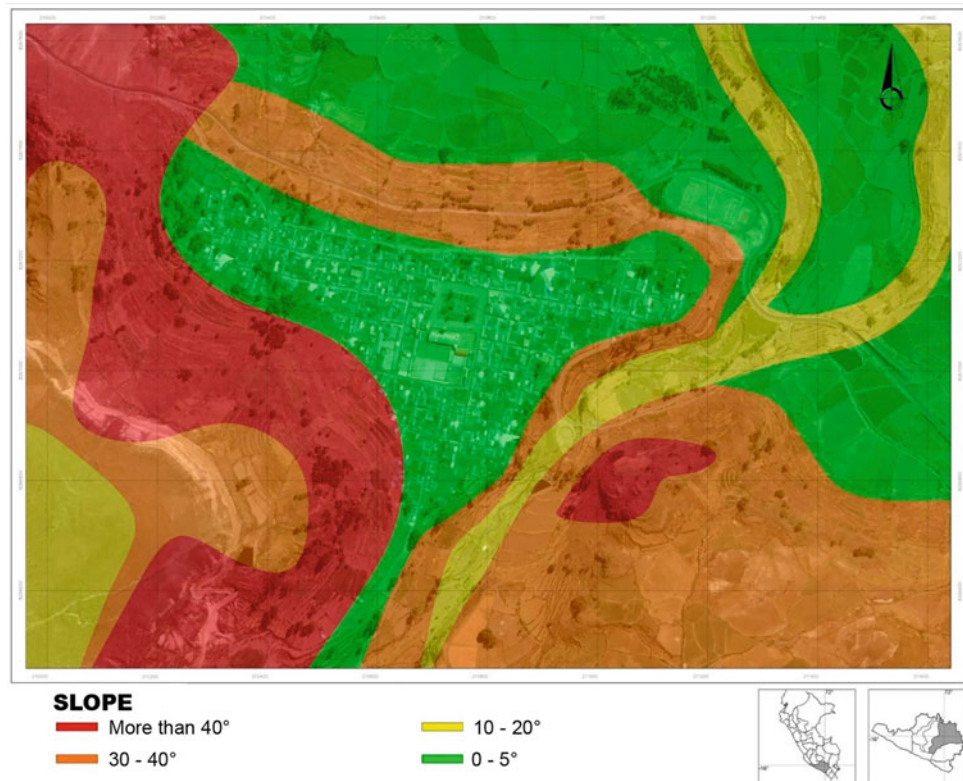
conditioning factors are parameters of the geographical scope, which contribute to the development of the event of natural origin, as well as its spatial distribution. The determining factors for earthquakes that were used for the study were seismic acceleration, lithology, and the slope of the land.

In this context, an evaluation of the hazards in the Achoma town center was carried out, assessing the different variables found in the study area. An official slope map was produced by the Geological Mining and Metallurgical Institute (INGEMMET), which lacks accuracy (Fig. 8).

On the other hand, we produced a slope map based on a Digital Elevation Model DEM taken from ASTER satellite imagery with a resolution of 30 m, which produced better results (Fig. 9).

Areas with a slope higher than 30° include some terraces in the edge of the northern side of Achoma and the hills located in the Southeast and Southwest of the town. A slope between 20.1° and 30° occurs in the area nearby the terraces on the eastern border of Achoma and in the areas nearby the Pina river. A slope between 10.1° and 20° can be observed in the agricultural areas of the town to the North

Fig. 8 Slope map of Achoma based on INGEMMET official map. *Graphic:* Cinthya Butron



and Northeast of Achoma. Finally, a slope lower than 10 ° corresponds to the urban area of the town and the agricultural land located in the lower parts to the North and Northeast of Achoma town.

5.3 Defining Key Ideas

After identifying the conflicts and potentials, they were grouped according to their physical, spatial, socio-economic, environmental, and institutional characteristics. The sets of problems make up subsystems where decision-making can be oriented, and in the case of the Colca Valley, they are the destruction of heritage due to disasters, limited knowledge about cultural and anthropological values by the centralized authorities, economic vulnerability, and institutional weakness of local governments.

Likewise, groups of potentialities can generate topics of interest, and in the case of Colca, they are the presence of tangible and intangible cultural heritage, a cultural landscape with tourist potential, an ancient culture resilient to disasters, and the tradition of Andean communal reciprocity.

Both the clusters of potentials and conflicts generate key ideas, which are powerful social marketing tools to mobilize programs and projects. In this case, they are “Colca, Resilient Valley” and “Colca, Valued Cultural Landscape” (Fig. 10).

6 Discussion: Co-Producing Risk Management

The main disaster risk reduction strategies consulted with the Colca Valley communities that live alongside the active Sabancaya volcano include identity and heritage preservation activities, strengthening social ties, resilient land use planning, promotion of economic strategies, and development of environmental protection activities. In many cases, these strategies are based on the daily life and culture of the communities but have not yet been identified by themselves as specific approaches for disaster risk reduction. The co-production strategies for risk management that were identified through community consultations based on indigenous knowledge included the following.

6.1 Identity and Heritage Preservation Activities

The traditional material used for the construction of houses has been adobe mud bricks, which maintain good thermal conditions inside the houses but have little resistance to seismic events associated with the volcano. The development of construction techniques that reinforce the adobe is proposed, including geogrids or halyards.

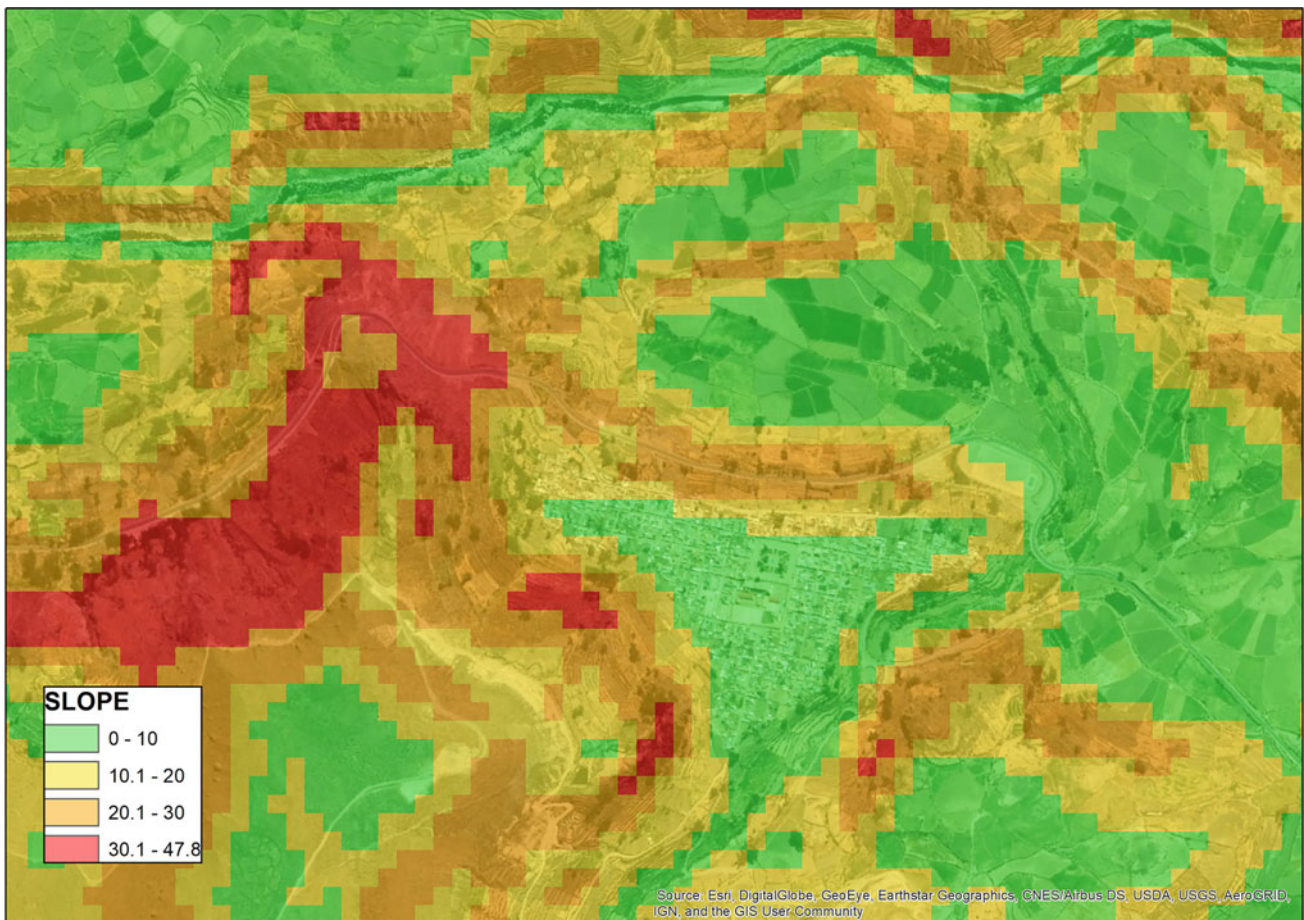
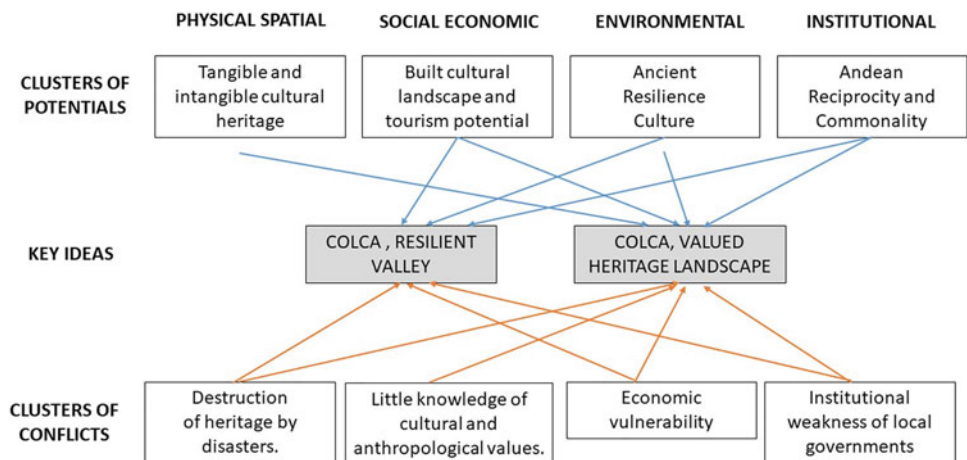


Fig. 9 Slope map of Achoma based on DEM analysis. *Graphic:* Carlos Zeballos

Fig. 10 Defining key ideas. *Graphic:* C. Zeballos, C. Butron, G. Manchego



If “modern” materials such as brick or concrete are chosen, an aspiration of many residents as it is a way to increase their social status, the design must preserve the traditional spatial patterns of housing distribution, in which they combine aspects of housing and production.

6.2 Strengthening Social Ties

Many values of social organization that have been developed as intangible heritage, such as the community association for agricultural tasks, mutual assistance, and the neighborhood

organization itself, can be taken into account for community disaster risk management.

6.3 Resilient Land Use Planning

The Andean populations have traditionally settled in safe areas, far from flood areas or lahars, and have known how to adapt to disaster events in the Colca Valley for centuries. Through detailed analysis of landslide or subsidence hazard areas, settlements can be planned in ways that increase their resilience. In the event that the relocation of a section of the town is essential due to safety issues, it is possible to plan it in safe areas that do not imply the alienation of the landscape or the uprooting of the populations with their territory.

6.4 Promotion of Economic Strategies

The diversification of economic activities, as long as they maintain a sustainable character and do not threaten the landscape, is a strategy that can favor the economic development of the region. The ecological diversity at different altitudes that occurs in the deep Colca Valley allows for the diversification of crops and the production of various plant species. This can also ensure the food supply of the population. During the workshops, the farmers mentioned that, although the ash from the volcano damaged part of their crops, the following year the production was higher because the quality of the soils improved.

It is essential to improve the water infrastructure of irrigation canals, in order to ensure the provision of water to crops and to identify risk areas where this infrastructure can be damaged.

Tourism, managed sustainably, can be a complementary activity that adds economic resources to the region, but the population must be trained so that the tourism offer does not alter their traditional identity or the cultural landscape, which are precisely the sources of interest in the region.

6.5 Development of Environmental Activities

Some environmental protection activities include environmental education for the population, both in the valuation of natural resources and in risk management.

It is important to clearly identify the latent hazards and vulnerable areas, as well as the evacuation routes and the actions to be taken before, during, and after the disaster.

7 Conclusion

Faced with the risks related to the eruption of the Sabancaya volcano, the communities of the Colca Valley can increase their resilience based on ancestral practices of communal cooperation, which reinforce their resilience. To this end, an overly paternalistic, centralist, or globalized approach that leads to alienated solutions that do not respect the heritage or the popular identity of these communities should be avoided.

To identify the most sensitive areas where to centralize the proposal efforts, an analysis of environmental interfaces was used, which allows us to find the most relevant points of the problem since it spatializes the overlap of potentialities and conflicts.

The combination of popular knowledge with scientific analysis improves the results of disaster risk management since it allows achieving specificity in the results and at the same time learning from the experience of the residents. The feedback from both methods enriches the diagnosis and integrated proposal.

Acknowledgements We would like to thank Universidad Nacional de San Agustín de Arequipa for financing the research project “Urbanismo de emergencia: Patrones de reasentamiento de poblaciones vulnerables en el Valle del Colca, en torno al volcán Sabancaya” with contract IAI-010-2018-UNSA. We also thank the scholars and assistants who collaborated in the “Emergency Urbanism” project: Mauricio Huaco, Eliseo Zeballos, Pablo Meza, Katherine Paredes, Karlo Ramirez, Raúl Cruz, and Rualdo Menegat. Special thanks to the students of the “Research Methodology” course at the Faculty of Architecture and Urbanism of the Universidad Nacional de San Agustín for their commitment during the fieldwork. Our appreciation to the residents of Achoma, Maca, and Cabanaconde who participated in the respective workshops.

References

- Barclay, J., Haynes, K., Mitchell, T., Solana, C., Teeuw, R., Darnell, A., & Kelman, I. (2008). Framing volcanic risk communication within disaster risk reduction: Finding ways for the social and physical sciences to work together. *Geological Society*, 305, 163–177. <https://doi.org/10.1144/SP305.14>
- BBC. (2012). *Travel*. Retrieved from Exploring Peru’s epic Colca Canyon: <http://www.bbc.com/travel/story/20121012-exploring-perus-epic-colca-canyon>
- Birkmann, J., Cardona, O. D., Carreño, M. L., Barbat, A. H., Pelling, M., Schneiderbauer, S., & Welle, T. (2013). Framing vulnerability, risk and societal responses: The MOVE framework. *Natural Hazards*, 67(2), 193–211. <https://doi.org/10.1007/s11069-013-0558-5>
- Blaikie, P., Cannon, T., Davis, I., & Wisner, B. (2005). *At risk: Natural hazards, people’s vulnerability and disasters* (2nd ed.). Routledge.
- Bohle, H. G., Downing, T. E., & Watts, M. J. (1994). Climate change and social vulnerability. *Global Environmental Change*, 4(1), 37–48. [https://doi.org/10.1016/0959-3780\(94\)90020-5](https://doi.org/10.1016/0959-3780(94)90020-5)

- Browna, G., & Kytta, M. (2018). Key issues and priorities in participatory mapping: Toward integration or increased specialization? *Applied Geography*, *95*, 1–8. <https://doi.org/10.1016/j.apgeog.2018.04.002>
- Cook, N. D. (2007). *People of the Volcano. Andean Counterpoint in the Colca Valley of Peru*. Duke University Press.
- Degg, M., & Chester, D. (2005). Seismic and volcanic hazards in Peru: Changing attitudes to disaster mitigation. *The Geographical Journal*, *171*(2), 125–145.
- Dibben, C., & Chester, D. K. (1999). Human vulnerability in volcanic environments: The case of Furnas, Sao Miguel, Azores. *Journal of Volcanology and Geothermal Research*, *92*, 133–150.
- Donovan, K. (2010). Doing social volcanology: Exploring volcanic culture in Indonesia. *Area*, *42*(1), 117–126.
- Estermann, J. (2006). *Filosofía Andina. Sabiduría indígena para un mundo nuevo*. Instituto Superior Ecueménico Andino de Teología.
- Florido Trujillo, G. (2013). El patrimonio territorial en el plan de ordenación del territorio de Andalucía: Indefiniciones y dificultades para un conocimiento preciso. *Boletín de la Asociación de Geógrafos Españoles*, *63*, 173–201.
- Folke, C., Carpenter, S., Elmqvist, T., Gunderson, L., Holling, C., & Walker, B. (2002). Resilience and sustainable development: Building adaptive capacity in a world of transformations. *Ambio*, *31*(5).
- Gaillard, J.-C., & Maceda, E.A. (2009). Participatory three-dimensional mapping for disaster risk reduction. In T. I. Development, *Participatory learning and action* (pp. 109–118). Londres.
- Gallopín, G. C. (2006). Linkages between vulnerability, resilience, and adaptive capacity. *Global Environmental Change*, *16*(3), 293–303. <https://doi.org/10.1016/j.gloenvcha.2006.02.004>
- Giovane di Girasole, E., & Cannatella, D. (2017). Social vulnerability to natural hazards in urban systems. An application in Santo Domingo (Dominican Republic). *Sustainability*, *9*(11), 1–17.
- Heijman, W., Hagelaar, G., & Van der Heide, M. (2019). Rural resilience as a new development concept. In L. Dries, W. Heijman, R. Jongeneel, K. Purnhagen, & J. Wesseler, (Eds.), *EU bioeconomy economics and policies, II* (pp. 195–211). https://doi.org/10.1007/978-3-030-28642-2_11
- Jenkins, S., Spence, R., Fonseca, J., Solidum, R., & Wilson, T. (2014). Volcanic risk assessment: Quantifying physical vulnerability in the built environment. *Journal of Volcanology and Geothermal Research*, *276*, 105–120. Retrieved from <https://doi.org/10.1016/j.jvolgeores.2014.03.002>
- Kita, S. M. (2017). Urban vulnerability, disaster risk reduction and resettlement in Mzuzu city, Malawi. *International Journal of Disaster Risk Reduction*, *22*, 158–166.
- Klein, R. J., Nicholls, R. J., & Thomalla, F. (2003). Resilience to natural hazards: How useful is this concept? *Environmental Hazards*, *5*(1), 35–45. <https://doi.org/10.1016/j.hazards.2004.02.001>
- Van Manen, S. (2014). Hazard and risk perception at Turrialba volcano (Costa Rica); implications for disaster risk management. *Applied Geography*, *50*, 63e73. Retrieved from <https://doi.org/10.1016/j.apgeog.2014.02.004>
- Manyena, S. B. (2006). The concept of resilience revisited. *Disasters*, *30*(4), 434–450. <https://doi.org/10.1111/j.0361-3666.2006.00331.x>
- McCall, M.K. (2014). Mapping territories, land resources and rights: communities deploying participatory mapping/PGIS in Latin America. *Revista do Departamento de Geografia – USP, Volume Especial Cartogeo*, 94–122.
- Mercer, J., Kelman, I., Lloyd, K., & Suchet-Pearson, S. (2008). Reflections on use of participatory research for disaster risk reduction. *Area*, *40*(2), 172–183.
- MINAM. (2015). *Guía metodológica para la elaboración de los instrumentos técnicos sustentatorios para el Ordenamiento Territorial*. Ministerio del Ambiente, Gobierno del Perú.
- Paulo, A., Gataś, A., & Gataś, S. (2014). Planning the Colca Canyon and the Valley of the Volcanoes National Park in South Peru. *Environ Earth Sci*, *71*, 1021–1032. <https://doi.org/10.1007/s12665-013-2506-9>
- PCM. (2011). Decreto Supremo que aprueba el Reglamento de la Ley N° 29664, que crea el Sistema Nacional de Gestión del Riesgo de Desastres (SINAGERD) N° 048–2011-PCM. *El Peruano*.
- Petal, M., Green, R., Kelman, I., Shaw, R., & Dixit, A. (2008). Community-based construction for disaster risk reduction. *Hazards and the Built Environment: Attaining Built-in Resilience* (pp. 191–217). Routledge. <https://doi.org/10.4324/9780203938720>
- Ríos, G., & Zeballos, C. (2019). *Poetics from an Inhabited World*. Universidad Católica de Santa María.
- Rojas Andrade, R. (2013). El liderazgo comunitario y su importancia en la intervención comunitaria. *Psicología para América Latina*, *25*, 57–76. Retrieved from http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1870-350X2013000200005
- Ruiz Pulpón, A., & Cañizares Ruiz, M. D. (2020). Enhancing the territorial heritage of declining rural areas in Spain: Towards integrating top-down and bottom-up approaches. *Land*, *9*(7), 216. <https://doi.org/10.3390/land9070216>
- Soliz, F., & Maldonado, A. (2012). *Guía de metodologías comunitarias participativas*. Universidad Andina Simón Bolívar.
- Tierney, K., & Bruneau, M. (2007). Conceptualizing and measuring resilience. A key to disaster loss reduction. *TR NEWS*, *250*, 14–17.
- UN-HABITAT. (2010). *Land and natural disasters. Guidance for practitioners*. United Nations Human Settlements Programme (UN-HABITAT).
- UNISDR. (2009). *Terminology on disaster risk reduction*. Retrieved 27 May 2018, from <https://www.unisdr.org/we/inform/terminology>
- Usamah, M., & Haynes, K. (2012). An examination of the resettlement program at Mayon Volcano: What can we learn for sustainable volcanic risk reduction? *Bulletin of Volcanology*, *74*, 839–859. <https://doi.org/10.1007/s00445-011-0567-8>
- Usamah, M., Handmer, J., Mitchell, D., & Ahmedb, I. (2014). Can the vulnerable be resilient? Co-existence of vulnerability and disaster resilience: Informal settlements in the Philippines. *International Journal of Disaster Risk Reduction*, *10*, 178–189. <https://doi.org/10.1016/j.ijdr.2014.08.007>
- Wamsler, C. (2004). Managing urban risk: Perceptions of housing and planning as a tool for reducing disaster risk. *Global Built Environment Review*, *4*(2), 11–28.
- Zeballos Velarde, C. (2020). *Atlas Ambiental de Arequipa*. Universidad Católica de Santa María.



Optimization of International Rating System Evaluation for Adaptive Reuse Projects

Hadeer M. Helal, Ibrahim Maarouf, and Dina Mamdouh Nassar

Abstract

Internationally there are different rating systems that were established for the constructed buildings sustainability evaluation. Those systems were sorted by the criteria of assessment according to building type, like Leadership in Energy and Environmental Design (LEED). It is used to assess the building potential impact on the environment, society and economy, as it has an important role in characterizing the sustainability level in the industry of construction. Therefore, buildings are considered as the most significant source of pollution and one of the most important factors of global climate change. In that context, LEED rating system seeks to classify and examine buildings according to the environmental requirements and the energetic one. The specific LEED BD + C: New Construction (v2.2) is developed for new or existed buildings that had been retrofitted or practically improved and depends on the operative and management aspects. This paper aims to develop a systematic review to reformulate the LEED rating system to be suitable for adaptive reuse building evaluation. The particular objective is to determine the obstacles in applying (LEED) ratings toward reused heritage building in the last few years. The study goal is to analyse obstacle points found during the evaluation of reused heritage buildings, provoking the designer to choose scoring LEED points which make the adaptive reuse process more sustainable and authentic. This study conducts a comparison between

numbers of LEED Platinum certificated buildings, and it concludes how to deal with some points from the rating system, in order to generate some effective points that will make the system more objective. Execution of a rating system and required guidelines for sustainable design will serve most successfully in developing building performance to be more sustainable.

Keywords

Adaptive reuse assessment • LEED • Green rating system • Architectural identity • Historic buildings • Sustainability

1 Introduction

It is widely known that conservation and adaptive reuse contribute to extend the life of historical buildings and preventing them from deterioration and demolition. It maintains the building by changing its old use to new uses to fulfil real estate market demands. There are numerous problems that face the adaptive reuse of historic buildings, and there are various classifications for appropriate functions. Such as reusing the building as a public library, a museum, a community centre or as an exhibition centre. So, it may be discussed that buildings require maintenance during their life cycle to last much longer. Afterwards, they may become unsuitable for their original function because of obsolescence or can get redundant. Changing the function of the building might be needed for this case and the most important decision is to reuse or demolish the building and construct a new one (Sfakianaki & Moutsatsou, 2015). Moreover, either decision has social, environmental and financial impacts which should be considered before deciding the building future use. Successful adaptive reuse is about gaining a comprehensive and complete understanding of heritage buildings, just as existing aspects of energy efficiency. This includes the building's

H. M. Helal (✉)
Faculty of Arts and Design, Pharos University in Alexandria,
Alexandria, Egypt
e-mail: hadeer.m.helal@gmail.com

I. Maarouf · D. M. Nassar
Department of Architectural Engineering, Faculty of Engineering,
Alexandria University, Alexandria, Egypt
e-mail: Ibrahim.maarouf@alexu.edu.eg

D. M. Nassar
e-mail: dina.nassar@alexu.edu.eg

sustainable properties and current energy saving, along with other values, such as architecture, history, society and aesthetics. During the life cycle of existing buildings, from construction and materials transportation to their destruction, they constitute about 30–40% of the world's energy consumption. The growing interest in green buildings and maintainability worldwide was due to the high energy consumption. The sustainability idea relates to the coherence of the environmental, economic and social aspects of the human environment and the non-human condition, without compromising the future generations (Santi et al., 2020). The green building is the structure which uses a process that are ecologically dependable and asset the efficiency all through the building's life cycle since construction till demolish passing through, operation, maintenance, renovation. This developing practice includes the heritage building design concerning the usage, economy, strength and comfort (EPA, 2016). The green building significance and their energy efficiency impact are evaluated by many certification systems worldwide (Amiri et al., 2020). Generally, the main function of those rating systems is to create sustainability evaluation that makes the buildings work more effectively in the future compared to its present and past practices. The main evaluation sections are energy, water, material use, indoor quality, and comfort; each part is assessed on its usage; in another way, if the building reuse or produce resources, so the assessment will be on the efficiency and the percentage of recycled, reused, or new materials and resources. Worldwide most of the heritage buildings are currently evaluated according to different rating systems, whether in the category of existing buildings or new construction. Some rating systems have a set of minimum requirements for heritage buildings, while others do not have any requirements related to saving the authenticity of the heritage buildings. This can lead to the loss of the value of these buildings in the process of converting them into a sustainable one. On the other hand, green evaluation tools should be inexpensive, and practical, as well as they provide a system to compare with other evaluated buildings (Yamany et al., 2016). The common criticism with those building evaluation techniques is the lack of any consideration about endurance, life cycle cost, and building early failures (Santi et al., 2020). In fact, during building life cycle, lots of situations can change the system and expenses, similar to installation failure. This study aims to identify the difficulties that could face the adaptive reused buildings in applying “Leadership in Energy and Environmental Design” (LEED) rating.

However, working within guidelines and standards continues to expand, and as a result there are battles to maintain building authenticity. In most building adaptive

reuse cases, it was argued that LEED versions must be revised. So that heritage buildings can be reused or “retrofit with their original plans rather than anachronistic modern designs” as the rating points make restoration efficiency and preservation difficult that make the building lose the chance to obtain LEED certification (Baggio et al., 2017). Because of the absence of specific LEED rating system for heritage building projects. In general, heritage buildings were evaluated by one of the nearest systems: LEED-NC (New construction) or LEED-EB and none of them covers all heritage building aspects. Achieving USGBC goals and objectives can create obstacles that affect obtaining LEED-NC and LEED-EB credits. So, the USGBC should try to make a green rating system that meets sustainability, energy efficiency and environmental needs special for heritage buildings. Based on the “National Trust for Historic Preservation Green Lab” reports, it was found that restored historical buildings had been more sustainable than new buildings in the energy-saving category. Since the procedures began with existing buildings, fewer resources were required due to reusing a great part of the historic fabric. At the point in the construction time of these buildings, architects just added features that were sustainable and based on the climatic conditions. According to the Whole Building Design Group (WBDG) “... today’s sustainable technology can supplement the buildings original features without compromising the unique historic character, as well as generating substantial energy savings”. Experts realize that new buildings consume more energy and have a great impact on the environment compared to existing used buildings (Stephens et al. 2013). Lately, in the United States designers are starting to evaluate heritage buildings using LEED in spite that LEED was originally designed for new construction (Young, 2008). It is a green rating system organized by the USGBC to provide the building with a suite of sustainable standards and building operations. It uses a checklist to evaluate the performance of the building to ensure that the new building maximize energy use. At first USGBC began with only LEED for New Construction; as that was developed, they started to add a new rating system at present; they have nine types of rating. This is where architects and preservationists find problems since they are forcing their projects to fit into one of the systems at the same time trying to keep up building authenticity. If it was intended to make a LEED accredited green building, so standards must be met, which at the same time in conflict with the objective of authenticity preservation. The “obstacles that face the adaptive reused buildings to be LEED platinum certificated” is the reason for this research.

2 Methodology

Despite there are a continuous improvement in the existing guides in LEED standards, there are no certain guides that assess directly the adaptive reused buildings. As a result, those buildings have been assessed under different types of certification systems such as LEED BD + C: New Construction (v2.2), LEED BD + C: New Construction (v2009) or LEED BD + C: Core and Shell (v2009). So, the evaluated historical buildings that have been adaptively reused face obstacles to get LEED certification, especially that there are some points that are hard for the heritage building to achieve. The research aims to identify and optimize those non-applicable credits in LEED rating system. So that, to achieve an effective LEED evaluation for adaptively reused buildings, the proposed methodology has been taken by previous studies and research applied to LEED BD + C: New Construction (v2.2). The research is a sequential mixed mode methodology (qualitative and quantitative), where the research is divided into three phases, phase 1 analysing three LEED Platinum projects that had been adaptively reused, which were choosing according to a timeline of successful LEED Platinum projects. Phase 2 analyses the comparative analysis of the buildings that achieved platinum certificates. It relates to the classification of prerequisites, using a score system for each point inside and concludes the common points that neither of those projects had achieved; in phase 3 there will be a recommendation for alternative points or modifications on those selected points.

3 Literature Review

3.1 Adaptive Reuse of Heritage Buildings

Conservation processes preserve the values of cultural property, and these values help to set overall priorities in choosing proposed interventions. Adaptive reuse of buildings is one of the conservation's four levels of intervention. Conservation of heritage buildings concerns efficiency, lifespan and obsolescence. These concerns can be sustainable and characterized by specific function, as many abandoned historic buildings hold extraordinary potential for adaptive reuse. Heritage buildings adaptive reuse is considered a fundamental method for sustaining and consequently conserving architectural heritage. Also, this part displays the adaptive reuse of heritage buildings that will support future design decisions to maximize the potential and resiliency of existing buildings.

Adaptive reuse is characterized by the significant change to the function of the existing building when the previous function has ended up being out of date and has been an

alternative to demolition and reconstruction that reduces energy consumption and waste. It is significant in adapting to the current climatic change due to its ability to reuse resources. This section displays the heritage buildings adaptive reuse assessment which supports future design decisions, maximizing the sustainability and resilience of existing buildings. The advantages of adaptive reuse can be classified under three main topics: environmental, social and economic (Douglas, 2015). The most successful built heritage adaptive reuse projects are the ones that balance conserving the building's cultural and historical significances. By maintaining the heritage building's appearance and preserving the structure of the old building and space, thus satisfying the needs dictated by its new use, and contributing to a sustainable future. In this sense, an assessment of the adaptive reuse potential would be reasonably possible to modify the existing building so the contrasts between them become contorted and would be sustainable, so the adaptive reuse performance will be improved, and the building life will be extended. While a couple of characteristics are barely alterable, all the others can be much effectively modified physically through adaptation tools that go past minor internal or external work.

3.2 LEED Rating System

The LEED rating system was first established in 1998; the United States Green Building Council (USGBC) conducted its first pilot test. This is an elective test, based on tool market driven and that is serving evaluation component and guideline in order to decrease the usage of natural resources, advance stages of restorative and regenerative, so that the positives will be maximized while the negative impact to the environment will be limited. These are the rating system main objectives and credits basis. It focuses on the environmental and human health in some key points as water savings, development of sustainable site, materials selection, energy efficiency and indoor environmental quality. The concept thought was to make rating system like the U.K's rating system (BREEAM). Right now, it is one of the most popular systems worldwide and it aims to reduce water and energy consumption for using resources efficiently. As well as reducing emissions and pollution from the transportation and focusing on decreasing the usage of raw materials to lessen the harmful impact on the environment. There are about 103.506 projects that have been LEED-certified or enlisted (Gurgun et al., 2016). The system has been criticised for being difficult to follow up the process, due to the intricacy of the credits and the required documents, which make getting certifications difficult for surveyors and professionals.

It is well known that LEED for New Construction and Major Renovations (LEED-NC) sets design and construction standards for new or renovated buildings, and they are rated as Certified, Silver, Gold or Platinum according to the total score. During the design process those points accumulate, so these points are divided into a few major categories: Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials & Resources, Indoor Environmental Quality, Innovation and Regional Priority. Through the US Green Building Council (USGBC) environmental concerns each category attempts to process a subset that has been regarded significant in constructing sustainable buildings; it is promoted to preserve wildlife habitats and low light pollution through site selection. To ensure that buildings will not negatively affect their surroundings or create heat island. Preventing the consumption of freshwater resources is the main goal for the reduction of water use, while reducing energy use is encouraged to moderate the global warming progression. Also, the sustainable use of building materials and material reduction is being rewarded in general to preserve natural resources and manage waste output.

3.2.1 LEED New Construction and Major Renovations Credits Used in Evaluating Buildings

LEED considers both lifecycle costing and lifecycle assessment, the LEED-NC 2009 rating system has been categorized into five environmental categories (USGBC, 2015). Every classification can be summarized as follows:

1. **Sustainable Sites (SS)**
It tends to the ecological concerns of construction activities and operations as they are related to the building site, to diminish negative effects on the surrounding environment. Credits are awarded to pollution prevention resulted from construction, light pollution and heat island reduction, stormwater management, much the same as natural habitats protection and open spaces, it helps to develop the undeveloped land specially it rewards sites with access to public transportation, passerby paths and bicycle paths. This site straightforwardly influences the decrease of greenhouse gas emissions related to commuting. Regarding to sustainability systems, the location of the building is as significant as how it was built. The building can affect the surrounding atmosphere, as it has a great impact on natural resources, and how it serves the local community in understanding the place and focusing on the community necessities, decides how a building can contribute to a sustainable environment.
2. **Water efficiency (WE)**
It manages potential technologies and systems that reduce the utilization and transportation costs. It addresses water efficiency through a nearby assessment and estimation of indoor and outside water-specific use. The objective of the evaluation is to save water by lessening consumed utilization, expanding proficiency and empowering integrating approaches of water sources that are alternative, renewable also, non-expendable.
3. **Energy and Atmosphere (EA)**
This category recognizes energy needs, energizes running energy audits and coordinates a wide scope of energy productivity techniques. Including the performance tracking inside the building and energy checking; also using proficient construction plan and design, just like efficient building systems.
It recommends also developing and implementing preventive programmes for maintenance to optimize mechanical equipment performance for the reduction of energy requirements, excess and waste. Using clean and sustainable energy which is produced on or off-site, for example, wind turbines and solar panels are mostly recommended. These approaches encourage to reduce the dependence on traditional way of energy delivery by non-renewable energy sources which straightforwardly lessen GHG emissions.
4. **Materials and Resources (MR)**
This category encourages systems to reuse materials and diminishing waste, similarly, as executing recycling practices to alleviate the built environment effects. It additionally advances recognizable proof of materials that are sustainably grown, produced and shipped, much the same as rescued or restored items where required. The objective is to occupy, yet it could reasonably be constructed, demolition, renovated and operational waste from landfills, while likewise using materials which have been recycled or reused. Also, this classification gives credit for techniques that increase the valuable existence of the building space by creating adaptable or flexible using designs for the building.
5. **Indoor Environmental Quality IEQ**
Since the indoor quality can enormously affect the health and efficiency of the users, as well as, individual fulfilment, credit is given to systems that decrease and manage and lessen air toxins, increase ventilation, and permit users to control desired settings. Additionally, sustainable materials are credited as providing day lighting and views.

3.3 LEED Platinum Certificated Examples

There was number of certified heritage buildings so the research selects buildings that were the common points

between those buildings that were heritage building that have been adaptively reused and that they were platinum LEED- NC (v2009) certified buildings in a close period. So, the projects that have been selected to be studied were CSHQA Office (United States), Market One (United States) and Fortius II GUADALAJARA (Mexico).

1. Fortius II GUADALAJARA—Mexico (Leed Platinum 2018)

Fortius II is a 100-year-old restored building located in Guadalajara, Mexico. Most of the construction methods employed in the twentieth Century were based on materials with high thermal mass properties, mainly focused on the use of mud masonry, light density concrete slabs, and additional brick systems when necessary. Fortunately, this construction method and the traditional use of high ceilings and internal atriums made the natural ventilation strategy feasible as shown in Fig. 1. The fenestration assemblies were replaced in their totality due to the deterioration state in which the project was found. All original wood framing was employed in furniture and décor during the restoration reducing the need for extracting new materials. A whole new set of framing and glazing was designed to look exactly as the original; thus, it was not necessary the employment of high-performance glazing system. There are just three parking spaces as no new parking was provided. One is specified for vehicles that are eco-friendly with electric charging station or low emission vehicles. The building saves 56% of energy consumption which decreases the carbon impression from the usage of petroleum product sources. While the energy produced by photovoltaic reaches 30% of the building's total energy as shown in Fig. 2. It captured 100% of the rainwater on the rooftop. This technique expands the city's drainage system, useful life and high efficiency water fixtures save about 51% of the all-out water used. Just as the existed



Fig. 1 Shows specially designed architectural shading. (Eosis, 2017)



Fig. 2 Shows Photovoltaic station located in roof. (Eosis, 2017)

buildings that have been reused reached 76% and the new materials utilized were mostly regional (Eosis, 2017).

2. Market One—United States (Leed Platinum 2017)

The building was originally constructed in 1901 as offices and manufacturing space. The project achieves a good relationship between the old and the new. In some locations, the two have been carefully identified. It uses many energy-saving strategies. The net-zero design of the building is designed to supply the maximum amount of energy as its consumption needs. There are several sustainable features that the design incorporates, that are driving the building towards the goal of net-zero certification. Outside the building fresh air is supplied by a number of operable windows while the geothermal coupled energy recovery ventilation was serving the interior zones. Through the whole building, space is allowed to flow freely through the compatibility and transparency of the finishes. In order to maintain the spatial continuity of massive volumes at the building's core, the design locates new enclosed areas, and below the ceiling plane it terminates well their walls. Light deeply penetrates the building through polycarbonate interior partitions and extensive glass, as well as it maintains an open visual connection throughout each floor level. Materials used are totally sustainable, durable and local. As shown in Fig. 3 existing materials were reused or retained, so a huge number of materials had been diverted from the waste stream and promoted a high-quality environment with long-term positive impact (MODUS, 2017). The lighting system of the building works by latest LED installations. The changeable system of the white light control intended to imitate daily circadian light pattern. (VRF) variable refrigerant stream system serving every floor with heat recovery capacities. Interior areas can transfer heat to the outside and upper floors during the colder seasons, limiting outdoor

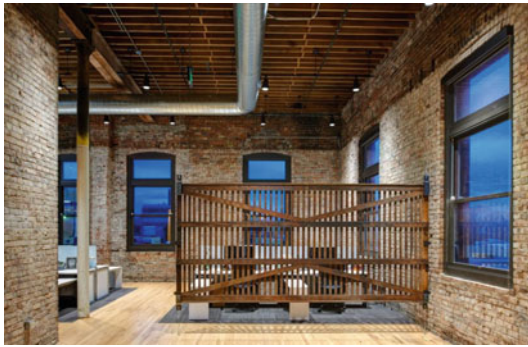


Fig. 3 Interior shots show the material used and the consistency between new and old elements as well as the reused materials. (Monson, 2017)



Fig. 4 Shows the photovoltaic panels installed on the car canopy structure. (Bradford et al., 2019)

equipment energy needs. The office and vehicle shelter car canopy use photovoltaic panels as shown in Fig. 4. The car canopy structure is provided with 676 panels that are generating 189 kilowatts, while 110 small-scale inverter panels that produce 31 kilowatts are located on the rooftop. All those panels will generate 220 kilowatts on a sunny day, which could be enough to cover the building's energy consumption; therefore, this will accomplish net-zero status. (Monson, 2017).

3. **CSHQA Office—United States (Leed Platinum 2015)**
CSHQA is a renovated 20,000 sf 1950's brick warehouse which turned into a modern, collaborative space for its Boise office. The building was certified by LEED Platinum certification from the USGBC, and it received awards for sustainable design, adaptive reuse, innovative engineering and interior design. The building core and shell had been reused with improvements in exterior wall insulation systems, windows and rooftop. The heating and cooling system of the floor slab is associated with Boise geothermal circle as shown in Fig. 5. Developed sunlight reaping system including skylights, natural light

and automated diminishing controls. LED lighting and occupancy sensors intensive use throughout; solid indoor air quality, in addition to extract the exhausted heat, a specific ventilation system was used to separate heat from singular CPUs. Fixtures for low water use surpass water efficiency standards. Permeable pavers were used in the management system of stormwater. As for reducing the heat island effect, white sidewalk pavers were used as well as landscaping using small amounts of water, also shower rooms, covered bicycle storage and on-site lockers were provided in the site. Bicycle are stored securely indoor and on-site shower rooms and lockers. Parking, walkway, landscaping, curb and streetscape improvements were done according to the guidelines of Boise City. Also, a new consistent ramp accesses the elevated floor level. Plants and trees used are characterized by low-water use; they are planted on three sides with a mechanized dripper system. The pavers used along the sidewalks are coloured with light colours to reflect heat. In the parking area, Permeable pavers are used to absorb and disperse stormwater from the rooftop and site. Vintage style road lights praise the locale while abiding to City standards (CSHQA, 2015).

3.4 Credits Applicability on the Three Examples

After analysing the three examples scorecards, it was found that there are common points that are not achieved in the examples as shown in Table 1. So, these common points didn't prevent the buildings from awarding points that required points to be platinum certified.

3.5 The Non-Applicable LEED Credits

As shown in Table 1, there are six common credits that were not applicable in the 3 examples.

3.5.1 Brownfield Redevelopment

The implementation of this credit is very expensive. The aim of this credit is the damaged sites rehabilitation as the environmental contamination makes any improvement difficult and to lessen the pressure on undeveloped land. There are some implemented requirements for this credit as to develop a documented site as polluted by Phase II Environmental Site Assessment (ASTM E1903-97) or a local voluntary clean-up programme. For projects where asbestos is found and processed, the credit can be earned. (USGBC, 2016a, b, c, d, e, f, g).

Fig. 5 Shows different energy saving ventilation system on the left solar panels on the mechanical room where five pumps are used to warm or cool the spaces. (CSHQA, 2015)

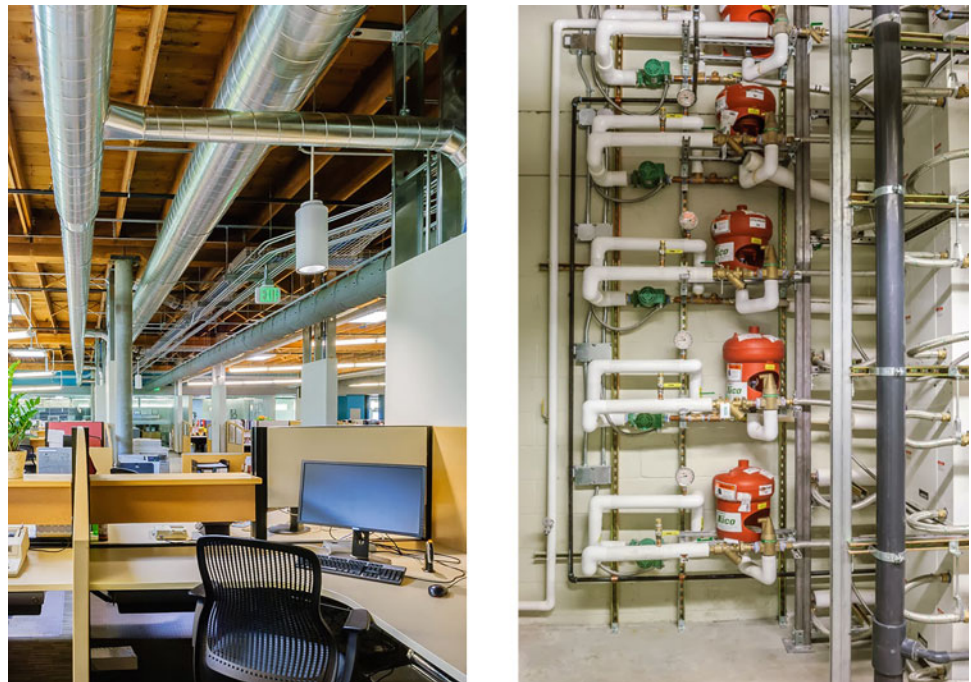


Table 1 Shows a comparison between the 3 examples certified by LEED, the table point system adopted from LEED rating system (USGBC, 2016a, b, c, d, e, f, g). Source authors

Credits	CSHQA office building	Market one	Fortius II Guadalajara	Credit applicability
Sustainable sites	Awarded: 22/26	Awarded: 19/26	Awarded: 22/26	
SSc1	1/1	1/1	1/1	√
SSc2	5/5	5/5	5/5	√
SSc3	0/1	0/1	0/1	X
SSc4.1	6/6	6/6	6/6	√
SSc4.2	1/1	1/1	1/1	√
SSc4.3	3/3	3/3	3/3	√
SSc4.4	2/2	2/2	2/2	√
SSc5.1	0/1	0/1	0/1	X
SSc5.2	0/1	0/1	1/1	√
SSc6.1	1/1	0/1	1/1	√
SSc6.2	1/1	0/1	0/1	√
SSc7.1	1/1	1/1	1/1	√
SSc7.2	1/1	0/1	1/1	√
SSc8	0/1	0/1	0/1	X
Water efficiency	Awarded: 6/10	Awarded: 7/10	Awarded: 10/10	
WEc1	2/4	4/4	4/4	√
WEc2	0/2	0/2	2/2	√
WEc3	4/4	3/4	4/4	√
Energy & atmosphere	Awarded: 28/35	Awarded: 31/35	Awarded: 30/35	
EAc1	19/19	19/19	19/19	√
EAc2	0/7	7/7	7/7	√
EAc3	2/2	2/2	0/2	√

(continued)

Table 1 (continued)

Credits	CSHQA office building	Market one	Fortius II Guadalajara	Credit applicability
EAc4	2/2	0/2	2/2	√
EAc5	3/3	3/3	0/3	√
EAc6	2/2	0/2	2/2	√
Material & resources	Awarded: 10/14	Awarded: 9/14	Awarded: 3/14	
MRc1.1	3/3	3/3	2/3	√
MRc1.2	0/1	0/1	0/1	X
MRc2	2/2	2/2	0/2	√
MRc3	2/2	1/2	0/2	√
MRc4	1/2	2/2	0/2	√
MRc5	2/2	1/2	1/2	√
MRc6	0/1	0/1	0/1	X
MRc7	0/1	0/1	0/1	X
Indoor environmental quality	Awarded: 11/15	Awarded: 7/15	Awarded: 5/23	
EQc1	1/1	0/1	0/1	√
EQc2	0/1	0/1	1/1	√
EQc3.1	1/1	1/1	0/1	√
EQc3.2	1/1	0/1	0/1	√
EQc4.1	0/1	1/1	0/1	√
EQc4.2	1/1	1/1	0/1	√
EQc4.3	1/1	1/1	1/1	√
EQc4.4	1/1	1/1	0/1	√
EQc5	1/1	0/1	0/1	√
EQc6.1	1/1	0/1	1/1	√
EQc6.2	0/1	0/1	1/1	√
EQc7.1	1/1	1/1	0/1	√
EQc7.2	1/1	1/1	0/1	√
EQc8.1	1/1	0/1	0/1	√
EQc8.2	0/1	0/1	1/1	√
Innovation	Awarded: 4/6	Awarded: 6/6	Awarded: 6/6	
IDc1	3/5	5/5	5/5	√
IDc2	1/1	1/1	1/1	√

3.5.2 Site Development—Protect or Restore Habitat

The credit aims to conserve existing natural areas and restore damaged areas. There are some requirements that should be achieved for this credit concerning graded sites or developed areas. To protect or restore at least 50% of the site (excluding the footprint of the building) or 20% of the site area (including the footprint of building), Whichever is greater, with either native or adaptive plants. In case projects obtain the SS2 credit: Development Density and Community Connectivity credit, the vegetation surface on the roof may be included in the calculation if the plants are adapted or native, promote biodiversity and provide habitat. Strategies

may include stacking the building programme and utilizing tuck-under parking. Concrete parking garages inside buildings can be utilized to limit site disturbance. The parking garage situated inside a building keeps up existing natural areas that would differently be consumed by surface parking. The use of a former concrete parking area to store and treat rainwater, by eliminating or reducing the required land, helps to protect and restore habitats. (USGBC, 2016a, b, c, d, e, f, g).

3.5.3 Light Pollution Reduction

The aim of this credit is to limit light trespass from the site and building, decrease sky-glow to increase light to enter at

night, improve visibility of night-time through decreasing the impact of light on night-time environments. There are some requirements for this credit that should be implemented that project groups must follow one of the two options for interior lighting and the necessity for exterior lighting. The input power (via programmed gadget) should be reduced for interior lighting to all nonemergency interior luminaries of any building envelope openings at least 50% (transparent or translucent). It might be given after-hours override an occupant-sensing device that gives override that lasts for less than 30 min or a manual one. OR making all the building envelope opening (transparent or translucent) with an immediate view to any non-crisis lights must have a shield (controlled/shut by a programmed gadget for conveyance of under 10% between 11 PM and 5 AM). On the other hand, for the exterior lighting Light areas only as required the power density of the outer lights shouldn't exceed that predefined in ANSI/ASHRAE/IESNA 90.1-2007 standard with guaranteed lighting zone Addenda (USGBC, 2016a, b, c, d, e, f, g). For exterior area, the lighting power densities ought not exceed 80% and 50% for landscape features and building facades. Just as the lighting installed shouldn't exceed 2.5 of the building heights. If the building is 3 stories or manufactured home or warehouse, then this credit cannot be applied. The criteria of site lighting were adopted in this credit in order to keep up the levels of safe lighting while staying away from off-site lighting and pollution of the night sky. Site lighting should be diminished however much as could be expected and by using computer model that can design the site lighting. Also, by using different technology light contamination can be decreased by using full cut off lighting, reflectance surfaces and low angle spotlights.

3.5.4 Building Reuse—Maintain Interior Non-Structural Elements

In this credit, a large number of the materials and resources keep up the same implementation and intentions as in the category of Water Efficiency however extra points can be accomplished through higher performance execution or higher percentages. MR1.1 and MR1.2 are the same, except that two points could be earned by accomplishing the 95% prerequisite in MR1.2. It should be noticed that MR1.3 credit ought to be treated as a different credit with various implementation methods. The credit intends to retain cultural resources, conserve resources, reduce waste, extend the existing building's life cycle, and diminish the new building's environmental impact as they identify with manufacturing of materials and transportation. There are some requirements for this credit that should be implemented as to use non-structural elements in the existing interior (as floors,

building envelope, inner walls and ceiling) in at least half of the total area of the whole building, and exclude non-structural material, MEP system also, dangerous materials (which must be eliminated) and lift gear. This credit is not applicable if the building expansion is more than double area of the existing building. (USGBC, 2016a, b, c, d, e, f, g).

3.5.5 Rapidly Renewable Materials

The goal of this credit is to use sustainable materials that are renewable to lessen the utilization and exhaustion of primary materials. It is also required that the used materials do not exceed 2.5% of structure materials and components. Also, materials should be renewable and products that are based on the cost. The materials are produced from natural products which are generally harvested within 10 years or more limited cycle. Such as insulation made from cotton or wool, flooring from bamboo or linoleum, also using straw board and wheat board cabinets. (USGBC, 2016a, b, c, d, e, f, g).

3.5.6 Certified Wood

The credit plans to increase the existence of responsible forest management. This credit contains a few prerequisites that must be implemented as at least 50% of the wood-based products and materials used in the project should be certified according to the Forest Stewardship Council's standards and measures. These parts incorporate at least finishes, sub-flooring, doors, framing whether structural or general dimensional. It only includes permanently installed materials in the project (e.g. scaffolding, formwork, sidewalk protection, guard rails and bracing). It might be included in the project's calculations (USGBC, 2016a, b, c, d, e, f, g). If any of these materials are incorporated, in the project calculation all these materials should be included; however, elevator equipment and MEP ought to be excluded. If such materials are bought to be used in different projects, the applicant may incorporate only the used materials in one project, according to its discretion. Furniture might be incorporated if that it is incorporated regularly in MR Credits 3. Materials Reuse, through MR Credit 7: Certified Wood.

3.6 Credit Weighting of Within the Main Classification

The current credits weightings were adjusted, depending upon their ability to affect various concerns identified with human health and environmental issues. By assessing each credit against the environmental-impact categories, the credits are dependent on their capacity to mitigate those environmental issues. Table 2 illustrates the weighting of non-applicable credits.

Table 2 Shows the weighting of the non-applicable credits adopted from LEED rating system (USGBC, 2016a, b, c, d, e, f, g). *Source* authors

Sustainable sites		Awarded: 26	Weighting %
SSc3	Brownfield redevelopment	1/1	3.85
SSc5.1	Site development—protect or restore habitat	1/1	3.85
SSc8	Light pollution reduction	1/1	3.85
Total %			11.54
Material & resources		Awarded: 14	Weighting %
MRc1.2	Building reuse—maintain interior non-structural elements	1/1	7.14
MRc6	Rapidly renewable materials	1/1	7.14
MRc7	Certified wood	1/1	7.14
Total %			21.4

4 Results

Through the research methodology, and as illustrated in Table 3 the credits were optimized through a comparative analysis between the three platinum reused projects which conducted six points that need to be optimized:

1-Brownfield redevelopment (SSc3): Despite that it is very important point but it's not effective in the case of heritage buildings because the existing state controls the situation as the heritage buildings weren't unnecessarily built in Brownfield area. This credit could be additional point.

2-Site development—protect or restore habitat (SSc5.1): In a case of existing buildings, it is an imposed situation the given land area (In the case of given area it's hard to comply the condition of 50% with native or adapted vegetation with native or adapted vegetation). So, this credit might be reformulated to change the percentage of green area).

3-Light pollution reduction (SSc8): This credit is applicable; it could be archived.

4-Building reuse—maintain interior non-structural elements (MRc1.2): The original building materials might be perished and not usable, as the building should achieve

Table 3 Shows the reasons for not achieving the credits adopted from LEED rating system (USGBC, 2016a, b, c, d, e, f, g). *Source* authors

Project	Credits	Reasons		
		Not applicable	The building wasn't capable	Unknown reason
Fortius II Guadalajara	SSc3	√		
	SSc5.1		√	
	SSc8		√	
	MRc1.2		√	
	MRc6		√	
	MRc7		√	
Market one	SSc3	√		
	SSc5.1		√	
	SSc8			√
	MRc1.2			√
	MRc6		√	
	MRc7			√
CSHQA office	SSc3	√		
	SSc5.1		√	
	SSc8			√
	MRc1.2		√	
	MRc6		√	
	MRc7		√	

95% in reusing existing interior non-structural elements (e.g. interior walls, floor, framing, Exterior Structure (envelope) and ceiling systems). This credit is not applicable. (It can be deleted and it is point to MR1.1).

5-Rapidly renewable materials (MRc6): It was hard to achieve this point in existing heritage buildings because of the condition of 2.5% using value of all buildings materials that should be rapidly renewable building materials and products are made from agricultural products as bamboo flooring, wool, cotton insulation, cork flooring, linoleum flooring, wheat board cabinets, straw board and agrifiber that will not be compatible with the original building style.

6-Certified wood (MRc7): It uses a minimum of 50% of the wood-based products and materials used in the project should be certified according to the Forest Stewardship Council's standards and measures. These parts incorporate at least finishes, sub-flooring, doors, framing whether structural or general dimensional. It only includes permanently installed materials in the project.

As shown in Table 4 brownfield redevelopment will be excluded and the other five points will remain within the optimized rating system, but their requirements need to be reduced.

Table 4 Shows final rating system after optimization, point system adopted from LEED rating system (USGBC, 2016a, b, c, d, e, f, g). Source authors

Credits	Weighting
Sustainable sites	Awarded: 22/26
SSc1	1/1
SSc2	6/6
SSc4.1	6/6
SSc4.2	1/1
SSc4.3	3/3
SSc4.4	2/2
SSc5.1	0/1
SSc5.2	0/1
SSc6.1	1/1
SSc6.2	1/1
SSc7.1	1/1
SSc7.2	1/1
SSc8	0/1
Water efficiency	Awarded: 6/10
WEc1	2/4
WEc2	2/2
WEc3	4/4
Energy & atmosphere	Awarded: 28/35
EAc1	19/19

(continued)

Table 4 (continued)

Credits	Weighting
EAc2	0/7
EAc3	2/2
EAc4	2/2
EAc5	3/3
EAc6	2/2
Material & resources	Awarded: 10/14
MRc1.1	3/3
MRc1.2	0/1
MRc2	2/2
MRc3	2/2
MRc4	1/2
MRc5	2/2
MRc6	0/1
MRc7	0/1
Indoor environmental quality	Awarded: 11/15
EQc1	1/1
EQc2	0/1
EQc3.1	1/1
EQc3.2	1/1
EQc4.1	0/1
EQc4.2	1/1
EQc4.3	1/1
EQc4.4	1/1
EQc5	1/1
EQc6.1	1/1
EQc6.2	0/1
EQc7.1	1/1
EQc7.2	1/1
EQc8.1	1/1
EQc8.2	0/1
Innovation	Awarded: 4/6
IDc1	3/5
IDc2	1/1
Indoor environmental quality	Awarded: 11/15
EQc1	1/1
EQc2	0/1
EQc3.1	1/1
EQc3.2	1/1
EQc4.1	0/1
EQc4.2	1/1
EQc4.3	1/1
EQc4.4	1/1
EQc5	1/1

5 Conclusion

This paper aims to understand the barriers in using the LEED rating system on adaptive reused buildings, particularly in specific credits in some categories by providing a comparative review as well as studying their effect as sustainable application both from the general information viewpoint, certification points, categories, and the credits usability and applicability. It can be assumed and recommended from this comparison that despite there are six optimized credits which were presented in this paper, in terms of their intents and requirements. Subsequently, it is important that credits are compared by their applicability, which is commonly considered as the main measure in evaluation of buildings, to guarantee that the environmental performance target is being met in the sustainable design of the building when desired ratings are accomplished. So, while there are some points that were not achieved because they were not applicable, which means that a new specific LEED evaluation for adaptive reused buildings can be created. Also, the research recommends that more studies and exploration should be guided towards responding to the inquiry of how far the applicability of rating systems especially for adaptive reused buildings. Review among some other sustainability rating systems specialized in heritage buildings and adaptive reused to find out the compatibility with green architecture.

Acknowledgments The researcher would like to recognize the support and provision of valuable information provided by architect Jorge Lopez—chairman Eosis Company.

References

- Amiri, A., Ottelin, J., Sorvari, J., & Junnila, S. (2020). Economic and technical considerations in pursuing Green building certification: A case study from Iran. *Sustainability*, 12(2), 719. <https://doi.org/10.3390/su12020719>
- Baggio, M., Tinterri, C., Mora, T. D., Righi, A., Peron, F., & Romagnoni, P. (2017). Sustainability of a historical building renovation design through the application of LEED® rating system. *Energy Procedia*, 113, 382–389. <https://doi.org/10.1016/j.egypro.2017.04.017>
- Bradford, A., Stankiewicz, T., Sundby, J., & Sargent, R. (2019). *Shining cities 2019. A report by environment America research & policy center and frontier*. Retrieved August 18, 2020, from <https://environmentamericacenter.org/feature/amc/shining-cities-2019>.
- Douglas, J. (2015). *Building adaptation* (3rd ed.). Routledge, Taylor & Francis Group.
- Eosis. (2017). *Fortius II*. Eosis. Retrieved April 5, 2020, from <https://www.eosis.energy/projects/fortius-ii/>
- EPA. (2016). *Definition of Green Building*. U.S. EPA. Retrieved October 28, 2019, from <https://archive.epa.gov/greenbuilding/web/html/about.html>.
- Gurgun, A. P., Polat, G., Damci, A., & Bayhan, H. G. (2016). Performance of LEED energy credit requirements in European countries. *Procedia Engineering*, 164, 432–438. <https://doi.org/10.1016/j.proeng.2016.11.641>
- MODUS. (2017). *Market One*. MODUS. Retrieved April 18, 2020, from https://www.modus-eng.com/portfolio_page/market-one/.
- Monson, N. (2017). *Market one*. Neumann Monson architects. Retrieved 16 August, 2020, from <http://neumannmonson.com/market-one/>.
- Santi, G., Bertolazzi, A., Leporelli, E., Turrini, U., & Croatto, G. (2020). Green systems integrated to the building envelope: Strategies and technical solution for the Italian case. *Sustainability*, 12(11), 4615. <https://doi.org/10.3390/su12114615>
- Sfakianaki, E., & Moutsatsou, K. (2015). A decision support tool for the adaptive reuse or demolition and reconstruction of existing buildings. *International Journal of Environment and Sustainable Development*, 14(1), 1. <https://doi.org/10.1504/ijesd.2015.066893>
- Stephens, J. F., MSCM, & Siddiqi, K. (2013). LEED rating systems for historical restorations. In *49th ASC Annual International Conference Proceedings*. Retrieved February 16, 2020, from <http://ascpro0.ascweb.org/archives/cd/2013/paper/CPGT9002013.pdf>.
- USGBC. (2015). *LEED credit library: U.S. green building council*. Retrieved February 5, 2020, from <https://www.usgbc.org/innovationcatalog?Version=%22v2009%22&Rating%2BSystem=%22New%2BConstruction%22>.
- USGBC. (2016a). *Brownfield redevelopment*. U.S. Green Building Council. Retrieved February 18, 2020, from <https://www.usgbc.org/credits/retail-new-construction/v2009/ssc3>.
- USGBC. (2016b). *Building reuse—maintain interior nonstructural elements*. U.S. Green Building Council. Retrieved March 10, 2020, from <https://www.usgbc.org/credits/new-construction-retail-nc-schools/v2009/mrc12>.
- USGBC. (2016c). *Certified wood*. U.S. Green Building Council. Retrieved April 5, 2020, from <https://www.usgbc.org/credits/new-construction-schools/v2009/mrc7?view=interpretations>.
- USGBC. (2016d). *LEED 2009 for new construction—current version*. U.S. Green Building Council. Retrieved April 5, 2020, from <https://www.usgbc.org/resources/leed-new-construction-v2009-current-version>.
- USGBC. (2016e). *Light pollution reduction*. U.S. Green Building Council. Retrieved March 16, 2020, from <https://www.usgbc.org/credits/core-shell-new-construction/v2009/ssc8>.
- USGBC. (2016f). *Rapidly renewable materials*. U.S. Green Building Council. Retrieved March 15, 2021, from <https://www.usgbc.org/credits/new-construction-schools/v2009/mrc6>.
- USGBC. (2016g). *Site development—protect or restore habitat*. U.S. Green Building Council. Retrieved April 9, 2020, from <https://www.usgbc.org/credits/core-shell-new-construction-schools/v2009/ssc51?view=interpretations>.
- Young, R. A. (2008). Striking gold: Historic preservation and LEED. *Journal of Green Building*, 3(1), 24–43. <https://doi.org/10.3992/jgb.3.1.24>
- CSHQA. (2015). *CSHQA office*. CSHQA. Retrieved March 8, 2020, from <https://www.cshqa.com/projects/cshqa-office/>.
- Yamany, S. E., Afifi, M., & Hassan, A. (2016). Applicability and implementation of U.S. Green building council rating system (LEED) in Egypt (a longitudinal study for Egyptian LEED certified buildings). *Procedia Environmental Sciences*, 34, 594–604. <https://doi.org/10.1016/j.proenv.2016.04.052>



Life Between Monuments, Local Identity, and Global Tourism in the Neighborhood of San Lorenzo in Florence

Francesco Alberti

Abstract

The paper reflects on how the identity and authenticity of art cities, with special regard to those that are considered as best practices in the field of heritage protection, can be undermined by processes of tourist gentrification stimulated by the global interest they exercise because of their recognized universal value. The neighborhood of San Lorenzo within the World Heritage Site of Florence (Italy) is presented as a case study of a historic community whose socio-economic fabric has deeply changed over the years due to increasing overtourism. The paper focuses on the action research “San Lorenzo Laboratory”, coordinated by the Department of Architecture of the University of Florence, which aims to define, on a participatory basis, a shared strategy for the socially sustainable regeneration of the neighborhood, leveraging the redesign of public space and the reuse of an abandoned historical complex—the former monastery of Sant’Orsola. The results of the Laboratory, which took the form of requests and design concepts derived from discussions between experts, citizens, and stakeholders, have been delivered to the public institutions concerned and are intended to pave the way for a development and management model for the entire historic center, alternative to the tourist monoculture. The paper concludes by highlighting how the first effects of the initiative can be seen today in some policies and measures implemented by the City Council in response to the social and economic crisis triggered by the Covid-19 pandemic.

Keywords

World heritage sites • Overtourism • Action research • Participatory design • Urban renovation • Post-Covid city

1 Introduction

1.1 The Potential Conflict Between the Identity and Image of Art Cities

The basic question underlying this paper is: What role can the historic city play inside the contemporary one?

There is broad consensus on the need to preserve the architectural and artistic heritage: an issue that has become one of the most pressing of the current “urban age” (Burdett and Rode 2018), along with sustainable development, for instance, to which it is strictly related, given the social—and therefore also cultural—implications of sustainability (Barthel-Bouchier, 2016; Soini & Dessein, 2016).

The protection of historical heritage is probably the field in which the contribution of Italian academia, architects, and planners has been more relevant and recognizable over the last sixty years in international debate on contemporary urbanism, pushing the idea that the historic settlement as a whole—that is not only the most outstanding buildings and landmarks—is an asset to be protected, and eventually adapted to the changing needs of communities in the most careful and respectful way, as a structural part of the human habitat.

A milestone in this sense is the Charter of Gubbio on historical centers, launched by a group of Italian scholars, professionals, and politicians at the end of the founding conference of the National Association of Historic and Artistic Centers, an association that is still very active in Italy, held in the medieval town of Gubbio in 1960 (Selicato & Piscitelli, 2016); this was a few years prior to the creation

F. Alberti (✉)
Department of Architecture, University of Florence, Florence,
Italy
e-mail: francesco.alberti@unifi.it

in Venice of the ICOMOS organization and the publication of the International Charter for the Conservation and Restoration of Monuments and Sites (the so-called Venice Charter) on the occasion of the 2nd International Congress of Architects and Technicians of Historic Monuments in 1964.

According to the definition of “monument” set out in the first article of this fundamental act in the history of heritage preservation, «The concept of a historic monument embraces not only the single architectural work but also the urban or rural setting in which is found the evidence of a particular civilization, a significant development or a historic event. This applies not only to great works of art but also to more modest works of the past which have acquired cultural significance with the passing of time» (ICOMOS, 1964).

In the following decades, awareness of the common responsibility to safeguard the tangible constructs of the past for future generations has significantly grown worldwide, supported by many international initiatives in the wake of the Charters of Gubbio and Venice, like the Declaration of Amsterdam, released on the occasion of the Congress of the European Architectural Heritage in 1975; the Convention of Granada for the Protection of the Architectural Heritage of Europe in 1985, the Charter of Krakow, signed on the occasion of the International Conference on Conservation in 2000, and the further charters, declarations and documents promoted in all continents by ICOMOS over the years (Goetcheus & Mitchell, 2014).

However, it is worth noting that the idea of heritage as a key element in defining the identity and image of the city raises questions that do not only concern building integrity, if we assume that the aim of preserving the identity of a place does not end with the conservation of its monuments, even in their broadest sense defined by the Venice Charter.

From an anthropological point of view, “identity” has to do with a community’s sense of belonging to a place shaped over time by its previous generations, which is something different from, and potentially in conflict with, the recognizability of its image by a wider public.

According to the French scholar Marc Augé, anthropological places «have at least three characteristics in common. They want to be [...] places of identity, of relations and of history. The layout of the house, the rules of residence, the zoning of the village, placement of altars, configuration of public open spaces, land distribution, correspond for every individual [of the community] to a system of possibilities, prescriptions and interdicts whose content is both spatial and social» (Augé, 1995, p. 52). According to Augé, an inhabited place which cannot be defined as relational, or historical, or concerned with identity (like, for example, an airport, a shopping mall, a business center, a theme park, etc.) is

therefore, from an anthropological point of view, a “non-place”. The globalized world, as Augé’s thesis claims, produces “non-places” where people spend time living, working, moving around, shopping, and engaging in leisure activities, without having any durable relationship with other people or developing a sense of belonging. Non-places are not necessarily anonymous or unpleasant places; on the contrary, they may have—and they often have in fact—a strong, recognizable image—for instance, airports or exhibition centers, which are often designed by world famous architects.

Therefore, we must distinguish between local identity, which implies a community rooted in a place, and the image of the place, which makes it recognizable, even at global level, regardless of its anthropological significance.

In fact, if not governed, the dialectic between local and global, which today also affects the fruition of architectural heritage, can result in the expropriation of urban spaces and monuments by mass tourism and in the escape of residents, with the effect of undermining two of the three above-mentioned immaterial characteristics that distinguish a place from a “non-place”: local identity and durable relations between people and their living environment. This is what another French scholar, Françoise Choay (1992), described as the “loss of reality” of the historic city in the current “post-urban” condition—a city that is often no more than a place to live in rather than an image to be consumed on-site. Paradoxically, this is a destiny that threatens above all the most preserved art cities (Dallen, 2020, De Luca et al., 2020), which is occurring, to different degrees, in many cities in Italy—the country that boasts the largest number of World Heritage sites—affected, like Venice and Florence, by overtourism.

This emerging concept (Capocchi et al., 2019; Dodds & Butler, 2019; Goodwin, 2017; Żemła, 2020) reflects the leap in scale that has occurred over the last decade in the tourism industry, resulting in the out-of-control increase in global flows and local impacts of mass tourism in certain destinations: “a ‘perfect storm’ of visitors” (Dodds & Butler, 2019: 520) with a wide phenomenology depending on the different contexts, induced by the ICT revolution in the tourism market on both the supply and demand sides.

In art cities, whose recognized universal value and iconic townscapes make them attractive to global tourism, preservation strategies should therefore include the maintenance of good living conditions for residents, preventing gentrification and the risk of transforming the historic core into a sort of “theme park” exclusively dedicated to the fruition of art and consumption: a prospect which, in the long run, can act as a boomerang to the tourist reputation of the same cities (Goodwin, 2017).

1.2 The Case Study: The Neighborhood (“Rione”) of San Lorenzo in the Historic Center of Florence

The Historic Center of Florence has been listed as a World Heritage Site since 1982. In the rationale for the recognition of its Outstanding Universal Value, the core of the city is described as «an absolute chef-d’œuvre» hosting «the greatest concentration of universally renowned works of art in the world». ¹ A destination of cultural pilgrimage since the eighteenth century as a stage of the Grand Tour through Italy carried out many North European aristocrats, and an object of special veneration by British travelers (Sweet, 2012), Florence was among the first Italian art cities to suffer, since the 1980s, the assault of the incipient mass tourism: the label of “Disneyland of the Renaissance”, used to criticize a vision of the city based on the exploitation of its past greatness, dates back to that time (Gherardi & Tondelli, 1987).

The process of tourism specialization has been accompanied by a progressive reduction in the number of inhabitants in the protected area: from 73,000 in 1991 to 39,500 in 2019 (but according to estimates that calculate the official and actual residents, the latter could number only 33,000), with an increasing percentage of non-Italians, from 15 to 23%.

According to a survey commissioned by the Chamber of Commerce of Florence, before the Covid-19 pandemic the total number of overnight stays by tourists, coming to Florence from 170 countries, reached a record 23 million in 2019, including both registered tourists (15.5 million) and off-the-book guests (CST, 2019): that is an average of about 63,000 people per day, almost double the estimated current residents in the Historic Center.

This is the background of an action research, called “Laboratorio San Lorenzo” (San Lorenzo Laboratory), which will be presented in the following paragraphs. The initiative was coordinated by the Department of Architecture (DiDA) of the University of Florence, in partnership with the Chamber of Architects of Florence and the civic group of residents “Santorsolaproject”, and focused on a significant part of the UNESCO site: the neighborhood (“Rione”) of San Lorenzo. “Rione” is an informal definition of an urban area with specific characteristics that determine its identity from a geographical, historical, architectural, social, and economic point of view.

Around the perimeter of the study area, at a few minutes walking distance, there are some of the main monuments and

points of interest of the city (Fig. 1), including the cathedral of Santa Maria del Fiore, covered by Filippo Brunelleschi’s dome, the undisputed worldwide icon of Florence and ‘Florentinity’; the Fortress of San Giovanni, built in the sixteenth century on a design by Giuliano da San Gallo and used today as an exhibition center; the church and monastery of San Marco, with its extraordinary collection of works by Beato Angelico, one of the most important masters of Italian Renaissance painting; the Church and Museum of Santa Maria Novella, with its façade by Leon Battista Alberti; and the central railway station by architect Giovanni Michelucci, which is the main gateway to the city from the outside and, at the same time, a masterpiece of Italian rational architecture, dating back to 1935, and listed in turn as a national heritage site.

Inside the neighborhood, we find the church and museum of San Lorenzo, one of the major historical-artistic complexes of the city, from which the Rione takes its name. San Lorenzo is a unique compendium of Italian Renaissance architecture and art, formed by the Basilica, designed by Brunelleschi, its old and new sacristies, respectively by Brunelleschi and Michelangelo, the attached monastery with its beautiful cloisters, and the so-called Laurentian Library designed by Giuliano da San Gallo and accessed through a staircase by Michelangelo, and finally the magnificent chapel where the tombs of the Medici family are located, adorned with statuary by Michelangelo and precious marble paraments.

Moreover, the area hosts the Congress Palace, functionally linked to the nearby exhibition center at the Fortress of San Giovanni, and the most famous markets of the city, located in the immediate surroundings of the church of San Lorenzo:

- the Central Market, a charming nineteenth-century building, which houses the largest food market in Florence on the ground floor, still very popular among the Florentines, and a food court on the upper floor; inaugurated in 2014, it is very busy at all hours especially with tourists.
- the street market of San Lorenzo, whose stalls selling leather, clothing, and souvenirs are arranged around the Central Market. Once very popular among the locals, it is now almost exclusively a market for tourists, with many low-quality imported products.

Besides the complex of San Lorenzo, the area is full of minor, yet very significant, monuments.

Maps produced by the DiDA research group for the San Lorenzo Laboratory show that the public and private buildings inside the neighborhood listed as national heritage number 77 in total, occupying almost a quarter of its surface

¹ The full rationale is available at <https://whc.unesco.org/en/list/174/>. In July 2021 the area of the UNESCO Site, originally comprised within the perimeter of the fourteenth century city walls (demolished in the nineteenth century), was extended to include a hilly area dominated by the millennial monastery of San Miniato al Monte.

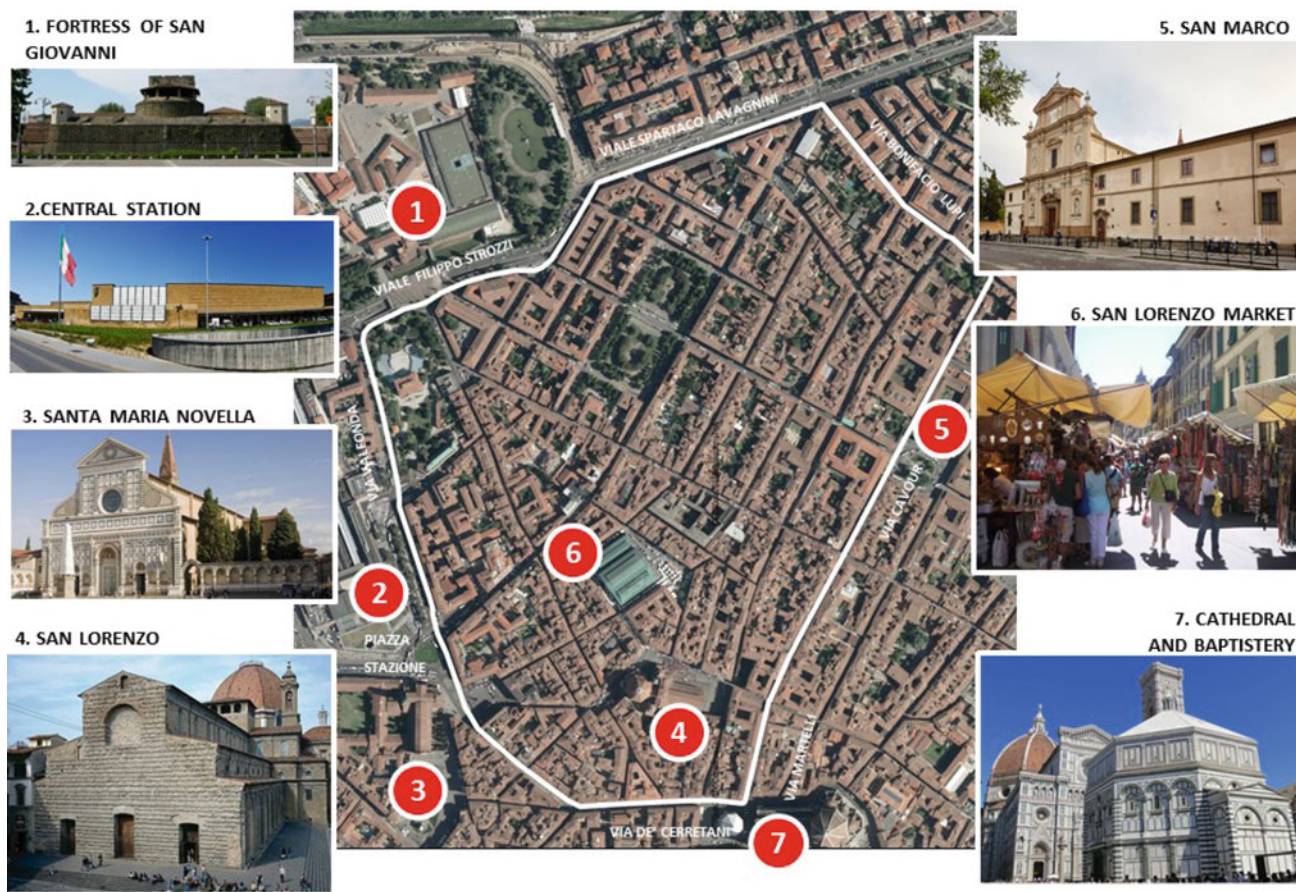


Fig. 1 Monuments and points of interest in the surroundings and within the San Lorenzo neighborhood

area (Fig. 2). Most of them are non-residential buildings, including both public and private schools, university buildings and facilities, and a significant number of abandoned buildings (Fig. 3), previously used as offices, an old people's home, a hospital, a hotel, and two cinemas.

1.3 A “Black Hole” in the Neighborhood: The Abandoned Monastery of Sant’Orsola

Among the buildings of the Rione waiting for a new use is the ancient monastery of Sant’Orsola (Fig. 4). Founded at the edge of the medieval city in 1309, it has since undergone countless transformations, both before and after it was decommissioned as a monastery in 1810, when Florence was under Napoleonic rule (Bargellini and Guarniero 1978, Centauro, 2014). Between 1816 and 1818, the complex was converted into a tobacco factory, a function it retained until 1940. After the Second World War it was used as a temporary shelter for displaced people and later, until the early 1970s, as a home for evicted people.

From that moment on, for over 50 years, every attempt to reuse the building has failed. After the abandonment of a project to convert it into a service center for the University of Florence (1975–1979) (Bacciardi et al., 1979), in the mid-1980s Sant’Orsola was destined to become the headquarters and barracks of the Financial Police (Guardia di Finanza) in Florence. The renovation work, which was destructive and disrespectful of the historical significance of the complex, was never completed. Since 1990 Sant’Orsola has been left in a state of neglect and subject to progressive degradation. In 2007, it was acquired from the State by the Province of Florence, with the constraint of maintaining public ownership of the building. Between 2009 and 2011 the province’s technical office drew up a renovation project based on a functional mix, including a high school and an art academy, socio-cultural, sports and recreational facilities, shops, a guest house, and the public use of open spaces, but this too was abandoned due to a lack of funding. At the request of the Archeological Superintendence, however, from 2011 to 2013 an excavation campaign was carried out, which brought to light the remains of the original church of

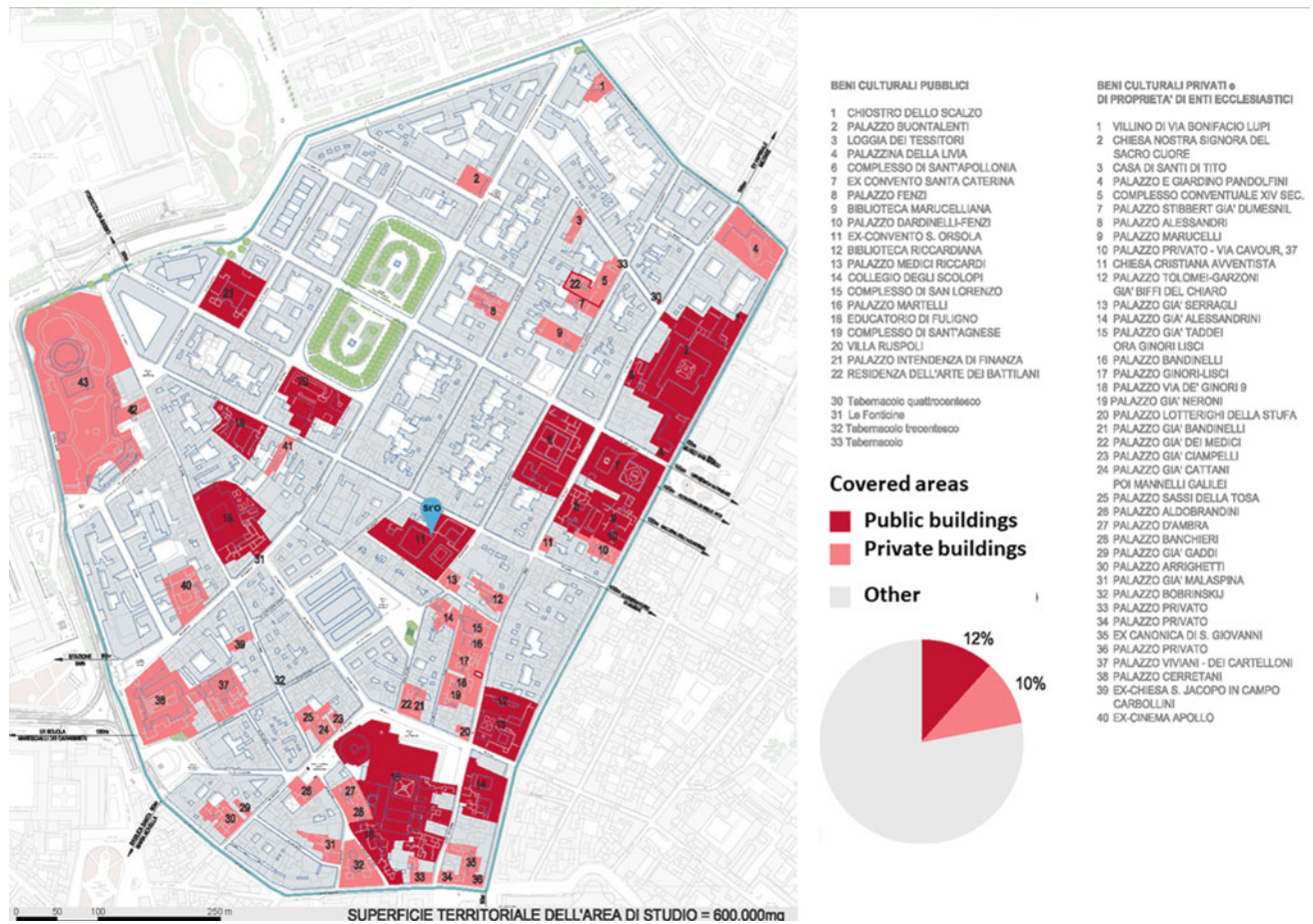


Fig. 2 National listed buildings

the convent, where archival sources attest that Lisa Ghirardini del Giocondo, the famous “Mona Lisa” portrayed by Leonardo da Vinci, was buried in 1542, after spending her last years assisted by her daughter, a nun of Sant’Orsola (Cianferoni & D’Aquino, 2014). Moreover, an architectural survey of the complex was conducted by a research group from the Department of Architecture of Florence, aimed at recognizing the historical stratifications of the complex, as a premise for future redevelopment (Centauro, 2014).

In the following years, the Province and the Metropolitan City of Florence, which replaced the former in 2015, unsuccessfully tried to involve private investors with four different calls for bids: one call for project financing proposals and three calls for the concession of the building, all aimed at creating higher education facilities with an attached guest house, a museum, and commerce on the ground floor.

In the meantime, special openings of the archaeological area, along with two temporary installations created in 2013 and 2017 on the street façades of the building by the artist Vaclav Pisvejk, in collaboration with the local association “Insieme per San Lorenzo”, turned a spotlight on the

complex. In 2012, the civic group Santorsolaproject was set up to urge its reuse as a livable space for the entire neighborhood: a sort of “compensation” for the deterioration of the place endured for decades by the inhabitants of the neighborhood (Serrini, 2019). Two years later, Santorsolaproject, in collaboration with the school of photography Fondazione Studio Marangoni and the voluntary help of other associations, professionals and artists, organized “La città dentro San Lorenzo” (the city inside San Lorenzo), a festival of readings, music and exhibitions inside Sant’Orsola. The event attracted over 3000 visitors in three days, achieving wide media coverage.

Such initiatives succeeded in increasing citizens’ awareness of the great inherent potential of that urban block, which had remained inaccessible for so long. With an overall built-up area of more than 17,000 m² and an extension of courtyards and colonnades of approximately 2,500 m² usable as public space in the very heart of the city, it was finally clear that Sant’Orsola represents a strategic asset not only for the regeneration of the San Lorenzo Rione but also for the whole city.

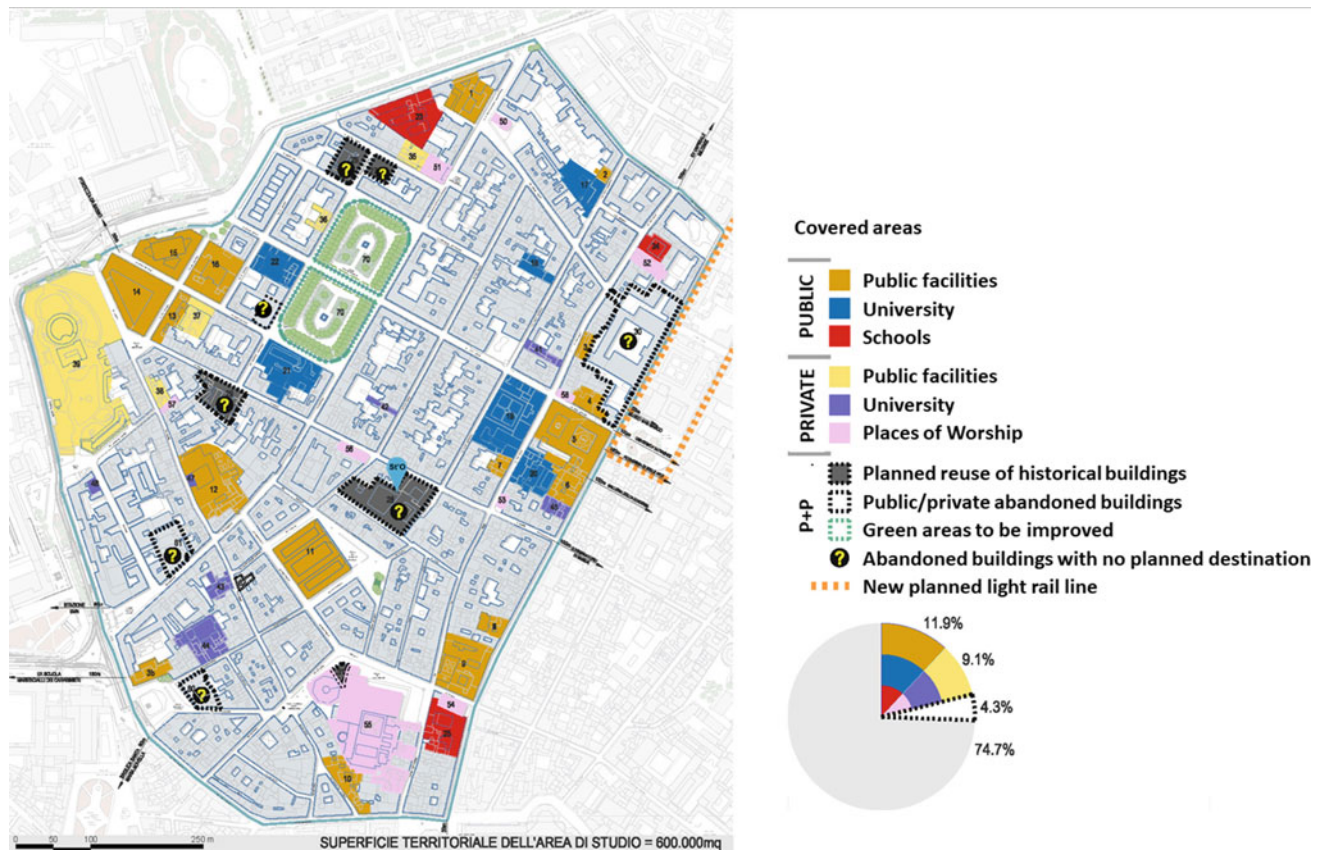


Fig. 3 Non-residential buildings

In 2018, while confirming its willingness to receive new proposals from the private sector, the Metropolitan City decided to allocate 4.4 million euros to urgent restoration works, starting with the repair of the roof, in order to prevent further damages to the building.

2 Method

The San Lorenzo Laboratory was conducted on a two-track basis: on one side, updated maps and data to describe the cultural, social and economic features of the Rione were gathered and rendered by a DiDA research group; on the other side, all partners, supported by a professional facilitator, led a participatory process, involving inhabitants, local stakeholders, experts, and public officials in the building-up of a shared strategy for the regeneration of the neighborhood, the upgrading of its public space and the reuse of the complex of Sant'Orsola. The participatory process aimed to guide public policies for the relaunch of the Rione, as a sample and a model for the whole Historic Center. The San Lorenzo Laboratory was endorsed by the Metropolitan City of Florence, owner of Sant'Orsola, and

co-financed with 25,000 euros by the Authority for Civic Participation of the Tuscany Region on the basis of a public tender.

Officially, the Laboratory started in March 2019 with a kick-off meeting held at the Chamber of Architects, attended by the representatives of around 20 civic associations and cultural institutions active in the Rione together with individual citizens, and ended in December 2019 with the presentation at Palazzo Medici Riccardi, seat of the Metropolitan City of Florence, of the proposals and requests addressed to the institutions concerned as resulting from the participatory process. However, the collaboration between the three promoters of the initiative has continued, and is still ongoing, as reported in paragraph 4.

2.1 Analysis of the “Rione”—State of the Art Before the Pandemic

The surveys carried out by the workgroup from DiDA include spatial, demographic, and socio-economic analysis, with a focus on the role of the tourist sector in the recent changes to the economic fabric of the Rione.



Fig. 4 The former monastery of Sant'Orsola, waiting for a new use

2.1.1 Spatial Analysis

To provide an accurate cognitive framework of the study area, thematic maps have been created, based on the regional technical cartography, using open geographical data from the platforms of the Municipality and Metropolitan City of Florence, Tuscany Region, Ministry of Cultural Heritage, and other public institutions, as well as information taken from the urban planning instruments of Florence, integrated with field surveys. The mapped themes include.

- Public space: provision and type of public green areas and squares; street pattern and characteristics of street pavements (materials and state of maintenance).
- Heritage buildings.
- Non-residential uses within the urban fabric by type of use and ownership (public or private).
- Disused buildings and planned transformations.

Focusing on livability, a significant aspect that emerged from the spatial analysis is the extremely low rate of public space compared to the surface area of the Rione: 6.2%, of

which only half is green and actually usable as a community space. In fact, the only green area worthy of the name is the nineteenth-century Piazza Indipendenza, whose planned transformation into underground parking has been successfully countered in previous years by a civic committee. The other squares within the study area are either monumental (Piazza San Lorenzo) or used for street trading and car parking.

2.1.2 Demography

Demographic analyses were performed by extracting data from municipal statistics for the year 2019 and comparing the data referred to the neighborhood with that of the Historic Center and the entire city. The data shows that there are around 6,300 official residents of the neighborhood, spread over an area of 61 hectares. The density is therefore about 1,000 per hectare, that is one-third higher than the whole UNESCO site (population of 39,501 on 505 ha) and three times the average density of the city (population of 376,529 on 10,232 ha). Most households are made up of singles (63%, + 13% than 2009), while the number of people over



Fig. 5 Registered businesses (2019)

64 years old is slightly lower than the average of the city (19% compared with 26%), confirming that the living conditions of the neighborhood, like those of the rest of the Historic Center, are not attractive for families with children or elderly people.

1/3 of the neighborhood's population is non-Italian, twice the average in the whole city. Most are non-EU citizens, although the rate of EU residents (17%) is higher than the averages of both the UNESCO area (11%) and the city (9%). The most represented nationalities are Bangladeshi (16%), Chinese (13%), and Filipino (8%), whose populations and businesses are mainly concentrated around the markets. Close to Sant'Orsola, the old church of San Barnaba is now the seat of the Filipino Catholic community.

2.1.3 Economy

Further maps were provided by the DiDA researchers through the geo-referencing of data regarding economic activities.

The first one shows the high number of businesses recorded at that date in the register of the Chamber of

Commerce of Florence (2,555), spread all over the neighborhood (Fig. 5). 8% are food shops, mainly concentrated inside and around the Central Market. Surveys revealed that most of them also operate as take-away or street food restaurants, in addition to traditional restaurants and bars (15% of businesses). The demand generated by tourism has substantially changed the socio-economic fabric of the neighborhood, gradually replacing traditional shops for locals with multiethnic mini-markets, restaurants, and businesses aimed at tourists.

As shown in the same map, there are also 318 registered hotels in the area. But how tourism induces gentrification and leads to the expulsion of residents is even more evident looking at another map, produced by exporting the data of rooms and apartments made available for tourist rentals by the Airbnb online marketplace. Almost 1,200 accommodations, most of which are managed by professional agencies, are found in a very limited part of the city center in addition to the offer of traditional hotel beds: a market that was constantly growing in Florence and throughout Tuscany before the pandemic.

2.2 The Participatory Process

Facing such a situation, the participatory process regarding the regeneration of the San Lorenzo Rione attempted to find shared answers to some basic questions, with the aim of guiding public policies in defense of the local identity of the neighborhood and permanent residency in Florence's Historic Center:

- How can residents be protected in a context under strong tourist pressure?
- How can multiethnicity be reconciled with historical identity?
- How can private investments be reconciled with social needs?
- How can heritage protection be reconciled with innovation?
- How can space for community activities be obtained in a dense overcrowded neighborhood?

The process was structured into different phases and steps (Fig. 6), as summarized below.

- *Backstage work sessions* of the partner teams (Dept. of Architecture, Chamber of Architects, Santorsolaproject group);

- *Community engagement activities*, such as reconnaissance trips through the neighborhood with citizens, stakeholders, and focus groups. The reconnaissance trips were organized into three different occasions to record the different lives of the Rione: a workday, a Sunday, and a Saturday night. Map drafts of the strengths, weaknesses, and suggestions for improvement from citizens were derived from the reports of the reconnaissance trips and focus group discussions, with reference to 5 categories: the built environment (i.e., buildings and public space), mobility and accessibility, the economy (with special regard to the quality and health of the commercial fabric), social aspects, and city management (e.g., the provision of public facilities, green and waste management, etc.)
- *Interviews with strategic actors of the neighborhood and the city* Approximately 30 interviews were conducted to gather opinions on the current state and future prospects of the San Lorenzo Rione from prominent figures in the fields of culture (directors of museums and cultural and educational institutions, the UNESCO office in Florence, etc.), the economy (i.e., the president of the City Exhibition and Congress Center located in the area and also president of the Chamber of Commerce of Florence, and the commercial director of the upper floor of the Central

*SOURCE: Ufficio Statistica Comune di Firenze



• FOOD shops	207
• NON FOOD shops	703
SUBTOTAL	910
• SERVICES (banks, transport, health care, travel agencies, real agents, etc.)	612
• PROFESSIONAL offices	103
• MANUFACTURING AND CRAFT activities	234
SUBTOTAL	949
• Bars and Restaurants	378
• Hotels	318
TOTAL registered businesses	2.555

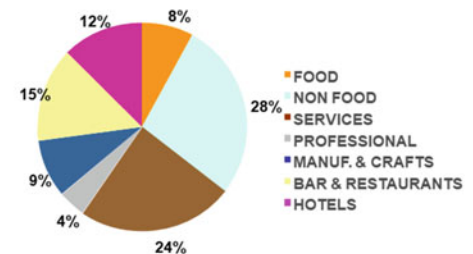


Fig. 6 Some moments of the participatory process. Above: a pause during a reconnaissance trip; the information stall in Piazza San Lorenzo built on the occasion of the neighborhood's feast day. Below:

associations introduce themselves during the process kick-off meeting; attendants of a focus group discuss around a big aerial photo of the neighborhood

Market), and in the social field (e.g. the prior of the Church of San Lorenzo, the director of the local branch of the *Comunità Sant'Egidio*, a national association working with immigrants, etc.).

- *Sharing, dissemination and communication activities.* These included: periodic public meetings on the progress of the participatory process, where external experts, public officers, and politicians were also invited to hold discussions with the partner teams and attendants of the Laboratory; a seminar on participatory urban regeneration in Italy, in the presence of the Councilors for Culture and Urban development and planning of Florence and experts from other Italian cities (i.e. Rome, Milan, and Bologna); an information stall set up in Piazza San Lorenzo on the feast day of Saint Lawrence, patron saint of the Rione, where people could also leave their suggestions for the future of the neighborhood and the reuse of the Sant'Orsola complex.

All the steps have been reported and the deliverables published on the website of the San Lorenzo Laboratory, hosted by the portal of the Tuscany Regional Authority for Civic Participation.²

3 Results

The outputs of the research by DiDA and the citizens' perception and feelings have fueled a wide-ranging debate on the present and future of the San Lorenzo Rione and the entire Historic Center of Florence.

In diagnosing the status of the neighborhood, it is interesting to note that citizens and strategic stakeholders highlighted almost the same strengths and weaknesses.

- The strengths include

The strategic location of the Rione within the city center, the presence of a rich artistic and cultural heritage, as well as many places of memory, art schools and institutions, dance, yoga and martial arts schools, and urban facilities; the relatively high—although steadily decreasing—number of traditional shops and craft laboratories; many civic associations. Even the multiethnic variety of residents has been identified as a positive feature of the neighborhood, despite the existence of well-known situations of conflict between old and new

residents in the areas of the Central Market and Piazza Indipendenza (Alberti & De Luca, 2017).

- The weaknesses include

The poor maintenance, furniture, and equipment of public spaces, along with their progressive privatization due to the increase in bar and restaurant dehors; the decay of San Lorenzo street market; the loss of residents and traditional activities, hand-in-hand with the increase in short-rental apartments and low-quality shops for tourists; the consequent loss of identity of many streets and squares, overcrowded by tourists and avoided by locals. Further problems identified by some strategic stakeholders are the fragmentation of the museum system and the lack of a long-term vision for the Historic Center by the city government.

The clou of the process was a one-day community design workshop aimed at turning the many suggestions collected during the nine months into concepts and action plans for the regeneration of the Rione, with the support of the experts from DiDA and the Chamber of Architects (Fig. 7).

The proposed key actions to increase livability focus on the enhancement of public space, to be achieved through the redesign and re-greening of the existing squares, the opening to the public of the courtyards and cloisters of disused old buildings within the urban fabric, the creation of a new streetscape along the main streets, and the improvement of pedestrian links inside the neighborhood and to the surrounding public spaces. A concept plan was designed specifically for Piazza del Mercato Centrale, reclaimed as a community place by partly removing and displacing in a more rational way the existing selling stalls, parking spaces, restaurant dehors, and waste collection points serving the Central Market. The improvement of the street market of San Lorenzo was, in turn, another important issue put forward by the Laboratory.

As far as the complex of Sant'Orsola is concerned, clearly the most important element for the future of the neighborhood, a non-negotiable point, which has been accepted in principle by the city administration, is to make it fully permeable to pedestrians, transforming its courtyards and colonnades into a pattern of public space. The consequent request is to provide it with mixed-use functions addressed to the city and its residents rather than to attract mass tourism. The hypotheses put forward to bring new life, after decades of neglect, to the centuries-old building range from a place for culture, education and the performing arts to a civic center with spaces for sport, children, and the elderly; a school and exhibition center dedicated to arts and crafts, a place of exchange between different cultures, or a hub for innovation, urban creativity, and higher education.

² <https://open.toscana.it/web/laboratorio-san-lorenzo>.

Fig. 7 Two outputs of the final community design workshop of the San Lorenzo laboratory are the concept plans for the rearrangement of Piazza San Lorenzo (above) and the reuse of the open spaces of the Sant’Orsola complex (below)



At the end of the participatory process, the package of analyses and proposals was delivered to the institutions concerned, with the request to officially adopt them in their

planning and programs, and to maintain a direct line with the citizens, through the promoters of the Laboratory, on any future choices concerning the neighborhood.

4 Discussion

4.1 New Scenarios for the Historic Center of Florence After the Outbreak of the Covid-19 Pandemic

«[...] there is a dual commitment in action research to study a system and concurrently to collaborate with members of the system in changing it in what is together regarded as a desirable direction» (Gilmore et al., 1986, p. 161). Concluded in December 2019 with the delivery to local administrations of a list of desiderata and project proposals as the result of the joint work between experts, citizens and stakeholders, the San Lorenzo Laboratory can be seen as a starting point of the critical reflection on public policies concerning the Historic Center of Florence—to a great extent focused specifically on the San Lorenzo Rione—which developed in the following months in a context transformed by the outbreak of the Covid-19 pandemic.

In a paper on the risks of massive touristification, Carta and Tarsi (2020) prophetically described the surreal landscape of the streets and squares of the Historic Center of Florence emptied of tourists and the dramatic socio-economic impacts of a hypothetical tourism lockdown. What was intended as a *reductio ad absurdum* has become reality because of the pandemic and the restrictions on free movement and economic activities adopted at national level to contain infections.

In addition to workers in the tourism industry who lost their jobs and the many entrepreneurs who have gone bankrupt despite the aid allocated by the Italian government to compensate them for lost revenues, the crisis has also had a negative impact on the budgets of tourist cities. In Florence, the budget deficit due to the non-collection of tourist taxes was 15 million euros in 2020. Although the first signs of recovery are immediately visible with the reduction of restrictions, the pandemic has raised widespread awareness of the structural fragility of an economy based on a tourism monoculture (Carta & Tarsi, 2021).

In the debate on the future of the city that has developed in the local media, many of the themes raised by the San Lorenzo Laboratory have been taken up by intellectuals, politicians, and exponents of the economic categories. These include both general issues, such as the protection of permanent residents in the UNESCO area, and specific themes, such as, for example, the improvement of the San Lorenzo street market. With the agreement of the merchants, who in the past had shown themselves hostile to any change, in December 2020 the City Council approved a new regulation for the market aimed at reorienting its offerings over the next three years towards Made-in-Tuscany quality products, and also aimed at the local public rather than only at the hit-and-run tourist.

The San Lorenzo Laboratory itself was indicated by social geographer Mirella Loda as a good practice to be implemented and replicated in the construction of a regeneration strategy for the entire Historic Center.

The repopulation of historic neighborhoods through housing policies aimed especially at young people, the increase of public facilities and green areas along with the care of existing public spaces, the diversification of economic activities, the regulation of tourist rentals, and the promotion of more sustainable tourism are all themes widely discussed in the Laboratory and highlighted in the interim reports and in the final document, which have been included as key points for the relaunch of the UNESCO area in the program “Rinascere Firenze” (Florence reborn),³ announced in July 2020 by Mayor Dario Nardella as a response to the pandemic: a significant change of pace, compared to years of laxity regarding the ongoing touristification.

Consistently, some of the resources of the React program, funded by the EU as part of the National Plan for Recovery and Resilience, have been allocated to the greening of public spaces in the central area of the city, including the San Lorenzo Rione.

4.2 The Sant’Orsola Complex at a Turning Point

Despite the current difficulties, the turning point for Sant’Orsola came in the middle of the pandemic, with the signing of a concession contract for the complex between the Metropolitan City and the French real estate company Artea for the same uses established in the unsuccessful calls for bids. The project by Artea, which will bear all the restoration costs of the former monastery and then manage it for 99 years, takes into account many of the requests and proposals made by the San Lorenzo Laboratory, presented directly to the representatives of the company by the partners of the Laboratory in two meetings, held at the end of 2019 and in the summer of 2020, immediately after the contract was signed. In fact, the project involves the transformation of the courtyards into public spaces, including a green area, the opening of the complex on all sides of the block, the use of one of the basement levels originally intended for parking as a gymnasium, and the introduction of elements of contemporary art on the external façades of the complex, altered by consolidation works carried out in the 1990s. On the other hand, one line of discussion that is still open concerns the type of higher education facility, with an adjoining guesthouse, to be located on the upper floors: the Laboratory partners considered the hypothesis of a hospitality

³The program is available online at <https://www.comune.fi.it/rinascerefirenze>.

management school, also sponsored by the municipality, contradictory with respect to the history of the complex, as well as the wish to link the regeneration of the San Lorenzo Rione to the promotion of innovative activities not directly related to the tourism industry.

Finally, the choice of the San Lorenzo neighborhood for a pilot project involving the revitalization of the economic fabric affected by the pandemic, launched in June 2021 by the City of Florence, can be easily related, in turn, to the suggestions that arose within the Laboratory. By means of a public tender, the Municipality intends to purchase abandoned commercial spaces, located in the streets adjacent to the block of Sant'Orsola, to be allocated to art and craft activities, including the training of young apprentices. The goal is to recreate a craft district in the Historic Center, capable of reviving and innovating a tradition of excellence of the city. Additional resources will also be allocated to repairing street paving and new public lighting in the area between the Central Market and Sant'Orsola.

5 (Open) Conclusions

The case study discussed in this article is an example of bottom-up resistance to the processes of tourism specialization, which for over a decade have threatened the demographic stability of many important art cities in the world and which, with specific reference to Florence, risk identifying the city not so much as the cradle but as a Disneyland of the Renaissance.

The debate that developed during the health crisis caused by the Coronavirus on the need to rethink the models of economic and urban development that have prevailed until now (Alberti et al., 2020, Banai, 2020, Campanella & Vale, 2020, Florida, 2020, Lenzen et al., 2020, Sennet, 2020, Sharifi & Khavarian-Garmsir, 2020), of which the pandemic has highlighted not only the already known environmental and social unsustainability but also the structural fragility and lack of resilience, has actually created favorable conditions for the requests and suggestions made by the San Lorenzo Laboratory to be incorporated into the public policies for the UNESCO area of Florence.

Faced with the homologating effects produced by over-tourism, initiatives to counter it must necessarily be markedly place-based, and therefore difficult to replicate in contexts other than those in which they arose.

However, some strengths of the experience presented can be generalized:

- The cooperation between promoters with different profiles—specifically a public subject (the University), a professional association (the Chamber of Architects) and a civic group (Santorsolaproject)—which facilitated the

discussion between public and private stakeholders and citizens.

- The combination of scientific research and civic participation, which has fostered a well-argued but never academically abstract discussion on the critical issues and potential of the neighborhood.
- The definition of non-negotiable objectives (e.g., the public use of the courtyards of Sant'Orsola), accompanied by the willingness to engage in dialogue also with actors with legitimate private interests (such as San Lorenzo street market sellers and Artea) looking for win-win solutions.

It is too early to evaluate whether the transformations announced for the San Lorenzo Rione will actually move in the direction desired by the Laboratory.

What is certain is that Florence, like many other art cities in Europe, is now at a crossroads. The choices made in the coming months will decide whether its Historic Center will be reclaimed as a place of collective identity and, at the same time, a vital part of the city, or whether it will be consigned, perhaps forever, to an autonomous destiny as an open-air museum or theme park.

References

- Alberti, F., & De Luca, G. (2017). Piazza indipendenza in Florence and the local Filipino community: the effects of migration on historic public spaces. In R. Bologna (Ed.), *New cities and migrations. An international debate* (pp. 225–242). DIDApres. <https://issuu.com/dida-unifi/docs/bologna>.
- Alberti, F., Cupillari, S., Giannini, E., Naldoni, S., & Nofroni, L. (2020). #mycityoftomorrow. A think tank on cities and territories of tomorrow, Agathón. *International Journal of Architecture, Art and Design* 8, 168–179. <https://doi.org/10.19229/2464-9309/8162020>.
- Augé, M. (1995). *Non-Places: An introduction to supermodernity* (J. Howe, Trans.). Verso (Original work published 1992).
- Bacciardi, B., Breschi, A., Clemente, C., & Pecchioli R. (1979). *Una proposta per il recupero di funzioni urbane nel centro storico*. CLUSF.
- Banai, R. (2020). Pandemic and the planning of resilient cities and regions. *Cities*, 106, 102929. <https://doi.org/10.1016/j.cities.2020.102929>
- Bargellini, P., & Guarnieri E. (1978). *Le strade di Firenze*. Bonechi.
- Barthel-Bouchier, D. (2016). *Cultural Heritage and the Challenge of Sustainability*. Routledge.
- Burdett, R., & Rode, Ph. (Eds.). (2018). *Shaping cities in an urban age*. Phaidon Press.
- Campanella, Th J., & Vale L.J. (2020). *The city will survive coronavirus*, OUPblog. <https://blog.oup.com/2020/04/the-city-will-survive-coronavirus/>.
- Capocchi, A., Vallone, C., Pierotti, M., & Amaduzzi, A. (2019). Overtourism: A literature review to assess implications and future perspectives. *Sustainability*, 11, 3303. <https://doi.org/10.3390/su11123303>.
- Carta, M., & Tarsi, E. (2020). Il brand Firenze. Luoghi, criticità e prospettive di una città a sempre maggiore specializzazione turistica. In: *Atti della XXII Conferenza Nazionale SIU*,

- Bari-Matera 6–8 June 2019. Planum Publisher (pp. 340–348). http://media.planum.bedita.net/f8/96/Atti_XXII_Conferenza_Nazionale_SIU_Matera-Bari_WORKSHOP_1.3_Planum_Publisher_2020.pdf.
- Carta, M., & Tarsi, E. (2021) Il paesaggio del turismo oltre il COVID-19: Prospettive per una Firenze resiliente, *Ri-Vista*, 19(1), 84–99. <https://doi.org/10.13128/rv-9742>.
- Centaurio, G.A. (Ed.) (2014). Sant'Orsola: percorsi di ricerca per la valorizzazione. Lalli.
- Centro Studi Turistici (CTS) (2019). *Impatto economico del turismo nella Città Metropolitana di Firenze. Anno 2019*. Camera di Commercio di Firenze. https://www.fi.camcom.gov.it/sites/default/files/uploads/Promozione_Assistenza_Imprese/Contributi_Camera_Commercio/Impatto_economico_turismo_Area%20Metropolitana2019%20DEFINITIVO.pdf.
- Choay, F. (1992). *L'orizzonte del post-urbano*. Officina Edizioni.
- Cianferoni, G.C., & D'Aquino, V. (Eds.) (2014). Il monastero e la chiesa di Sant'Orsola a Firenze: indagine storico-archeologica dalla fondazione alla soppressione. Polistampa.
- Dallen, J.T. (2021). *Cultural heritage and tourism. An introduction*. Channel View Publications. <https://doi.org/10.21832/9781845417727>
- Dodds, R., & Butler, R. (2019). The phenomena of overtourism: a review. *International Journal of Tourism Cities*, 5(4), 519–528. <https://doi.org/10.1108/IJTC-06-2019-0090>
- Florida, R. (2020). *This Is Not the End of Cities*. Bloomberg CityLab. <https://www.bloomberg.com/news/features/2020-06-19/cities-will-survive-pandemics-and-protests>.
- Gherardi, I., & Tondelli, P.V. (1987). *From Florence to Disneyland*. La Casa Usher.
- Gilmore, Th., Kranz, J., & Ramirez, R. (1986). Action based modes of inquiry and the host-researcher relationship. *Consultation*, Fall, 160–176.
- Goetcheus, C., & Mitchell, N. (2014). The Venice charter and cultural landscapes: Evolution of heritage concepts and conservation over time. *Change Over Time*, 4(2), 338–357. <https://doi.org/10.1353/cot.2014.0018>
- Goodwin, H. (2017). The challenge of overtourism. In *Responsible Tourism Partnership Working Paper*, 4. <https://haroldgoodwin.info/wp-content/uploads/2020/08/rtpwp4overtourism012017.pdf>.
- International Council on Monuments and Sites (ICOMOS) (1964). *International Charter for the Conservation and Restoration of Monuments and Sites* (Venice Charter). <https://www.icomos.org/en/179-articles-en-francais/ressources/charters-and-standards/157-the-venice-charter>.
- Lenzen, M., Li, M., Malik, A., Pomponi, F., Sun, Y.-Y., Wiedmann, Th., et al. (2020) Global socio-economic losses and environmental gains from the Coronavirus pandemic. *PLoS One* 2020. <https://doi.org/10.1371/journal.pone.0235654>
- De Luca, G., Shirvani Dastgerdi, A., Francini, C., & Liberatore, G. (2020). Sustainable cultural heritage planning and management of overtourism in art cities: Lessons from Atlas World Heritage. *Sustainability* 12, 3929. <https://doi.org/10.3390/su12093929>
- Selicato, F. & Piscitelli, C. (2016). Safeguarding and Promoting Historical Heritage and Landscape in Italy. In F. Rotondo, F. Selicato, V. Marin, & J. Lopez Galdeano (Eds.), *Cultural Territorial Systems: Landscape and Cultural Heritage as a Key to Sustainable and Local Development in Eastern Europe* (pp. 287–310). Springer. https://doi.org/10.1007/978-3-319-20753-7_19
- Sennet, R. (2020). How should we live? Density in post-pandemic cities. *Domus*, 1046(5), 13–15.
- Serrini, G. (2019). Aprire Sant'Orsola. Istruzioni per l'uso. In D. Tartaglia (Ed.), *Sant'Orsola. Fotografie da un monastero*. Crowdbooks.
- Sharifi, A., & Khavarian-Garmsir, A.R. (2020). The COVID-19 pandemic: Impacts on cities and major lessons for urban planning, design, and management. *Science of the Total Environment*, 749, 142391. <https://doi.org/10.1016/j.scitotenv.2020.142391>
- Soini, K., & Dessein, J. (2016). Culture-sustainability relation: Towards a conceptual framework. *Sustainability*, 8, 167. <https://doi.org/10.3390/su8020167>.
- Sweet, R. (2012). *Cities and the grand tour: The british in Italy, c. 1690–1820*. Cambridge University Press.
- Žemla, M. (2020). Reasons and consequences of overtourism in contemporary cities—knowledge gaps and future research. *Sustainability*, 12, 1729. <https://doi.org/10.3390/su12051729>.

Conservation and Sustainability of Cultural Heritage



Pier Paolo Pasolini's Film *The Walls of Sana* (1971). A Preservationist's Vision and Its Legacy

Yvonne A. Mazurek

Abstract

This paper explores the identity of a city as seen by the Italian filmmaker Pier Paolo Pasolini in his documentary *The Walls of Sana* (1971), a vision of Yemeni heritage which inspired Italian heritage experts working for UNESCO in Sana'a for over a quarter century. This aspect of the artist's legacy has been largely unnoticed outside of Italy despite the artist's advocacy of Sana'a's heritage having often been perceived as the spark that led to the city's candidacy for inscription in the World Heritage List. The film is a romantic "Appeal to UNESCO" to safeguard Sana'a's built and natural heritage from an onslaught of land speculation. Pasolini felt plagued by the images of the destruction of the city's ancient walls during his time on set in Yemen and began a battle to save Sana'a's cultural and natural heritage. Between 1970 and 1975, he repeatedly brought this cause to the attention of the Italian public, press, outspoken intellectuals, and politicians. Recent archival research resolves doubts about the film's debated chronology and helps reorder our understanding of its production and reception. The piece had a particularly strong influence on Italian conservation projects in Sana'a. Fifty years after its making, *The Walls* provides cinematographic documentation of an ancient city whose survival is more endangered than ever, while Pasolini's commentary attests to the importance of local tradition and the relevance of ancient structures, landscapes, and knowledge systems.

Keywords

Pier Paolo Pasolini • Documentary film • Sana'a • Yemen • Architectural conservation • City plans • Landscape preservation

Y. A. Mazurek (✉)
Università degli Studi della Tuscia in Viterbo, Viterbo, Italy
e-mail: yamazurek@unitus.it

1 Pier Paolo Pasolini in Sana'a (Yemen)

Nothing like filmmaking compels you to see things. An author's view of a landscape, whether rural or urban, can exclude infinite things, cropping things that are riveting or useful away from the whole. A filmmaker's view—of that same landscape—cannot not take notice of everything that finds itself there—the filmmaker enumerates things [...] in terms of their own materiality and reality (Pasolini, 1991a, p. 38).

The Italian writer and award-winning filmmaker Pier Paolo Pasolini (1922–1975) was one of the first Westerners to visit the Yemen Arab Republic in 1970 at the end of the civil war between monarchic and republican forces (Fig. 1). He traveled there to film scenes for his feature-length *Decameron* (1971) in locations which he hoped would approximate as a setting for those in Boccaccio's fourteenth century novella (Pasolini, 1991b). He was driven to tears when he discovered that Sana'a's ancient heritage was being destroyed by speculative development and a galloping, postwar desire for modernization (Bellezza, 1970, p. 23; Al-Haddad, 1982, pp. 12, 74). The day after he finished shooting scenes for the original project, he employed the remaining 35 mm color film to denounce Sana'a's destruction (Pasolini, 1974, p. 13). *The Walls of Sana* (1971) is a cinematographic *Appeal to UNESCO*, as indicated by the film's subtitle, to safeguard the city's traditional architecture and landscape.

As indicated in the article's opening quote, the twelve-minute documentary "compels you to see things", things Pasolini viewed as a massacre. Throughout his career, he translated ancient stories into cinema and scrutinized his film photography for the slightest anachronism on each set. He painstakingly avoided filming structures or objects which risked "contaminating" his films' photography (Brunatto, 1974, 00:02:19–00:02:56). Yet in *The Walls*, he turned the camera towards everything he had tried to avoid until then, exploiting its capacity to frame it all: the ancient city, Sana'a's inhabitants, their dance and music, new industrial commodities, and timeless highlands. The filmmaker chose



Fig. 1 Pier Paolo Pasolini with Mario De Biasi in Sana'a, 1970. (Source Pasolini, 1991b). Mounds of earth, recently built structures, Sana'a's rammed earth walls, the Bakiria Mosque and its minaret with mountains in the distance. (Source *The Walls of Sana*, 1971)

the city walls—not a typical tower house or mosque—to represent Yemen's heritage because they form the liminal boundary between the city and its landscape. In 1970, the rammed earth wall circuit formed a harmonious, yet endangered seam between traditional architecture and local geography (Fig. 1). Pasolini argued that by protecting its walls, Sana'a assured the survival of the urban fabric and its multiform heritage. By defacing and demolishing them, Yemen paved the way to its own death.

The Old City of Sana'a was inscribed in the World Heritage List (WHL) in 1986 when the Yemeni government was actively collaborating with architects and archeologists from eight countries conducting conservation work between the 1980s and the early 2000s. Unfortunately, these projects rarely engaged in interdisciplinary and transnational dialogue (Lane, 1991, p. 3). Local stakeholders participated in this phase of restoration with varying degrees of success (Marchand 2003/2019, pp. 456–459; Lamprakos, 2005, pp. 24–25, 29). In the 1980s, segments of the Old City were allotted to partners who employed different documentation criteria and rarely communicated or whose safeguarding strategies sometimes diverged from those employed in adjacent worksites (Fig. 2). These missions overwhelmingly favored the preservation of monuments rather than developing systematic strategies in line with Pasolini's vision. Italian missions cite Pier Paolo Pasolini and *The Walls of Sana* as a font of inspiration and their projects tended to see Sana'a's buildings as inextricable elements within the city's layout and landscape (Studio Quaroni, 1983; Laureano, 1995/2013; Miglioli, 2005). This facet of the artist's legacy remains largely unknown outside of Italian cultural circles.

The Walls instilled a profound admiration for Yemen in the Italian public and, since 1986, the national press has

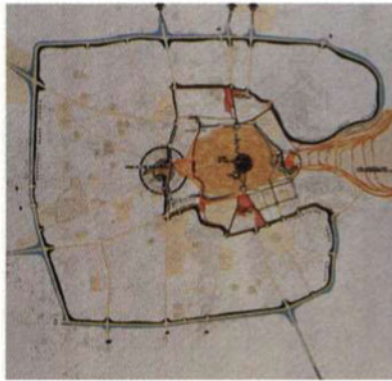
hailed the film as a catalyst for preserving Sana'a. His advocacy for Yemeni heritage inspired many Italian experts for a quarter century who increasingly embraced the artist's vision, a vision which placed building techniques, materials, and architectural forms on the same plane as local customs and the environment. Luigi Quaroni, his studio, and Bonifica S.p.a. explicitly cite Pasolini in their influential feasibility studies conducted between 1983 and 1988. But it wasn't until the documentary aired again on national television in 1989, that a new and perhaps better primed generation could move beyond an orientalist fascination for Sana'a and explore ways of applying the filmmaker's systemic vision of preserving the ancient city and its territory (Radiocorriere, 1989, p. 99). Pietro Laureano's architectural restoration projects distinguish themselves because they are informed by topographical, anthropological, and ecological perspectives. In fact, he helped organize a screening of *The Walls* in Florence to complement coursework and his team's fieldwork in Yemen in 1990 (F. Tioli, personal communication, September 3, 2020; P. Laureano, personal communication, September 9, 2020).

Over the past fifty years, many have deemed Pier Paolo Pasolini's *The Walls of Sana* prophetic. The filmmaker used cinematography to illustrate how traditional architecture is rooted in the local community and the environment. He captured images of Yemen's well-preserved capital just before development and rather short-sighted restorations permanently altered the city's morphology. In time, the documentary fostered international attention and stimulated major investments in research and restoration funded by the Italian government. This paper will review aspects of the film's production to understand the legacy of Pasolini's campaign to conserve Sana'a's land-based built heritage.

TECHNICAL STUDIES

**Reconnaissance and proposal phases
The Old City of San'a'
1983-85**

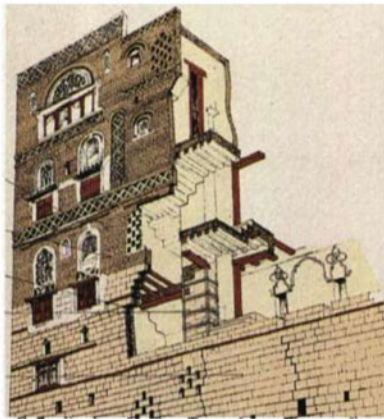
Technical studies carried out by Studio Quaroni/Bonifica analysed the urban relationship of the historic city with the modern centre, the components of the urban fabric, building typology, and proposals for safeguarding the Old City, its buildings and traditional activities.



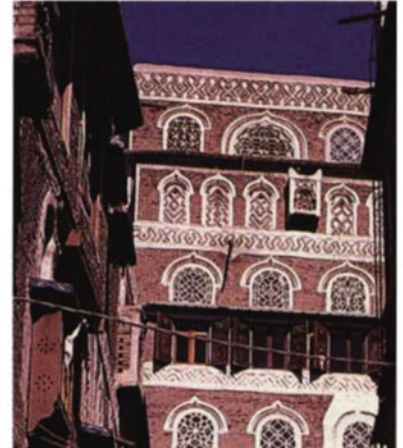
1



3



2

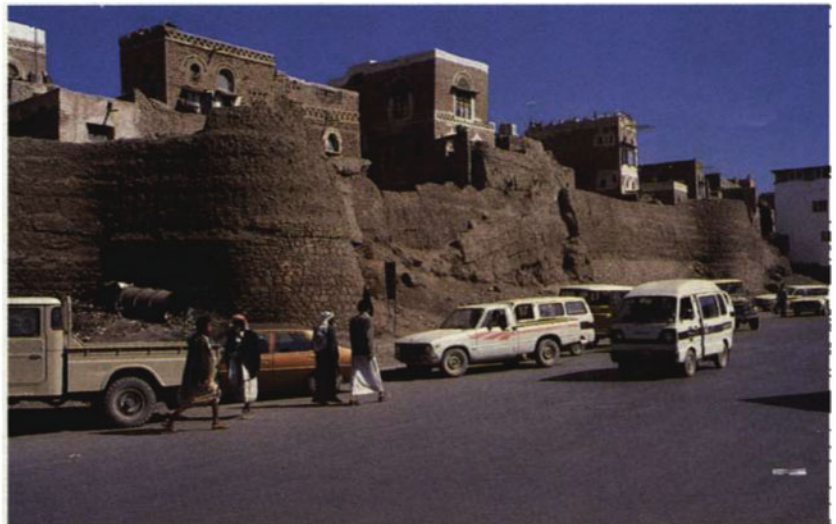


Sponsor: REPUBLIC OF YEMEN
AND ITALY
Cost: \$1,200,000

**SOUTHERN PART
OF THE CITY WALL**

**Technical studies
From Wadi Sa'ilah
to Bab al-Yemen
1988**

Sponsor: DEMOCRATIC PEOPLE'S
REPUBLIC OF KOREA
Technical assistance provided by a team of
10 engineers and architects



5

1, 5. Photos: Lane.
2, 3, 4. Photos: GOPHCY.
6. Photo: G. Barbato.

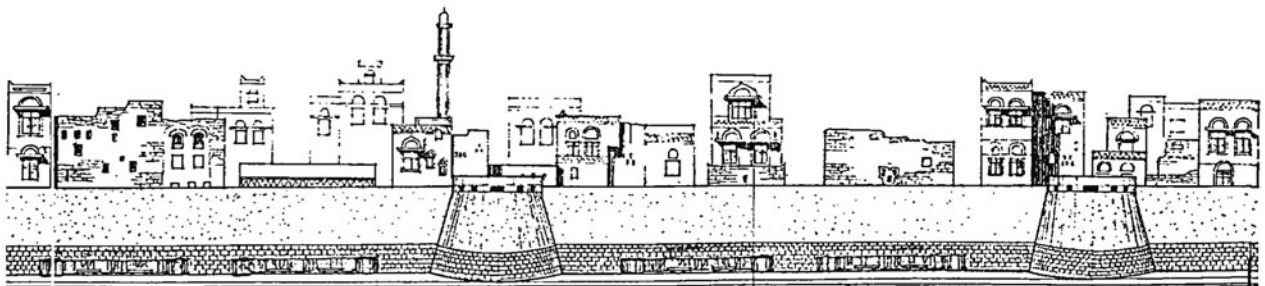


Fig. 2 Despite an overlap in subject matter, there were no shared strategies for the Old City's walls as seen through the Italian documentation from 1983–1985 (above) and the North Korean study for the walls' complete renewal in 1998 (below) (Source Lane, 1991, 18, 20)

2 Sana'a's Appearance in Two, Separate Films

In the early 1970s, Pasolini had the power to spellbind audiences. He disconcerted Italians through his polemic responses to contemporary issues and inspired them with his poetic interpretation of timeless ones. His newspaper columns, internationally prized films, and erudite writing tantalized audiences across the political spectrum. It was this charisma that enabled him to bring attention to Sana'a's heritage twice on prime-time national television, first through his documentary *The Walls of Sana* which aired on February 16, 1971 and then through the TV program *pasolini and... "the form of the city"* on February 7, 1974. One report estimates that up to 13,000,000 viewers watched the debut of the second film, achieving more than satisfactory television ratings (Zanoli, 2011, p. 20). He attracted such a noteworthy audience despite—or perhaps due to—his contemptuous relationship with the media. The avantgarde artist made heritage conservation a topic to be discussed in living rooms across the nation.

Both films grapple with the elusive concept of a city's form, or the distinctive "profile" of a city born of and set against its natural setting. The tower houses, gardens, walls and landscape of Sana'a all take shape from a common element: local earth. Denouncing foreign speculation, *The Walls* presents Sana'a as "never having been subjected to any contamination from a different world, let alone from the radically different modern world; its form is of unreal—nearly excessive and exhilarating—perfection. It is as beautiful as Venice, Urbino, Prague or Amsterdam albeit on an infinitely more rustic, more ordinary scale". Enamored with the 'Orient', the filmmaker returned to Sana'a in 1973 later to shoot parts of *Thousand and One Nights* and was disheartened by the rampant destruction which had taken place over the past three years. He responded by reaching out to journalists and national television even more passionately. Momentarily putting aside his growing antagonism towards mass media, he spoke out about land speculation, including Sana'a's, on national television in RAI's experimental series called *io e...*, a program which provided a space for influential thinkers to discuss significant and threatened artworks.

Pasolini and... "the form of the city" is the fruit of the filmmaker's encounter with RAI's Anna Zanoli and Paolo Brunatto. While many argue that *The Form* is a film by Pasolini, this attribution is incorrect (Naldini, 1989, pp. 376–377; Chiesi, 1995, pp. 14–15; Pasolini PiC, 2001, pp. 3171–3175; Chiesi, 2003). *The Form of the City* is best described as a "film-essay" in which he makes a radical comparison between two Italian towns, namely Orte (Viterbo) and Sabaudia (Latina), and compares them to other cities in

Yemen, Nepal, and Iran (Joubert-Laurencin, 1995, p. 127; Chiesi, 1995, p. 10). Although the piece was produced and directed by RAI, Pasolini dictated aspects of the program's storyboard and gave instructions to splice in scenes from *The Walls of Sana* (Zanoli, 2011, p. 21). Pasolini had no access to the film after December 19, 1973 (unpublished manuscript by Brunatto, 1983, p. 4). The film's production process explains why the film's photography loses its narrative force at its finale. Tepid jazz and roadside shots of Sabaudia's villas do little to complement the monologue's crescendo about a new form of materialist fascism. The film was intended as an interview, but its protagonist overstepped the conventional boundaries of that genre. His revolutionary rhetoric does more than criticize power structures, Pasolini called for a paradigm shift in heritage preservation.

In 1970, Pasolini believed he could save Sana'a from the fate met by Italian cultural landscapes, but by 1974 his hope in Sana'a had waned and he also reassessed Orte and the state of provincial Italy. Sana'a plays a subsidiary role in *The Form of the City* and the artist shifted his attention to warn Italians about the importance of safeguarding "minor" heritage: "Monuments stay standing. Those are easy to save. It's the form of the city in its entirety that's difficult to save. So, this is a problem facing every country in the world, but right now that which disturbs me and wounds me most is that this is happening in Italy" (Brunatto, 1974, 00:07:29–00:07:37). He argued that the world was approaching a watershed in which traditional agrarian-based communities faced the destruction of built heritage and their dynamic balance within the landscape in favor of a consumer-based, urban model of progress. The two films show how perimetral structures demarcate the balance between culture and nature. The form of Sana'a's walls and the ancient buildings rising from Orte's escarpment configured the cities in relation to the landscapes in which they were built. Architecture is therefore a material expression of a "city-form", an interdependent and site-specific system that forges local identity.

The hill town of Orte in the Tiber Valley took on a pivotal role in *The Form*, illustrating how Pasolini "want[s] to defend that which is not sanctioned, which is not codified, which no one defends; that which is the work of, let's say, the people, an entire history of the people who make up a city, an infinity of men with no name" (Brunatto, 1974, 00:10:28–00:10:46). Both pieces treat cities' tangible and intangible heritage as a polyhedral whole which includes landmarks, public works, art collections, the urban plan, citizens and outcasts, cultivated fields, outlying woodlands, and even the terrain's morphology. Through his anti-monumental approach, Pasolini precociously linked heritage and nature conservation, intuiting concepts later coined as "buffer zones" (mentioned in UNESCO's *Operational Guidelines* only in 1977) and "sustainability

indicators” for cities and communities (adopted by the UN in 2015 as part of the 2030 Agenda for Sustainable Development) (UNESCO, 2008, 61; United Nations, 2015).

These two films have so much in common that critics suggested that *The Walls* was an unfinished work which Pasolini revisited and completed three years later with footage from *The Form of the City* (Joubert-Laurencin, 1995, pp. 168–128; Naldini, 1989, p. 377; Chiesi, 1995, p. 14). The most influential scholarship still dates both documentaries to the mid-1970s and argues that Pasolini used footage shot with RAI's cameras at Orte to reedit *The Walls* in 1974. The producer of *The Form of the City* Anna Zanoli, however, disagrees with these critics and writes: “[*The Walls of Sana*] includes an appendix with comments from Orte's inhabitants, interviewed by Pasolini.... This is not a clip from *The Form of the City*; it's an autonomous mini-investigation film...” (Zanoli, 2011, p. 33). Her statement clarifies that none of the footage from *The Walls* originates from the footage shot by RAI in December 1973 and that, of the two films, only *The Walls of Sana* can be attributed to Pasolini. In fact, there is no trace of an earlier, lost version of the documentary on Sana'a without footage from Orte. Documents conserved at the Italian Ministry of Culture's Film Registry show that *The Walls* was officially deposited on January 22, 1971. The files dating to January 22–23 and March 12 include descriptions of scenes shot at both Sana'a and Orte and confirm that the circulating version of *The Walls of Sana* is a complete and independent film made by Pasolini on the cusp of 1970–1971 (Rosima Anstalt S.r.l., 1971). This newly affirmed chronology indicates that Pasolini's work on Yemeni and Italian heritage preservation dates to 1970 and not 1974 as widely believed. While *The Form of the City* treats similar themes, *The Walls* is hereafter treated as a self-contained source that recounts the artist's impetus for and impact on conservation work in Yemen.¹

3 *The Walls of Sana*. The Film and Its Reception

The Walls is a romantic “appeal to UNESCO” made with the intention of preserving Sana'a's tangible and intangible cultural heritage from an onslaught of land speculation. As a whole the film calls attention to foreign, “neocapitalist”

economic development in a “pure” city that he believes “has remained intact and looks much the same way it did centuries ago” (Pasolini, 1971, 00:07:33–00:07:36). Pasolini had the rather presumptuous ambition to protect Yemen from itself so it could avoid a destructive wave of “progress” like the one that swept across Italy during the country's recent economic boom and saw countless high-rise apartment blocks mushroom around Italian towns and cities.

This documentary opens with an enigmatic clip of a man standing on a raised platform in a field, snapping a whip in mid-air. Unhindered by the passing of a large, red truck, the figure continues his work as a human scarecrow. Pasolini dedicates the documentary to this anonymous worker, a fragile human emblem of a heritage at risk. The following scene shows local child workers paving an asphalt road under Chinese supervision. This road promised to provide high-speed access to the main port of Hodeidah on the Red Sea and disrupt what Pasolini sees as centuries of “isolation”, at least from the industrialized trends of the rest of the world. The following scenes show people and shops in the central *suq*. The camera pans a miscellany of commodities against the backdrop of the Old City and compares this “rustic Venice” to Europe's favorite centers. Pasolini sees Sana'a as one of the world's last bastions of an “ancient world, meaning the real world” whose destruction has been tacitly agreed upon by the ruling class. The film portrays Sana'a's white-washed facades as the predominant expression of this *authenticity* (Fig. 3).

Next, there is a two-minute segment of Pasolini interviewing locals in the Italian city of Orte, another place in which the “ancient” and the “real” are threatened by land speculation. The majority of the group, the same one mentioned by Zanoli in the comments cited above, condemns the new building abutting the ancient city's perimeter. Echoing this grass-roots complaint, the narrator concludes: “Italy is done with, but Yemen can still be saved entirely” (Pasolini, 1971, 00:10:23–00:10:25).

The final part of the film is dedicated to the beige city walls, starting with a shot of Bab el-Yemen, the city's main gate. He films the ancient mud-built structure and encompasses the nascent urban sprawl in the foreground. Palm trees poke their tufts above the ramparts and slender minarets rise between the even more ancient watch towers. The background shows the landscape of Yemen's western highlands with craggy mountains dominating a compact sky (cfr. Fig. 1). A monochrome tint characterizes this portion of the film. It is the color of the terrain: the material common to the highlands, the rammed earth walls, and the mud-brick facades of Sana'a's tower houses. Pasolini voices over these images narrating six points which come across as a set of UN-style recommendations—stated as the “true, yet hitherto unrecognized, will of the Yemeni people”—orated with a paternalistic tone and the gravity of a Greek chorus. He calls

¹ Pasolini's views on Orte are examined in the author's doctoral thesis *Narrating Minor Italian Heritage. Premises for a city museum at Orte (VT)*. She also examines Orte's role in *The Walls of Sana and pasolini and... “the form of the city”* (1974) in her forthcoming article: Yvonne A. Mazurek, “Pasolini's Defense of Italian Vernacular Heritage. Rereading *Le Mura di Sana* (1971) and *La Forma della Città* (1974).” In *Annali d'italianistica* 40, ed. Paolo Desogus, Davide Luglio, Enrico Minardi, Colleen Marie Ryan (forthcoming).

Fig. 3 White-washed geometric patterns on the façade of tower houses in the Old City of Sana'a (film still from *The Walls* 1971, 00:06:37)



on UNESCO to intervene against the wall's destruction as emblems of the Sana'a's identity. The country's beauty, according to Pasolini, is its one true asset.

Pasolini lamented that he never received a response from UNESCO to *The Walls of Sana'a*, but some institutional history can shed light on the organization's silence (Pasolini, 2001, p. 2119). In short, the filmmaker made his appeal prematurely. UNESCO was exploring strategies for protecting the monumental cities of Venice and Florence. In 1971, the World Heritage List was still in gestation. The Convention Concerning the Protection of the World Cultural and Natural Heritage was approved in November 1972, two years after Pasolini filmed *The Walls* (UNESCO, 2019). Sana'a was ultimately inscribed in the WHL in 1986 and, in hindsight, the filmmaker's efforts could be considered successful.

There are technical and abstract explanations which can help explain why this documentary film has been left largely unnoticed outside of Italy. Firstly, the language barrier raised by Pasolini's films is more complex than usual. The artist's writing style is difficult to translate in an accurate and understandable fashion. This intricacy is due to the author's learnedness and his habit of employing a personalized lexicon which refers back to jargon used in his journalism and other genres of writing. Secondly, only well-established cinemas could overcome the onerous logistical and administrative challenges of shipping and projecting an international, analog short film. Even so, when *The Walls* was projected at New York's Museum of Modern Art in 1972, it went practically unnoticed by the press (MoMA, 1972, pp. 3–4). The film's adamant call to preserve ancient, earthen architecture could have been too alien for the Manhattan audience which would soon see the inauguration of Minoru Yamasaki's ultramodern World Trade Center.

We know very little about the Yemeni reception of *The Walls* and Pasolini's inclusive vision of built and natural

heritage. The Yemeni Ambassador to Italy Mohamed al-Wazir co-hosted an international, though little attended, press conference and film screening in 1974. His opening comments made no mention of the documentary but did welcome the possibility of collaborating with Italy to restore Sana'a and to explore Yemeni culture and archeology (Pasolini, 2001, p. 2114). Over a decade later, Dr. Abdul-Rahman Al-Haddad also mentioned Pasolini while serving as the Director of the Office of the National and International Campaign for the Preservation of the Old City of Sana'a. He worked in collaboration with Dr. Ronald Lewcock, the architectural historian and Yemen's designated consultant for preparing Sana'a's candidacy for the World Heritage List. Their work explicates the need for educational materials and films about the Old City of Sana'a (Al-Haddad, 1982, pp. 60, 72; Lewcock, 1986, p. 3). In April 1988, Dr. Al-Haddad visited Venice at the *Premio Pier Paolo Pasolini* which had earmarked prize money for the restoration of a caravanserai dear to the filmmaker. On this occasion, he announced: "We owe everything to Pasolini who mobilized international solidarity around the problem of safeguarding our city [Sana'a]" (Pasolini, 1991b, p. 269). This statement, however, should be interpreted as a mere diplomatic courtesy as there are no official reports suggesting any knowledge—let alone approval—of Pasolini's documentary work before 1988.

Pasolini's work on Yemeni culture was and continues to be a difficult heritage to promote. The groundbreaking artist was fervently targeted by paparazzi from the 1960s to the mid-1970s, yet his reception morphed following his murder in 1975. It shifted from an edgy admiration for his visionary genius to a hushed awkwardness steeped in homophobia. The filmmaker's outspoken sexual preferences, as well as the erotic content of his feature-length films have influenced his reputation and pose an obstacle for some audiences in

grappling with Pasolini's work, career, and fame. Certain viewers may be reticent about celebrating Yemeni culture due to roles prescribed to women and Yemen's highly engendered spaces. Others still may hesitate to foster this heritage due to anti-Islamic sentiments. A critical analysis of the transmission and reception of Pasolini's documentary work has yet to unfold.

4 Pasolini's Continuing Advocacy for Sana'a's Heritage

Pasolini filmed *The Walls* during a prolific year in which he produced multifaceted projects at a relentless pace. The artist explored documentary filmmaking with unprecedented intensity; he made four short films alongside feature-length films, journalism, and poetry. Shortly after releasing *Medea*, he filmed *Notes for an African Oresteia* from January to March, projecting a portion of the work at Cannes Film Festival on April 16 of that same year (Pasolini, 1991a, p. 227; Chiesi, 2005, p. 71). On April 24, he began filming *Notes for a Novel on Garbage* which documented Rome's city sweepers on strike; he completed this piece later that year. That spring, he traveled to Argentina with Maria Callas whom he also accompanied to Greece the following summer (Joubert-Laurencin, 1995, p. 306). In August and September, local newspapers track Pasolini's whereabouts from Alto-Adige to Sicily, along the length of the Italian peninsula, scoping out locations suitable for his feature-length *Decameron*, the same film which took him to Sana'a in October of 1970. In Yemen, he shot the story of Alibeck, scenes featured on the film's poster which did not make the film's final cut due to their length and risqué content (see Fig. 4) (Chiesi & Lepri, 2005). On October 18, Pasolini employed his first "day off" in Sana'a to film construction work, the destruction of the ancient wall circuit, and scenes of daily life (Pasolini, 1974, p. 13). In November, he realized a personal dream and purchased a medieval castle not far from Orte, the Italian town which appears in *The Walls* (Eccheli, 2015, p. 12). This castle and its craggy tower became his studio and de facto hermitage for the last five years of his life. The year's end marked the first-year anniversary of the bombing of Milan's National Agricultural Bank, so he started filming *12 December* in collaboration with *Lotta continua*, a newspaper closely tied to Italy's extra-parliamentary left, for which Pasolini served as contributing editor. He also issued the first anthology of his own poetry with the Milanese editor Garzanti: all in 1970.

Dacia Maraini, author and Pasolini's travel companion on one trip to Yemen, recalled Sana'a as "a city where time stood still, immobile, with the strangest houses that looked as though they were made of lace when in fact they were made of white-washed mud. It felt like a fairy kingdom"

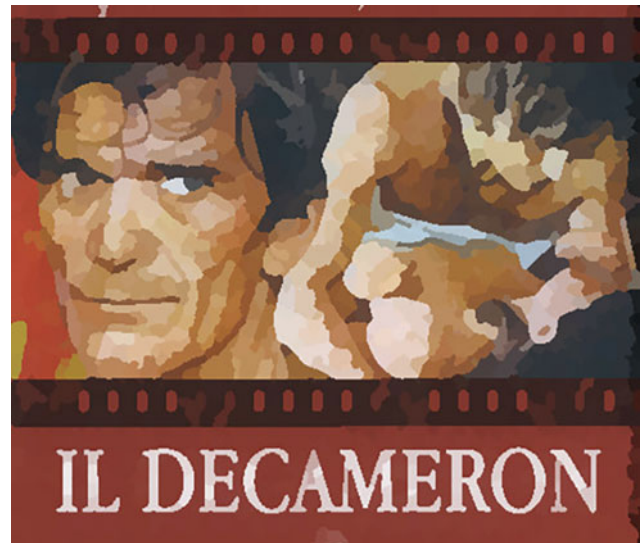


Fig. 4 *The Decameron* film poster showing Pasolini as Giotto (left) and Rustico and Alibeck (right) (Source VideA's 2002 edition of the DVD)

(Maraini, 2015). While his friend was enchanted by Sana'a's beauty, the filmmaker seemed haunted by the images of the capital's destruction and repeatedly brought this cause to the attention of the Italian public, journalists, outspoken intellectuals, and politicians. "Each day that passes is another portion of the walls of Sana'a that topples" (Pasolini, 1974, p. 13). Driven by this sense of urgency, he overcame bureaucratic hurdles in record time, airing his "Appeal to UNESCO" only three months after he filmed in Sana'a.

Pasolini returned to Sana'a in early 1973 to film the cityscape from the Citadel on the eastern side of the Old City for *Arabian Nights* (Naldini, 1989, p. 377; Marco Livadiotti, personal communication, September 10, 2020). During a break from the set in May 1973, the filmmaker confided in the journalist Giulia Massari saying:

Yemen is the most beautiful country in the world. Sana'a, its capital [is] a city-form, ... [whose beauty] does not reside in its perishable buildings, but in its unparalleled design. One of my dreams is to tend to the safeguarding of Sana'a and other cities and their historical centers: I will fight for this dream and strive for UNESCO to intercede (Naldini, 1989, p. 377).

Four months later, the filmmaker willingly accepted Anna Zanoli's invitation to speak about art on Italian national television to bring attention to Sana'a. *Pasolini and... "the form of the city"*, with its footage from *The Walls of Sana*, aired the following winter (discussed in detail above).

Over the course of 1974, Pasolini championed Sana'a's cause with unparalleled zeal. In one interview, he compared his concern to a tenacious wound: "It may be an occupational hazard, but I felt Sana'a's problems as my own. That disfigurement was invading the city like leprosy, inflicting pain, anger and a sense of impotence on me alongside a feverish

desire to do something, a desire which peremptorily compelled me to film” (Pasolini, 1974, p. 13). Filming *The Walls of Sana*, touched something visceral, even vital in the artist. To leave the destruction of this ancient city unseen meant more than the loss of beautiful buildings, documenting Sana’a was a way to admonish the gradual eradication of a people’s roots and identity. Profiting from the anticipation building around the Italian debut of his new film (which had just won the Grand Prix Special Prize at Cannes), Pasolini projected *The Walls* at a private preview of *Arabian Nights* in Milan on 20 June 1974. The event was a fundraiser for Italia Nostra, an organization founded in 1955 to promote the conservation of Italy’s monuments, cities, and landscapes. The event was co-organized by the writer and critic Giorgio Bassani and Gae Aulenti, an architect and designer whose projects centered around people and communities. In September, he met film critic and journalist Gideon Bachman at his home near Orte and again spoke out about Sana’a, leading to another reference to *The Walls* in a national newspaper (Bachman, 1974, p. 3). Meanwhile, he was in contact with Senator Lello Basso whom he pressed about safeguarding Sana’a. Their dialogue culminated that October in the above-mentioned press conference co-hosted by the Yemeni ambassador Mohamed al-Wazir at which the documentary was screened (Pasolini, 2001, pp. 2113–2123). Among those who participated in the discussion which followed was Eugenio Galdieri, architect, restorer, and specialist in Islamic architecture; ten years later, he was the director of the Centro di Studi Storici e Tecnici per la Conservazione dei Monumenti and “sent to the authorities of the Yemen Arab Republic an outline project providing for the training of local technical staff in the field of cataloguing, surveying and initial conservation work on historical monuments, with special reference to the Islamic period” (Pasolini, 2001, p. 2120; Galdieri, et al., 1984, p. 547). Galdieri is the first attested restorer to follow suite to Pasolini’s appeal.

Pasolini’s discourse on preserving Yemen reached its pinnacle in his last year of life. In a column for the national newspaper *Corriere dell Sera*, Pasolini wrote: “Yemen is merely a small, actually lowly, market for western industries...It’s only natural for German and Italian speculators to expect the Yemeni to renounce [Yemeni language and customs]: the Yemeni must fully consent to their cultural and physical genocide, regardless of its necessarily fatal consequences, not unlike what happened in the concentration camps” (Pasolini, 1991a, pp. 41–42). His allusion to genocide compares Neoliberals to Nazis and Fascists through their common objective of homogenizing peoples and places. Pasolini saw the worth of protecting Sana’a specific urban and social fabric both in their own right and as indicators of global diversity.

5 The Impact of *The Walls* on Early Conservation Efforts in Sana’a

The Walls of Sana has been credited as offering “the initial impetus for safeguarding Sana’a”, but it may be more helpful to view Pasolini in a succession of Italian specialists who documented the ancient city for over a century (Lamprakos, 2005, p. 34). Renzo Manzoni, the grandson of the nineteenth century novelist Alessandro Manzoni, published a detailed account of his exploratory journey across Yemen and documented Sana’a cartographically in 1879 (Fig. 5) (Manzoni, 1884). This map provides major toponyms, details about major landmarks and military structures, as well as the state of conservation of the city walls. It also identifies urban gardens and cultivated fields on the outskirts of the city. The city’s historic nucleus is easy to recognize through its bilobed shape. A dry riverbed, the *wādi Sā’ilah* served as a road then as it does still today. It ran through a series of gates separating the older eastern quarter commonly referred to as Sana’a Al Qadima or the Old City and the western, Ottoman quarter Biz al-Azab (labeled here as Bir el-Azeb). The western portion of the city was then dominated by decorative gardens, orchards, and vegetable patches, attesting to Sana’a’s small-scale, urban agriculture and successful strategies for water use and storage.

The historian and linguist Ettore Rossi photographed the Yemini capital in the late 1930s, probably as an extension of Italy’s colonial interests in the African horn. In the late 1960s, the Arabian Peninsula became an object of interest to Italian architects like Eugenio Galdieri (mentioned above) and Paolo Costa whose work was informed by that of Robert Bertram Serjeant and Ronald Lewcock. In the same years that Pasolini was filming in Yemen, Costa laid the foundation for an inventory of Yemeni artifacts and made plans for a local museum in Sana’a as early as 1971; these initiatives were later included in UNESCO’s 1986 local safeguarding strategy (Green & Stookey, 1974, p. 30; al-Hadad, 1982). In 1982, the Italian Ministry of Foreign Affairs invested over US\$ 6,000,000 in “the preparation of a report on the old city [...and...] the rehabilitation and conservation of an area of about one hectare between the Sabā and Ma^cād quarters (near the Great Mosque). The scheme, which involves about 40 buildings, includes paving streets and providing planted areas and a community centre” (Lewcock, 1986, p. 2). Over the next two years, the architect and urban planner Ludovico Quaroni, with his studio’s support and that of engineers at Bonifica S.p.a., oversaw the prefeasibility study and related documentation which lay the foundation for the first wave of international safeguarding efforts in Sana’a upon its inscription in the World Heritage List (Lewcock, 1986, p. 2; Neri, 2013, pp.163–164).

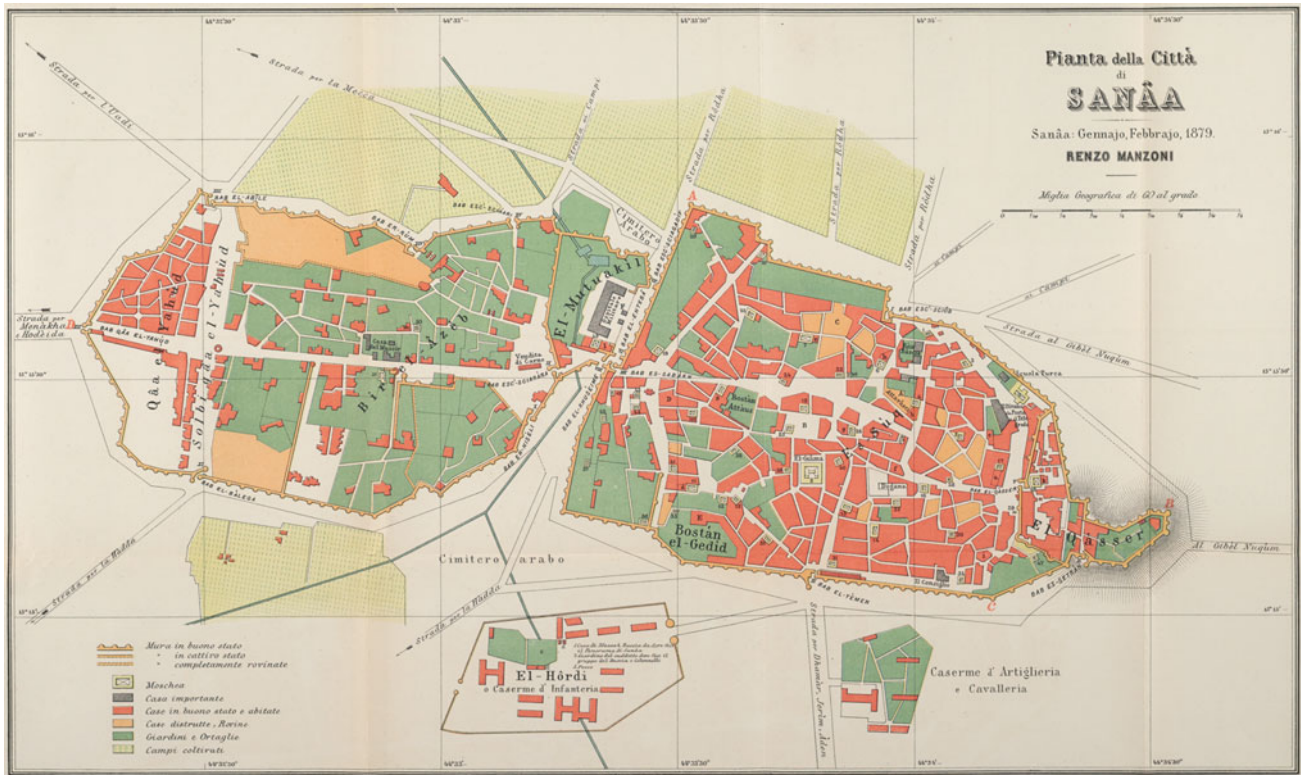


Fig. 5 Renzo Manzoni, *Map of the city of Sana'a*, 1879 (Source Manzoni, 1884. <https://www.loc.gov/resource/gdclccn.77475181/?sp=129&r=-0.358,-0.049,1.47,0.793,0>)

Most conservation reports filed with UNESCO focused on individual monuments. Maria Luisa Neri, one of the architects on Quaroni's team, attests to the urbanists' desire to explore beyond euro-centric models of city-planning and honor aspects of the autochthonous tendency to design and build structures without a plan (Lamprakos, 2005; Neri, 2013, pp. 163, 167). Neri notes how the Italian journal *Nuovi Argomenti*, celebrated the project for "its political, artistic, philosophical and moral implications, beyond merely the technical ones" (Lane, 1991, pp. 2, 9, 18, 20, 25; Neri, 2013, p. 163). The team viewed and documented the city as a structured, living organism (cfr. Fig. 2).

Yet Studio Quaroni remained more influenced by their eurocentrism than their reports would lead us to believe; Luigi Quaroni and his collaborators remained anchored in Italian esthetics and European notions of history and conservation in their prescriptions for Sana'a's future needs and development. Their recommendations gave primacy to the image of the Old City, assigning values associated with historical centers of European towns. For example, the study's interpretation of *wādi Sā'ilah*—which, by then, had become Sailah Road—reveals an urbanistic bias which paid no attention to the highland's topography or Sana'a's millenary tradition of water management. This *wādi*, the central cleft so visible in Manzoni's map, was appreciated more for

its photogenic qualities than for its topographical role: "a seasonal river from which one can enjoy long stretches of the city's panorama and which, during the dry seasons, becomes one of the principal thoroughfares for the city" (Neri, 2013, p. 165). According to Neri, the unpublished report from 1988 proposed to solve issues around the dry riverbed through hydraulic engineering while preserving what Quaroni wished to enhance—the "people's free use of the space creating an atmosphere akin to a big, collective happening" (Neri, 2013, p. 168). The architect's allusion to contemporary performance art befitted the Venetian audience to whom this comment was originally addressed but betrays the ahistorical reading that underlies some of the report's reasoning.

The *wādi Sā'ilah* continues to pose problems for Sana'a's residents. In 1991, the *wādi* was covered in ashlar and concrete containing walls following plans drafted by a North Korean team of experts and the riverbed was transformed into a ring road (cfr. Fig. 2). A UNESCO-published note about the wadi's dual nature reads: "Pedestrian circulation, vehicular traffic access and the provision of parking spaces and public amenities will be considered in relation to the needs of the city as a whole. The completed project should conserve the character of a natural riverbed accessible to vehicular service traffic" (Lane, 1991, p. 30). This



Fig. 6 Images of the former *wādi Sā'ilah* after heavy rains in August 2020 (Source Reuters and Devadasan, 2020)

architectural assessment of the *wādi*'s form divorced it from its natural function. This design flaw has made it increasingly difficult to mitigate seasonal rains. In the summer of 2020, the *wādi*'s flooding attracted international attention when extreme weather patterns transformed the road into a torrent and badly damaged the city's mud-based architecture (Fig. 6).

Already in 1990, the urbanist Pietro Laureano disputed many premises of Quaroni's feasibility study and promoted the study of traditional water management before "improving" *wādi Sā'ilah*. Morphological studies of the city and its territory reveal traditional water collection and drainage solutions which could have been adapted to manage water pooling along Sana'a's central axis (Laureano, 1995, pp. 121–22). Such research, however, became increasingly challenging as urban sprawl covered or canceled long-standing hydro-agricultural systems like the terraced fields east of the city below the slopes of Jebel Nuqum (Fig. 7). The eighteenth-nineteenth century poet Abd al-Rahman al-Anisi described the view of Sana'a's tall, decorated houses and their urban orchards as "lofty palaces

crowned with gleaming belvederes/White among the green of gardens" (Mackintosh-Smith, 2006). Laureano, together with faculty and architecture students from the University of Florence, began preliminary studies about traditional water collection in Bir al-Azab in 1990. Laureano continues to consult for other UNESCO projects, but it is unclear if local experts who are now responsible for safeguarding Sana'a's heritage are familiar with this earlier work.

Quaroni's framework for understanding Sana'a's heritage created a closed interpretation of "authentic" local heritage, circumscribing the narrative of Sana'a's history to its pre-Ottoman period and simplifying Sana'a's innate cultural diversity. This point of view aligns with the initial mission report from 1982 which paved the way for UNESCO's recognition of Sana'a as World Heritage. Sana'a Al Qadima was deemed worthy of preservation together with its walls. Biz al-Azab and its Jewish quarter was not because it was "difficult to include it in a conservation project" (Lewcock, 1982, p. 1). Indeed, a hodge-podge of contemporary structures occupied land in the city's western portion in open spaces formerly designated as Ottoman gardens equipped



Fig. 7 (right) Aerial photo of Sana'a Al Qadima (the Old City) with terraced fields and water systems at the righthand side of photo (Source Aero-Precisa, Beirut in Lewcock, 1976). (left) Satellite photo of

Sana'a's Old City showing urban development along the western flank of the Old City (Source Google Earth, 2021)

with local hydraulic technology: “artifacts of surprising beauty, reflecting in their architectural quality the interest and care of their builders” (Costa, 1983, p. 275). These gardens, their structures, and walls were the first to be destroyed in the early 1970's due to rapidly evolving housing needs (Lamprakos, 2005, p. 21). In the early 1990s after the first Gulf War, what remained of these spaces were consumed as the city adapted to an unparalleled influx of new inhabitants (Lamprakos, 2005, pp. 21–22; Livadiotti, personal communication, September 10, 2020).

In 2004, the Yemeni-Italian architectural mission continued work begun by Studio Quaroni and sought to expand the Sana'a's World Heritage to include aspects which had been overlooked by Lewcock's 25-year-old descriptions. The report's tone aligns with Pasolini's poetic intuitions. Architects Franca Miglioli and Daniele Pini prepared a “Conservation and Rehabilitation Plan for the Old City”:

The “Conservation Plan” should [be] based on a broader concept of “heritage”, which include not only the “monuments” and the “remarkable buildings”, but also their context, the “minor” and “vernacular” architectural expressions, the articulation of the urban spaces, the landscape features, according to the most advanced international “state of art” in planning. (Miglioli, 2005, p. 16).

The point of departure was a detailed inventory of Bir al-Azab and “other minor historic settlements” (Miglioli, 2005, 7). In addition, hybridized building techniques and general overdevelopment were irreparably changing the cityscape. Abandoned garden systems (*bustan*) and altered water management practices led to increased water scarcity (Pini, 2008, pp. 16, 56–58; Miglioli & Gropas, 2009, p. 15). While Sana'a's preservation has faced and continues to face innumerable difficulties, it is clear that Pasolini's documentary dedicated to saving “minor” structures had a resounding impact on planners in Sana'a and their understanding of local aesthetics and land use.

6 Conclusions

The Walls has prompted widespread curiosity about Yemen among Italians since 1971. Pasolini's reflections on Sana'a increasingly impacted intellectuals, journalists, politicians, and heritage experts who worked to preserve Sana'a up through the early twentieth century. The documentary goes us to question our cities' spatial and temporal limits and to reassess our perception of the past. Pasolini, as the documentary's off-camera narrator, concludes the short film with an enigmatic phrase: “in the name of the past's revolutionary and scandalous force”. This earth-based architecture embodies that “scandalous force”, a strength which can sustain Yemen in the face of its ensuing military conflict, extreme humanitarian crisis, and recurrent flash floods. When the city emerges from this state of emergency, the capital will require “scandalously” new safeguarding strategies informed by the strengths and shortcomings of past conservation projects. Half a century after its production, this documentary can help orient future work in having demonstrated the relevance of ancient and local knowledge systems.

Acknowledgments Maria Andaloro, Maria Ida Catalano, Brian Brazeal, Roberto Chiesi, Riccardo Costantini and Cinemazero (Pordenone, Italy), Andrea Crozzoli, Luciano De Giusti, Marco Livadiotti, Pietro Laureano, Nicholas Stanley-Price, Francesco Tioli, US Library of Congress, Giorgio Verdiani.

References

- Al-Haddad, A. R. (1982). Cultural policy in the Yemen Arab Republic. UNESCO.
- Radiocorriere. (1989). *Radiocorriere* (30), 99.
- Bachman, G. (1974). Cara Tuscia. *Messaggero*, 3.
- Bellezza, D. (1970). Pier Paolo Pasolini: Io e Bocaccio. *Espresso*. 13–25.

- Brunatto, P. (Director). (1974). *pasolini e... "La forma della città" (pasolini and... "the form of the city")* [TV documentary]. RAI. <http://www.teche.rai.it/2015/01/pasolini-e-la-forma-della-citta-1974/>.
- Chiesi, R. (1995). La Forma della Città. Un Corto di Brunatto e Pasolini. *Cineclub*, 28, 8–15.
- Chiesi, R. & L. Lepri (Directors). (2005). *Il corpo perduto di Alibech. Dossier sull'episodio perduto del Decameron* [film]. Cineteca di Bologna.
- Chiesi, R. (2003). Lo Sguardo di Pasolini. *La Forma della Città*, un Film di Pier Paolo Pasolini e Paolo Brunatto. *Parol on Line*, (4). <http://www.parol.it/articles/pasolini.htm>.
- Chiesi, R. (2005). Appunti per un Orestide Africana. *Libero Bizzari: Rassegna del documentario, Premio Libero Bizzari*, 70–71.
- Costa, P. (1983). Notes on traditional hydraulics and agriculture in Oman. *World Archaeology*, 14(3), 273–295.
- Eccheli, M. G. (2015). L'infinito abita a Chia. La casa/castello di Pier Paolo Pasolini. *Firenze Architettura*, 1, 98–103. <https://doi.org/10.13128/FiA-10652>
- Brunatto, P. (1983). *Un'Anima Bella. Testo per "Io e... I Profili di Due Città: Orte e Sabaudia*. Unpublished manuscript, Fondo Pier Paolo Pasolini, Cineteca di Bologna.
- Galdieri, E., Boenni, R., & Grossato, A. (1984). Centro di Studi Storici e Tecnici per la Conservazione dei Monumenti. *East and West*, 34 (4), 547–558.
- Google Earth. (2021). Old City, Sana'a. *Google Earth*. [Map]. <https://earth.google.com/web/search/sana%27a/@15.38304494,44.21128034,2243.56178427a,31278.85935968d,34.99999446y,-0h,0t,0r/data=CigiJgokCRFyN1lz3TNAERByN1lz3TPAGe9QhPwXfkhA1b2VXO0MGUra>
- Green, A., & Stookey, R. (1974). Foreign research report: research in yemen: facilities, climate and current projects. *Middle East Studies Association Bulletin*, 8(3), 27–46.
- Joubert-Laurencin, H. (1995). *Pasolini: portrait du poète en cinéaste*. Cahiers Du Cinéma.
- Lamprakos, M. (2005). Rethinking cultural heritage: lessons from Sana'a Yemen. *Traditional Dwellings and Settlements Review*, 16 (2), 17–37.
- Lane, M. B. (1991). *San 'ā': pilot restoration projects*. UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000091126?posInSet=1&queryId=380c108b-728a-4039-9e88-838288ae205f>.
- Laureano, P. (2013). *La Piramide rovesciata: il modello dell'oasi per il pianeta terra*. Bollati Boringhieri Editore. (Original work published 1995).
- Lewcock, R. (1976). *City of Sana*. Cambridge.
- Lewcock, R. (1982). The Campaign to preserve the old city of Sana'a: Yemen Arab Republic—(Mission). UNESCO <https://unesdoc.unesco.org/ark:/48223/pf0000050546?posInSet=1&queryId=0365f7a0-04dc-45ec-b43c-a3694f3cb651>.
- Lewcock, R. (1986). *The Campaign to Preserve the Old City of Sana'a (Report No. 3)*. UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000070685>.
- Mackintosh-Smith, T. (2006). The secret gardens of Sana'a. *Saudi Aramco World*, 57(1), 34–37.
- Manzoni, R. (1884). *El Yèmen: tre anni nell'Arabia felice: escursioni fatte dal settembre 1877 al marzo 1880*. Tipografia E. Botta. <https://www.loc.gov/resource/gdclccn.77475181/?sp=129&r=-0.358,-0.049,1.47,0.793,0>.
- Maraini, D. (2015). Maraini: Vi racconto lo Yemen. Quel Viaggio con Pasolini e Moravia. [Radio broadcast, 4 May 2015].
- Marchand, T. (2019). "Process over Product" Case Studies of Traditional Building Practices in Djenné and San'a', Yemen. In J. Cody & F. Siravo (Eds.), *Managing Change: Sustainable Approaches to the Conservation of the Built Environment* (pp. 455–462). Getty Conservation Institute. (Original work published 2003).
- Miglioli, F. & Gropas, M. (2009). Report on the WHC Mission to Yemen. UNESCO. <https://whc.unesco.org/en/documents/138922>.
- Miglioli, F. (2005). Mission Report: Conservation of the Old City of Sana'a. UNESCO. <http://whc.unesco.org/archive/2005/mis385-2005.pdf>.
- MoMA. (1972). *Press Release no. 133: Italian Film Series Shown at Museum: Films for RAI Radiotelevisione Italiana features known and unknown directors* [Press Release]. MoMA. https://www.moma.org/momaorg/shared/pdfs/docs/press_archives/4921/releases/MOMA_1972_0150_133.pdf?2010.
- Naldini, N. (1989). *Pasolini, una Vita*. Einaudi.
- Neri, M. L. (2013). Occidente/Oriente. Un Corto Circuito per la Salvaguardia di Sana'a. In M. G. Stasolla, F. Salvatori, & D. Felisini (Eds.), *Innumerevoli paesaggi. Scritti di storia economica per Roberta Morelli*, 163–174. Bari: Cacucci Editore.
- Pasolini, P.P. (Director). (1971). *Le mura di Sana (The Walls of Sana)* [TV documentary]. Rosima Anstalt S.r.l. <http://www.teche.rai.it/2015/01/le-mura-di-sana/>.
- Pasolini, P.P. (1974). Pasolini Racconta con Rabbia l'Assurda Rovina di una Città. *Corriere Della Sera*.
- Pasolini, P.P. (1991a). *Lettere Luterane*. Einaudi. (Original published in 1976)
- Pasolini, P.P. (1991b). *Le regole di un'illusione: i film, il cinema* (L. Betti & M. Gulinucci, Eds.). Roma: Associazione Fondo P. P. Pasolini.
- Pasolini, P. P. (2001). Conferenza Stampa della Lega-Italo Araba, ottobre 1974. In W. Siti & F. Zabagli (Eds.), *Per il cinema* (pp. 2113–2123). Mondadori. (Original published in 1974).
- Pini, D. (2008). *The Inventory of the historic city of Sana'a: a tool for urban conservation*. UNESCO.
- Reuters & Devadasan, K. P. (2020). Unesco-listed Old Sana'a houses collapse as heavy rains hit Yemen. *Gulf News*. <https://gulfnews.com/photos/news/unesco-listed-old-sanaa-houses-collapse-as-heavy-rains-hit-yemen-1.1597142896824>.
- Rosima Anstalt S.r.l. (1971). *Pubblico Registro Cinematografico, 5305/1 del 22-23 gennaio 1971, 8 febbraio 1971, 12 marzo 1971, 18 giugno 1971*. Ministero per il Turismo e lo Spettacolo, Roma. Unpublished report.
- Studio Quaroni & Bonifica S. P. A. (1983). *Safeguarding of Sana 'a Historical Centre, in relation to the urban development of the city—Reconnaissance phase*. Rome/ UNESCO. Unpublished Report
- UNESCO World Heritage Centre. (2019). The convention concerning the protection of the world cultural and natural heritage. <https://whc.unesco.org/en/conventiontext/> (Original published in 1972)
- UNESCO World Heritage Committee. (2008). WHC position paper. In O. Martin & G. Piatti (Eds.), *International expert meeting on world heritage and buffer zones* (pp. 59–70). <https://whc.unesco.org/document/101967>.
- UNESCO-listed Old Sana'a houses collapse as heavy rains hit Yemen. *Gulf News*. <https://gulfnews.com/photos/news/unesco-listed-old-sanaa-houses-collapse-as-heavy-rains-hit-yemen-1.1597142896824>.
- United Nations (2015). UN sustainable development agenda 2030. <https://sustainabledevelopment.un.org/post2015/transformingourworld/>.
- Zanoli, A. (2011). io e ...Pasolini e la forma della città. Memoria e ricerca intorno a una trasmissione televisiva. *Paragone*, LXI, 731, 4–44.



Importance of Sustainability and Preserving Cultural Heritage in the City of Samarra—Iraq (Heritage Houses as a Model)

Ibrahim Hussein Khalaf Al-Jubouri,
Baraa Mohammed Ibrahim AL-Hilali, and Afrah Abdullah Jasim

Abstract

The city of Samarra is famous for its ancient heritage that extends to the sixth millennium BC, represented by the site of 'Tel Al-Suwan', located in the south of the city, which witnessed the first signs of human settlement in the central region of Iraq. The state of the heritage houses that were built during the Ottoman period, as part of the cultural heritage in the city and the possibility of preserving it, because it is one of the most prominent urban elements that formed an essential element; that reflects the identity of the city and its ancient heritage, and part of its material heritage at the reflect houses traditional, social and economic life and architecture. And a mirror that reflects the nobility, and originality of societies and how they relate to the place, that the existence of houses of heritage surrounding the shrine of Imam Ali al-Hadi, which form the heart of the houses and the possibility of development, as one of the elements; as well as, tourist attractions from the association where the character of the inhabitants. However, it is unfortunate that these heritage buildings are subjected daily to sabotage, and the absence of archeological awareness among citizens, as well as, security problems in the misallocation of powers in the city. In this study, we will address the importance of preserving these heritage buildings as part of the city's cultural heritage and the possibility of investigating its tourism and materially by studying its urban condition and the dangers that threaten it, and providing appropriate solutions for its sustainability, rehabilitation, and the possibility of returning life to it as part of the urban fabric of the city as an integrative

system with neighboring buildings such as the Holy Shrine, the main streets, and the mosque. Great as a whole constitutes the fabric of urban art, and the painting cannot be deducted from the city. The study also focused on the possibility of developing these heritage houses and preserving the remainder of them and on their architectural elements and artistic formations and sustainable investment for this architectural heritage.

Keywords

Sustainability • Preserving • Cultural Heritage • Heritage Houses • City of Samarra

1 Introduction

The city of Samarra, the second capital of the Abbasid caliphate, is of great importance to researchers and specialists in archeology, because the Abbasid caliphs left it with architectural and artistic heritage, whether related to civil architecture or religious architecture, and many of the popular buildings such as mosques and palaces testify that still tell the story of civilization throughout the city.

The research methodology requires us to introduce the city in terms of location and name, and then focus on the urban heritage in the city during the late periods of the nineteenth century.

2 Location and Label

Samarra lies 120 km north of Baghdad on the east bank of the Tigris River. It is astronomically located between longitudes 43.3–43.15 east and between the two latitudes 33.57–34.36 north. In its terrestrial extension, the path of the

I. H. K. Al-Jubouri
College of Archeology, University of Samarra, Samarra, Iraq

B. M. I. AL-Hilali (✉) · A. A. Jasim
College of Education, University of Samarra, Samarra, Iraq
e-mail: baraa.m@uosamarra.edu.iq

current Al-Rasasi River (Nahrawan) (Al-Samarrai, 2016) has been pointed out. Archeological discoveries have indicated Archeology is the cultural depth of this site which witnessed the first signs of settlement since about the sixth millennium BC (Samarai, 1980).

The name of the city of Samarra came as being attributed to Sam Bin Noah, peace be upon him, and he gave several labels including it (Samarra) or Samira, and it was mentioned in the books of historians (the secret of the opinion) for the beauty of its construction and the torment of its air where this name appeared on the money (Lestrang, 1954).

And when the city was abandoned after the departure of the last successors of the Banu al-Abbas relying on God, 279 AH, and shepherds began to overwhelm its building materials, ruining the city and calling it to those who saw it with (worsened from opinion) (Al-janabi, 2012).

The Ottoman period witnessed unprecedented architectural activity and communication with the works of Iraqi architecture during the Ottoman era. The heritage and craftsmanship in the city left us a fertile architectural heritage and as part of the ancient cultural heritage that the city acquired during the previous ages (Shakiri, 2017).

The city continued with its civilized and architectural giving during the Ottoman period and we will address it. This study is about the residential architecture in the city and the means of preserving and sustaining it, which formed one of the heritage features that blended with the spirit of its residents, according to its location surrounding the shrine of Imam Ali Al-Hadi.

The houses there gained great importance in the aspect of skipping the Collapse of the falling surroundings of the shrine as it is a heart that is surrounded by the arteries (Al-majidi and al-taie, 2015).

The study of heritage homes in any region or city is part of the study of the architectural heritage and architectural patterns during a specific historical era, and its study is of great importance and positive advantages as it represents the architectural heritage of the country in historical stages that were at the height of its cultural and intellectual development and its study lies in the identification of engineering designs and thought. The architect who prevailed during that historical period (Al-ahbabi, 2015).

The architectural heritage in any city is a manifestation of human development during successive ages and all its architectural and planning elements and its decorative formations, but it is unfortunate that this heritage is extinct, which calls us to preserve its elements in a way that shows the continent the importance of the ancestral heritage and its preservation for future generations through sustainable development (Tariq and Hassan, 2017).

3 Reservation

The importance of preservation lies as a determinant of the way to interact with the inherited and urban as the community's memory and identity, which requires salvaging its heritage features and historical significance and ensuring its continuity, and stopping the neglect it is exposed to.

And follow up on the periodic maintenance of it and its surroundings and organizing its management (Al-Dabbagh, 2017), and all these preventive measures are aimed at extending the life of the heritage and stopping the damage that occurs without losing the identity of the building and falsifying it, and everyone works within an integrated system of specialists N in archeology, heritage, architecture, arts, economics, engineers, and surveyors (Al-Nuaimi, 2014).

4 Sustainability

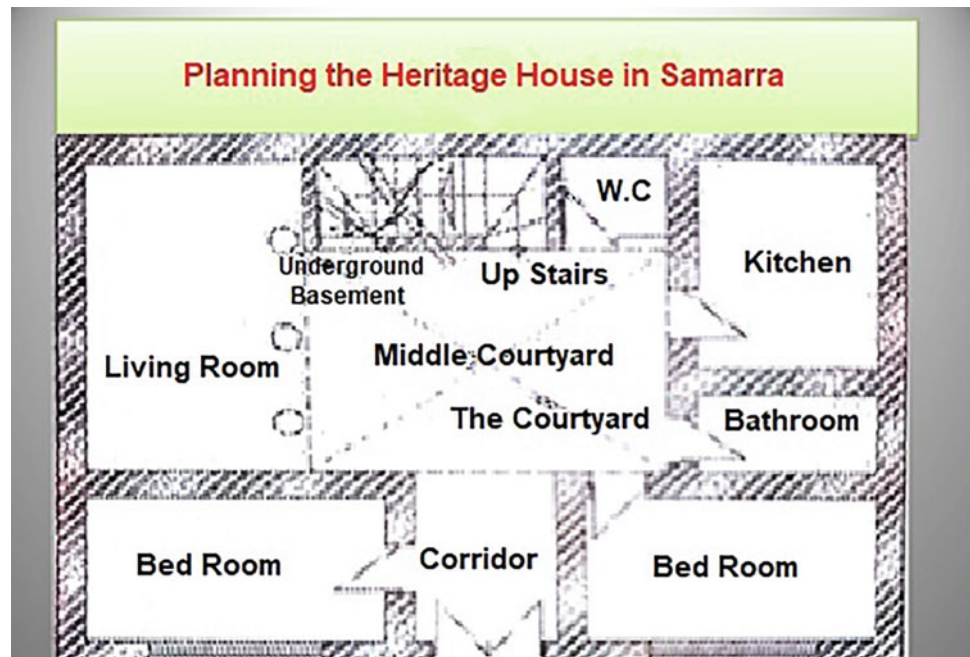
As for sustainability, it expresses an environmental term that emphasizes the survival of environmental biological systems in a renewable and diverse manner over time, while others define sustainability as having socio-economic and technical dimensions, as they are related to different areas of life (Al-Dabbagh, 2017), based on a mixture of applications that complement each other during a stage, a planned timetable, and this applies to all antique buildings, including heritage homes, which must be maintained and monitored in its various environmental conditions (Al-Jubouri, 2001).

Sustainability includes various aspects, including economic, social, environmental, and architectural means that are intended to maintain the building for the longest period of time and the least energy exchange based on the natural environment and its capabilities to achieve the environmental integration of the building and its surroundings (Majed, 2009).

Heritage houses in the ancient city of Samarra are distributed among a group of residential neighborhoods that are linked to the shrine of Imam Ali al-Hadi, peace be upon him, especially the Qibla neighborhood, the Al-Burhan neighborhood, and the Jewish neighborhood, which was a private neighborhood for Jews before their displacement from Iraq, and all of these houses date back to the historical period in which Samarra was under Ottoman control (Alwan, 2012).

Heritage houses in the city of Samarra have formed a prominent landmark in terms of planning, architectural and decorative elements, and construction materials in which the architecture made a great effort to adapt and design according to the quality of available building materials and the wishes of its residents to be a place of rest consistent

Fig. 1 Planning the heritage house in Samarra



with its design with the eastern customs and traditions that made the heritage house open inside and closed on the outside (Al-Hassani, 2012).

A follower of the site and design of heritage homes in Samarra finds that it was designed according to systematic and planned planning in which a number of economic, urban, and social systems interact to form a coherent environment with a clearly defined privacy, and these standards all affected the pattern of the relationship between the elements and components of the urban fabric of the city (Al-Nuaimi, 2014).

But there are aspects Planning remained linked to its urban characteristics with the ocean, so the city center formed the nerve of life in it, with the presence of the shrine of Imam Ali Al-Hadi, peace be upon him, and the houses that surround it from all sides. Sabha social importance and a link to a spiritual and ideological body of the spirit of the place and a point of attraction toward the city center as seen in Fig. 1 below (Hamim, 2018).

5 Obstacles to Conservation and Sustainability

There is no doubt that the architectural heritage in the city of Samarra went through harsh conditions during the previous periods that cast a shadow over the heritage houses. The damages of Internal façades of the traditional Heritage Houses in Samarra are shown in Fig. 2. Its architectural condition and its environmental surroundings have

deteriorated and the deterioration of political conditions in the city is one of the most prominent obstacles to the sustainability of these homes.

The security problem comes as one of the most prominent obstacles to the development of heritage homes. The city has a security fence, especially after the 2014 events, when armed groups took military barracks, and the bulk of it forced its residents to sell them to unknown destinations for a while and for fear of influencing parties for political reasons (Al-ahbabi, 2015).

The deterioration of security conditions around the city center into a military barrack to protect the Holy Shrine led to the emigration of shops and left the old area, which negatively affected the permanence of the heritage houses; which became an isolated area and out of control, because the poor distribution of powers in the city was the reason for the loss of organization in managing the Heritage homes and the possibility of investing it, and here comes the role of the Ministry of Tourism and Antiquities in order to stop interference and form committees for re-surveying neighborhoods, to compile statistics on the number of homes and their urban status, and to stop overtaking them (Al-Dabagh, 2017).

The process of preserving buildings in Samarra needs to unite efforts and is not limited to the role of the role only, but its relationship to the surrounding urban fabric such as alleys and streets and not only determines the level of height of the surrounding buildings but also strikes a balance between the three main components of sustainability, the urban dimension and the social dimension and the formation of a database prepared for analysis and evaluation and the



Fig. 2 The internal façades of the traditional heritage houses in Samarra

development of plan Mechanisms to implement the evaluation and follow-up processes (Al-Nuaimi, 2014).

The weak role of government institutions is a factor that has contributed greatly to the deterioration of the state of the heritage role, in addition to the lack of space for the private sector to take its role in investment and the possibility of developing and rehabilitating heritage buildings.

Hotels that used to surround traditional homes became out of service, which increased the isolation of heritage houses and made them an abandoned area (Al-Dabbagh, 2017).

The heritage house was designed to suit the prevailing climatic and environmental conditions through the availability of spaces that formed sustainability of the role by purifying it from dust storms in the summer and air currents in the winter, and the architecture took into account these conditions, so its design came due to several considerations including climate, social, economic, and religious.

The urban planning of the role consisted of Two summer and winter wings on one or two floors, according to the size of the family and the economic capabilities of the owner, and the architecture adopted building materials available in the city such as bricks, plaster, and reeds that represented the positive economic aspect (Al-ahbabi, 2015).

What enhances the sustainability of the heritage homes in Samarra is their synthesis in order to achieve a comfortable psychological and physical atmosphere and the adoption of the architecture, a gradual mechanism in the design of open spaces from year to year to semi-private, a mechanism that characterized the heritage homes built during the Ottoman period (Samarrai, 1980).

As part of the urban fabric system that all units of the traditional house are in harmony with the planning of

branches, paths, narrow twisted alleys, the different uses of rooms and rooms, the size of their openings, and the shadows formed by prominent roofs exterior with their multi-designed windows and the selection of the most appropriate movement axes that do not distort nature.

In harmony with the general formation of the region and interfering in the case of establishing construction or industrial projects near the heritage homes in a manner that achieves sustainability for them and obligating the concerned authorities to combat the pollution resulting from the factories, especially since the Samarra pharmaceutical laboratory is close.

The very role and air pollution caused by the emitted gases have affected its durability and the health of its residents (Al-Nuaimi, 2014).

For the success of the sustainable development program for heritage homes, it is necessary to develop plans by preparing architectural plans and interventions proposed by consultative bodies specializing in architecture and the arts.

Such as we have referred to in order to preserve the urban fabric of the city and its impact also on the lives of the population and the optimal use of resources and stop corruption projects related to infrastructure development such as drainage projects Sanitation, paving of roads and cleaning of sites surrounding heritage homes (Shakiri, 2017).

In order to achieve the requirements of sustainability, there should be periodic maintenance and restoration programs for heritage buildings, because failure in this aspect will accelerate the process of the extinction of buildings and the loss of their role in the urban fabric (Al-Samarrai, 2016).

The role of educational media comes as an essential factor in preserving buildings, whether visual or audible

Fig. 3 A virtual picture of the possibility of converting some heritage houses in Samarra into hotels



media, by promoting the importance of the architectural heritage of residential homes as national wealth and stopping the overrun and demolition by their owners.

In light of modern architectural development and educating the citizen on the historical and cultural importance of that role as it represents a civilizational link throughout the city's long history. It represents not a material aspect, but rather a rich heritage of customs, traditions, the quality of clothing, furniture and events (we can create a virtual image of how we can use the heritage houses in tourism like Fig. 3 below) (Shakiri, 2017).

Carrying out any sustainability project cannot be implemented without the role of the community and local bodies, as they are the entities that have a knowledge of the role and the specifics of the environment components that are distinguished by it. To manage the heritage role (Al-ahbabi, 2015).

Following the principles of preserving and sustaining the heritage homes in Samarra at the local level is making progress in the long run on the economic side, relying on the local workforce and building materials, providing job opportunities for a large number of unemployed, increasing the city's economic and vital character, and increasing the diversity of workshops for rehabilitation (Al-Dabbagh, 2017), which may Open future economic horizons for the city and its residents.

Through the programs and visions that we have put forward, it is possible to rehabilitate and invest those heritage homes and allocate a portion of them to be museums to display the antiques and heritage of the city during the Ottoman period, which the people retain in many varied numbers, some of which date back to earlier periods (Al-ahbabi, 2015).

Others from that role can be invested as bazaars and markets to display goods and therefore the visitor has the pleasure of viewing as well as the availability of foreign currency for the country through the diversity of visitors' nationalities, and some of the heritage homes that we visited in the field can be invested. As shown in Fig. 4, it combines modernity and heritage, and this is what happened in some Gulf countries such as Oman, Saudi Arabia, Bahrain, and the United Arab Emirates (Al-Nuaimi, 2014).

The design relationship between the heritage houses and the Holy Shrine suggests social cohesion and peaceful coexistence despite the sectarian difference, and the sustainability of these buildings is one of the pillars of preserving societal peace and the bombing of the shrine at the hands of terrorist groups led to the cracking of the national cohesion that almost dumped Iraq into the abyss Sectarian war (Shakiri, 2017).

Heritage houses in Samarra have been exposed to many factors that contributed to the loss of the features of most of the homes and cut their links to the past and obliterated their features. During our field visit, we saw many of them as shown in Fig. 5. The magnitude of the risk increased in the absence of deterrent and legal legislation and the lack of awareness among the general public.

Demolitions are continuing due to the absence of legal oversight and follow-up by the responsible authorities, especially mentioning the General Antiquities Department and the Samarra Antiquities Inspectorate (Al-ahbabi, 2015).

During the eighties, that role was a residence for poor families, which were rented by their rightful owners, and at the very least, the lessors maintained the safety and cleanliness of those houses from futility.

Fig. 4 A place known as Bayt Al-Ghacham, which has been turned into a museum for tourists



But they added new materials to fix some cracks in the walls of the role, which of course does not fit with the nature of the building and the restoration rules such as cement and iron which led to the loss of most of the original features of the buildings.

What made the situation in those houses more difficult is the recent events after 2014, the fall of Iraq's regions, and the conversion of the city to a military barracks, which led to the forcible migration of its population by armed militias under the pretext of protecting the Holy Shrine. They really grabbed it and its surroundings and attached it to Al- Waqf Al-Sheie (Al-Dabbagh, 2017).

6 Recommendations

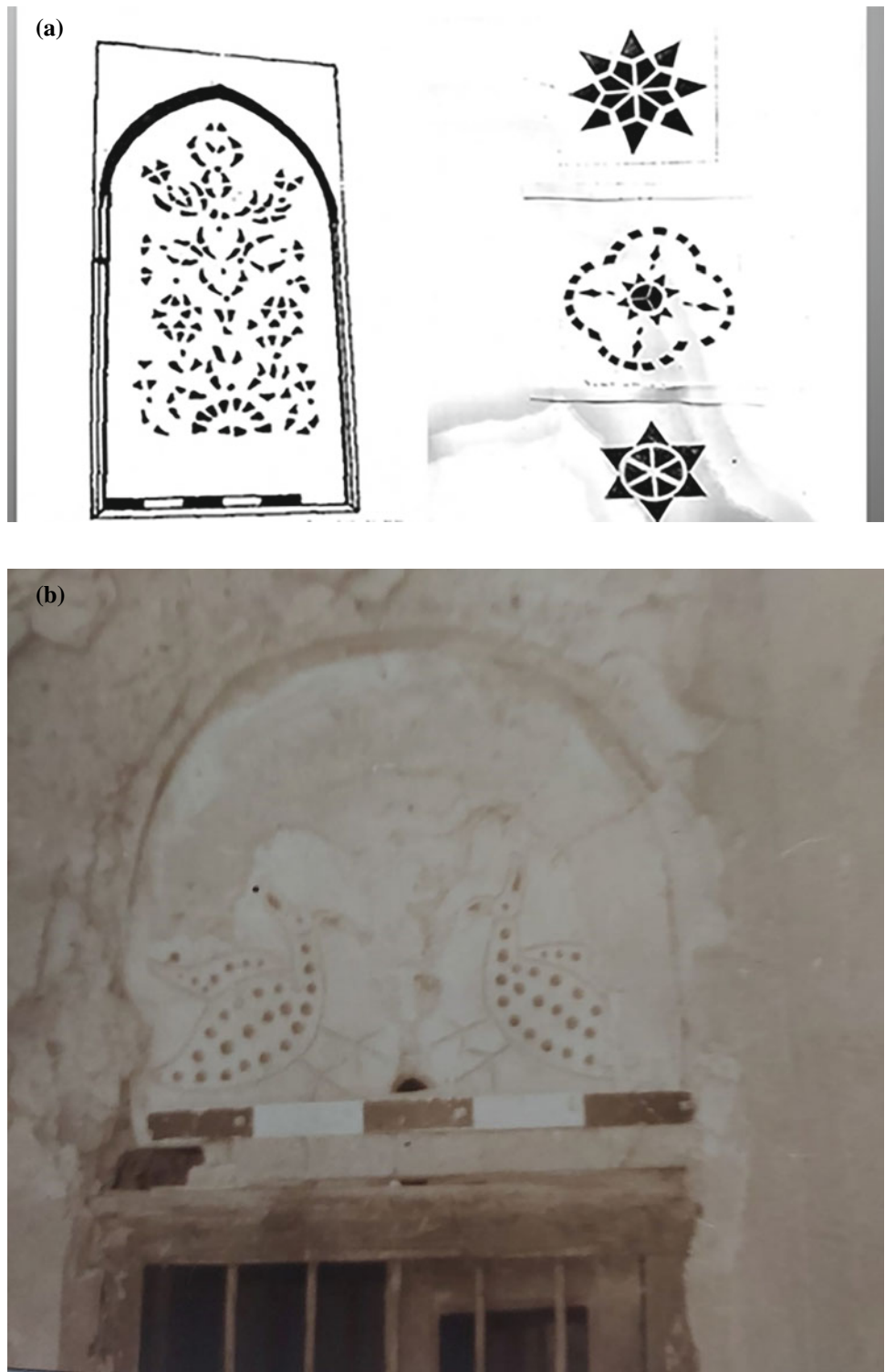
Carry out an accurate and comprehensive field survey of all the neighborhoods recorded in the maps belonging to the Ottoman period and establish a regular and sequential database for them to review from time to time. Also, the Samarra Antiquities Inspectorate should take its specialized role in following up field visits to that role and provide the survey field workers with electronic documentation forms for the role. And use the graduates of the Department of Maintenance and Restoration at the Faculty of Archeology, Samarra University, in order to benefit from their experiences in case of initiating maintenance and restoration operations, while rehabilitation of some of the heritage houses are characterized by their sustainability and architectural completion elements as halls to display the antiques of the city's heritage during successive eras to sell them to visitors to the Holy Shrine and tourists. It might be possible to invest some of the role as small museums and open the door for contributions by supporters at home and abroad,

such as non-profit organizations, for the success of the sustainability process. There is a need to activate the role of media and promote a program; rehabilitation of the role, in cooperation with civil society institutions, on the need to preserve the architectural heritage, initiate an awareness program through social media, and emphasize the prevention of waste dumping, the development of special posters and informational leaflets to raise awareness and hold those responsible to account. There is a need to reinforce the Samarra Antiquities Inspectorate with specialized scientific cadres, including maintenance, restoration, antiquities, and architectural specialists, engineering, and urban planning.

7 Conclusion

Develop a systematic and organized plan in order to preserve the remaining heritage houses, which constitute the identity of the city during the Ottoman era. Determine the level of the buildings surrounding the heritage and archeological houses and achieve a balance between the three components of sustainability—the urban dimension—the social dimension. We recommend developing a database for analysis and evaluation in order to follow up on the condition and sustainability of the buildings, and rehabilitation of hotels in the city in order to enhance the tourism aspect and its sustainability. There is a big need to re-opening the secondary roads associated with the heritage buildings and the Holy Shrine in order to preserve the urban fabric and urban heritage of the city, as well as the lifting of concrete barriers and the return of the residents of these neighborhoods, who were forcibly excluded and left their shops and homes and abandoned their role for the sake of the old city's neighborhoods, and restore life to them. Finally, the local government should take its

Fig. 5 A and B, Some manifestations (fractions) of damage to the heritage homes
a Artistic formations from Heritage House of Samarra designed by the researcher **b** Real artistic formation from the heritage house of Samarra



role in coordination with the General Authority for Antiquities and Heritage, prevent abuse of the heritage role, and oblige factory and workshop owners to combat pollution and keep factories away from the borders of heritage sites.

References

- Al-Ahbab, S. (2015). Sustainable urban conservation in heritage areas. *Journal of the College of Engineering, Al-Nahrain University*, 17(2), 15–14.
- Al-Dabbagh, J. A. (2017). Sustainability and the traditional urban textile Al-Bayt Al-Baghdadi as a model. *Journal of the College of Engineering*, 16(2), 8.
- Al-Hassani, A. (2012). *The city of Samarra and its heritage and historical role*, p. 10. Beirut: Dar Al-Rafidayn.
- Al-Janabi, M. I. (2012). The city of Samarra, the capital of the Abbasid Caliphate from 221 AH-279 AH, Tikrit University. *Journal for Humanities, Al-Majd* 19(12), 271.
- Al-Jubouri, I. H. (2001). *Perforated stucco curtains in the windows of Iraqi homes during the Ottoman era*, unpublished Master Thesis (p. 43). University of Baghdad.
- Al-Majidi, B. H., Hashem, A.-T., & Hareth. (2015). Sustainable preventive preservation of historic buildings. *Iraqi Journal of Architecture*, (4), 309.
- Al-Nuaimi, A. T. (2014). The city of Samarra until 2017. *The Secret of Rai Magazine*, 10(36), 15.
- Al-Samarrai, M. M. (2016). *Samarra and its cultural development* (p. 152). Diyala University.
- Alwan, K. H. (2012). An analytical study of the urban fabric environment of the old city of Kadhimiya. *Al-Ustaz Magazine*, no. 202, 171.
- Hamim, H. J. (2018). Heritage in the absence of the cultural project and the absence of awareness. *Iraq, Case Study, Karbala University Scientific Journal*, 16(2–3), 10.
- Lestrang, K. (1954). The countries of the eastern caliphate, translated by Francis Bashir and Georges Awad, p. 76. Baghdad.
- Majed, M. (2009). Factors affecting urban urban change in the Islamic arab city, p. 21. PhD thesis, the Higher Institute for Urban and Regional Planning, University of Baghdad.
- Samarai, A. J. M. (1980). Samarra or the secret of the opinion, p. 36. *Al-Faisal Magazine*, 40, Saudi Arabia.
- Shakiri, S., & Issa. (2017). Sustainability of architectural heritage. *Arab Scientific Heritage Magazine*, First Issue, 2017, 56.
- Tariq, D. N., & Faleh, H. S. (2017). Sustainable investment in buildings of urban heritage (an analytical study of arabic models). *Engineering Journal*, 23(2), 45.



The Role and Potential of Adaptive Reuse of Heritage Buildings in the Multi-Dimensional Upgrade of the Mid-Europe Township Pécs, Hungary, as an Example

Liu Sha Sha and Zhao Tian Yu

Abstract

Over the last decades, the restoration and rehabilitation of building stock in Europe have been the topic of constant discussion by local and international architects and scholars. In line with this, Hungary has also been seeking suitable urban development which benefits from the urban rehabilitation of the existing building stock. The city of Pécs is the fifth largest city in Hungary, and not only does it have various built heritages covering a long time span, but many of the buildings have also been rehabilitated. This local heritage reuse and rehabilitation which align with the local environmental context, with adaptive functions and forms, are highly valued among architects. Because of this, the city of Pécs, together with Istanbul and Essen, was selected to be the 2010 European Capital City of Culture. This paper discusses, from an adaptive reuse of the built heritage point of view, the impact of adaptive reuse regarding heritage buildings on urban vitality enhancement and the urban built environment in the context of Pécs, through three aspects: (1) district vitality; (2) inhabitants and their corresponding urban habitat; (3) urban connectivity. In addition, the common characteristics of the originally built heritage that is chosen to be adaptively reused are summarized. These findings may contribute to the regeneration and revitalization of the city of Pécs, as well as to other cities with a similar historical background and scale.

Keywords

Adaptive-reuse • Heritage building • District vitality • Urban habitat • Connectivity

1 Introduction

People understand a city initially through the built environment: buildings, streets, squares, and urban public art. Heritage buildings play a significant role in modern cities, representing the cultural diversity and identity of a city as well as often sustaining a local tourism economy. Adaptive reuse is a design strategy in the quest for sustainable cities; it is able to reduce the environmental impacts on the urban environment and give rise to new economic patterns in development, such as utilizing the circular economy (Foster, 2020).

1.1 Heritage

The architectural heritage of a city is a capital asset of irreplaceable spiritual, cultural, social, and economic value which reflects the unique cultural characteristic and historical features of a city at a particular time, and is the commonwealth of the urban habitat. However, in the wake of the development of cities and changes in the needs of modern human inhabitation, people have created more and more new demands regarding buildings, which has led to many historical buildings being gradually abandoned, demolished, or renovated because of a lack of functions. Heritage buildings have gradually shifted from single protection and restoration to finding new uses to meet the needs of modern society. For example, abandoned workshops have been transformed into educational facilities, exhibition halls, and art centres, and historical sites have been converted into museums or have become part of the public landscape.

L. S. Sha (✉) · Z. T. Yu
Marcel Breuer Doctoral School, University of Pécs, Pécs, Hungary

1.2 Adaptive Reuse

In 1981, the “Barra Charter” was passed in Australia, when the International Council on Monuments and sites (ICOMOS) first proposed the concept of adaptation: the transformation process minimizes the intervention in the original structure and endows the building with compatible functions or uses (Australia ICOMOS, 2013). It has developed new uses and potentials for outdated historical buildings, combined with restoration and historical protection, while at the same time providing support for the city’s history, culture, and architectural value (Bullen et al., 2011). “In recent decades, adaptive reuse is not only one of the forms/means of heritage architecture but also an important feature regarding sustainable urban development. Adaptive reuse of buildings bypasses the wasteful process of demolition and reconstruction. This environmental benefit, combined with the energy savings, carbon emissions reduction, and the social and economic advantages of recycling a valued heritage building, makes reuse an essential component of sustainable development” (Department of the Environment and Heritage, 2004).

One of the most appealing aspects of transforming a heritage building is the fusion of different historical layers presented by modern components and original architectural elements. Heritage, which is transformed, follows the historical background and its embedded value, providing diversity and vitality to cities, just as modern architecture also does, and therefore increases the city’s value in multiple dimensions (ICOMOS, 1987).

1.3 Urban Upgrade

The urban quality upgrade consists of the upgrade of physical space, the spiritual environment, and social network (Peng, 2017). The quality of the urban habitat, as an essential feature resulting from the physical and social environment, has been a topic of interest for academics and the general public. In the current era, when many countries and urban areas are stepping into or have already moved from the industrial age into the ecological age, humanistic ecology, more specifically in terms of economic, social, cultural as well as natural aspects, is having a vital impact on the quality of urban habitat (Yang et al., 2019). Urban rehabilitation has become one of the methods to enhance an ecosystem regarding the above-mentioned aspects of a locality and its adjacent district.

Upgrade and connectivity optimization of the urban historic treasures have been one of the keys and effective ways to promote urban rehabilitation of cities around the world with rich history. For instance, Budapest programmed a strategic cultural chain to link its heritage sites. It brings

together the originally isolated impacts that the heritage sites have on their neighbourhoods. Wudadao historical district in Tianjin also provides a paradigm with its district rehabilitation (historic district management, detailed protection regulation, Push–Pull-Interaction-Service experimental project) and adaptive reuse of key buildings (Minyuan Stadium). The benefit it brings includes optimized management, social vitality enhancement, and attracting more active visitors city-wide. Rehabilitation leads to regeneration and reuses the stock of the urban built environment, employing architecture and planning. When successfully employed, regeneration and reuse create both a visible and invisible impact on the locality and its adjacent region and optimize the local humanistic ecological environment with the help of architecture, as the means/language, and the embedded value of history.

1.4 Pécs

The city of Pécs, located in Baranya county in the South of Hungary, has a population of 150 thousand within its 162 km² area. Nowadays, the city of Pécs is considered a cultural city with a rich history of built heritage. However, during the middle of nineteenth century, Pécs was a significant industrial centre for Hungary (Haffner, 2014). Hosting the European Capital of Culture in 2010 provided the opportunity for Pécs to boost its development in numerous fields, including the quality of urban living.

Since 2010, the number of tourists has been rising annually, while, on the other hand, the number of local inhabitants has been annually decreasing (City population, 2019). The influencing factors, in addition to economic and employment aspects, are derived from the uncompetitive urban vitality and liveability. Since 2000, Pécs has utilized numerous opportunities in the regeneration and adaptive reuse of historical and industrial built heritage. These historical roles were carried out by the implementation of adaptive reuse to create an optimal impact on local urban vitality using different approaches.

2 Case Study—Tettye Park

Tettye refers to an area to the north of the historical downtown of Pécs. Geographically, it is a valley on the Mecsek hillside overlooking the city which lies to the south of Tettye (Fig. 1). The depression in the valley is not natural, and is a result of the removal of the stones and earth which were used as building materials for the historical city in the early Christian age. Records show that the quarried material from Tettye can be found in most of the historical buildings in the city centre even today (Baronek, 2000). The area studied

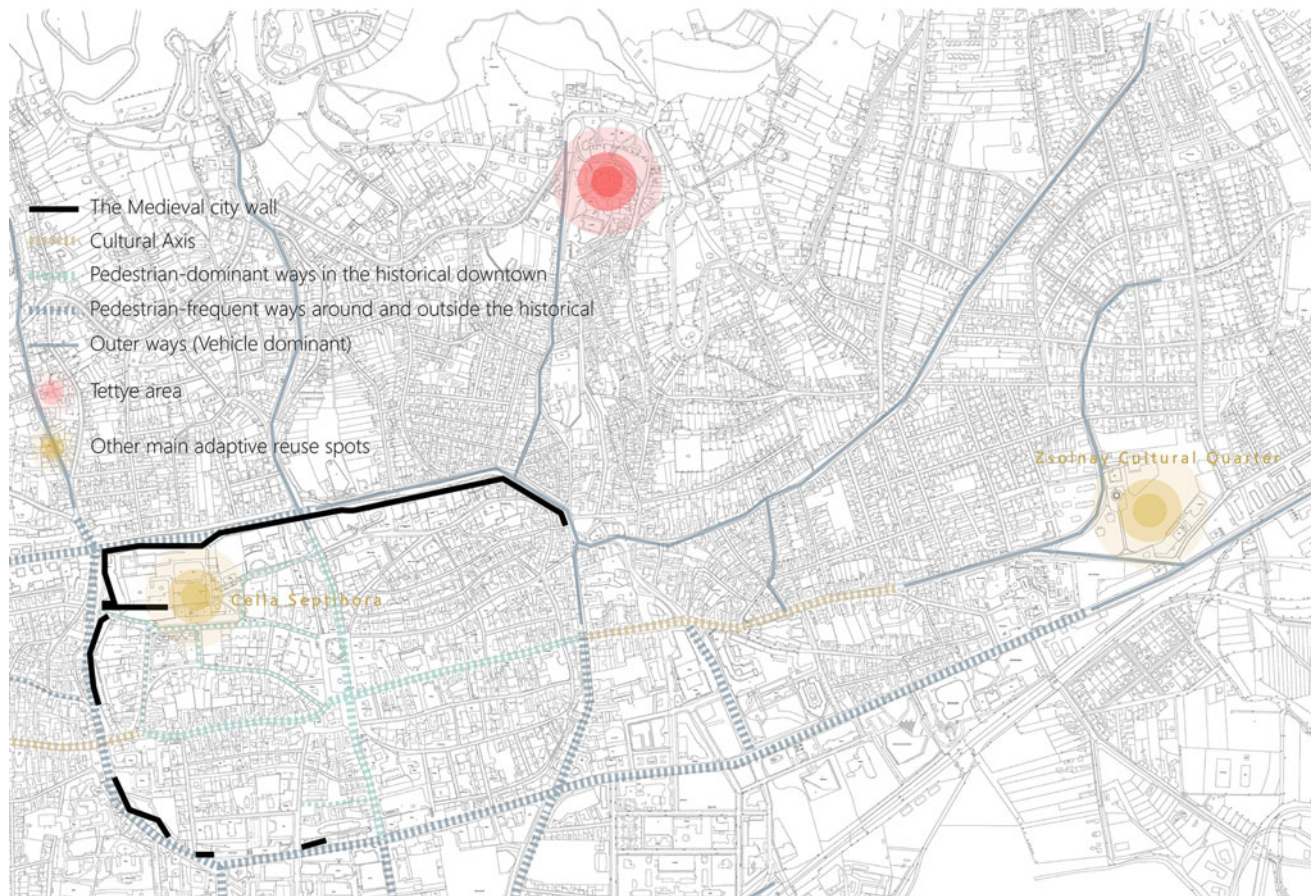


Fig. 1 The spatial relationship between Tettye historical downtown and other sites of Pécs (Credit Authors)

was Tettye Park consists of the previously mentioned area including the Tettye Ruins and the surroundings.

The Tettye Ruins were originally the Szatmáry Palace, built as a renaissance style summer palace of the Bishop György Szatmáry in the sixteenth century. The original building was badly damaged and by the early 1900s, only a few walls and arches could be found in their original shape. Numerous functions have been planned for the ruins including a sugar refining factory (not realized), and over the last few decades, the local authority used the ruin to host theatre performances, a function which met with success (Rosner, 2005). Janos Pinter built a botanical garden near the ruins, which attracted local inhabitants to the area and its surroundings (Rosner, 2005). Thus, the Tettye Ruins and the surrounding area enjoyed a good reputation amongst the local inhabitants and authorities for its historical and cultural value.

This appreciation and value of the Tettye Ruin area also carried over to the European Cultural Capital (Europa Kulturális Fovaras) programme. The area of the ruins and

towards the south were rehabilitated in a systematic and contemporary architectural manner by MARP in 2011. The design was presented through two dimensions: public space development of the Tettye Ruin (the Tettye Park), and the surrounding area and a walking route for a panorama of the park, the city, and cultural features nearby (Fig. 2a) (Local Government of Pécs, 2007).

The public space development involved the rehabilitation of the ruin itself with contemporary architectural structures to complement the remaining summer palace ruins, as well as creating three terraces to the south (Fig. 2b). The ruin was enhanced with several free-standing structures including a look-out tower on the boundary of the original summer palace site and the addition of benches for visitors to sit and enjoy the open space and views over the city. All the additional elements used oxidized steel as the building material to differentiate the historical elements from the new ones. The ruin site, sitting on the highest of the three terraces, is located above another terrace which has a leisure platform with seating, and further down there is another

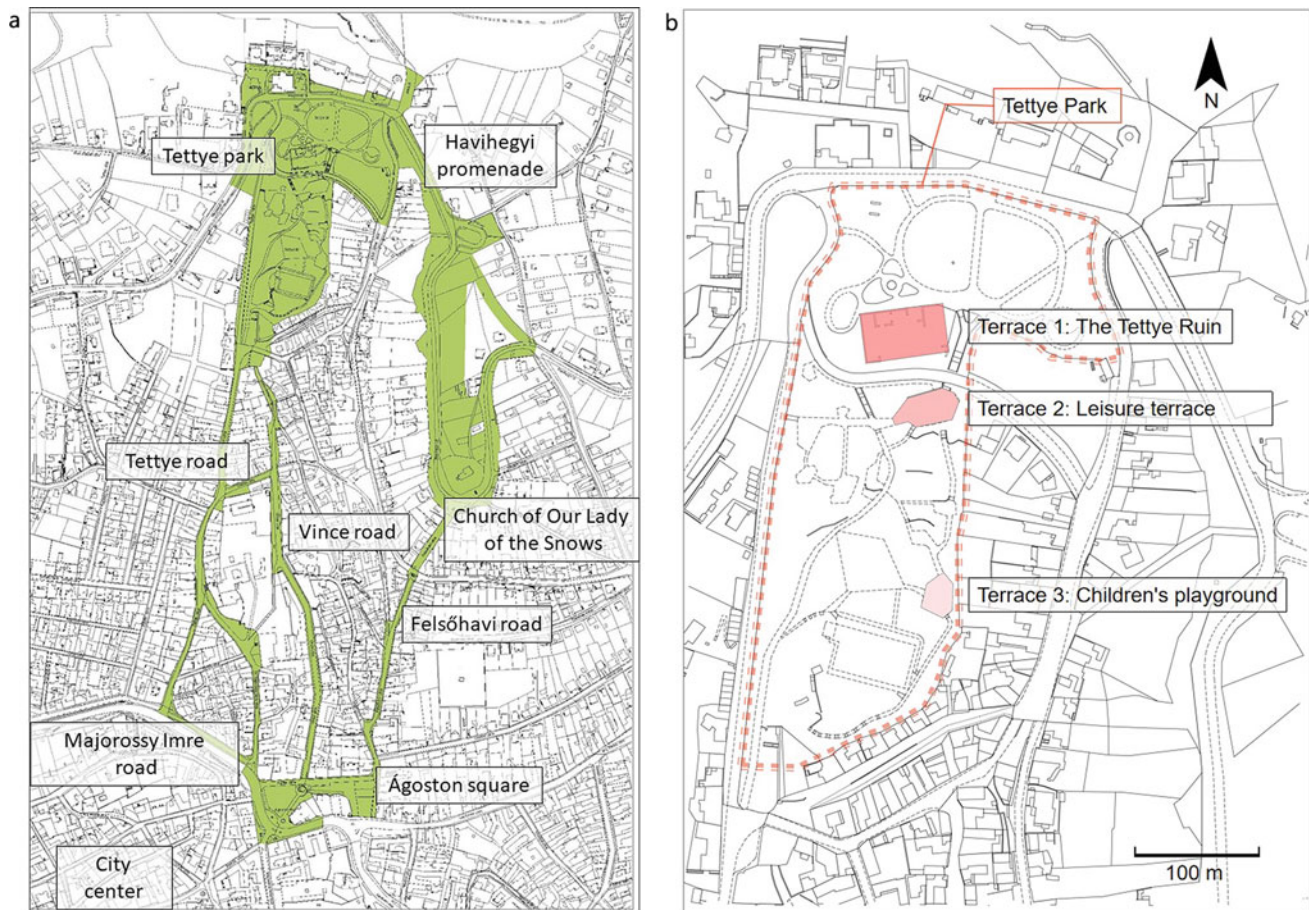


Fig. 2 a The name of zones and roads in the design area. b Tettye Park's plan. (Credit The bidding document)

terrace with a children's playground for children, all three terraces forming three steps towards the city centre. These terraces have become attractions for numerous groups of various age groups, people with diverse purposes and from different districts. Tettye Park was designated to enrich the communal and cultural functions, and increase the number of functions it accommodates, in contrast to its single function in the past when it was predominantly used as a transit corridor for vehicles and for parking (Local Government of Pécs, 2007).

The walking route, predominantly along Havihegy Way, is also connected to paths in the north-west corner of the historical downtown (Fig. 2a). It was designed to provide a panorama view of both the city and Tettye Park. In addition to the panorama value, the walking route integrates newly built and historical art and architectural elements (statues and sculptures, a church, well planned natural landscape features, and artistic street furniture). By incorporating efficient public space development and the walking route, the local authority had a vision to promote the connection between the city centre and the Tettye area (Local Government of Pécs, 2007).

3 Urban Connectivity, District Vitality, and Urban Habitat

This paper mainly revolves around the analysis and investigation of Tettye Park along with the upgrade of the city of Pécs. From the aspects of dimensions of inhabitation environment, district vitality, and urban connectivity, it explores the impacts of adaptive reuse of heritage buildings in urban public places. In terms of these three dimensions, the paper attempted to show the impacts of public places containing adaptive reuse of heritage on the adjacent area of the site and the belonging city.

3.1 Urban Connectivity

Over the past decades, and especially since 2000, the development of Pécs has been largely based on the EKF programme (Európa Kulturális Fővárosa, European Cultural Capital). EKF acted not only as coordinator of the programme itself but also set the goals for the city's

development. A series of rehabilitation and reconstruction projects were generated under the EKF programme at historical sites throughout Pécs (totalling around 61 sites) that were adapted to create various functions and ambiances based on their orientation (Varjú, 2008). The historical sites (ranging from the Early Christian Age to the industrial age) are inside the historical downtown (the city centre), in the buffer zone, and around the outer fringe of the urban area. After their respective adaptive reuse, they generated positive impacts on the entire city of Pécs. From the urban connectivity point of view, the impacts can be seen from two aspects: (1) the connection between the ruin itself and the surrounding area and the historical downtown became more adhesive, (2) the connection between the newly created heritage sites also became more cohesive.

The Tettye Ruin (the ruin of the summer palace) had existed in the city as a religious property (both physically and mentally) over a long period in history. In recent history, it became a popular hiking and sightseeing destination of the city due to the heritage site and the adjacent botanical garden. The stream that flows from the ruin area towards the city centre had long been utilized by traditional leather glove manufacturers in the area, and initiatives by the authorities to create a new industry in the area never eventuated. These circumstances represent the existing conditions of the Tettye Ruin area with respect to the connection with the inhabitants of Pécs. The adaptive reuse and the corresponding multi-functional area design, as previously described, oriented towards local inhabitants' daily life, as well as towards multi-age group and multi-purpose functions, enhanced the connection between the heritage site and the city centre (instead of only being seen as a hiking destination). In addition, the value of the site was especially increased for those living nearby. The planned and implemented three layers of terraces are visible from the downtown and, because of the landscape of Pécs, they are also visible from the other side of the city, which formed a visual connection on a metropolitan scale. The three terraces serve the local inhabitants as well as tourists visiting the area allowing visitors and locals to intermingle and get a view into each other's lives—each group becoming scenes in the perceived landscape. This adaptive rejuvenation project promoted cohesion, adhesion and connectivity of the city through the perception by the inhabitants of Tettye, the inhabitants of Pécs in general and tourists.

The design of the walking route connecting the Tettye Ruins area, and the downtown, as well as the renovation of the ruin itself, not only provided a connection between Tettye and the city centre but also other adaptive projects at various other heritage sites. For example, an essential part of the EKF programme was the adaptive reuse and rehabilitation projects of the Cella Septichora and Zsolnay Kulturális Negyed (Zsolnay Cultural Quarter) that provided further daily functionality and cultural destinations in their

respective area and the inhabitants of Pécs through the following two perspectives: (1) the heritage of Early Christian history and culture via contemporary architectural language, (2) adaptive reuse and revitalization of brownfield areas left from the industrial era. Pedestrian and vehicle routes, public transportation and sightseeing train routes were developed to connect these areas. The triangle formed by the three sites (Tettye Ruins, Cella Septichora, and the Zsolnay Cultural Quarter) formed a constructive foundation for the macro urban connectivity of Pécs (Fig. 1).

3.2 District Vitality

Pécs has been transformed from an industrial city to a tourist city. In addition to the long history and culture of the city, it has carried out successful heritage-building-based adaptive reuse projects to inject new vitality into the transformation of the city. For example, the Cella Septichora Visitor Centre in Pécs is the museum and reception space for the UN World Heritage site: The Pécs (Sopiana) Early Christian Cemetery (UNESCO, 2000). It provides not only the showcase of the historical culture of the city for tourists but also a venue for locals to hold various activities, for example, small-scale gatherings and wedding ceremonies. Moreover, this project attracts economic activity and enhances local people's sense of acknowledgement and identification towards their city (Bachman et al., 2010).

According to urban planner and author Charles Landry, "urban vitality is the raw power and energy with a city" (Landry, 2000). It also refers to the urban spatial structures and their influence on urban activities, which can represent the features of the urban spatial structure and a measure of the activity of residents (Aytac et al., 2016). In terms of the urban form characteristics, urban vitality embodies three factors: (1) great accessibility among neighbourhood quarters, (2) a large range of liveability regarding building construction and architectural patterns, and (3) the interspersed of appropriate and practical functions. The overall goal of the Tettye district design tender was to rehabilitate the entire Tettye area and to create a popular destination for both locals and tourists. It is comprised of the regeneration of the Tettye Park, constructing the Havihegy panoramic promenade, in other words, developing the public space and pedestrian route with urban green spaces. It helped in enhancing the connection between the city centre and the Tettye area. Becoming an exclusive public green space, the rehabilitation project of Tettye managed to connect the districts of Pécs and due to the fascinating landscape and accessibility, it has become a part of local daily life. In addition, the reuse of the remains of the Renaissance summer palace (Fig. 3) combined with the panoramic natural landscape demonstrates the unique charm and cultural landscape value of the area, which



Fig. 3 a Graphic solution (Credit MARP Architects), b Outdoor theatre in Tettye Ruin (Credit Authors), c Overlook (Credit Authors), d The stage of outdoor theatre in Tettye Ruin (Credit Authors), e The street sitting facilities (Credit Authors)

in turn creates business and tourism opportunities. In addition to the clear functional separation, Tettye's triple terrace design has demonstrated another character with its multi-function. The complex functional community spaces accommodate different social groups and ages and help to enhance the extent of residents' activities.

Cella Septichora and the Zsolnay Cultural Quarter also play significant roles in stimulating the promotion of the city's vitality, bringing additional economic and educational benefits. The Cella Septichora Visitor Centre, in particular, has brought vitality to the city's tourism economy with many tourists on cruises on the Danube River taking a day trip to visit this UNESCO site. The Zsolnay area serves as a sightseeing spot due to its industrial heritage character and also houses the Faculty of Arts of the University of Pécs, therefore having an educational role. From these cases, it can be observed that the renewal of the heritage buildings in Pécs gives differing opportunities to urban residents, tourists, the education industry, and urban fabric. The reuse of heritage plays a catalytic and integrated role in the city (Versaci, 2016). It promotes the renewal of public space and the restoration of historical monuments, the development of cultural undertakings, and an improvement in the quality of the residents' living environment, balances the society and space, and also revitalizes the whole city.

3.3 Urban Habitat

Acceptable practices of urban heritage conservation can inspire inclusive and holistic approaches to urban development and lay the foundations for "fit-for-purpose" planning tools and legal frameworks (United Nations, 2017). The heritage protection and rehabilitation at the Tettye area was set to be an experimental site of Pécs. At present, it has hybrid functions and quality public space to blend multi-community groups. The built heritage provides inter-media for local citizens to identify the city's history and culture. The urban environment, the protection of built heritage, greenery, and community relationships are essential indicators regarding the living environment of the local inhabitants—the inhabitation.

The whole Tettye area has residential, religious, and locally scaled commercial functions; meanwhile, it is also filled with plenty of long-term and relatively stable private properties. As a result, it is an area of potential with stable and peaceful low-density residences. Apart from the historical downtown which is dominated by old apartments and southern Pécs which is dominated by blocks of apartments, the most dominant housing type in Tettye is detached houses, in which inhabitants with relatively higher living standards reside. In the tender document of the design of

Tettye Park and the surrounding area, besides the previously mentioned promotion of Tettye Park and the adjacent public space, social interaction, entertainment, and the promotion of culture were also set as important goals. And all of these led to positive effects after their implementation. In addition to tourists, the series of rehabilitation has also attracted inhabitants within its district, therefore facilitating multiple effects: (1) It brought the local Tettye inhabitants optimized and organized venues for activities which are suitable for multi-resident groups; (2) The tourists attracted to the district widen the social interaction of the local inhabitants; therefore the level of activities also increases; (3) The vitality of Tettye and that of the entire city complement each other, which leads to the activities related to both the commercial and cultural aspects that have become more active with broader engagement and connections.

On the other hand, the planned and implemented connection (led by the previously mentioned walking route) cements the physical and mental connection between the district's residential function and inter-communal life. Agoston Square is one of the gateways from the city centre of Pécs to the Tettye area, from where visitors are able to reach the Tettye Park on the hill to the North. Three options are provided to reach the destination Park, among which Tettye Street and Vince Street lead to the lower end of the Park, while Felsőhavi Street leads to the Church of Our Lady of the Snows where the panorama of Pécs is visible (Fig. 2a), and from there the Havi-Hegy walking route leads to the contemporarily reused Renaissance ruin of Tettye (the first terrace) (Fig. 3). The completed rehabilitation of Tettye Park has become an essential public green zone and provides both the local inhabitants and broader citizens a multi-functional venue. It covers both communal and cultural functions, holds various outdoor activities with its adaptive space, and provides meaningful entertainment and relaxation for people of every age group.

4 Conclusion/Discussion

From the dimensions of the inhabitation environment, district vitality and urban connectivity, the paper has elaborated on the essential role that the adaptive reuse of built heritage plays in urban rehabilitation and its potential in regard to the development of urban sustainability. The adaptive reuse of heritage buildings in the process of transforming from an industrial city into a cultural tourism-oriented sustainable city has become the engine for the renewal and development in the city of Pécs. The adaptive reuse of heritage buildings is the cultural, social, and economic tangible assets of the city, which reflect the city's inclusiveness and potential for cultural and economic development. This can be reflected in the following two aspects.

On the one hand, Tettye Park is used as a comprehensive urban green space in Pécs, with the reused remains of the Renaissance era holiday villa as a symbol in the Park. It is protecting historical ruins and creating a multifaceted space for the public. The Park provides a public place for outdoor activities for different age groups. Their daily life integrates the city's past culture, which makes the city's modern life and historical space interactive. It will also increase the sense of identity of inhabitants from different age groups towards the city. On the other hand, Tettye Park in connection with the Havihegy panoramic corridor presents the integration of urban time, space, and the natural environment, and is embedded in the space-time structure of urban growth. This design strategy greatly increases the visitor's interest and provides a perfect place for a better understanding of the city.

In conclusion, under the dual background of climate change and rapid technological development in the contemporary era, sustainability and low carbon would be the goals of future urban renewal (Yung et al., 2012). Cities face a more modern process of rehabilitation all over the world. Adaptive reuse of heritage buildings' ability in extending the life cycle of buildings and reducing waste and resource consumption in the demolition process is greatly appreciated. Moreover, protecting urban heritage and culture while reducing carbon emissions is a significant character in future urban rehabilitation.

References

- Australia ICOMOS. (2013). *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance*, Australia ICOMOS, Canberra. <https://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf>.
- Aytac, D. O., Arslan, T. V., & Durak, S. (2016). Adaptive reuse as a strategy toward urban resilience. *European Journal of Sustainable Development*, 5(4), 523–532. <https://doi.org/10.14207/ejsd.2016.v5n4p523>.
- Bachman, Z. (2010). *BACHMAN ZOLTÁN*. Vince Books Press.
- Baronek, J. (2000). *Tettye park és környéke, a park növényei [Tettye park and its surroundings, the plants of the park]*. Pécs: Baranya Megyei Önkormányzat.
- Bullen, P. A., & Love, P. E. D. (2011). Adaptive reuse of heritage buildings. *Structural Survey*, 29(5), 411–421. <https://doi.org/10.1108/02630801111182439>.
- Citypopulation.de. (2019, Sep 23) *Pécs (Pécs, Baranya, Hungary) - Population Statistics, Charts, Map, Location, Weather and Web Information*. <https://www.citypopulation.de/php/hungary-baranya.php?cityid=19415>.
- DEH. (2004). *Adaptive Reuse: Preserving Our Past, Building Our Future*. ACT: Department of Environment and Heritage. Commonwealth of Australia 17.
- Foster, G. (2020, October). Circular economy strategies for adaptive reuse of cultural heritage buildings to reduce environmental impacts. *Resources, Conservation and Recycling*, 152(2019), 104507. <https://doi.org/10.1016/j.resconrec.2019.104507>.

- Haffner, T. (2014). A pécsi kesztyűgyártás múltja és jövője [The past and future of glove production in Pécs]. *Köztes-Európa*, 2014(6), 115–123. <http://acta.bibl.u-szeged.hu/id/eprint/35085>.
- ICOMOS. (1975), *European Charter of the Architectural Heritage-1975*. <https://www.icomos.org/en/charters-and-texts/179-articles-en-francais/ressources/charters-and-standards/170-european-charter-of-the-architectural-heritage>.
- ICOMOS. (1987). *Charter for the conservation of historic towns and urban areas. The Washington Charter*. Retrieved 20 November 2017, from https://www.icomos.org/charters/towns_e.pdf.
- Landry, C. (2000). Urban vitality: A new source of urban competitiveness. *Archis*, 12, 8–13.
- Peng, G. (2017). “Understanding Guangzhou. Focusing on quality”: Paradigm of urban quality promotion in Guangzhou. *City Planning Review*, A01, 42–49.
- Pécs Megyei Jogú Város Önkormányzata [Local government of the city of Pécs]. (2007). Pécs - Tetye városrész közterület megújítása [Renovation of the public area of Pécs - Tetye district]. *Pécs 2010 Menedzsment Központ Kht*[*Pécs2010 Management center*].
- Rosner K. (2005). Tetye, természet, teatralitás: Tetyei népiünnepélyek a (múlt) századfordulón [Tetye, nature, theatricality: Tetye folk festivals at the turn of the (last) century]. T Kovács, G Böhm, T Mester (Ed.), *Terek és szövegek: Újabb perspektívák a városkutatóban* [Tetye, nature, theatricality: Tetye folk festivals at the turn of the (last) century] (pp.143–153). Budapest: Kijárat.
- UNESCO Region. (2000). *Europe And The North America*, WHC Nomination Documentation,853rev.
- United Nations, (2017). *United Nations Conference on Housing and Sustainable Urban Development*, Habitat III. <https://habitat3.org/documents-and-archive/preparatory-documents/issue-papers/>
- Varjú V. (2008). Barnamezős revitalizáció kultúrával [Brownfield revitalization with culture]. N Pap (Ed.). *Kultúra - területfejlesztés: Pécs - Európa Kulturális Fővárosa 2010-ben* [Culture - regional development: Pécs - European Capital of Culture in 2010] (pp. 201–213). Pécsi Tudományegyetem Földrajzi Intézet.
- Versaci, A. (2016). The evolution of urban heritage concept in France, between conservation and rehabilitation programs. *Procedia—Social and Behavioral Sciences*, 225, 3–14. <https://doi.org/10.1016/j.sbspro.2016.06.003>.
- Yang, B., Chen, P., Dong, K., & Sun, J. (2019). Formation of the national territory development planning system under the background of ecological civilization. *Urban Planning Forum*, 2019(4), 19–23.
- Yung, E. H. K., & Chan, E. H. W. (2012). Implementation challenges to the adaptive reuse of heritage buildings: Towards the goals of sustainable, low carbon cities. *Habitat International*, 36(3), 352–361. <https://doi.org/10.1016/j.habitatint.2011.11.001>.



The Adaptive Reuse of Cultural and Historical Heritage as an Asset in City of Riga Branding. Case of Hanzas Perons

Lolita Ozoliņa and Žanete Eglīte

Abstract

Hanzas Perons is a former warehouse in Riga, Latvia, which was initially planned to be demolished but has been rebuilt as a concert hall and become a significant cultural venue. The building is not a listed architectural monument, but it is located in the protected zone of Riga's historical centre, a UNESCO World Heritage Site. Unfortunately, more than 1,000 historical buildings in the city are gradually collapsing. For this reason, it is important to emphasise adaptive reuse, and Hanzas Perons is one of the rare examples of this. The objective of this article is to explore how cultural and historical heritage can be used in the context of adaptive reuse, with the aim of creating a more prosperous urban environment and sense of place within the formation of city identity. This case study is divided into four themed parts: (1) cultural heritage and architecture; (2) adaptive reuse as part of the process of preservation of cultural goods; (3) architecture, communication and creation of experiences; and (4) opportunities for city branding. One of the main findings is the importance of the client, who makes the decision on whether the building will be redeployed, what level of quality of the architecture has and what the strategic vision is for its use. Another is the role of relevant positioning of the building, shaping an image of a unique environmental and cultural destination. The study is significant, as it demonstrates it is possible to appreciate the value of such buildings, and, by transforming them, to create new meanings and opportunities. Visitors have the opportunity to gain experiences, but the building itself can also be embraced in city brand communication, in order to emphasise Riga's rich cultural and architectural heritage and professional approach to adaptive reuse. Paper type: Literature review/case study.

Keywords

Cultural heritage • City identity • City branding • Adaptive reuse • Sense of belonging • Communication

1 The Introduction

Historic buildings are cultural treasures, they have an important role in place marketing and place branding, and almost every city has recognisable architectural monuments. Unfortunately, not every historic building is properly appreciated. Many of them have been demolished or completely rebuilt, thereby losing their historical qualities. However, it is possible to appreciate the value of such buildings, and, by transforming them, create new meanings and opportunities to maintain cultural value and the identity of the local community. As a result, visitors to preserved buildings of this kind have the opportunity to gain experiences, while the buildings themselves can also be used in city brand communication.

The effect of the warehouse building and cultural experience demonstrates that a contemporary spirit is a significant element in the creation of place identity. Acknowledgement of local cultural values is among the interconnected components in the development of a place brand: recognition from local people, idiosyncrasies and a sense of place (Campelo et al., 2013). It is a cultural heritage that brings together cultural aspects from the historical, anthropological, ethnic, aesthetic and societal viewpoints, influences creativity and is the origin of a number of heritage goods and services as well as cultural activities (UN Creative Economy Report, 2008). Cultural heritage is the cornerstone of local, regional, national and European identity (Caldwell & Freire, 2004). There are several organisations at local and international level, such as UNESCO (The United Nations Educational, Scientific and Cultural Organization) and ICOMOS (The International Council of Monuments and

L. Ozoliņa (✉) · Ž. Eglīte
Latvian Academy of Culture, Riga, Latvia
e-mail: lolita.ozolina@lka.lv

Sites), that stress the importance of cultural heritage in the achievement of sustainable development (De Medici et al., 2020). Similarly, the renovated warehouse has become a vital centre of cultural and artistic activity, a powerful instrument for reframing the image of the city of Riga, with a focus on the urban economy and cultural production. Culture and cultural heritage have an impact on social and economic development; it serves as a source of identity and local pride and provides opportunities for social inclusion and collective action. Cultural heritage is a unique and irreplaceable treasure and resource, and its protection, as well as its use, must be considered within a process of sustainable urban development planning, establishing all the limitations related to its use in order to transfer this wealth to future generations in a way that preserves its authenticity (Lecic & Vasilevska, 2018). Buildings also include the narratives of our diverse cultural, social and historic societies, letting us remember and interact with the past and present of our communities. (Irbina, interview by authors, 2020). The concept of narrative is valuable in the context of historical and social place-bound and meaning formation of the city's identity. A city is a social construction, and it is represented as such through narratives and stories as it is through tangible attributes such as landscapes, and historic and architectural buildings (Kavaratzis et al., 2015). Professor Walter Fisher, the author of the concept of "narrative paradigm", highlights the symbolic aspect of the narrative, describing the concept as "symbolic actions—words and/or deeds—that have sequence and meaning for those who live, create, or interpret them" (Fisher, 1987). Due to the significance of symbolic actions, narrative is highly valued as an asset in the formation of the brand identity of places (Chernatony & McDonald, 2003). Similarly, the place branding expert Simon Anholt emphasises that symbolic actions are emblematic for the brand identity of places, at the same time as being a component of places' stories (Anholt, 2010). Existing historic and older buildings are the physical embodiment of our past and experiences and their accumulation of age, memory and symbolic meanings is a patina we relate to as human beings. As Merlino emphasises, unlike newer buildings, older buildings give us a sense of perspective on our shared time in the world. (Merlino, 2018). Therefore, historic buildings are valuable for understanding history, people, design and culture.

As architecture expert Artis Zvirgzdins states: "The City of Riga, through for centuries ruled by the Swedish, German and Russian Empires, was one of the biggest and advanced industrial and port cities in the Northern Europe. Today Riga is known for its cultural, and, especially, its architectural heritage, and the historical centre of the city is included on the UNESCO World Heritage List" (Zvirgzdins, 2019).

Riga is a European city dating from the year 1201. Today, Riga is a city rich in architecture from various eras: medieval

and later urban structures, the architecture of the Art Nouveau or *Jugendstil* style, nineteenth-century wooden architecture and the industrial heritage. Many sites have survived to the present day; and there is relatively strict legislation, including the Law on Conservation and Protection of the Historical Centre of Riga, passed in 2003. The number of listed architectural monuments in Riga alone is around 1552, but there are several thousand historical buildings, which are not classified as listed architectural monuments. Thanks to its rich architectural cultural heritage, Riga is on the UNESCO World Heritage list, having been added in 1997 (No. 852). The area of the historical centre is 438.3 ha (1.4% of the total area of Riga); the area of the protection zone is 1574.2 ha (UNESCO, 2020). As is written in UNESCO's information section on Riga, it was a Hanseatic city from the thirteenth to the fifteenth century, and several medieval buildings have survived from that time, despite wars and fires. The nineteenth century brought economic upturn and subsequent expansion of building construction. Suburbs were laid out surrounding the medieval town, first with imposing wooden buildings in the neoclassical and then in the Art Nouveau style. Riga has been recognised as having the finest collection of Art Nouveau buildings in Europe (UNESCO, 2020).

With the aim of contributing to the preservation and restoration of its cultural heritage for the public benefit, Riga municipality grants significant real estate tax rebates to owners of cultural monuments and properly maintained cultural heritage buildings, as well as providing support for the co-funding of the restoration or renovation of buildings (Vladimirovs, 2017).

The Industrial Revolution in the nineteenth century and the subsequent construction boom in the twentieth century have left Riga with a rich heritage. Riga is most famous with its panorama, and architecture is one of the most important aspects in tourism communication. The historic centre of Riga features relatively well-preserved medieval buildings surrounded by a circle of boulevards constructed in the nineteenth century, with greenery on both sides of the city canal, and the former outskirts of the city have been built up, with a rectangular network of streets.

At the same time, there are more than 1,000 gradually collapsing buildings in Riga, including valuable examples in the Art Nouveau style. According to architect Reinis Liepins, construction of new buildings without protecting old ones is often considered simpler because it offers more predictable profits to developers, but quality architecture remains in the second plan. There is a lack of understanding in society and government about the re-use of spaces and buildings. UNESCO also notes that the "integrity of the site is challenged by the loss of original substance and authenticity of the site attributes, and the low-quality new developments in the Historic Centre of Riga not respecting scale,

character and pattern of the historic environment” (UNESCO, 2020). As a result, good examples of adaptive reuse are particularly important in the preservation of Riga's cultural and historical heritage.

Hanzas Perons is one of the most successful examples of transforming cultural and historical heritage by giving it a new use (see Fig. 1). The building is the largest cultural building constructed using private financing in Latvia since the restoration of independence. In its new appearance and function, the historic Riga Cargo station serves as a pilot project for the future multi-functional development in this area, New Hanza. The original building has been given new life with a completely new, accessible function, accessible to the widest range of the public. Preservation of the historic building, which is not an officially listed building, contributes to broader comprehension of the preservation of cultural and historical heritage. “A modern building with a historical character” is the title on Hanzas Perons’ website, thus positioning the building as an example of high-quality, attentive and respectful development (*Baukultur*, in German), a space of cultural experience and an aesthetic urban environment.

2 Adaptive Reuse as Part of the Process of Cultural Good Preservation

As defined by Douglas, adaptive reuse is any building work and intervention aimed at changing its capacity, function or performance to adjust, reuse or upgrade a building to suit new conditions or requirements (Douglas, 2006). It provides several opportunities: to maintain or restore cultural heritage, to extend the life cycle of the building and also to ensure reduced usage of resources.

As Tanac states, “reuse is a process of discovering the potential of a new function to revitalise disused heritage buildings. This method involves the refurbishment of those old monuments which do not serve the contemporary interests of life and consequently, they are no more desired” (Tanac, 2013).

Adaptive reuse, as part of the process of cultural good preservation and creation, helps to convey buildings’ historical, cultural and architectural value (Hasnain & Mohseni, 2018). As Mine emphasises, instead of continuing the building’s existing use through upgrades or restoring it to a specific period of time, adaptive reuse seeks to find new



Fig. 1 Hanzas perons after the renovation (Sudraba Arhitektūra, 2018)

ways of usage for it (Mine, 2013). Adaptive reuse protects once-valuable buildings, preserves natural resources and reduces the need for new materials (Kee, 2019). The developers' approach to construction was targeted as long-term view, and the building materials—bricks, wood and others—were chosen with the intent to preserve the building for many years. Consequently, these fundamentals can be reused, and new technologies can add functions that are needed today.

Adaptive reuse is also a way to preserve memories of past generations and history, and to transfer old knowledge to future generations. Thus, by preserving historic buildings and giving them a new function, it is possible to create new venues for work, study and entertainment—museums, cultural institutions, restaurants, hotels, shops, universities and others. Buildings of this kind, which are widely accessible and used for public functions, especially for culture, create new values of cultural heritage and provide new means for visitor experiences. As Merlino states, historic preservation, adaptive reuse and thoughtful infill development of new buildings contribute to a sustainable, diverse and vibrant community (Merlino, 2018).

The sociologist Simmel contended that the term culture (as in a cultural good) denoted material objects that would not have come about through natural course of action, without human intervention. Cultural goods are thus embodiments of the ideas and desires of individuals, who have changed and shaped the physical and material qualities of the raw materials to create something that connotes a unique significance, the result of actions that went well beyond the natural. The ideas, beliefs and desires of human beings can be thought of as cultural features—the state of mind shared by the members of a society in a particular time and place. These values, in turn, shape the production of a cultural good (Khaire, 2017). Furthermore, cultural goods have greater symbolic than material or utilitarian worth. There is a juxtaposition of the symbolic value of the object, related to its underlying meaning, and its material value, which is the result of the physical properties of the object. In this process, multiple entities translate and convert the symbolic value of artistic creations into economic value through discourse that renders the goods intelligible, acceptable and valuable (Khaire, 2017).

2.1 Example of Adaptive Re-Use: A New Cultural Site in Riga, Zuzeum

Zuzeum Arts Centre is a multidimensional venue for exhibitions, events, lectures and creative workshops. The Arts Centre is housed in a former cork factory, built in 1910 to a design by the architect and engineer Edmunds von

Trompovsky. Like Hanzas Perons, Zuzeum is located in the historic centre of Riga, a UNESCO World Heritage site (see Fig. 2).

Zuzeum Arts Centre was founded in 2017 by the collectors and patrons of the arts Dina and Janis Zuzans, with a view to promoting Latvian art at a local and international level, and creating a cultural space accessible to the general public with exhibition halls and spaces for their growing collection. The collection of the Zuzans, which includes more than 20,000 artworks from different genres, is numerically the largest private Latvian art collection, the core of which is composed of late-nineteenth century art; classical modernism from the first half of the twentieth century, and art made between the 1950s and the 1980s, during the Soviet era; as well as works by modern Latvian artists.

Zuzeum is an important contribution to Baltic art infrastructure, and at the same time also a step in revitalising the neglected industrial areas in the centre of Riga, giving the abandoned building a new function and life, and seeking to promote regeneration in the wider area. While Hanzas Perons is located near the “high-class” district, Zuzeum is on the border of less developed and prosperous area; development of Zuzeum could help as a catalyst to revitalise the whole neighbourhood.

After its transformation in the first half of 2020, at Zuzeum visitors are able to experience art in two showrooms, with 1,100 square metres of acreage, a sculpture garden, a café and a roof terrace. The Art Centre's exhibition programme is complemented by tours, lectures, meditation, a cinema and DJ evenings. “Everything here is tenderly warm and orange, the building is renovated and revitalised, it has basically been granted a third life; it has new windows and doors in the places where they were 100 years ago, but which had been hidden by those 100 years. That's why everything is new, but familiar at the same time,” says Agnese Kleina, managing director of Zuzeum.

The activities of Hanzas Perons are focused on cultural events, whereas Zuzeum is more accessible to the public—the café and roof cinema terrace attracts visitors every day.

The authors of the paper have discovered a paradox—although Zuzeum is brighter and more available for public and everyday activities, it is not as recognisable and distinctive in the cultural life of Riga as Hanzas Perons. The number of publications and events relating to Hanzas Perons is much bigger than for Zuzeum (Authors' research, 2020). One of the explanations for this could be the two sites' different branding and communication. While Hanzas Perons has two strong strategic directions for communication—cultural events and architecture—Zuzeum concentrates more on the content of exhibitions.

Since the main site described in this paper is Hanzas Perons, the detailed account later on is on this subject.



Fig. 2 ZUZEUM and the historical centre of Riga (Zuzeum, Norbert Tukaj, 2020)

2.2 Example of Adaptive Re-Use: Hanzas Perons

Riga cargo station is one of many reconstruction projects on railway buildings in Europe. This project can serve as a kind of example of architectural transformation by preserving local qualities and providing a new dimension of unique values. The building is the largest cultural building constructed with private funding in Latvia since the restoration of independence.

Before conservation and reconstruction, the building had been abandoned for 15 years. The oldest area of the cargo station had almost entirely lost its identity, so finding and restoring historic features was among the most important tasks to be completed (see Fig. 4). There were only two remaining buildings in the area. The warehouse building, which dates to the very beginning of the twentieth century (see Fig. 3), is located in the area of the former cargo station on the border of the historic city centre of Riga. The exact year of construction of the warehouse is unknown, but the building can be considered to have been built at the beginning of twentieth century—in 1903. It is a significant example of the industrial architecture of the beginning of the twentieth century.

When the surrounding area began to develop, Hanzas Perons was selected as the first site for development and an architectural contest was launched. The winning proposal, created by the architectural bureau Sudraba Arhitektūra and the leading architect Reinis Liepins, envisaged preserving the historical building, and re-using and returning it to life through a socially meaningful function. The main objective was to transform the cargo station into a cultural venue, enhancing the value of nineteenth century architecture and creating a landmark and attraction for New Hanza, an emerging business and cultural district. The building had remained in good visual and satisfactory technical condition, modifications had affected the active operating areas—gates, ramps and communication construction tracks.

The old warehouse building was upcycled as a multi-purpose venue—a place for concerts, exhibitions, banquets and other gatherings. Today, the main “commodity” here is culture. The historic building is wrapped in a glass and metal coat, which also hides technologies that meet modern requirements. The main hall is 1200 m² and can be divided into three separate spaces, thereby providing significant flexibility. The most important spatial feature—a columnless hall (length: 80 m, width: 15 m) preserved in its



Fig. 3 Riga cargo station, 1905 (Museum of the History of Riga and Navigation)

whole—has been left seemingly almost untouched. The previous brick and wood cargo station has now become part of the interior. As Zvirgzdins describes it: “In the evenings, the historic building is seen when the lobbies are illuminated, and the old structure becomes visible from the outside. The old building with preserved textures and details is confronted with the minimalist materiality of concrete (continuous terrazzo floor), steel and glass creating harmony and amazing but also poetic spaces. Fine new details express subtle references to the railway aesthetics and the preserved rails through the new building as well as platforms embodied in concrete demonstrate how the memories of the place are cherished” (Zvirgzdins, 2019).

When reflecting on the project, architect Reinis Liepins starts with the research stage. During the research stage, the architectural team studied documents in archives and inspected the building in the context of the history of Riga Cargo station, which had not previously been studied so deeply. At the same time the restaurateurs studied the substance of the historical building, taking material analyses of bricks, mortar, concrete and wood details, with the intention of choosing the most appropriate new materials not only for the visual, but also the physical aspect. After the research

stage, there followed strengthening of the brick wall foundations, conservation of wooden beams and ceilings, and conservation of original windows and sliding doors. After the historical buildings had been strengthened and safely preserved, the new part was completed as well.

During the conservation and reconstruction work, traditional methods of craftsmanship were applied to preserve the historic material substance of the building. These included masonry work at specific points in the interior and exterior of the building, as well as carpentry work—restoring the roof and the wooden plank ceiling.

The materials used in conservation of the original building are mostly local or locally produced. The bricks used for the masonry works were reused from the previously dismantled buildings adjacent. Masonry joints are restored only to the extent required visually by using lime mortar. Timber appropriate for the original timber constructions is chosen for the roof beams and rafters. Railway tracks from the site, as well as timber railway sleepers, are used in the interior of the building and for landscaping solutions on the site.

The warehouse did not have heating and a large part of the outer walls was 38 cm wide. The roof structure did not comply with the Euro-Code (Liepins, interview by authors,



Fig. 4 Hanzas perons before renovation (Sudraba Arhitektūra, 2016)

2020). For this reason, it was decided to convert the original building into a new “shell”. This was the most important and also the most difficult decision in the early stages of the project.

The building has been given new life with a completely new, accessible function, accessible to the widest range of the public. It educates the public about the conservation strategies and the history of the former Riga cargo station infrastructure. With attention and precision, a team of specialists has maintained an authentic sense of place and supplementing it with modern functions has reinforced that feeling.

Architect Agnese Lāce, one of the members of the Riga City Architectural Competition jury, points out: “Before the transformation, the former goods station could only attract professionals and enthusiasts, but now a wide range of society is able to access it. The authors’ clear objective to leave the original building empty and to build all the new buildings needed to operate around it has produced a convincing result. This is demonstrated by the functionality of the building, easy orientation within the building, and the cultural building’s new image and appropriate aesthetics. The fact that it is a single stand-alone building has allowed

there to be as little interference as possible in the historical substance. To find the original utilitarian structure valuable, with its flaws and past, and to demonstrate its uniqueness shows a dignified attitude towards history and authentic representation for future generations. Such an example of how it is possible to maintain and restore a building so that it looks attractive is necessary in order to raise awareness of construction culture (or *Baukultur*). Similar examples would be particularly useful in the housing sector too. The railway elements used in the amenities and building are integrated pleasantly and naturally, without forced references often seen in other cultural venues. I believe that the redevelopment of Hanzas Perons can serve as a chrestomathic, high-quality example of the concept of ‘building culture’; it also promotes understanding and discussions in society.”

Architect Reinis Liepins once again stresses the importance of adaptive reuse in the context of Riga. “Hundreds of historic buildings are collapsing in the city today. Due to different management priorities, there is a lack of a consistent view on the preservation of historical heritage. However, the failure to manage such buildings in the Latvian climate threatens to damage them—if buildings are constructed in southern countries without providing them with

the care needed here in our region, the buildings are heavily affected by humidity and lack of heating. Society enjoys examples of adaptive reuse; they feel happier in such buildings. It seems safer and more enjoyable to spend time in a renovated industrial building than a new one, although this also depends on the architecture. Renovated buildings of this kind have high ceilings, people feel good, the space has character, there is a sufficient amount of light, the scale is human". These are the main factors behind why the Hanzas Perons project has become so popular and appreciated in Riga.

3 Architecture, Communication and Creation of Experiences

Architecture interacts with people. It involves them with their environment and influences how they think, feel and behave. Architecture is related to the creation of experience and influences the way that visitors and residents feel, and as a result attention is to be paid to how buildings interact with people. Drawing attention to people's experience in the space allows architecture to do more: experiential design creates the environment and visitors' experience. For example, a space can help a person inspire, relax or learn.

In the twenty-first century, we must learn to look at cities not as skylines but as brandscapes and at buildings not as objects but as advertisements and destinations (Klingmann, 2008). In the experience economy, experience itself has become the product: we're no longer consuming objects but sensations, even lifestyles (Klingmann, 2006). Studies show that the economic value that existing buildings contribute to a community, when compared to new buildings that might take their place, is substantial, and that they create more diverse, vibrant places (Merlino, 2018). Aesthetic beauty and design have a significant role in architecture and could be used to renew weak relationships between culture, heritage, inhabitants and the environment (Cattaneo et al., 2018). Experiential design, combined with architecture, helps to create value on an emotional level. Pine and Gilmore particularly stress the importance of communicating experience. Communication can describe the qualities, but also start the experience, and distinguish the experience offered from others (Hjorth & Kostera, 2007).

As Cantoni states, most of our everyday life experiences are multisensory in nature; that is, they consist of perceived feelings—what we see, hear, feel, taste, smell and much more. Everyday experiences, such as eating a meal or going to the cinema, involve a magnificent sensory world. (Cantoni et al., 2018). Due to this, it's important to consider sensory aspects when designing a product or space, as senses have an important role in creating experiences and memories, and in evoking emotions. Experiences including all the senses—

vision, hearing, touch, smell and taste—stimulate strong and distinctive emotions. Communication can be accomplished by artefacts, colours, shapes and symbols, which interact with each other to give a specific message that is then interpreted and experienced by customers according to their specific situations, values and backgrounds (Hjorth & Kostera, 2007).

However, it is only in the past few decades that the branding of intangible items such as service experiences, and amorphous entities, such as countries, regions and even cities, has been valued, understood and enhanced (Pearson & Pearson, 2016).

Combining the more than 100-year history of the building with a modern approach to cultural experiences, Hanzas Perons has become an efficient and functional space for the convenient organisation and enjoyment of events (see Fig. 5). Since the reconstruction, the building has become a new landmark in the rapid industrial development of the city of Riga and in its new form has become an important cultural destination in Riga. The managing director of Hanzas Perons, Ieva Irbina, points out: "Hanzas Perons is distinguished from other cultural venues in Riga by its unique qualities—architecture that combines old times with new ones, highlighting the inherent values of both, combining respect for the old and aspiration for the modern. It certainly creates on-site content that cannot be obtained elsewhere. Of course, it also imposes additional obligations regarding content—it must be possible to give something new to ordinary and already known things. For example, when events are planned at Hanzas Perons, formats which are known to us from other places, are redefined to create a new experience for visitors to Hanzas Perons. The environment, in combination with the place, creates an atmosphere that people want to enjoy longer. We see elsewhere that people rush to the event at the last moment and leave immediately after it; the unhurried atmosphere at Hanzas Perons creates a desire to come earlier and stay much longer after the event."

There are two types of feedback when analysing visitor comments and communication content on local and social media. First, events shared on social media—many people regard Hanzas Perons as aesthetically beautiful and attractive; photo sessions are organised outside the building and inside, images are shared on social networks. The architect of Hanzas Perons, Reinis Liepins agrees with this observation, pointing out that social networks have helped to attract visitors because the architectural image of the building is significant and photogenic. This building is undoubtedly considered "instagrammable." The second assessment is the experience of viewers and their willingness to attend events in Hanzas Perons—less than half a year after opening, Hanzas Perons won the Latvian Culture Workers Award, "Kilo of Culture" as the best cultural site in Latvia. Ieva Irbina emphasises: "We were presented with the award



Fig. 5 Transformable hall of Hanzas Perons (Sudraba Arhitektūra, 2020)

because of the diversity of events; it is our unique thing. A venue with character is a great environment for sparkling events. People say they have attended a number of events, and all of them were so different, each time the venue seemed different. This aspect is special, and it is appreciated.”

Reinis Liepins noted that Hanzas Perons is intended as a venue for a wide range of events for the broadest audience. The versatility of events, as well as the experiences and needs of visitors, have underpinned the development of the architectural concept. The wide-ranging intended audience also explains why the Hanzas Perons project is designed to be accessible, open and comfortable.

Through architecture, the project creators have made the experience a positive one. Spacious lobbies on both sides of the historical building, natural materials and authentic elements in the interior, corresponding to the common concept form the overall image of the building—and this image, in turn, creates a sense of exhilaration. The interior has an integrated façade from an old cargo station and greets visitors to the building. As a reminder of the past, there is an architect-designed interior element, a “ghost train” placed on a real train platform from the Riga Wagon Factory and real

tracks; the ghost train currently serves as a café and a bar. The railing of the stairs uses the theme of track switches, some of the seats are even designed to be copies of real train seats. Combining several such elements to integrate into a common story creates a more authentic and comprehensive experience. Visitors to the building can enjoy both cultural events and the historical origins of Hanzas Perons, using all their senses.

4 The Potential for Development of the City’s Identity

Generally, place and city branding are an extension of product and corporate branding, with a greater emphasis on the need for “regeneration and renewal” that almost every city faces in the process of post-industrial or structural socio-economic change (Kavaratzis, Warnaby & Ashworth, 2015). So branding is present both as a response and as a way to compile the competitive advantages and authentic aspects of a city. The aim of city branding is to create an image of an attractive place to live, work, interact, play and feel secure. City branding strategies and practices include a

wide spectrum of rationales, as well as emotional aspects of the place-bond. The extent to which branding is a strategic aim of urban development is also variable; it is often an indirect effect arising from other city strategies, particularly due to the development of cultural, historic and architectural buildings, as well as social wellbeing and cultural development. But in some cases, there is a lack of awareness of city branding as a concept and approach to city strategic development. Dinnie emphasises that despite the fact that city brands are selectively constructed, the brand is also the city's statement of identity. The brand is a summary that captures the truthful story and uniqueness of the place" (Dinnie, 2011). Referring to a place marketing approach introduced by Philip Kotler in the early 1990s, brand identity was defined as a meaningful designing of place to satisfy the needs of the target markets (Kotler et al., 1993). Based on strategic place marketing approaches and methods, cities are forced to increase their competitive advantages towards various tourism revenues, inward investment and boosting the pride of the place residents in urban environments that differ in terms of the standard of living (Cassel & Pashkevich, 2013).

The concept of city identity has come to the fore in recent years, with an increase in academic work, as well as growing interest from practitioners in the field. Place identity plays a crucial role, as one of the resources of unique competitive advantages that includes a compilation of necessary characteristics for the description of differentiation and personality, equity, value and awareness. Terms such as "belonging to place" and "sense of place" are used as synonyms for the place identity concept. The sense of place is constructed through three processes: "planned interventions such as planning, urban design and so on; second, through the way in which they or others use specific places; and third, through various forms of place representations such as films, novels, paintings, news reports and so on" (Kavaratzis & Ashworth, 2006). In the context of the potential for development of a place identity, there are several notions, such as an authentic sense of the place—"a direct and genuine experience of the entire complex of the identity of places—not mediated and distorted through a series of quite arbitrary social and intellectual fashions about how that experience should be, nor following stereotyped conventions" (Relph, 1976); shared identity assets of the place, its personality and desirable attributes. Dinnie notes that mechanisms and the environment must be conducive to encourage community participation and support of the brand strategy (Dinnie, 2011); similarly, Hidalgo and Hernandez use a definition of place attachment as "an affective bond or link between people and specific places" (Kavaratzis, Warnaby & Ashworth 2015, cited in Boisen et al., 2018). The notion of

shared identity is crucial is crucial both in creating and experiencing an authentic place brand—"a summary that captures the truthful story and uniqueness of the place" (Dinnie, 2011). Consequently, it is necessary to understand the meanings and values that create the uniqueness of each place. Every cultural and historical environment, whether it is a building, a park, or a venue, which has been rebuilt and acquired a new meaning, requires recognition from the residents and acknowledgement of the local values. This last aspect is one of the interconnected components for the development of place brand identity: the recognition of local people and idiosyncrasies, and a sense of place (Campelo et al., 2013). It is important that place brand identity embodies the meanings and values of the specific areas or sites that meet the expectations of the local community as well as those of visitors to the city. Therefore, cultural heritage is something that we inherit from the past, rebuilt in the context of contemporary life (Towse, 2010). This new experience and the sense of place are deeply influenced by the environmental aesthetics of the place. Overall, the aesthetic value, in terms of the "scenic quality" of environments and landscapes should be evaluated mainly in terms of their "variety" or "diversity" (Carlson, 1999). Cultural continuity and environmental aesthetics are quite critical not only for the local community in the city but in terms of reimagining the city's identity. By redesigning buildings to be more efficient and adaptable to changing uses, we become better stewards of the environment and preserve these structures for generations to come. With good design and a new environmental ethic of reuse, older and historic buildings can be perceived not as targets for demolition but as sites ripe for reinvention (Merlino, 2018). Restoring the building and giving it a new role—to unite culture with people—is also an opportunity to tell visitors about the previous role of the building and the history of the area. By giving a second life to this building, Hanzas Perons was quickly assessed as a place with the potential to become a city identity site (Irbina, interview with authors, 2020). The development of urban environment projects as well as historical buildings emphasises local historical heritage and culture, which is particularly important for residents and the community. This statement leads to appreciation of the potential for participation and engagement of residents in the economic and identity development projects of the city and fosters a climate in which the local community prospers, enhancing their well-being. However, there is also a need for creative content that, in combination with the building, could become an object of interest for visitors to the city. Many projects have remained ongoing due to the pandemic, but it is important to realise that Hanzas Perons has the potential to have an important role in the context of culture in Latvia. Becoming

a project at a European level would be an audacious idea, since cultural entities of this kind offer essential sources of content subsidies and a delegated cultural function in the national context (Irbina, interview with authors, 2020).

Hanzas Perons has the potential to attract the local community and society in general to the development of the self-sufficient cultural site (Liepins, interview with authors, 2020). The architect points out that changes have also been observed in the neighbourhood—*Hanzas Perons* is an important site, it also highlights the border of the centre of Riga, and it has been noted that it has changed people's habits in choosing their daily itineraries.

In terms of value creation for city branding, Hanzas Perons is helpful in two different fields—first in presenting aesthetic architecture as a positive feature (see Fig. 6), second in organising cultural events as a creator of experiences. In terms of architecture as a positive feature Hanzas Perons has successfully been involved in the development of the Riga brand and tourism product; so far it has played a very important role in shaping the image of the city, particularly its architecture—Art Nouveau, the Old Town, wooden buildings, industrial heritage and certain examples of modernism. Architecture plays an especially important role; it is

an asset to Riga (Liepins, interview with authors, 2020). Its cultural and historical heritage helps Riga build its own unique brand. The architect points out that international branding still needs to be developed, but Hanzas Perons manifests *building culture* in a world context, specifically according to adaptive re-use. Hanzas Perons is a building that has gained a second life, with a great deal of devotion to detail and with very precise communication. Event producer Lena Ferstere mentions that 5 months before opening to the general public, interested parties had the opportunity to visit Hanzas Perons. When the venue opened, it demonstrated its qualities—openness and tours with the architect among others (Ferstere, interview with authors, 2020). For cultural events as a positive feature, Hanzas Perons is a cultural site for contemporary events. The director of Hanzas Perons points out that they do not want to present events that are strictly categorised—shows, concerts and so on. The long-term objective is to create events that defy conventional categorisation.

Before Hanzas Perons opened, buildings of similar size and character (renovated buildings that previously had a different function) were investigated, and one of the main findings from the experiences of managing other venues was



Fig. 6 Ghost train at Hanzas Perons (Sudraba Arhitektūra, 2019)

a period of one year to experience how the building and events function when it comes to life. This was the strategic objective of the first year—to draw conclusions and to ensure that at least 50% of events are self-produced. From a communication point of view, the building of Hanzas Perons itself is not the brand—its events are. But the principles are notably clear—a modern approach and a new experience (Irbina, interview with authors, 2020). It takes great effort to create a new cultural venue from an old cargo station. “The building and environment provide additional bonuses for the quality of the events, and extensive facilities that are enjoyable to spend time in”, says Lena Ferstere, the leading event producer at Hanzas Perons. She says there are lots of customers who wanted to organise an event at Hanzas Perons when it opened, because it looks beautiful there. For each event, it is technically possible to modify spaces with two detaching walls. Also, during the pandemic, the modular structure of the building and solutions has allowed small-scale events with a high level of artistic value to be organised. For example, the project Pārmija—which involved contemporary art theatre, four shows, circus, dance, concert etc. Contemporary shows, artistic creativity projects, where the architecture of the site and organisers plays an important role. Of course, this all also depends on the support of the owners of Hanzas Perons. (Ferstere, authors’ interview, 2020).

The local community of Hanzas Perons is now a lively one, and in future, it is planned that office buildings will be built; there is also a project in development for a museum of contemporary art. So, the borders of the historical centre of Riga are extended, and the experience of Hanzas Perons serves as a start point for this.

Architecture, events and communication activities have brought high-quality results in terms of informing and educating the public—with more than 15,000 visitors during the first few weeks of opening, and 150,000 annual visitors in total. In a city with around 633,000 inhabitants—33% of the whole country's population (Centrālā Statistikas pārvalde, 2019)—this achievement from a single new cultural venue is remarkable.

5 Conclusion

In the interviews, all the experts mentioned the client or the commissioning party and their understanding and knowledge, as well as determination. Clients, not only architects, builders and managers need knowledge to develop high-quality ideas and projects. According to Reinis Liepins, other contractors could be educated by practical examples of culture-making society better at the national level, focusing on individuals’ development. Private contractors want and are able to realise their ambitions and demonstrate their

capabilities and vision on a wider scale. This then brings financial benefits. If the developer has an understanding of cultural heritage, awareness increases. Nothing can be achieved by pressure alone, but educational activities can help. The client has to understand that people like to live in old buildings. The myth that restoration is more expensive has been created by developers because it does not mean a guaranteed profit (Liepins, interview with authors, 2020).

Architecture and examples of adaptive re-use should be understandable and accessible. The task for architects is to create buildings that are open and socially involved.

The question of the identity of Hanzas Perons and its use in the city's branding still has to be studied in more detail and over the longer term. Two of the interviewees believe that Hanzas Perons is not and will not become the principal creator of Riga's brand identity, but many factors, as well as the architect's opinion, indicate that Hanzas Perons is a significant maker of a sense of place for the local community as well as having returned aesthetic value to an industrial landscape and being a place to experience a variety of cultural and art events. The historical aspects of the Hanzas Perons building combined with the social interactions due to cultural programmes provide unique narratives for the restored building itself. Therefore, Hanzas Perons has the potential to develop the qualities of the city identity in two directions—firstly, as an aesthetic architectural symbol; and secondly, as an intangible attribute—the experience of a cultural venue and events. The geographical aspect of the renovated building extends the area and experience of the city's architectural cultural heritage and provides new opportunities for arts and cultural development, offering renewed cultural heritage along with historical and narrative heritage. However, Hanzas Perons is not yet the principal creator of Riga's identity at an international level.

References

- Anholt, S. (2010). *Places, identity, image and reputation*. New York: The Palgrave Macmillan.
- Boisen, M., Terlouw, K., Groote, P., & Couwenberg, O. (2018). Reframing place promotion, place marketing, and place branding—moving beyond conceptual confusion. *Cities*, 80, 4–11. <https://doi.org/10.1016/j.cities.2017.08.021>.
- Caldwell, N., & Freire, J. R. (2004). The differences between branding a country, a region and a city: Applying the Brand Box Model. *Journal of Brand Management*, 12(1), 50–61. <https://doi.org/10.1057/palgrave.bm.2540201>.
- Campelo, A., Aitken, R., Thyne, M., Gnoth, J. (2013) *Sense of Place: The Importance for Destination Branding*, 53(2), 154–166. Sage Publications.
- Cantoni, V., Dondi, P., Lombardi, L., Nugrahaningsih, N., Porta, M., & Setti, A. (2018). A multi-sensory approach to cultural heritage: The battle of pavia exhibition. *IOP Conference Series: Materials Science and Engineering*, 364. <https://doi.org/10.1088/1757-899x/364/1/012039>.

- Carlson, A. (1999). *Aesthetics and the environment: The appreciation of nature, art and architecture* (1st ed.). Routledge.
- Cassel, S. H., & Pashkevich, A. (2013). World heritage and tourism innovation: Institutional frameworks and local adaptation. *European Planning Studies*, 22(8), 1625–1640. <https://doi.org/10.1080/09654313.2013.784605>.
- Cattaneo, T., Giorgi, E., & Ni, M. (2018). Landscape, architecture and environmental regeneration: A research by design approach for inclusive tourism in a rural village in China. *Sustainability*, 11(1), 128. <https://doi.org/10.3390/su11010128>.
- Chernatony, D. L., & McDonald, M. (2003). *Creating powerful brands, Third Edition* (3rd ed.). Butterworth-Heinemann.
- De Medici, S., De Toro, P., & Nocca, F. (2019). Cultural heritage and sustainable development: Impact assessment of two adaptive reuse projects in siracusa. *Sicily. Sustainability*, 12(1), 311. <https://doi.org/10.3390/su12010311>.
- Dinnie, K. (2011). *City branding: Theory and cases* (2011th ed.). Palgrave Macmillan.
- Douglas, J. (2006). *Building adaptation, second edition* (2nd ed.). Butterworth-Heinemann.
- Fisher, W. R. (1987). *Human communication as narration: Toward a philosophy of reason, value, and action*. University of South Carolina Press.
- Ferstere, L. (2020). In-depth semi-structured interview.
- Hasnain, H., & Mohseni, F. (2018). Creative ideation and adaptive reuse: A solution to sustainable urban heritage conservation. *IOP Conference Series: Earth and Environmental Science*, 126. <https://doi.org/10.1088/1755-1315/126/1/012075>.
- Hjorth, D., & Kostera, M. (2007). *Entrepreneurship and The experience economy*. Copenhagen Business School Press.
- Irbina, I. (2020). In-depth semi-structured interview.
- Liepiņš, R. (2020). In-depth semi-structured interview.
- Kavaratzis, M., & Ashworth, G. J. (2006). City branding: An effective assertion of identity or a transitory marketing trick? *Place Branding*, 2(3), 183–194. <https://doi.org/10.1057/palgrave.pb.5990056>.
- Kavaratzis, M., Warnaby, G., & Ashworth, G. (2015). *Rethinking place branding. Comprehensive brand development for cities and regions*. Springer.
- Klingmann, A. (2008). Brandscapes: Architecture in the Experience Economy. *Architectural Theory Review*, 13(1), 123–124. <https://doi.org/10.1080/13264820801918363>.
- Kee, T. (2019). Sustainable adaptive reuse—economic impact of cultural heritage. *Journal of Cultural Heritage Management and Sustainable Development*, 9(2), 165–183. <https://doi.org/10.1108/jchmsd-06-2018-0044>.
- Khair, M. (2017). *Culture and commerce: The value of entrepreneurship in creative industries* (1st ed.). Stanford Business Books.
- Kotler, F., Haider, D. H., Rein, I. (1993) *Marketing places. Attracting investment, industry, and tourism to cities, states, and nations*. New York: The Free Press.
- Lecic, N., & Vasilevska, L. (2018). Adaptive reuse in the function of cultural heritage revitalization.
- Merlino, K. R. (2018). *Building reuse: Sustainability, preservation, and the value of design (sustainable design solutions from the pacific northwest)*. University of Washington Press.
- Mine, T. Z. (2013). Adaptive re-use of monuments “restoring religious buildings with different uses.” *Journal of Cultural Heritage*, 14(3), S14–S19. <https://doi.org/10.1016/j.culher.2012.11.017>.
- Number of population in cities and counties of Latvia. (2019). Centrālā Statistikas Pārvalde. <https://www.csb.gov.lv/en/statistics/statistics-by-theme/population/number-and-change/key-indicator/number-population-cities-and-counties>.
- Pearson, D., & Pearson, T. (2016). Branding food culture: UNESCO creative cities of gastronomy. *Journal of International Food & Agribusiness Marketing*, 28(2), 164–176. <https://doi.org/10.1080/08974438.2015.1035472>.
- Relph, E. (1976). *Place and placelessness*. Poin Limited.
- Towse, R. (2010). *A textbook of cultural economics* (1st ed.). Cambridge University Press.
- Tanac, ZM., (2013). Adaptive re-use of monuments “restoring religious buildings with different uses. *Journal of Cultural Heritage* 14S S14–S19. <https://doi.org/10.1016/j.culher.2012.11.017>.
- UNESCO World Heritage Centre. (2020). *Historic centre of Riga*. <https://whc.unesco.org/en/list/852>.
- United Nations. (2008). UN creative economy Report 2008 (ISBN 978–0–9816619–0–2). https://unctad.org/system/files/official-document/ditc20082cer_en.pdf.
- Vladimirovs, A. (2017). The 20th anniversary since the historic centre of Riga has been included in the UNESCO World Heritage List, December 15. RDPAD. <https://www.rdpad.lv/en/the-20th-anniversary-since-the-historic-centre-of-riga-has-been-included-in-the-unesco-world-heritage-list/>.
- Zvirgzdiņš, A. (2019). In-depth semi-structured interview.



Reforming Significance of Historic Buildings with Energy Efficiency Studies: Methodological Framework for Indo-Saracenic Buildings in Jaipur, Rajasthan

Shweta Choudhary, Satish Pipralia, and Nand Kumar

Abstract

In today's globalized world, when the architecture fraternity is posed with dilemmas of choosing between technology and technique, global and vernacular, applied or abstract, questioning the significance of heritage structures, historical knowledge, and its applicability for the future has become even more felicitous. The paper attempts to underscore the neglect and forward the need to recognize the adaptive and re-established use of the architectural heritage with the energy efficiency studies and substantiates the case with a particular focus on a survey conducted for Indo-Saracenic buildings. The paper is a part of research work that aims to assess the energy efficiency of Indo-Saracenic buildings in Jaipur, Rajasthan. The study works with a hypothesis that the historic buildings were designed with considerations to the local climatic conditions, and this parameter largely contributed to the development of the typical elements of a historical architectural style. The framework of the methodology was developed and proposed for a detailed analysis of these buildings as examples of energy-efficient and climate-friendly designs. Further, the paper highlights the methodological framework formulated for a detailed analysis of the historic design elements utilizing presently available advanced research and simulation tools. Thus re-establishing the relevance of landmark historic buildings. This paper also highlights the historical status of Indo-Saracenic style in Indian architectural history demanding policy intervention toward heritage status and conservation strategies for these historic buildings in

the public domain, which is still functional for the society as well as vital for non-monumental heritage assets.

Keywords

Historic buildings • Indo-Saracenic architecture • Energy efficiency • Heritage reform • Methodological framework

1 Introduction

The need to minimize energy expenditures and greenhouse gas emissions is rising in modern times. As an integral part of the built heritage, we must properly maintain the historic building stock as a rich cultural and material resource for the benefit of current and future generations. At the same time, the vast use of historic buildings in the public domain contributes to a significant portion of society's energy utilization. As a result, there is a need to discover solutions to balance the demands of both building and energy saving at the same time. In the domain of energy efficiency of a historic building, numerous efforts are being made across the world. European countries with the maximum historic building stock across the globe have been working intensively in the field. They have created standards for enhancing the energy efficiency of historic buildings that are methodical and multidisciplinary (Vieites et al., 2015). Both the presence of static and historical restrictions need careful design and definition of historic building analysis and adjustments, as well as for their present use, its energy requirements for operational, and maintenance purposes along with the attached cost and environmental impacts (Fouseki & Cassar, 2014).

For the parts of the globe, with tropical and temperate climates these structures are great protective shelters from the harsh heat and light. The design elements are noted examples of climate-responsive building parameters by various scholars (Cardinale et al., 2013; Gopalakrishnan &

S. Choudhary (✉)
Faculty of Architecture and Planning, Vivekananda Global
University, Jaipur, Rajasthan, India
e-mail: shweta.choudhary@vgu.ac.in

S. Pipralia · N. Kumar
Department of Architecture and Planning, Malviya National
Institute of Technology, Jaipur, Rajasthan, India

Subbaiyan, 2012). Inspired by Fathy (1986), when he says, “Now is the time to bridge the gap, by evaluating traditional approaches scientifically; before they are discarded, or substitutes proposed”, the paper summarizes the study conducted on energy efficiency assessment of Indo-Saracenic, public buildings in Jaipur city lying in the composite climatic region of India.

In conclusion, the paper proposes to utilize the results of the study to formulate guidelines for improved usage of these heritage structures for contemporary activities and for enlisting design guidelines for energy-efficient public buildings in the region.

1.1 Indo-Saracenic Architecture

Because of the fusion of local and foreign influences, the architecture of colonized nations has developed in a unique way, resulting in a new discourse of architecture in a short period of time. The bungalows, barracks, institutional, and technological infrastructure of British colonial architecture in India were originally designed to support the colonial administration’s daily operations and the demands of both “local” and “European” personnel who served in its civilian and military divisions (Gupta, 2010).

The uprising of 1857 was a turning point in a century of British rule in India, and it had a tremendous influence on the monarchy’s ethos. The Governors made a politically aware use of architecture from then on. The structures were intended to make an impact on both the Indian populace and the European nations that bordered them (Metcalf, 1989). There were various schools of thought as to the appropriate style to be adopted for this period. One school believed that the western architectural styles were the most fitting since these were assumed to be far more superior stylistically and artistically to the local Indian building traditions. There was another strong sentiment prevalent among a section of the British officers that a revival of the Indian crafts tradition was needed. By allowing the Indian craftsmen to use and develop their skills further, a crafts revival could be initiated, hence adopting a local style was appropriate. The clash of ideologies introduced a new form of buildings, belonging neither to the past of either Britain or India, but a blend of the two. The intention was to create a contemporary architecture with a difference, using the best technology and “superior” planning of the West, with the local crafts and traditions of India (Havell, 1912).

Many ancient monuments around the nation were built using a hybrid style that combined Hindu and Mughal architectural components with Gothic cusped arches, domes, spires, tracery, minarets, and stained glass in a stunning, almost whimsical manner. New building typologies like townhouses, schools, museums, hospitals, guest houses, and

theatre, which was a western concept, were injected into the social and architectural fabric of the subcontinent by the British and the then Indian rulers having a fondness for the “progressive” culture of the West. Many such buildings have become an integral part of the urban fabric of many cities in India like Mumbai, Chennai, Calcutta, Jaipur, and Shimla, just to name a few. Countless examples of these structures are still in use as public buildings, in many cities, smaller towns, and settlements across India, where time and familiarity have woven them into the local fabric of the place. In recent studies, the exports of the architectural forms to colonial India and debates of “modern” Britain, and its ideological economy are relatively well studied. However, the actual buildings of this colonial architecture and their reception and inhabitation in the contemporary context have not received the equal attention required to fully appreciate the significance of this built legacy (Prakash & Scriver, 2007).

1.1.1 Rajpootana: The Princely State and Its Pink City Jaipur

Jaipur is the state capital and largest city of the state of Rajasthan, today. Found in 1727 by the Rajput ruler Jai Singh II (Chisholm, 1882), the ruler of Amer, after whom the city is named, Jaipur is well known as the earliest planned cities of modern India, designed by Vidyadhar Bhattacharya (Vibhuti & Tillotson, 2002). The town served as the capital of Jaipur province during the British colonial period, and following independence in 1947, it was named the capital of the newly established state of Rajasthan.

Jaipur is located at the geographic coordinates of 26.1’ 36”N latitude and 75.4’32”W longitude and has a typical composite climate. Incepted in semi-arid lands at the foothills of the Aravali ranges, the city is surrounded by hillocks on two sides and desert on the fourth side. The local stone available from the surrounding has been the primary building material for all historic buildings. Jaipur is a renowned tourist site in India, and together with Delhi and Agra, it is part of the west Golden Triangle tourism circuit (Grimes, 2007). The city houses two UNESCO World Heritage Sites—the Jantar Mantar and the Amer Fort. Recently, the city itself has been identified as a UNESCO World Heritage Site. Figure 1 displays the chronological development of architecture in Jaipur.

Based on the extensive literature available on the city’s social history (Giles 1994, Hendley, 1883, Swinton, 1890, Sachdev, 2005) and the references by various local people, it was possible to have a general overview of Jaipur’s Indo-Saracenic building typology and corresponding construction systems. This background material was supplemented by an examination of accessible paperwork with state authorities, as well as data gathered during the primary survey and fieldwork conducted for the study project.

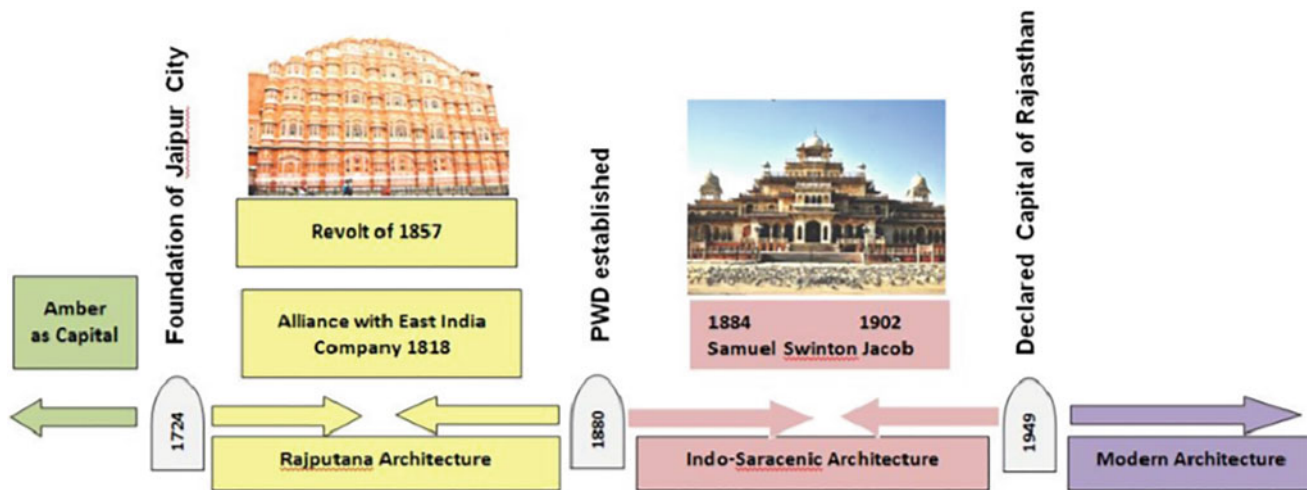


Fig. 1 Chronological development of architecture in Jaipur

A notable lack of literature on the architectural details and the construction practices was a major hindrance to the data collection of this vast tangible heritage. This highlights the neglect of the architectural asset as a source of historical knowledge.

The traditional buildings that exist today as Jaipur's Indo-Saracenic built stock have been constructed over a hundred years back, between 1880 and 1930. The structures can be briefly described as huge public buildings with a rigid geometry in shape and form but carrying intricate articulated features as aesthetic elements attached to the basic building geometry. As typical architectural elements, they have flat roofs, two (G + 1) floors, floor-wise symmetrically arranged windows, ashlar masonry exterior walls, introvert arcades and courtyards, lime plaster, and stone finish interior spaces.

The different excerpts from literary writings indicate the development of public architecture during the identified period in history. Distinct references to the amalgamation of local and British ideas of making buildings are found (Hooja, 2006). Thus, it can be concluded that the colonial period, markedly from 1880 to 1935, was a period of Indo-Saracenic evolution in Jaipur. The intent and involvement of local rulers in the development of these buildings is a noticeable contribution as one of the positive impacts of colonial rule in the country.

As per a policy decision after independence and with the establishment of the Rajasthan state government in 1947, the ownership for most of the buildings is with the local government, particularly in the case of public buildings. The style of architecture remarked to be "modern" in its context poses to be an intriguing subject of study, especially with the introduction of a vocabulary of public buildings to the social and architectural fabric of the city. As is the case for most of the Indo-Saracenic buildings, the documented usage of the identified buildings with their original purpose for

construction reveals the continuous use of these buildings for the same purpose under the public domain for almost a century now.

The renowned and notified heritage zone, the walled city of Jaipur, comprises a typical traditional fabric belonging predominantly to the Rajput style of architecture, as various parts were built in phases before 1830. Enlisting of protected monuments as per the ASI list or the heritage listing by the local government has limited the scope for buildings under these lists. Also, focusing on heritage primarily concerning tourism, as part of the recently developed Jaipur heritage management plan has further limited the listing of buildings under the heritage protection.

Most of the Indo-Saracenic buildings, despite their historical references, heritage values, and significance as critical public buildings are not found as a part of the protected buildings list or as part of the heritage management plan, Jaipur (Jaipur master plan). The owners' expenditures in refurbishing or refit, along with the normal piecemeal approach to extension or user-specific adjustments to the structures, reveal evidence of physical deformation, loss of character, or non-usable places in the premises. Thus, the stock of Indo-Saracenic buildings, mostly non-monumental heritage-built stock, needs a different perspective toward their significance assessment. Also, owing to their vast continuous usage as public buildings, one needs specific parameters for grading this built stock in comparison to the existing policies and guidelines which primarily focus on tourist-friendly and monumental buildings.

Most of the Indo-Saracenic buildings are constructed in exposed ashlar stone masonry, except for the structures found in the walled city area, which are in coherence with the typical plaster and paint finish of Jaipur pink color and white line artwork in geometrical patterns adorning the façade. The exposed ashlar stone masonry work using the

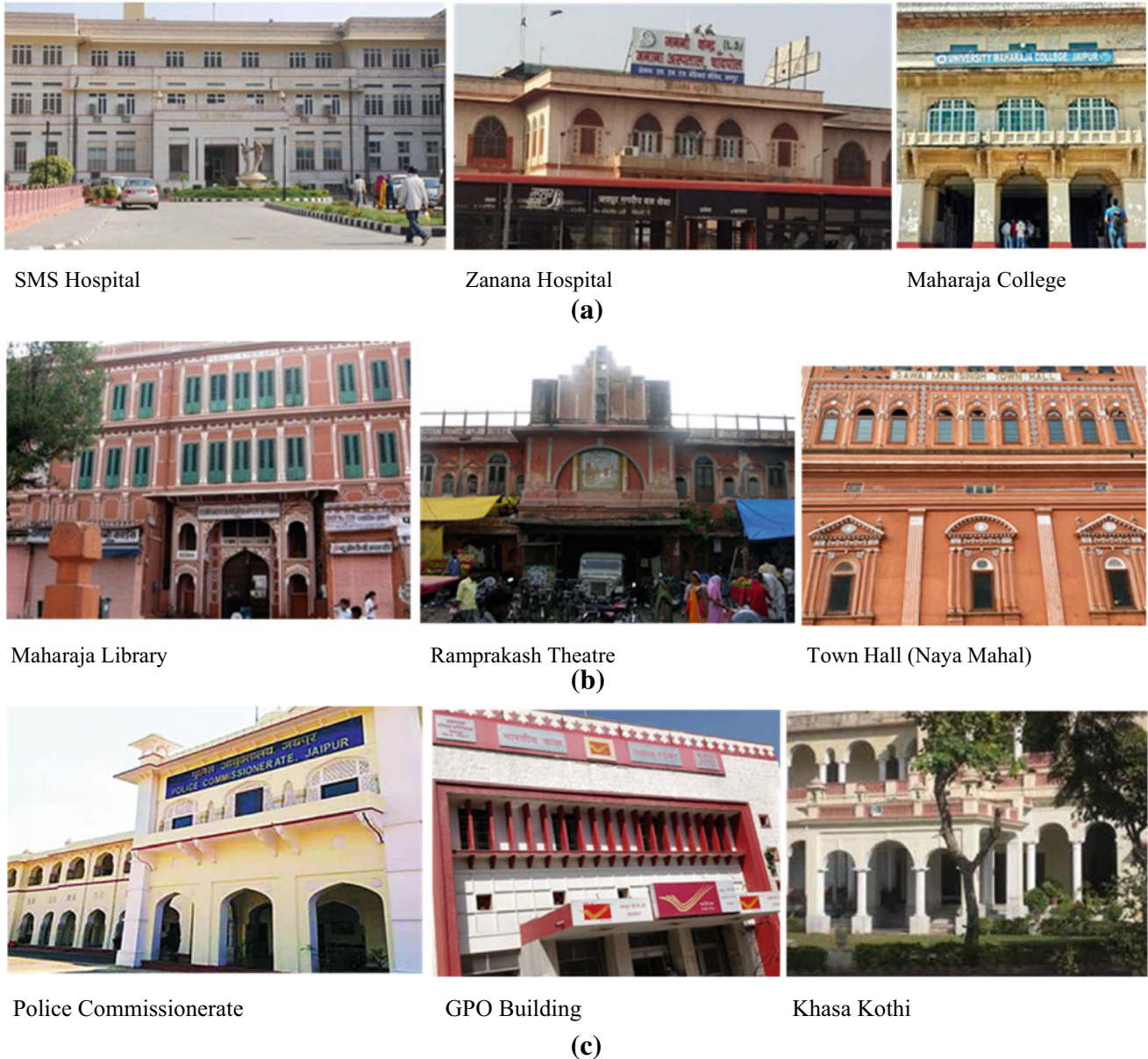


Fig. 2 a Indo-Saracenic buildings in Jaipur with original exposed stone ashlar masonry façade b Indo-Saracenic buildings inside walled city area with typical façade characteristics c Indo-Saracenic buildings with painted façades

available local stone from the nearby Aravali ranges gives a typical pinkish beige color to the building facades, incoherence to the low absorbing attributes of the façade, as seen in Fig. 2a. The monotony of the continuous stone masonry in the façades is broken by contrasting colors of the opening frames and shutters, as seen in 24.2b. As per restoration or maintenance activities taken up during recent times, the façades of some of the buildings have been painted in white or pale-yellow color, altering the typical aesthetic characteristic of these buildings, permanently, as seen in 24.2c.

As referenced from literature and based on a primary survey conducted, it is well established that Indo-Saracenic

buildings were formed as a mix of features from various local styles and the then prevalent European architectural forms. Thus, Indo-Saracenic buildings form an architectural language of their own in a region.

The identified regional characteristics ought to be the focus of detailed audits where they are documented and analyzed in detail to identify them as typical regional heritage characteristics or energy efficiency parameters of the study. The significance assessment chart, formulated as part of the research methodology, is a proposed format to understand the importance of Indo-Saracenic buildings, develop a significance grading of the individual structures,

and further identify a sample to analyze the typical building design elements for their contribution to energy efficiency. The proposed framework of the methodology is the basis of the study conducted on the Indo-Saracenic buildings of Jaipur, Rajasthan, and can further form a base to recommend study, focused on identifying the stock and detailed analysis of these buildings, in different regions of the country.

2 Energy Efficiency Studies for Historic Buildings

Current national and international imperatives to minimize greenhouse gas emissions have prompted significant attempts to create criteria for a new energy-efficient building, according to several literature resources accessible. At the same time, efforts have been made to understand and refurbish “existing” buildings to render them energy-efficient. In recent years, it has been well identified toward exploring and achieving energy efficiency in historic buildings. Efforts have been made across the world to assess and improve the energy consumption in buildings, new, existing as well as historic built stock. Energy consumption and production patterns in India are even more demanding, necessitating a greater commitment to energy efficiency in all sectors, particularly commercial buildings.

For all the energy efficiency targets to be fulfilled across the globe, the historical heritage has a considerable share. It is necessary to examine two alternative points of view. Historic structures, on the one hand, symbolize the “genius loci” culture and practice. As a result, there is a prevalent conservatism. On the other hand, in certain nations, such as Italy, India, Spain, the United Kingdom, France, and Egypt, they account for a significant portion of the overall building stock. As a result, comparing their energy usage, the true impact on overall consumption, and the rising need to cut or control it must be appreciated (Elenaa et al., 2017).

It is widely acknowledged that, as fast-developing economies, energy consumption and production patterns in third-world countries such as India are more demanding than in industrialized countries. According to Balaras et al. (2004), buildings account for 30–40% of global energy use and 30% of CO₂ emissions. Without specific sectoral policies for the Indian building sector to curb energy use, due to strong expansion in wealth and population, India’s ultimate energy consumption is predicted to increase fivefold by the end of this century (Chaturvedi et al. 2014). In this sense, the construction industry is a critical instance since it accounts for around 40% of non-renewable energy use (Pachauri RK, 2014). Furthermore, some ongoing studies have shown that

upgrading the building envelope can reduce CO₂ emissions by more than 55% (Trois, 2014).

Geographical location, temperature, building type, and materials used all influence the adoption of energy efficiency methods and technologies in buildings. In addition, industrialized and developing nations employ various energy-saving technology. There is a distinction between old and new buildings in terms of grading methods. Different criteria are used in each scenario to measure and improve building energy performance. As a result, different energy regulations for building energy efficiency have been implemented by different countries. Various organizations and governments throughout the world have lately issued standards and laws regarding historic building energy efficiency.

In 2012, the International Council on Monuments and Sites (ICOMOS) established the International Scientific Committee on Energy and Sustainability (ISCES) to improve the conservation and protection of heritage places by applying sound-based energy conservation and sustainable development principles to heritage places.

American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) has recently published the handbook as guidelines for energy efficiency assessment of historic buildings, adding to its existing information and materials related to existing buildings (ASHRAE, 2019). As stated by the ASHRAE handbook, the methodology for assessing and achieving energy efficiency in historic buildings should be based on an interdisciplinary approach (Santoli, 2014).

Energy efficiency in ancient buildings is a delicate problem, according to several scholars. Cultural heritage preservation and energy conservation are critical concerns not only for Europe and the United States, where the majority of these works are documented, but for the entire world, and coordinated government action is noteworthy (Andaloro et al., 2010; Vissilia, 2009). To date, the approved answer for determining whether a historical (i.e., protected) property undergoing some refurbishment must comply with energy efficiency criteria has been the derogation regime to national trans-position regulations. The disconnect between building preservation and energy efficiency is a government-wide issue since cultural heritage policies are not included in energy efficiency objectives and charters; hence, the government cannot directly control any national cultural heritage policy. The guidelines on energy efficiency, materials, and other items, on the other hand, may have a significant impact on the preservation of architectural heritage. A guideline and future rules developed by the national authorities responsible for cultural heritage might be one way to break the deadlock. It may be able to better orient

policy toward energy performance evaluations and energy retrofit of historic/historical buildings as a result of this effort (Mazarella, 2014).

3 the Methodological Framework

The literature largely identifies the need to understand and take into consideration the typical design parameters of a historic style as an integral part of the style giving it an identity aesthetically, thus contributing to its significance in the local architectural fabric of a place (Mazarella, 2014; Dabaieh, 2014). To achieve the identified objectives, extensive surveys to document Indo-Saracenic buildings and a system for evaluating the energy efficiency of these structures have been created. The method interlinked the fields of identification and documentation of these heritage buildings as per their original and present usage, processes, and tools identification for conducting energy efficiency assessment while balancing envelope behavior, user perception, energy consumption, and available technical know-how. It was possible to empirically identify energy-efficient building envelopes and the most feasible and effective measures applicable to the specific cases by applying the identified process to the results of the dynamic simulations, and these can also apply to similar heritage buildings located in the climatic zone.

The study was mainly divided into three parts:

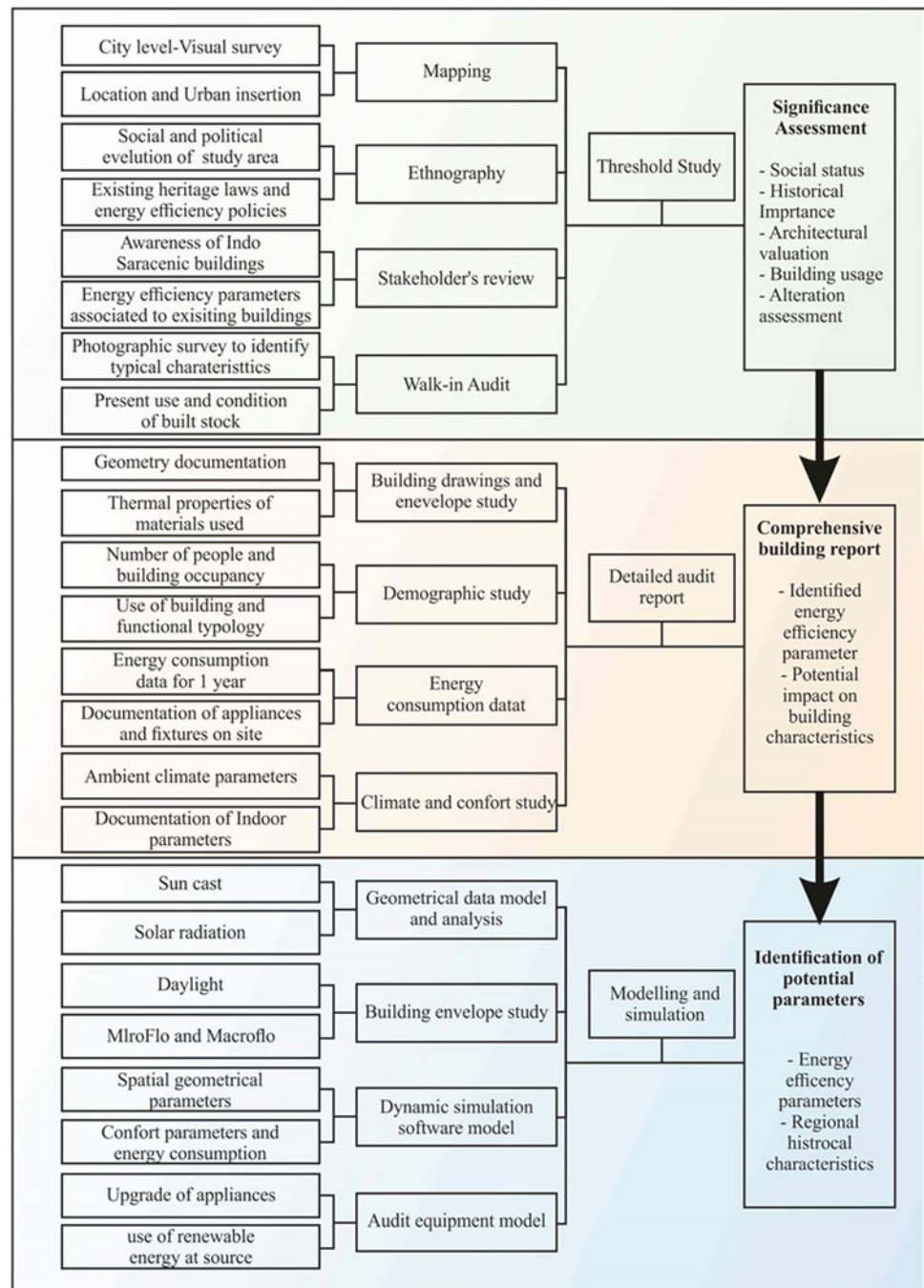
- The first phase included background research, data collecting from a variety of primary and secondary sources, and a literature evaluation, concluding with the characterization and acknowledgment of Indo-Saracenic built stock in India, identifying parameters of study for energy efficiency in historic buildings, and understanding various associated tools and techniques. This part of the study focuses on energy efficiency works related to heritage buildings across the globe and the status of the domain in India through various literature references and interviews with experts, concluding in methodology definition and identifying process and parameters of the study and documentation of Indo-Saracenic built stock in Jaipur with a methodological framework developed for a detailed study of identified population and sampling for case studies.
- The second part focused on the case studies, including primary surveys related to building documentation, occupancy, and electrical data collection. Study of Indo-Saracenic buildings in Jaipur, including methodically substantiating heritage significance of buildings and identifying typical design characteristics. Energy efficiency studies including envelope study through thermal imaging and detailed documentation regarding literature. Survey results from the research area and the detailed audit report of identified case studies are also documented as part of this section.
- The third part concludes with the modeling and simulation processes, validating the energy efficiency of the buildings using dynamic simulations and determining the most effective parameters contributing to the energy efficiency of Indo-Saracenic buildings in Jaipur. The simulation processes also include the study of indoor environment parameters alongside a discussion of the obtained results with reference to the literature.

Typical issues related to the Indo-Saracenic buildings owing to their long-continued use, the heritage laws and energy efficiency policies in India, and public usage of these buildings were also taken into consideration as typical parameters for the Indian scenario. The methodology thus formulated as an outcome of literature review has been discussed in the next section, and further utilized as a part of the research work taking Indo-Saracenic buildings in Jaipur as a pilot study demonstrating the validity of the proposed framework. The proposed methodology can be applied to conduct an energy efficiency assessment of the Indo-Saracenic buildings across various climatic regions of identified cities as demonstrated. Fig. 3 shows the flowchart displaying the proposed and demonstrated methodology.

The processes identified and adopted for energy studies as part of the research work have been discussed in Fig. 3. It was also identified that past energy bills for a year when studied concerning the climate of a place reveal a close association between the two factors. Also, as identified in the detailed survey and indoor thermal data logging, the energy consumption is seen to be hugely related to the indoor temperature conditions which can be altered by passive means involving human intervention like promoting natural ventilation. The energy consumption can be further reduced using renewable energy sources and technological up-gradation of electrical fixtures and appliances. Thus, as discussed in Fig. 4, it can be concluded that the energy performance of a building is vastly related to human behavior, occupancy, and schedules of use.

The widely accepted benchmark for energy efficiency, Energy Performance Index (EPI), for commercial buildings as notified for India by BEE also takes into consideration the climatic zones and building usage and is dependent on total energy consumption with the area of the building. As understood by the research work conducted, the human

Fig. 3 Framework for energy efficiency assessment of Indo-saracenic buildings in India



behavior and occupancy which is directly related to the number of people using the building also form an important parameter influencing energy consumption and thus ought to be considered as a factor for establishing benchmarks for commercial buildings like these, where the number of users is large and relation to the building area and the number of users is dependent on the building design considerations.

A **comprehensive building** report has been proposed and demonstrated as part of the study to identify control

parameters based on the **interaction of the building design elements with the historic significance of the building style**. The comprehensive building report facilitates the auditor to identify the most favorable, adversely affecting, and neutral parameters, which can be further analyzed by advanced simulation software.

Systematic study at various stages has been conducted to identify the potential features contributing to the energy efficiency of the Indo-Saracenic buildings, as depicted in Fig. 5.

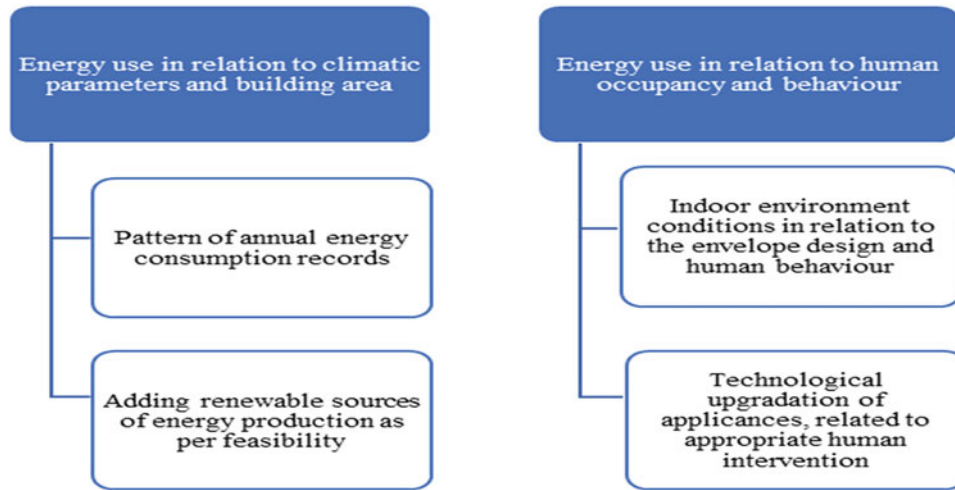


Fig. 4 The processes of energy efficiency studies implemented as part of the research work

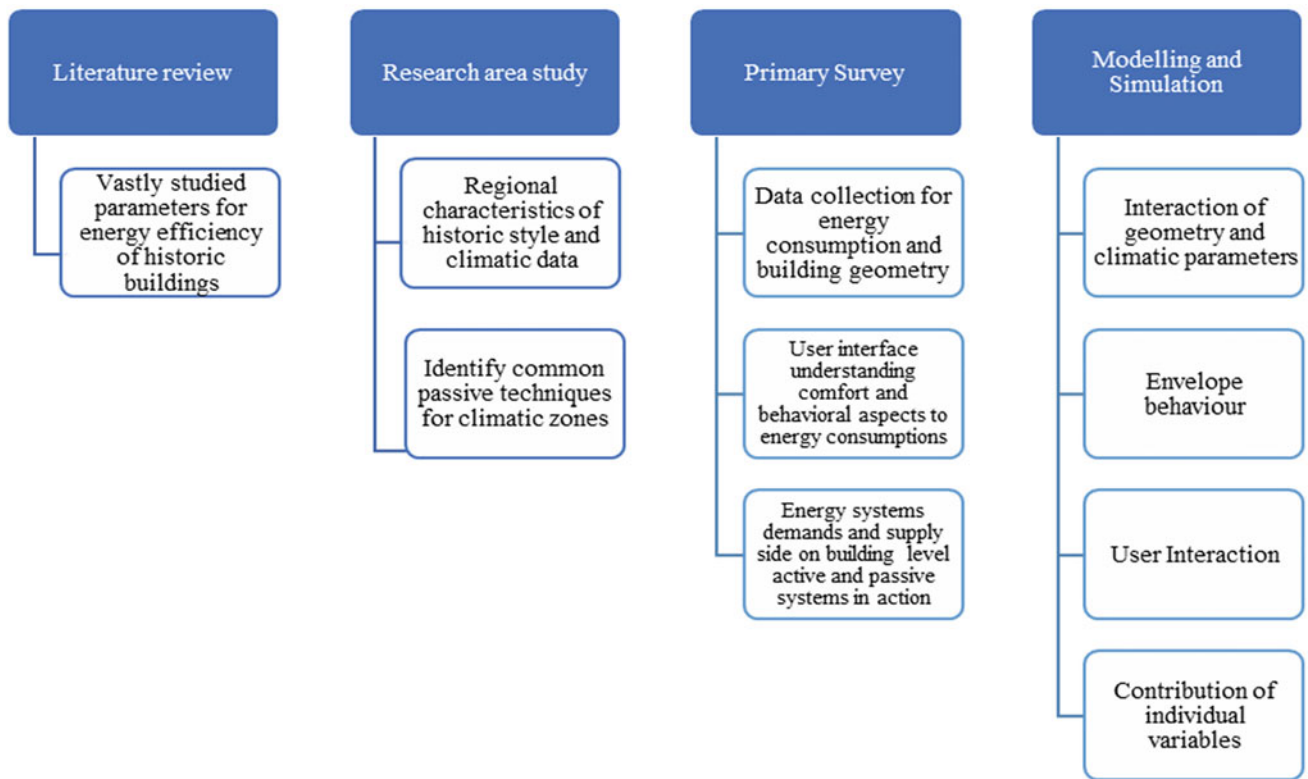


Fig. 5 Various parameters contributing to energy efficiency

4 The Case of Indo-saracenic Buildings in Jaipur, Rajasthan

Indo-Saracenic buildings have been a major influencing factor and have played an integral part in the formation of “Modern” Indian architecture. Spread across the country, the style has produced many dominant, impressive examples.

All major cities of the country have a considerable impact on Indo-Saracenic public buildings on the architectural character of the cities. Most of these buildings house essential government offices and public buildings and are functional historic assets in the heart of the cities, and thus stands a justified need to acknowledge the importance of this vast built stock and also develop studies related to these buildings in light of contemporary practices.

According to a large body of literature from European countries, older buildings consume more energy as cooling loads than new ones, and numerous environmentally friendly retrofit methods should be implemented to close the difference. Indeed, a rising number of national and European research initiatives are targeted at establishing comprehensive decision-making frameworks that will assist professionals in determining the best options for improving and meeting building energy efficiency benchmarks. Furthermore, these initiatives recognize the important necessity to include heritage values into environmental sustainability programs, a requirement that has recently been widely highlighted in the literature (Giuliani et al., 2016; Sesana et al., 2015; MacDonald & Laustsen, 2013; Magrini et al., 2015).

Further, taking into consideration the contribution of most of the Indian studies, it is well established that the vernacular, traditional, and historic buildings across the state of Rajasthan are climatically adapted and incorporate passive strategies, use native materials for achieving thermal comfort indoors, which could further make them energy-efficient, and thus lies a source of learning for future building designs (Agarwal, 2007; Ganguly, 2015; Bahadori, 1979).

An extensive amount of research has been carried out to study the relationship between climatic factors, occupant comfort perspectives, use of energy-efficient materials, appropriate building design, and sources of energy consumption in buildings. Their influence on the energy consumption patterns in buildings is being studied in many contemporary and being built buildings. However, only recently, studies have been taken up to capture this influence exclusively for traditional built form. Moreover, factors such as climatic parameters, cultural, and social values render a stronger influence on buildings of the past.

The available literature also identifies the association between the building envelope, thermal mass, facade characteristics, void to solid ratio, and energy requirements in buildings. It has been discovered that buildings designed taking these factors into consideration display lower levels of energy consumption. Various simple calculations, statistical tools, machine tools, and building modeling simulation software can be used for the analysis and to conduct further detailed studies aiming at findings that can lead to practical implementations (Choudhary et al., 2019).

The study conducted with Indo-Saracenic buildings in India as a case study highlights convincing findings toward reforming the significance of historic built stock by energy efficiency studies. Identifying the most effective parameters of a historic architectural style and understanding their contribution toward energy efficiency has been explored as an important step toward adding and continuing with their heritage significance in the present times. The prospects and

outcomes from understanding the importance of these measures at the local area level are found to be substantial as most of the features are designed as per the regional climatic and social factors. The study indicates the need to critically work on preserving the character of these buildings in Jaipur and India. The timely analysis further supports continued usage of these heritage properties in the public domain as examples to learn important design elements from and as working models of large buildings functioning in an energy-efficient way as compared to their contemporary counterparts (Choudhary et al., 2018).

As displayed in Fig. 6, plausible guidelines as an outcome to the study can be identified for two main domains of influence: the existing Indo-Saracenic built stock of India and for the new public buildings to be constructed in composite climate zone.

5 Conclusion

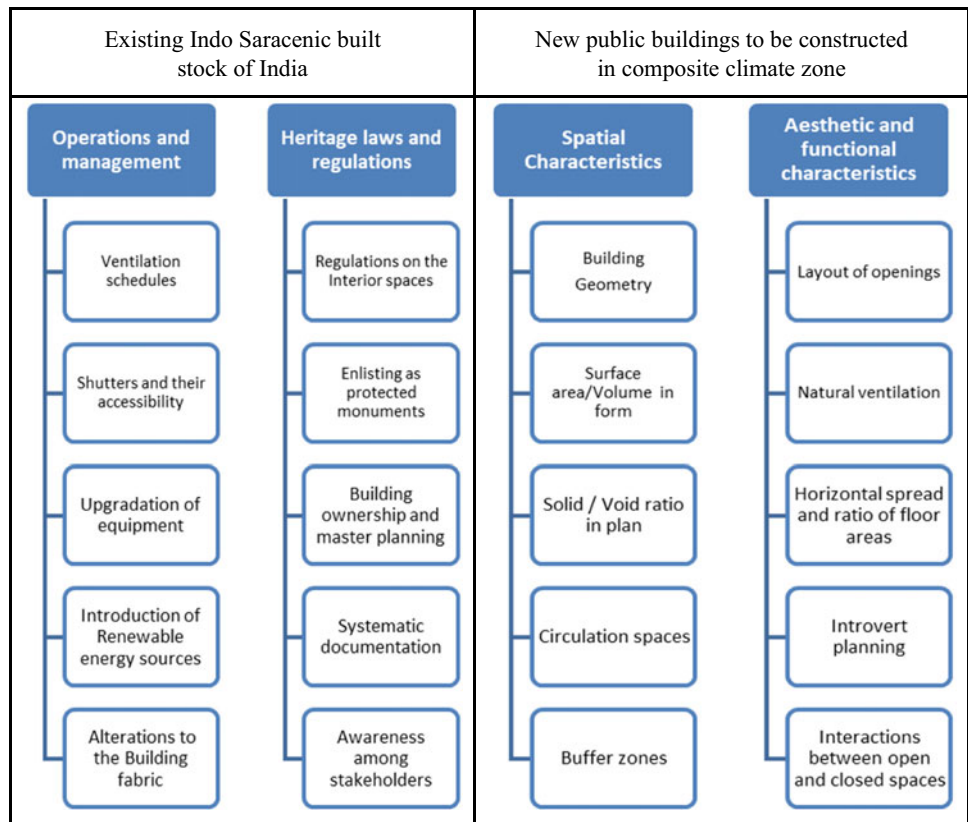
Built history is a critical resource for a sustainable planet, and it must be incorporated into modern life. Simultaneously, reducing energy use in the public sector is a strategic step to combat global climate change. This second need must be met without jeopardizing the first. The study's primary premise is to promote the energy-efficient building envelope as a strategy for a sustainable urban environment by striking a balance between these two features.

Overall, numerous literature sources are beginning to point to the need to encourage more integrated methods to cultural structure preservation that take into account energy efficiency. Simultaneously, these techniques must be less rigid and take into account the unique characteristics of local and regional styles. The findings of the study support the vision and demand policy suggestions for improving the energy efficiency of modern buildings by drawing on traditional knowledge particular to a region and learning from the architectural heritage.

It was identified and well concluded that the architectural character, scale, and location of Indo-Saracenic buildings make them an integral part of many Indian cities' aesthetic and social character. Many cities in the nation, such as Hyderabad, Jaipur, Agra, Lucknow, Kolkata, Mumbai, and others, owe their fame and growth to town regions or historic centers. The Indo-Saracenic structures are symbols of these towns, contributing significantly to their economic well-being and tourist appeal. As a result, examining them for current construction standards and upgrading them is an important component of these civilizations.

It was found that many literature findings and reviews report historic buildings as non-energy efficient, and most of the research works were focused on refurbishment, renovation, or alterations toward complying with the energy

Fig. 6 Possible guidelines that can be formulated from the study



efficiency benchmarks. The study and the fieldwork conducted regarding energy efficiency analysis of Indo-Saracenic buildings prove this knowledge gap. In tropical climate zones, and especially in hot weather places, building acts as a shelter from high temperatures and helps to reduce the heating loads, thus contributing to the energy efficiency parameters. This points to the inadequacy of research work in the domain for the identified climatic regions and seeks technical up-gradation for applying current standards and energy calculation methods to heritage buildings of tropical climate zones.

The present usage of these buildings is identified as administrative and public zones, which constitute a significant portion of the cities' total energy demand. With detailed analysis and improved mechanisms, they can significantly contribute toward achieving the energy goals of the country and controlling the amount of CO₂ emissions in the heart of crowded and polluted city centers. The architectural qualities of these ancient structures, which were built in a different age with diverse technology inputs and climatic circumstances, present unique difficulties and elements for research. Furthermore, they were not built using today's widely praised accessible materials and technology that were designed expressly for attaining improved energy efficiency. Furthermore, when interventions affect not only the original

look but also the general character of the structures, historic regulations for protection play a significant role.

These historically significant structures that are not heritage listed (i.e., not formally protected) are frequently compared to extant structures and subjected to their energy needs. There is a lack of a defined protocol targeted at offering well-balanced solutions for the energy efficiency renovation of ancient buildings in India in the existing state of norms and guidelines. The heritage values, climate adaptations, and passive design methods of a variety of vernacular and traditional structures from around the country have all been investigated. Scholars working on Indian historic architecture have yet to fully examine the recently recognized topic of improving energy efficiency in structures and therefore decreasing environmental impact.

Lack of updated primary documentation and stock recordings are required as necessary information to conduct a detailed assessment of the building. Alterations to the building and the introduction of electrical appliances to the building have mostly been unplanned and done with piecemeal strategy as per immediate requirements without taking into consideration the original character of the building. The findings of such studies relating important parameters influencing energy efficiency, considering heritage values can help to prepare a master plan vision for the precinct.

Acknowledgements The work discussed in the paper is a part of a study conducted during doctoral research studies at the Department of Architecture and Planning, Malviya National Institute of Technology, Jaipur, Rajasthan, India.

References

- Agarwal, A. (2007). Shekhawati-panorama of haveli architecture, A+D, 7(1), 26–32.
- Andaloro, A. P. F., Salomone, R., Ioppolo, G., & Andaloro, L. (2010). Energy certification of buildings: A comparative analysis of progress towards implementation in European countries. *Energy Policy*, 38(10), 5840–5866.
- ASHRAE Guideline. (2019). *Energy Guideline for Historic Buildings*, American Society of Heating, Refrigerating and Air-Conditioning Engineers Inc: Atlanta. GA.
- Bahadori M.N. (1979) Natural cooling in hot arid regions, in solar energy application in buildings. In: A.A.M. Sayigh (Eds.), (pp. 195–225). , New York: Academic Press.
- Bararas, C., et al. (2007). European residential buildings and empirical assessment of the Hellenic building stock, energy consumption, emissions and potential energy savings. *Building and Environment*, 42(3), 1298–1314.
- Cardinale, N. G., & Rospì, P. S. (2013). Energy and microclimatic performance of mediterranean vernacular buildings: The sassi district of matera and the trulli district of Alberobello. *Building and Environment*, 59, 590–598.
- Chaturvedi, V., Eom, J., Clarke, L. E., & Shukla, P. R. (2014). Long term building energy demand for India: Disaggregating end use energy services in an integrated assessment modelling framework. *Energy Policy*, 64, 226–242.
- Chisholm, R. F. (1883), A New College for the Gaekwar of Baroda-!'. Ed 33, TRIBA.
- Choudhary, A. S., Pipralia, D. S., & Kumar, D. N. (2018). Energy efficiency assessment of Indo-saracenic buildings in India. In *The 3rd International Conference on Energy Efficiency in Historic Buildings (EEHB2018)*, Visby, Sweden, September 26th to 27th, 2018. (pp. 199–206). Uppsala University.
- Choudhary, S., Kumar, N., & Pipralia, S. (2019). Old buildings, New aspirations: The future of heritage in the era of sustainability—The scenario in Rajasthan. *Journal of Emerging Technologies and Innovative Research (JETIR)*, 6(5), 40–47.
- Dabaieh, M. (2014). *Energy efficient design strategies for contemporary vernacular buildings in Egypt*. In International Conferene on Vernacular Heritage and Earthen Architecture: Contributions for Sustainable Development (p. 599). Taylor & Francis Group.
- Elenaa, C., Mariellaa, D. F., & Fabioa, F. (2017). Energy resilience of historical urban districts: A state of art review towards a new approach. *Energy Procedia*, 111, 426–434.
- Fathy, H. (1986). *Natural energy and vernacular architecture: Principles and examples with reference to hot arid climates* (Ed. 1), Chicago: University of Chicago Press.
- Ganguly, R. T. (2015). Role of vernacular architecture of India in green building design—A case study of Pauni. *International Journal on Recent and Innovation Trends in Computing and Communication*, 3(2), 130–135.
- Giles, H. R. T. (1994). *Architecture in Victorian and Edwardian India*. Marg Publication.
- Giuliani, M., Henze, G. P., & Florita, A. R. (2016). Modelling and calibration of a high-mass historic building for reducing the prebound effect in energy assessment. *Energy Build.*, 116, 434–448.
- Gopalakrishnan, P. Subbaiyan, G. (2012). Revitalizing the environs of historical core of Thanjavur. *International Journal of Physical and Social Science*, 2(6) 507–517.
- Grimes, J. (2007). The complete guide to: India's golden triangle. *The Independent*.
- Gupta, T. S. (2010). Producing the province: Colonial governance and spatial cultures in district headquarter towns of Eastern India 1786-c.1900, University of Westminster.
- Havell, E. B. (1912). The basis for artistic and industrial revival in India, Adyar. Madras: Theosophist Office.
- Hendley, T. H. (1883). Memorials of the Jeypore exhibition, Industrial Art (Ed. 1). Jaipur State Public Works Department, Reports for the years 1867–1914.
- Hooja, R. (2006). *A History of Rajasthan*. Rupa Publications.
- Swinton, J. (1890). The Indo-saracenic style was closely linked with the Mughal and Rajput styles, which were regarded as a successfully converging the “Hindu” and “Islamic” styles.
- Fouseki, K., & Cassar, M. (2014). Energy efficiency in heritage buildings—Future challenges and research needs the historic environment. *Policy & Practice*, 5 (2), 95–100.
- Magrini, A., & Franco, G., Guerrini, M. (2015). The impact of the energy performance improvement of historic buildings on the environmental sustainability. *Energy Procedia*, 75, 1399–1405.
- Mazzarella, L. (2014). Energy retrofit of historic and existing buildings. *The Legislative and Regulatory Point of View, Energy of Buildings*, 95, 23–31.
- McDonald, N., & Laustsen, J. (2013). A comparative analysis of building energy efficiency policies for new buildings. *Global Building Performance Network (GBPN)*.
- Metcalf, T. R. (1989). *An imperial vision Indian architecture and Britain's raj*. University of California Press.
- Prakash, V., & Scriver, P. (2007). *Colonial modernities: Building, dwelling and architecture in british India and Ceylon*. Routledge, Oxford.
- Sachdev, V., & Tillotson, G. (2002). *Building Jaipur: The making of an Indian City*. Oxford University Press.
- Sachdev, V. (2005). Reports, memorials and records. *Journal of the Royal Asiatic Society*, 15(2), 165–178.
- Santoli, L. D. (2014). Guidelines on energy efficiency of cultural heritage. *Energy and Buildings*, 95, 2–8.
- Sesana, M. M., Cuca, B., Iannaccone, G., Brumana, R., Caccavelli, D., & Gay, C. (2015). Geomapping methodology for the geocluster mapping tool to assess deployment potential of technologies for energy efficiency in buildings, *Sustain. Cities Soc.* 17
- Troi, A., & Bastian, Z. (Eds.) (2014) *Energy Efficiency Solutions for Historic Buildings*. A Handbook. Berlin, Basel: Birkhäuser, 336.
- Vieites, E. V., & I & . Arias, J. (2015). European initiatives towards improving the energy efficiency in existing and historic buildings. *Energy Procedia*, 75, 1679–1685.
- Vissilia, A. (2009). Evaluation of a sustainable Greek vernacular settlement and its landscape: Architectural typology and building physics. *Building and Environment*, 44(6), 1095–1106.



Identifying the Role of Heritage and the Concept of Transformation

Parima Sharma

Abstract

Heritage buildings and sites offer strong visual and sociocultural sense relating to the formation and regional history of a place, embracing the root of native culture. Any region is best associated with its culture through the means of heritage structures which witnesses the growth of a settlement. These structures in a way tend to become a permanent part of ever-growing cities and hence claiming the status of urban artefacts. They tend to act as a canvas behind the busy lives of people, it represents a scenic description of a place with all its chaos and stagnant buildings held in the centre which is associated as the essence of the place in the mind of people who come across it. The study establishes the importance of transformation as a process which allows the historic built spaces to continue the process of evolution through addition, intervention and extension to the existing fabric of the structure. This study articulates the progression of transformation as a means for revitalizing heritage buildings in a way that they responded to the urban scenario they are present in and also leave scope for future changes. It comprises the analysis of theoretical and practical methods of transformation in the perspective of present-day practice. In an attempt to experience the past of the structure within the enclosure of new reformed functions and form needed by its context, Transformation is one such process which connects different timelines, societies and also regenerates the social cultural and economic values of the city.

Keywords

Urban Artefact • Transformation • Heritage • Identity

1 Introduction

A city is often viewed as composition of various layers in its physical and sociocultural form that cohesively creates an expression in the mind of its user through its identity. Every city has its own identity which has been acquired during the process of its formation. “Identity is both related to and every bit as complicated as culture in a city, identity takes shape at every level, ensuring that an inhabitant will have multiple ways of describing and expressing it” (Arfaoui, 2016). There are various elements in its physical form which constantly interact with the users through the evident vocabulary present in its architecture and art. The story of a city from its very beginning often describe the way it is and answers enormous questions which are present in the permanence of its heritage both tangible and intangible. Heritage defines the character of the place not just in physical but also its sociocultural form. “Built heritage of immense architectural, historical and cultural values constitute as one of the most dominant characteristics that contributes significantly to the identity of places” (Azmi, 2015). Heritage can also be understood in the way acts as a constant element during the process of evolution of an urban region. This section further states the objectives and approach of the paper. The aim of the present research is to comprehend the role of heritage and aspects of transformation of the built Heritage. The objectives are as follows:

- Defining Heritage and its classification,
- Articulating the role of heritage as an urban artefact and the permanence associated with it,
- To Formulate the concept of transformation of heritage as per the urban scenario.

P. Sharma (✉)
Amity School of Architecture and Planning, Amity University,
Noida, UP, India
e-mail: sharmaparima@gmail.com

The first motive of this study is to establish the need for transforming heritage structure in the present urban scenario and what importance does these urban artefacts offer to its surrounding. To understand the importance of heritage structure, the values associated with the structure have to be identified so as to make the transformation impactful. The research also attempts to understand significant conservation theories and ideologies in order to formulate the shift in approach towards heritage structures. A noticeable shift in approach towards heritage structure can be observed when conservation practice changed from preservation to restoration and then rehabilitation this helps us understand the gap between the earlier approach and present-day needs. The paper then focuses on highlighting the role of heritage structures as an urban artefact. The study then attempts to classify the heritage fabric by analysing the contribution of it in city's physical and sociocultural identity. Further on the study defines transformation as a responsive approach towards heritage structure in their urban scenario with help of case specific study in present day conditions.

2 Defining Heritage

Heritage is inherited from preceding generations and is still of great value and act as an asset for future generations. As defined by J. Jokilehto, "Heritage is an entire corpus of material signs either artistic or symbolic in nature handed on by the past to each culture and, therefore, to the whole of humankind as an essential part of the affirmation and enrichment of cultural identities, as a legacy belonging to all humankind, the cultural heritage gives each particular place

its recognizable features and is the storehouse of human experience" (Jokilehto, 1990) The built heritage represents society's long-term interests associated with it in terms of various aspects mostly cultural, economic although they are not equally limited and, indeed, they are often intertwined.

2.1 Characterizing Values

Values are the key elements that define the identity of heritage structure and create its significance. A heritage structure can depict various values, these values act as a guiding tool to understand its true identity and importance. The value assessment approach allows better understanding of the importance of heritage in its settings. These values can be broadly categorized as sociocultural, economical and intrinsic values as mentioned in Table 1 below.

Heritage hold multiple layers of values which vary diversely creating a unique significance of the structure. As per the philosophies of various conservationist, these values can be further divided so as to highlight the exact aspect of the structure that needs to be preserved in order to preserve its authenticity.

Table 2 above explains in depth the broad division is frequently made amongst economic and sociocultural values as the two main types of heritage value.

2.2 Categorizing Heritage

The categorization of heritage focuses on identifying the sole purpose of its creation and the concept of its formation. The

Table 1 Summary of heritage values typologies devised by various scholars and organizations (Riegl, 1982; Lipe, 1984; for the Burra charter, Australia ICOMOS, 1999; Frey, 1999; English heritage 1997)
Source author

Reigl (1902)	Lipe(1984)	Frey (1997)	English heritage (1997)	Burra Charter (1998)
Age	Economic	Monetary	Cultural	Aesthetic
Historical	Aesthetic	Existence	Educational and academic	Historic
Commemorative	Associative-symbolic	Prestige	Economic	Scientific
Use	Informational	Bequest	Resource	Spiritual
Newness		Educational	Recreational	Political
			Aesthetic	Cultural

Table 2 Provisional typology of heritage values (Torre)

SocioCultural value	Economic value
Historical	Use (market) value
Cultural/symbolic	Nonuse (nonmarket) values
Social	Existence
Spiritual/religious	Opportunity

categorization conducted in the work of Alois Riegl has defined a key aspect that allows understanding of the nature of heritage. Riegl has formulated the comprehensible foundation for modern conservation theory by classification of Historical monument and exploration of the values it possess. Riegl differentiates amongst “intended monument” and “unintended monument”. Riegl also states that, “Intended monuments are created as memorials, or signs of thinking, this represents a human product erected for the specific purpose of keeping human deeds and fates ever alive and present in the consciousness of successive generations but on the other hand, unintended monuments refer to buildings with historic values, which were built to meet the practical needs and requirements of a particular time” (Riegl, 1903). As per this approach the values can be divided in two major sets:

- Memorial values—historical value, age value and intended memorial value.
- Present day values—art value, newness value, use value and relative art value.

In case of intended monuments they have certain function that has been a priority over their form in some cases and hence with the process of evolution over time they are expected to adopt or continue serving their purpose to the society for example in the case of the Old City of Delhi the main purpose of the streets of Chawri Bazaar was to act as a common space of market for the town of purani Dilli which it serves till date and its identity as main city market is intact as depicted in Fig. 1a. Unintended Monument are created to depict the existence of a person, society, movement, or a certain incident in time and to glorify or convey the thoughts and ideology to the coming generations such monuments

serves people as reminder of history and reconnects them to their past, for example, Fig. 1b. Historic monuments have a glory attached to them the essence of which cannot be revived as it was while its formation and use but it can only be preserved and felt from viewers point because of change in its requirement and the evolving pattern of civilization around them. They act as something essential and irreplaceable and constant reminder of connection between past present and future. Understanding purpose of creation of heritage structure makes it easier to envision its future eminence as per the structures social and physical status.

2.3 Conservation Theories and Philosophies

Historic structures are often defined as works of art. The idea of work of art has been renewed from the ancient times up to the present day, therefore, their conservation theories have been evolving continuously as per the concepts of time. This has a boundless influence upon the transformation of any heritage structure or work of art. The following theories show the gradual inclination of change in methodology and philosophies over time.

2.3.1 Preserving the Authenticity

Maintaining the authenticity in some cases becomes a necessity when a structure holds values which are irreplaceable even in present day and modern-day thoughts cannot replace its depiction in style, technique, craftsmanship, material or any element which is not replicable but significant to its integrity. The conservation of any such structure requires the assessment of its values and what it holds for future generation.



Fig. 1 a the mosque and Bazar built by Shah Jhan b Arc De Triumph Paris Source (Soofi, 2011), Anonymous c the iconic spire of Notre Dame Cathedral after the restoration Source (Hiatt, 1869)

Didron in his study states that *“Regarding ancient monuments, it is better to consolidate than to repair, better to repair than to restore, better to restore than to rebuild, better to rebuild than to embellish; in no case anything be added and, above all, nothing should be removed.”* (Didron, Principles of Restoration, 1839a).

2.3.2 Stylistic Restoration

Eugène-Emmanuel Viollet-le duc explain the concept of stylistic restoration as The term Restoration and the thing itself are both modern. To restore a building is not to preserve it, to repair, or to rebuild it; it is to reinstate it in a condition of completeness which may never have existed at any given time (Vinegar, 1998). He always understood the heritage structure and their restoration not as an art of imitation but an act of creation it wasn't just a depiction of how the structure existed over the time but also the styles attached with it and its character which shall grow with change in time frame. Viollet-le-duc practiced his ideology in restoration while redefining Notre Dame de cathedral in Paris (Fig. 2). He designed the roof and spire keeping in consideration each layer of the cathedral in term of its stylistic identity he created an abstraction of the gothic work to revitalize the iconic church. Viollet-le-Duc and his Theory of 'Stylistic Restoration'. The Concept of 'Style' was generally specified as an independent idea from that of the object or form of the structure and it would usually affect as per the culture. The concept of 'relative style' also came into existence, which rests on the typology of function of the building held; e.g., a church would have an unlike relative style from an institutional building.

Gustavo Giovanni described the important concept of minor Architecture by establishing the continuity of urban fabric in the historic cities, and this began a central theme in his actions as planner of Rome. The approach to Restoration

was to formulate it as a cultural issue of growth and to acclimatize the historic structures with respect to all important periods as an alternative of erecting them to their idyllic form.

This gave birth to a new theory in conservation which wasn't restricted to just preservation and restoration it allowed the provision of change in form to accommodate the function and also change in function in the existing form it came to be known as a relative style. The only consideration was to establish a link between form, function and style as the identity of the structure.

2.3.3 The Conservation Movement

The concern for preserving heritage first appeared along the European societies. The main values and notions of the movement emerged from European context and resulted into the formation of charters for the guidance of conservation of cultural heritage.

In the nineteenth century, the entire world was suppressed by the effects of World Wars I and II as it just did not cause a political distress but also lead to the loss of various assets which mankind had cherished including the cultural heritage it owned. This led to the need for society to initiate the survival of tradition and therefore the demand of cultural identity returned. This resulted into basis for much stronger preservation of heritage and moreover rehabilitation. During the same time, the Venice Charter was being criticized for being too inflexible and traditional in its style as well as inadequate in the categories of and materials. The conservationist found themselves bound by these guidelines felt that the charter had been to centric towards European scenarios and not having considered the numerous sided difficulties that are being challenged by the developing nations often mainly rich in history and historic monuments but deficient in economic and methodological means for their



Fig. 2 Roman forum as an urban artefact as per Aldo Rossi's theory. Source Wikipedia

maintenance and care. The arguments soon lead to the beginning of a new era in the conservation world. It led to the formation of much understanding guidelines where various diverse cases were being considered and heritage was safeguarded as a common inheritance for all.

3 Heritage as an Urban Artefact

“The Roman Forum for instance, though its functions have changed many times according to social demands, its primary characteristics as a meeting place and the centre of Rome have never been changed within its original form which was shaped by its topographic conditions, through its permanent characteristics, the Roman Forum became a great artefact in this way, the form of the architecture in the city is revealed in its various monuments, and each of the monuments shows us the sequence of the city and finally, it shows us the history of the city” (Rossi, 1982).

These heritage structures acts as a permanent object and its surrounding constantly keeps changing with the urbanization of the city. The structure survives generation after generation as its form remain constant and its functions changes continuously adapting to new users and customizing itself to the need of time. The Fig. 3 demonstrates the Roman Forum as an integral part.

Urban identity can be visualized as a concept that arises often during the discussion of heritage structures and their future in the city fabric, it can be expressed by stating historic characteristic of urban artefacts, architectural language, design parameters and utilization of local the construction techniques or the use of vernacular materials.

Rossi introduced the concept of permanence and discussed how it affects the artefacts the city holds, “As a permanence acts as a primary element in the city, a monument is dialectically related to the city’s growth, and this

dialectic of permanence and growth is characteristic of time in skeleton of city” (Rossi, 1982). This defines how the role of monuments and structures from the past be considered as a rate enhancing element in the process of city formation. The permanence associated can be understood in the terms of monumentality and memorial character of an artefact.

3.1 Permanence in Monumentality

The permanence by virtue of its character in setting and the urban state creates an experience that reminds the user the past of the monument and at the same time the physical form of the monument continues its relevance by bridging the gap between its past identity and its current use through its functional aspect. The monument hence reaches a condition in which its function becomes more dominating then its form and it creates an urban area in which it stands as an essential urban focus, which is of interest to the settlements around it. When one visits a monument of this type, for example the Palazzo della Ragione in Padua in Fig. 4a, b, one is struck by the multiplicity of functions that a building of this type can contain over time and how these functions are entirely independent of the form (Rossi, 1982). The structure is relevant to the city fabric due to its use regardless of its aesthetic elements as it sustains its function at ground level as a market, therefor its function over powers its aesthetic elements. This proves its vitality which hasn’t died with time instead has only become stronger. In this case, the form acts as a unique experience but its function is considered as a more influencing factor which intimates the user and has kept the structure tied to the city. The heritage structure constantly responses through its use to the urban context keeping the sociocultural identity alive by its physical presence. The function and intention of the structure creates an impact on its context by evolving with its scenario.



Fig. 3 a Palazzo Della Ragione, Padua, b Palazzo Della Ragione, in current scenario Source <https://entirelandscapes.space/Palazzo-della-Ragione>, Wikipedia



Fig. 4 Alhambra at Granada. *Source* <https://www.britannica.com/place/Granada-Spain>

3.2 Permanence in Memorials

The permanence of a structure is interrelated to its evolution, signifying the living progression which is producing history at different instances. The form itself symbolize its integrity as monument and also conveys record of events and collective memories. If the structure is in use that means the user is able to relate to its original function and has associated with it in their memory by the impression it forms. “Past is something that we experience in present time unlike future and that is what makes things persistence over time the difference between the past and the future from the point of view of the theory of knowledge. In large measure reflects the fact that the past is partly being experienced now, and this may be the meaning to give permanencies, they are the past that we are still experiencing” (Rossi, 1982). However, when the form of the structure dominates the functional part and it is reminisced as an experience of its functions it serves as a memorial connecting the past with the future and the history swings into the realm of memory.

“When a monument retards the process of urbanization, it is considered to be pathological, the Alhambra in Granada is

an example of one such part of a city functioning as a museum piece in the city whose analogue is the skeleton, such a museum piece is like an embalmed body it gives only the appearance of being alive” (Rossi, 1982). Alhambra at Granada, Spain is an illustration of one such heritage of the city which functions as a memorial. It used to house the Moorish or Castilian Kings of Spain. The Alhambra signifies an essential and most famous examples of Islamic architectural heritage in Europe. Due to its cultural relevance, it has been stated as a World Heritage Site by UNESCO since 1984. This building is just a frame of existence. It has always existed as an essential representation of the city’s past, but it stands isolated ensuring that its true essence is always preserved. The placement of the castle is such that it gives an overpowering impression of itself, it acts as component in city’s layers of formation. These components represent two complementary realities and examples of medieval urban complexes (Petroncelli, 2007).

It holds a strong cultural value that overpowers its functional value hence it is still experienced as a Moorish castle which depicts its past. Such heritage structures cannot be transformed as they hold an experiential value that do not



Fig. 5 Kirkuk citadel forming the city *Source* Wikipedia

needs to be changed instead it is to be cherished and felt as visual and emotional representation of its glorious past. It plays the role of a core in the structure of the city over generations as shown in Fig. 5.

4 The Concept of Transformation

4.1 Architecture as a Living Process

As per the conservation movement in Sect. 2.3.3, it is stated that, “The best means of preserving a building is to find a use for it, and to satisfy its requirements so completely that there shall be no occasion to make any changes” (Vinegar, 1998). Architecture is defined by many as a living process and as an imaginative process which occurs through multiple time frames. Structures are generated and passed on from generation to another generation describing a story and that is an ongoing progression with every event the monument has a revival. Buildings go by many diverse fluctuations as they adopt new styles influenced by regional and global evolution patterns, by modifying their functions and form. The history

of any type of built space integrates the memories related to that era. New events in present scenario embrace the presence of people, activities and physical sceneries which spread a new spatial behaviour, which dictates modifications of form. The human requirement from a space continues to grow and differ from the previous type due to its society and sociocultural perspectives this creates an ever-evolving demand from its built fabric to adopt change. Keving Lynch in his theory state that, “these elements are simply the raw material of the environmental image at the city scale and they must be patterned together to provide a satisfying form” (Lynch, 1982). This states how architecture in a city’s structure creates a visual connection by embedding a picture through a collection of various stylistic elements.

The history of monuments that have been formed parallel to existence of settlements over thousands of years and it is in constant evolution. The consideration of the city can be derived on this theory by determining the relation between the heritage and the city. The city views such structures as a vital element that forms the character of the city. Buildings surface over people and last beyond them and time. Buildings hold the history and memory of many civilizations. The

evidence of this has always been present. The reuse of religious buildings for other purposes is not new; moreover, there is a long tradition of changed use of sacred places, as a result of various processes and events that occurred throughout history (Crişan, 2017). Adaptation of functionalist classifications would give the exact aspect for its reuse.

The city spreads along time and the structures remain fabricated within it and to prove its essentialness the heritage has to adopt the changes just like the society adopts their presence it's an interconnected process of concern. The heritage structures, instead of fading away with time should have an alternative way to preserve their values and significance. It should undergo transformations to enter the phase, where an urban artefacts should gather together in an innovative manner so that it eventually become fragment of the living procedure. The concept of place identity represents the connection of physical environment with its conceptual and functional dimensions, place identity is created maintained by the physical form of built environment (Kermani, 2016). Hence, transformation acts as a key element in linking heritage with its urban setting by addressing its necessities as per growth pattern It also contributes in strengthening city's identity by assessing the value system that heritage offers.

4.2 Defining Transformation

Transformation purely means undertaking change or make-over. Often, the use changes before sufficient sign gather against the change of form. In certain cases, the form has to be transformed to respond to the innovative usage and deviations within the unique use. In both the situations, the structure has to regulate with the transformation they are going through. The old arrangement has to amalgamate within the new usage or form it is a relative process and it's inter relatable.

Transformation thus establishes itself as a modern way of giving life to heritage structure it acts as a merging point between present day needs and past historic structure. While preserving the integrity of the previous styles and redefining their use it gives an opportunity for mixing them into the urban fabric of the ever-growing cities. Transformation has existed in the past as well it's just the purpose that differs; over civilization, it has been seen as a practice to reimagine the structure instead of wasting such precious of assets. They are a part of the similar procedure which is a constant process of transitions between different positions if normal and the laws of nature rule it and their actions give life to some sort of silent transformations (Musso, 2011).

Transformation of any heritage structure requires the understanding of the physical and social contexts that surrounds the structure by reviewing the balance it offers to its urban scenario. The analysis of how the structure functions

within the city as per every detailed parameter shall help acknowledge the issues both the heritage structure and the context faces. Transformation has to be treated as a responsive process that correlates with both functional and form-based requirements of the structure. Its end results have to be regeneration of the entire context which it shall influence through addition, intervention and extension to the existing fabric of the structure. The role of transformation appears as a sensitive yet responsible outlook that engages the integrity of the structure and the needs of its context. The current studies in the context state that, "the future of heritage management is expected to become increasingly more about transition management: integrative, and gradually working towards common ambitions through innovation, integration, and co-evolution" (Niki Frantzeskaki, 2012). Transformation is a sign of alteration with retrospective of the present events.

4.3 Response of Transformation in Urban Structure: The Case of the Adaptive Reuse of Kirkuk Citadel

4.3.1 History of Erbil Citadel

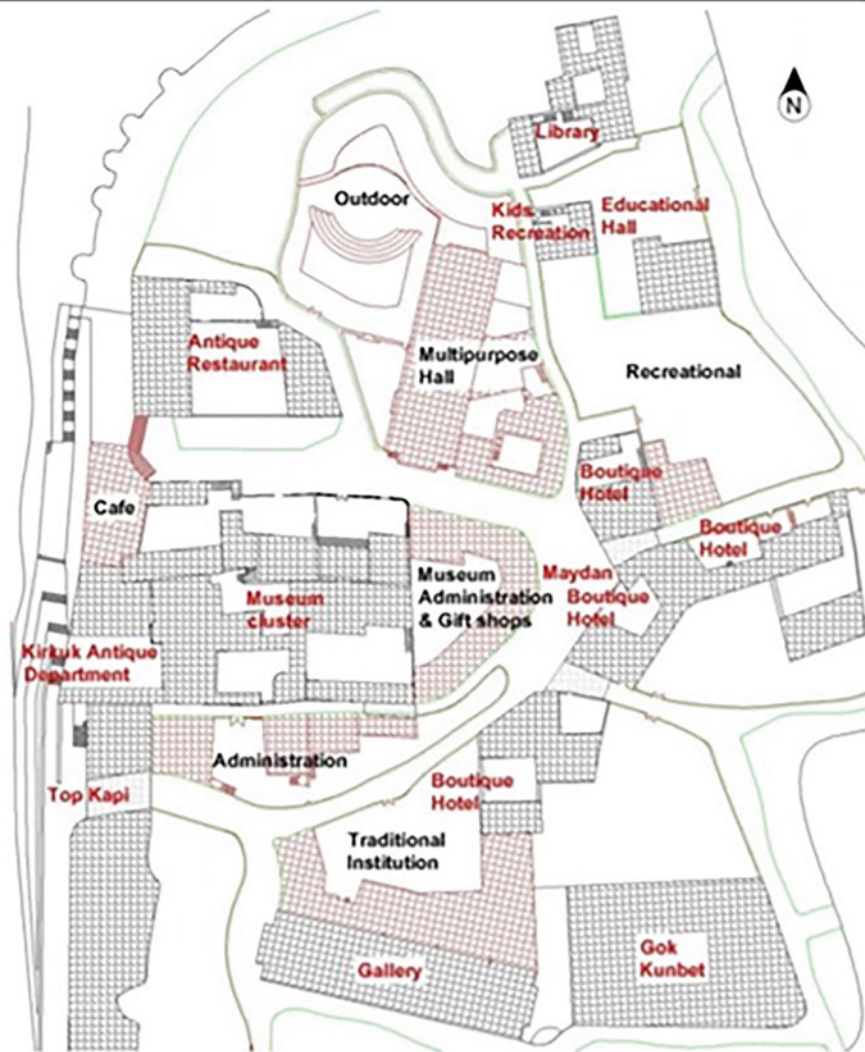
The citadel is on the World Heritage List since 21 June 2014 (Korumaz, 2017). Iraq is rich in history, from its start as the cradle of civilization to its significant locations Kirkuk province has its share of historical sites, some of which date back three thousand years. This province is also different from surrounding provinces because the population consists of a variety of ethnicities. One historical site, which holds great importance because of the unity it provides the Citadel originally was a Jewish temple, then it turned into a church and lastly into a mosque. The word citadel was created as symbol of power to safeguard the earlier settlement, it was a fortified building or place of safety for the purpose of refuge. Many buildings within the Citadel's walls were destroyed during the campaign of Saddam Hussein. The citadel marks as the centre of the city as shown in Fig. 6.

As per the study on the region, "The citadel is allocated alongside the seasonal river Khasa Su from the West side, this river divides the city into two parts, Eski Yaka and Korya, the urban fabric of the citadel used to be consisting of narrow and organic alleys, which sometimes covered with pointed arch vaults the most of the built area in the citadel were residential areas interspersed with religious, administrative and monumental buildings" (Korumaz, 2017).

4.3.2 Present Day Scenario

The Kirkuk Citadel was exposed to vandalism and its rich heritage was put on the verge of extinction but the people still fill strong sentiments towards this as this was a major part of their identity. The attempt here is to restructure the

Fig. 6 Proposed plan of the citadel (Korumaz, 2017)



citadel in order to achieve a shared space that recollects the memory and also provide the users with functional aspect. The citadel contributes as a major element in shapping the identity of the city by its strong visual, physical and socio-cultural connections that have grown stronger with time. Heritage structures with time become less suitable as per their design requirements which were created previously. As improvement in ideologies of politics, economic conditions and technology move at a faster pace than the built heritage, tranformation comes as an alternative in form of adaptive reuse that allows alternative for the rejuvenation of the site. Citadels are defined as ancient monuments and landmarks by which cities are known by due to the assurance of power and historical values that they imprint on city structures, there are various examples in city formation where they act as a nuclei around which the city developes as depicted in Fig. 6. The

existing city level structure is influenced by such landmarks which can be also evidently noticed in the hierachy of spaces and road layout, they are viewed as focla points of planning.

4.3.3 Method and Approach

In order to undertake tranformation through functional aspects, an introduction of new use has to be assigned to the citadel. First step is to formulate the reasons for its reuse in order to understand the spatial arrangement. Attention has to be paid in understanding the historical, cultural, environmental and economic factors. The next phase is to assign the design potentials which would be required by the structures inside the Citadel. The spatial arrangement is related to the new function which it facilitates, and hence this step is most essential. The volume distribution of the existing buildings are an aspect for indicating a new function. In order to

revitalize, the previous sense of inclusion and the organic arrangement of the urban fabric of the Citadel, addition of new built spaces to the scene will be expected. The new arrangement will follow the character of Kirkuk Citadel as given in Fig. 6 proposed plan.

4.3.4 Conclusion

The process of regeneration shall reclaim the role of the citadel in the city's identity both in physical and social terms and it shall also effect the economic conditions by its contribution through the number of tourist exchange it shall create. The city has grown around circumference of the citadel towards different directions in the radius of the citadel. The form of the citadel and the landscape of its usage as per development contained by it and the axes came out as from which regulates the city's development, the newly comprised functions will attract the society and tourists to the Citadel. This approach of transformation shall engage the heritage and also its context and responde not just to the heritage's integrity but also the present day needs of the city. The requirements at city level structure can be compensated through design interventions offered by the transformation process. The absenteeism of the historic urban fabric may require persistent necessity for reconstruction, in order to reclaim the original sense of inclusion inside the neighbourhood of the Citadel.

5 Findings and Discussion

5.1 Functionality Through Transformation

Functional aspect of a heritage structure matters majorly while transformation as it is the key element connecting the user with experience that the form has to offer as discussed in Sect. 3.1 *permanance in monumentality*. A way finding has to occur before transformation that allows the cultural values and the aesthetic values to be depicted in a viable pattern along with the use of the building which suits the heritage structure. As highlighted in the literature review section, value system plays a major role in defining the relevance of the heritage structure hence the transformation approach should initiate by addressing the value system. Hence, defining the function of the building becomes a major element. Understanding the layers of a structure is essential for a successful transformation as it respects the authenticity and integrity of the historic artefact. Thought has to be given on its past first that were does the idea of the built space originates from for this the chategorization of heritage has to be taken in consideration. It can be taken as a continuous line of questions that have to be answered to understand the character of the building and the feelings associated with it. Then it has to visualized in multiple time frames. The heirarchy of

spatial arrangement has to be considered, if the organization of spaces is properly formulated, it shall help find out the compatibility amongst the usage, aesthetics and form of the structure. It is significant to classify in what way and essentially why was the building organized in the existing manner. Understanding the organizational logic of the old form allows rightful speculation for new uses.

5.2 Form Through Transformation

This particular transformation through form is required in the specific cases where the values depicted by the heritage deal with its identity in form of aesthetic sense. As reflected in Sect. 2.2 *categorizing heritage*, it is stated that the structures holding memorial values require transformation in form in order to justify its integrity and authenticity. The transformation of the bodily form of the historic building includes a sympathetic approach towards the existing building, the idea of the form, material, methodology, craftsmanship, cultural and historic values, but moreover, the intrinsic value. As discussed in the section conservation theories and philosophies, in such scenarios, the heritage has to be considered work of art and the transformation should follow the theories suggested for preserving authenticity. Consideration also has to be offered for modern day adaptability in case of material and craftsmen ship.

Addition, intervention or extension or any form of alteration needs to be acceptable within the existing historic structure. It is also essential to be responsive towards the historic identity and the values of the existing building, while adopting for any kind of intervention for the new addition or extension. One also has to be responsive while transforming as they carry the responsibility of depicting and preserving integrity and authenticity of the cultural, historical and intrinsic values attached with the structure. The other essential part is the sentimental values attached with building as it can be considered as a permanent factor creating a continuous line of linkage between the past and the present similar to the case of permanance in memorial. The other essential factor is derived from not being too attached with the transformation and living it as a flexible structure which can adopt itself also in the future.

5.3 Beyond Form and Function

In certain scenarios, the structure can not be governed by a fixed categorization due to the complexity of value system it represents. In such cases, the above-mentioned approaches for transformation are not satisfactory enough to provide solutions for the heritage structure. The transformation then needs to evolve further in adressing the issues isolating the

structure from its context. The form and functional aspects both have to be considered with respect to the value system. There are various associations with these structure in terms of culture, emotions, economy and context every stakeholder has a different view for them. In the middle of the evolving spaces, they continuously interact and hence their transformation requires a lot of thought. This transformation recognizes the authenticity of the structure. Transformations as additions or changes, imitates new opportunities and the usage of old structures to grasp what is to be met. There are three major factors to assess the feasibility of the transformation the cultural factor, the economic factor, the environmental factor and the contextual factor.

6 Conclusion

The heritage of a city offers character to the place and provides a unique identity as it beholds multiple values in its composition that constantly interact with its context in both physical and visual ways. Based on the existing established definition of heritage and its value system, the role of heritage in defining identity of a place can be visualized. The value system categorization classified by various scholars and organizations formulates the basis of identifying major elements contributing to the integrity of structure. This becomes the foundation step for conducting intervention at heritage sites. Any responsive act of transforming the heritage would include understanding the purpose behind its creation and the complexity of its composition in functional as well as aspects offered by the form of the structure. The categorization of heritage based on its value system contributed by Alois Riegal further directs into a simpler approach of understanding the intention behind the formation of heritage building. This forms as a base theory for predicting the future of heritage and expectation with its creation in past. The categorization of heritage into two broad heads would hint the process of its transformation further. Relevant theories and philosophies of heritage conservation that contribute majorly towards indication of change in how heritage is regarded and treated have been discussed briefly. The conservation movement is marked as a major change in approach towards heritage restoration. The needs and approach of preservation have changed with time and constantly asks for reformation.

Aldo Rossi's work contributes in understanding the role of heritage as an urban artefact and the ways it forms the identity of city image. In city-level configuration, heritage structures act as an urban artefact that proves its permanence by being dominant either by its monumentality or its memorial nature. The discussions in the paper about categorization of heritage structures based on the nature of its permanence. The

permanence of a heritage structure comment on the key aspect around which its significance depend on.

The transformation and rehabilitation of heritage or historic buildings are related to each other. The conservation principles and methods instruct on how to transform old buildings with values and theories of modern-day conservation practices. The theoretical and practical approaches of transformation results into foundation of a process that acknowledges the value system associated with the integrity of heritage structures and the issues it faces in its urban scenario. Transformation is categorized into three major categories based on the scenario it addresses into form, function and lastly beyond form and function based. This has been devised based on the types of heritage formulated by the discussed theories and philosophies.

The study findings can be considered for a particular regional setting in which the heritage structure is overlooked in oblivion by the society due to the growth pattern or other factors. The heritage structure if however still holds its essence and reminds the spirit of past experiences to the society around it. Its value system and significance can be understood and recreated by addition, intervention and extension to the existing fabric of the structure. The transformation of its form or its function as per the structural integrity and needs can be regenerated for a greater impact which should allow the structure to harmonize with its surrounding. This urban intervention shall also benefit the society to regain its identity. Such diverse scenarios can be located where transformation of heritage structure shall be responsive towards the needs of the society and also reconnect them with their heritage structure so that it can be revitalized and its involvement leads towards the modification of the regional area. One such case of Kikuk citadel has been taken in consideration to understand the arrangement of transformation in an urban scenario. Therefore, the parameters will be applied to an urban setting which socially attaches itself with its urban artefacts and allows the possibility of transformation as process to impact the connection between abandoned heritage and context around it.

Acknowledgements I would like to place on record my sincere gratitude to all the faculty members at the Amity school of architecture and planning, Noida, India. Further on, I would like to thank Professors Devendra Pratap Singh, Anurita Bhatnagar, Shubhru Gupta and Alankrita Pagare for their roles in shaping this research paper

References

- Arfaoui, K. H. (2016). Culture, cities and identity in Europe. *European Economic and Social Committee*.
- Azmi, N.F., F. A. (2015). Heritage place inventory: A tool for establishing the significance of places. *Journal of Design and Built Environment*.

- Boussaa, D. (2018). Urban regeneration and the search for identity in. *Sustainability*, 10–48.
- Crışan, R. (2017). The dilemma of the redundant churches: To lose or to reuse? *European Association for architectural education*.
- Didron, A. N. (1839a). *principles of Restoration*.
- Gharipour, M. (2003). *Iran Chamber Society*. Retrieved 12 December, from Architecture and Monuments: https://www.iranchamber.com/architecture/articles/bazaar_of_isfahan5.php.
- Hiatt, C. (1869). *Notre Dame de Paris; a short history and description of cathedral*. G.Bell.
- Jokilehto, J. (1990). *Defination of cultural heritage*. ICCROM.
- Kermani, A. N. C. (2016). Developing a model for the relation between heritage and place identity. *International Journal of Architecture and Environmental Engineering*, 10(3), 406–411. Retrieved from <http://scholar.waset.org/1307-6892/10004130>.
- Korumaz, M. (2017). The Adaptive Reuse of Kirkuk Citadel : Memory of Places. *International Journal of Architecture & Planning*, 5.
- Lynch, K. (1982). *The Image of the City*. Cambridge. The MIT Press.
- Musso, S. F. (2011). “Cum-servāre”/”Trāns-formāre”. Ideas, concepts, actions and contradictions. In S. F. Loughlin Kealy, *Conservation/Transformation*. Genova: EAAE Transactions on Architectural Education.
- Niki Frantzeskaki, D. L. (2012). Governing Societal Transitions to Sustainability. *International Journal of Sustainable*, 19–36.
- Petroncelli, E. J. K. (2007). *oint Report on the Participation in the “Seminar on Control and Management of Urban Planning in Spanish World Heritage Cities”*, Aranjuez (Spain). UNESCO. Retrieved from <http://whc.unesco.org/en/documents/10064>.
- Puteri, M. B., Zaharin, N. I. (2017). Surabaya old town new life: Reconstructing the historic city through urban artefacts. *The Sustainable City XII*, 389–399.
- Riegl, A. (1903). The modern cult of monuments: Its character and its origin. In I. f. Studies. *Oppositions: A Journal for Ideas and Criticism in Architecture*. MIT Press.
- Rossi, A. (1982). *The architecture of city the city*. (D. G. Ockman, Trans.). The MIT Press.
- Soofi, M. A. (2011, october 25). *Photo Essay—In Search of Lost Time, Shahjahanabad*. Retrieved from THE DELHI WALLA: <http://www.thedelhiwalla.com/2011/10/25/photo-essay-%E2%80%93-in-search-of-lost-time-shahjahanabad/>.
- Thorell, T. N. (1989). *Cultural Heritage Preservation: The past, the present and the Future*, 57. Halmstad University. America: Halmstad University Press.
- Thorell, T. N. (2018). *Cultural heritage preservation: The past, the present and the future*. Halmstad University Press.
- Torre, M. d. (2002). *Assessing the values of cultural haeritage*. Los Angeles: The getty conservation Institute.
- Torre, M. d. (n.d.). *Assessing the values of cultural heritage*. Los Angeles: The getty conservation institute.
- UNESCO. (1989). *cultural heritage and its conservation*. America: UNESCO, 57.
- UNESCO. (1992). Retrieved from UNESCO world heritage sites 1992: <http://whe.unesco.org/en/list/314>.
- Vinegar, A. (1998). Memory as construction in violet-le-Duc's architectural imagination. *Paroles gelées*, 16(2).