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INTRODUCTION

Urban Futures - Cultural Pasts Sustainable Cities, Cultures & Crafts

Every region of the world has its particular cultural, social and artistic heritage. In urban centres this is at its most pronounced, with the places we live in being the result history – a history of artistic visions, social and cultural forces, planning initiatives, and engineering projects. As UNESCO points out, in thinking about the future of any given place, we are obliged to build on its past and its present. A city and its cultural life then, are living questions – past, present and future.

This means that when discussing the history and future of specific sites we must think broadly. We have to understand the local and the global context in we live: the transnational forces of globalization, the growing importance of culture and tourism, the worldwide trends of heritage and consumerism, the universal concern for sustainability etc. In this regard too, a city, a region or a site are all complex entities – questions of specific responses to global issues. The host city of this event, Barcelona, and by extension the whole region of Catalonia, is a perfect example of this and in addressing the questions and issues typical of the Catalonia region, the conference from which these proceedings come, sought debates relevant to Barcelona but also cities the world over.

Across the Mediterranean issues of sustainable futures are paramount. In Europe more widely, the gentrification of traditional neighborhoods is endemic. In North America and Australasia the respect for Indigenous cultures and crafts is urgently needed. In Africa and Asia, how to sustainably design for growth in existing contexts is a pressing problem. In Latin America and the Middle-East, development that avoids the homogenizing forces of globalization is vital. In these contexts the papers included in this publication will all explore how such interchangeable global issues are key to our pasts, but also to our sustainable futures.

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Julio Salcedo-Fernández

TRANSFORMATION OF ISLAND ICONOGRAPHY UNDER THE INFLUENCE OF INDUSTRIAL ARCHITECTURE

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INTRODUCTION

The focus of the research is the analysis of urban transformation due to the development of industrial architecture on the Adriatic island of Brač. The industrialization of the island often took place in close dialogue with the traditional production of fish farming and processing or shipbuilding. The transition from small plants to large industrial plants took place in accordance with the development of the market and technology, with the gradual modernization and expansion of existing industrial plants and the improvement of deep-rooted traditional knowledge and skills. Due to the development of industry, the urban landscape also changed significantly, and industrial architecture often became an important element of the symbolic representation of the entire island.

At the same time, typologically completely different forms of industrialization of the island appear, which import completely new contents, such as mass tourism. The facilities required for such a form of industry bring not only unfamiliar visuals, but also open longer and more complex identification processes within the island community. An analysis of Brač, whose urban iconography was transformed by the construction of a fish processing factory, later replaced by a hotel, will show the process of not only the transformation of the island's landscape, but also its symbolic capital.

HISTORICAL AND INDUSTRIAL POSTIRA

The town of Postira on the northern side of the island of Brač (the 3rd largest Croatian island) was first mentioned in sources in 1337. The oldest monuments date from the early Christian period of the 5th and 6th centuries, but the settlement was formed only in the 16th century.¹ The free, irregular grid of streets paved with sea pebbles is bordered by houses of traditional architectural heritage, and the oldest monuments are the baroque church of St. Anthony and the parish church from the 16th century. The name of the place itself comes from the Latin name *pastura*, which means pasture, and defines the dominant original activity of the place, which was created by the migration from the neighboring town of Dol and the inhabitants from the mainland side of the Brač Channel after the end of the piracy threat. Postira historically focused on the development of agriculture and animal husbandry, and in the 19th century it became an independent municipality with male and female schools and organized health care. The Sardine factory was already opened in 1907, which, despite an interruption during the Second World War, is still working today. Postira's modern development is inextricably linked to industry, which organically develops on the tradition of fishing as one of the main economic

resources. The history of tourism is somewhat younger, and since the 1920s it has been connected with other places on the island (Supetar, Bol and Sutivan).

THE SARDINE FACTORY

In 1907, the Sardine factory, owned by the Viennese industrialist Karl Warhanek, was founded on the sea coast, in a bay located north of the city center. In its long history, the factory has changed owners and structure, but it has maintained its operations until today, with a change of location in 2013, by moving to the Ratac business zone. The existence of the factory ensured the diversification of activities, and thus the stability of the population both numerically and economically. The success of the business is proven by the high export rate of 80-85% and numerous awards.²

The location of the original factory next to the sea coast, where the factory was located for 106 years, had great importance for the identity image of the place (fig. 1).



Figure 1. Panoramic view on Postira on the postcard from socialist period

Although the key reason for its location was utilitarian, in order to preserve the freshness of the products due to its proximity to the port and fish processing plants, it became an indispensable place in the visual image of the town. The ground floor building consisted of three longitudinal rectangular volumes defined by a gabled roof, large rectangular windows with wooden shutters, and a porch on the longitudinal side. Two tall chimneys dominated in front of the central volume. Most of the old postcards of Postira represent panoramic motifs that evade the factory out of sight with skillful framing (fig. 2). Such a process reveals the position of the Sardine factory in the shaping of urban iconography - it is vitally important for the survival of the place, it embodies the image of the islanders precisely as fishermen, and island women as those who traditionally have the role of preparing fish. The iconographic importance that confirms the resilience of these identities is visible on postcards that will proudly highlight the figure of the factory, factory workers and fishing boats (fig. 3, 4, 5).



Figure 2. View on Postira on the old postcard

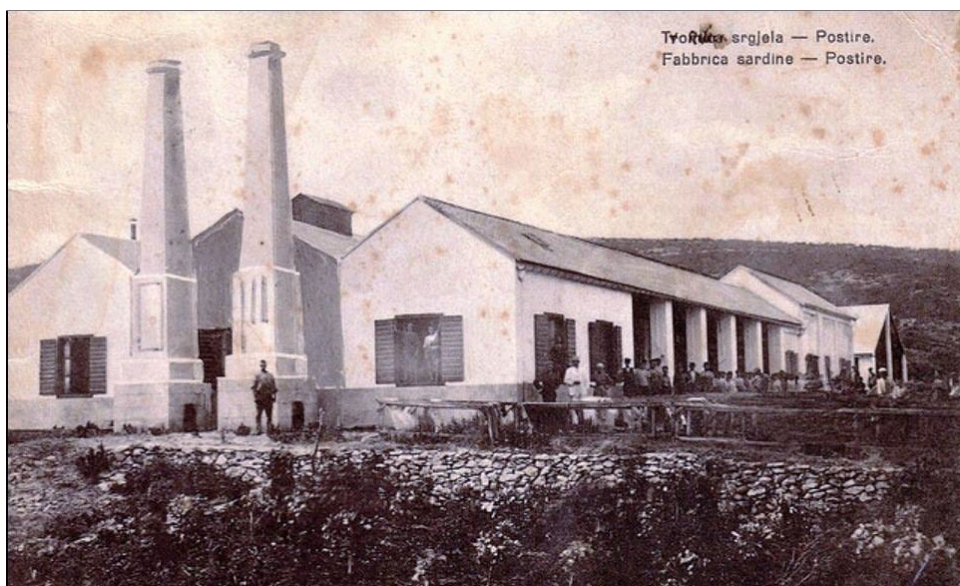


Figure 3. View on the Sardine Factory on the old postcard



Figure 4. Workers in the Sardine Factory on the old postcard



Figure 5. Workers in front of the Sardine Factory on the old postcard

However, these images will be missing from the Postira sights, which are produced for the needs of experiences of others (tourists). The importance of the Sardine Factory not only as a resource, but also as a character, is evidenced by the film *Slavica*, the first Yugoslav full-length film made in 1946. Although the setting is an unnamed place on some Dalmatian island, the film images reveal not only that it is Postira, but that one of the characters of the film is *Fabrika* (Factory). Key as a plot point, the Factory is a place of confirmation of belonging, working in the factory is proof of loyalty to the political regime, and leaving the Factory is a symbolic act of liberation and enlightenment in which the old Factory enslaves the locals and only the most daring break this relationship (fig. 6, 7).



Figure 6. Shot from the movie Slavica, Factory on the far left



Figure 7. shot from the movie Slavica, workers leaving the Factory

Film images avoid panoramic shots in which the factory itself would be visible, but more than a visual image, the key in the film is the mental image as a topos of identification - man as a working being formed through specific values that different types of work imply. The Factory is not only a workplace, but a place where ideological values are formed, where the ideas of freedom, justice and patriotism are tested. The specificity of this symbolization of the factory lies in the fact that precisely in Yugoslav society, industrialization was the measuring unit of general social progress, workers were yesterday's peasants, and factories were celebrated as guardians of social capital. However, the film Slavica represents the factory within different rhetorical frameworks - it becomes a symbol of

working for private interests and national traitors, which actually indicates that Fabrika is a character whose nature depends on external and structural factors.

Exceptionally we find the image of the factory in the painting of Pavo Gospodnetić. The painting was commissioned by the then manager of the factory Ante Matulić, on the occasion of his retirement in 1920. The factory is shown from a sea view and iconographically corresponds to the typical island motifs of the sea, fishermen and white houses, which in this case is the factory building harmoniously integrated into the landscape (fig. 8).

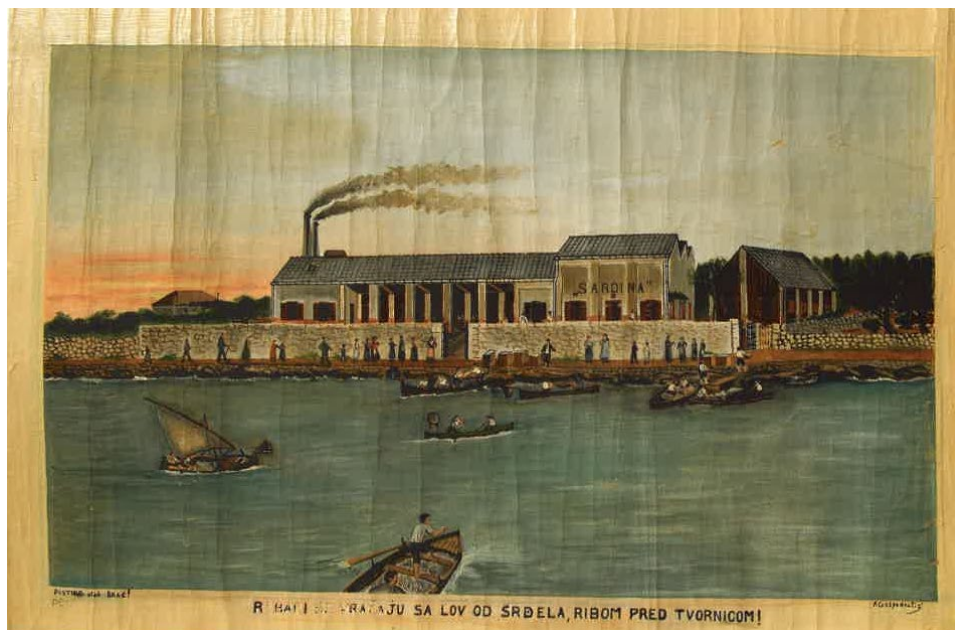


Figure 8. Pavo Gospodnetić, Sardine factory, after 1920

FROM THE FACTORY TO THE HOTEL

In 2013, the old factory was demolished in order to build the View hotel in its place, completed in 2023. The Sardine factory did not cease to exist, but was moved further south, to the area of the new business zone, in a newly built factory that enables better production and environmental protection³ (fig. 9).



Figure 9. Old and new factory

The relocation of the factory dramatically changes the appearance of the place: from a one-story building harmoniously integrated into the view of the coast and the town, by changing the spatial plan⁴ a five-storey hotel with a surface area 13 times larger is being built. The old factory occupied the area 2184 m², and new hotel occupies 30000 square m.⁵ The elongated form of the hotel follows

the winding of the coast on which it rests, and when viewed from a distance, it looks like a cruise ship. The hotel of a huge scale, with a capacity of 240 rooms, is perceived as a foreign body that accidentally ran aground on the coast of a small coastal town. The reason for such an investment is not even found in the development documents of the Municipality of Postira. Strategic development program for the period from 2020-2027 of the municipality of Postira presents an analysis of the state of employees, in which the data shows that almost 26% of all employees are in the processing industry, and 19% in agriculture, furriers and fisheries.⁶ The main development potential is actually tourism, which is in continuous growth and is oriented towards foreign visitors over 80%,⁷ but the SWOT analysis as the main strength highlights tourism that is not aimed at mass tourism, but at long tradition of small hotel business and family renters, although the construction of a new hotel as a driver for the further planned development of tourism is also planned.⁸ At the same time, the development of new forms of tourism stands out as an opportunity.⁹ The last two statements can be interpreted as contradictory to the previous ones; small hotel industry and the rejection of mass tourism is in direct opposition to the construction of a new hotel of gigantic proportions aimed precisely at encouraging mass tourism - the hotel does not offer any specific facilities that would enable year-round work, such as congress or sports tourism. The earlier Development Strategy of the Municipality of Postira for the period from 2014 to 2020 recognized a different set of priorities: fishing, industry, and in third place tourism.¹⁰ The first goal in the implementation of the Strategy is to 'initiate and encourage the shaping of the identity of the island of Brač as a unique location based on the wealth of diversity', and only in tenth place is 'integration and sustainable development of tourist potential'.¹¹ In the vision of tourism development, it is emphasized: 'We want to enable continuous employment of young educated staff through agriculture, fishing, small production facilities, service trades, family farms, family hotels and guesthouses, and that developed communal, transport and energy infrastructure, high level educational, health, and sports-recreational infrastructures make the municipality of Postira pleasant to live in and desirable to stay in.'¹² As economic features of the place, they clearly emphasize agriculture in the first place, industry in a significant second place, with an emphasis on its national, not only local importance, while tourism is listed in the third place, emphasizing the successful synergy in Postira, which is rarely seen.¹³ In the development scenarios, two possible models are offered, extensive and intensive, both of which determine the rational use of space.¹⁴ It follows from the above that the development of Postira was foreseen in accordance with the previous practice in terms of harmonizing heterogeneous activities that enable the resilience of the place and its inhabitants, which can be identified as key characteristics of insularity. Between the two strategic documents, a change in the development vision can be observed, whereby the newer document recycles the settings of the previous one, with the mechanical addition of a new model of tourism that does not coincide with the principles of rationality in the use of space, nor does it encourage the diversification of activities for the benefit of the local population.

In 2022, as part of Andrije Mišetić's diploma thesis on the Development Perspective of the Municipality of Postira, a survey was conducted on the identity of the settlement of Postira, where the Sardine fish factory was rated the highest, followed by specific island images of stone houses, the sea, the beach.¹⁵ 26% of respondents are directly connected with the Sardine factory.¹⁶ The Sardine factory is therefore a symbol of Postira's distinction in relation to other island towns with which it shares the iconography of an island paradise. At the same time, it was the factory that enabled hundred years of job security, which does not depend on numerous socio-political factors that influence the development of tourism.

The construction of the new hotel caused numerous negative comments from the local population. On the Volim Postira (I Love Postira) Facebook page, we find comments such as 'Volkswagen's promenade', 'Golf park', 'It's just a cruise ship that will soon sail away', 'Horror...something like that in

our harbor'... The professional public also reacted negatively, pointing to the spatial and conceptual lack of integration of the new hotel into the place.¹⁷ The design and construction of the hotel truly seems like a foreign character in the image of the city, with which the local population does not identify, who recognize their identities in completely different dimensions, forms, functions and meanings. Precisely because of the exceptional sensitivity of the island's iconography, theorists warn of the irreparable damage that mass tourism leaves to the space, but also to people: tourism employment is based on low-paid seasonal occupations, which often leads to the abandonment of agriculture, animal husbandry and fishing, that is, precisely those activities with which until recently the island's population identified themselves and built themselves and the space accordingly. In 2015, a comparative case study of mass and sustainable tourism was carried out on the example of Postira and Bol, where Postira stands out as a good example of a place that was not devastated by excessive construction and environmental degradation, thus avoiding the touristification of local life and social infrastructure.¹⁸ Only a few years later, Postira got a new look, especially devastated by the newly created architecture that is prominent when approaching the place from the sea side or by the well-maintained promenade from the neighboring town of Splitska.

It is interesting to look at the Postira-West: Prvja-Punta-Vrilo Urban Development Plan from 2021, in which it is written: 'by shaping the building, choosing the form, i.e. a complex functional unit made up of several buildings, harmonious spatial relationships should be achieved within the micro-unit of the tourist zone, as and in relation to the coastal stretch; the micro-relief of the location should be appropriately valorized and respected by forming terraced areas with spaces for rest and recreation (fields and outdoor pool/s), while retaining high-quality tall vegetation and supplementing it with the planting of indigenous species;¹⁹ the interpolation of green volumes into the terrace surfaces of the unbuildable part of the parcel aims to fit the complex into the image of the environment with construction in the landscape; not to allow the planned operations in the area to negatively affect the landscape values of the area.²⁰ The picture of the realized state shows an evident gap between the stated guidelines and the final appearance (figure 10).



Figure 10. Panormic view on Postira in 2023

CONCLUSION

The analysis of Postira showed the complexity of the process of constructing, deconstructing and reconstructing urban iconography. In looking at the phenomenon, different types of images were studied: images that are consciously created in order to shape the identity of a place tailored to the expectations of others (postcards, tourist materials), media images (verbal and graphic) that reflect the specificity of social and political reality, and artistic images (painting, film images) that represent a poetic, highly subjective view of the landscape, town and people. The analysis also includes verbal images that represent visions of development conceived by different positions of government (state and local bodies), which strategically direct development by creating a framework for the transformation of the place (both planning and financial).

The case of Postira follows the industrialization of the 1st and 3rd modernizations, whereby the factory grew out of the traditional island activity - fishing. The factory building itself very unobtrusively occupied the coastal area, which is located next to the historical core, but in a separate bay and is iconographically invisible. In its hundred-year-old tradition, it has secured an important place of identity with which many locals are connected for many generations, but without highlighting its uniqueness in communication with others. The significance of the factory comes to the fore at the moment of its relocation and the opening of a large hotel in its place. In terms of identity, the hotel suppresses the factory and transforms the appearance and meaning of the entire place with its scale and forms. Tourism is perceived as degradation and deconstruction that threaten local values and way of life.

Postira shows industrialization processes as key transformative events that have an indelible and long-term impact on the identity of a place. If we recognize resistance as one of the main characteristics of insularity, it can also be seen as a symbolic resistance to transformation - places change, but its images stubbornly remain the same. Iconographic symbolization is based on embodied memory, images that have always been and are especially important as mental images of one's homeland. The reason for such fixation of the island paradise as it once was can also be sought in the anticipation of the expectations of others, who with their own narratives influence the shaping of places precisely as tourist attractions. The particularities resulting from the island's industrialization are valued differently, depending on the political moment, acquiring forms that specific subjects are proud of or want to remove. Through the analysis of historical trends, technological development and political changes, more complex concepts can be read, due to which a postcard, a newspaper photo or a text changes its meaning.

NOTES

- ¹ Darko Vlahović, *Postira - Hrvatska u malom*, (Ogranak Matice Hrvatske Split: Split, 2006), 15.
- ² Andrija Mišetić, 'Razvojne perspektive Općine Postira', (Master Thesis, University of Zagreb, Faculty of Science, 2022), 37.
- ³ 'The Company Today', Sardina Company, accessed March 3, 2024, <https://www.sardina.hr/tvrtka/tvrtka-danas/>.
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TO WHAT EXTENT THE DIGITALISATION OF ARTEFACTS IN ITHRA MUSEUM ERODES THEIR ORIGINALITY AND THE TRUE VALUES OF CULTURAL HERITAGE of?

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INTRODUCTION

This paper presents a comprehensive analysis of the data collected from 415 participants who visited the Ithra museum in person. As the cultural and creative landscape of Ithra museum in Saudi Arabia continues to evolve, understanding the impact and reception of digital and original artifacts within museum settings becomes increasingly pertinent. While there is a growing body of study on visitors' perceptions of authenticity in museums, most earlier studies were carried out in Western nations, where museum systems were established earlier and have long been valued by the public.¹ In contrast, research on the authenticity of digital objects for cultural institutions including Ithra museum in Saudi Arabia is scarce or almost non-existent. This research takes a more in-depth look at the relationship between authenticity and the presence of technology in museums. This presentation aims to discuss the visitor interactions, experiences with digital objects, and the subsequent impacts on their perceptions of artifact authenticity at Ithra museum. Materialist and Constructivist approaches to authenticity shed light on the ways that digital objects may retain the quality of authenticity, despite their distance from the original. The findings from this analysis are critical not only for understanding current visitor trends and preferences, but also for comprehending the possible impact on the Ithra Museum's capacity to safeguard Saudi cultural heritage and the nation's identity from an authenticity standpoint. This research covers several key areas of interest, including Captivating Glimpses into History from a Digital Perspective: Authenticity Reconsidered; the Material View of Authenticity: Originals vs. Digital Copies; and the Constructivist view of authenticity: How We Interact with Digital Objects.

The Captivating Glimpses into History from a Digital Perspective: Authenticity Reconsidered:

The participants were asked four questions about the sense of the past in digital objects and whether these can help with a more thoughtful reconsideration of the authenticity of the digital artifacts in the Ithra Museum through the past that still has an impact on Saudi Arabia today. What matters is the rebuilt past in digital objects might be better than the original historical objects, even if the original objects are believed to be more accurate.

Most respondents (78.1%) expressed a positive response agree towards the first question was about whether seeing a digital representation of an object from Ithra makes the impression that you are

physically close to the original object that is on display in the museum Figure 1. Regarding the second of the survey's questions, "Seeing a digital representation of an object from Ithra helps you imagine the feelings, sensations, and thoughts of those who used these original artefacts in the past" obtained 76.9% either agree or strongly agree with that Figure 2. The third question in this regard was "Seeing a digital copy of an artifact at Ithra museum can make you want to learn more about the past", which gained 78.8% either agree or strongly agree Figure 3. The fourth question was "Seeing a digital copy of an artifact at Ithra museum can make you feel amazed and impressed", and 77.6% either agree or strongly agree Figure 4. All these positive results about the Ithra participants' perspectives about whether the digital objects can excite their feeling of the past represent agreement between 76.9% and 78.8% while the remaining 22 and 28% were neutral, disagreed, or strongly disagreed can indicate that digital objects have a high potential to excite the audience's feelings about the past at Ithra museum.

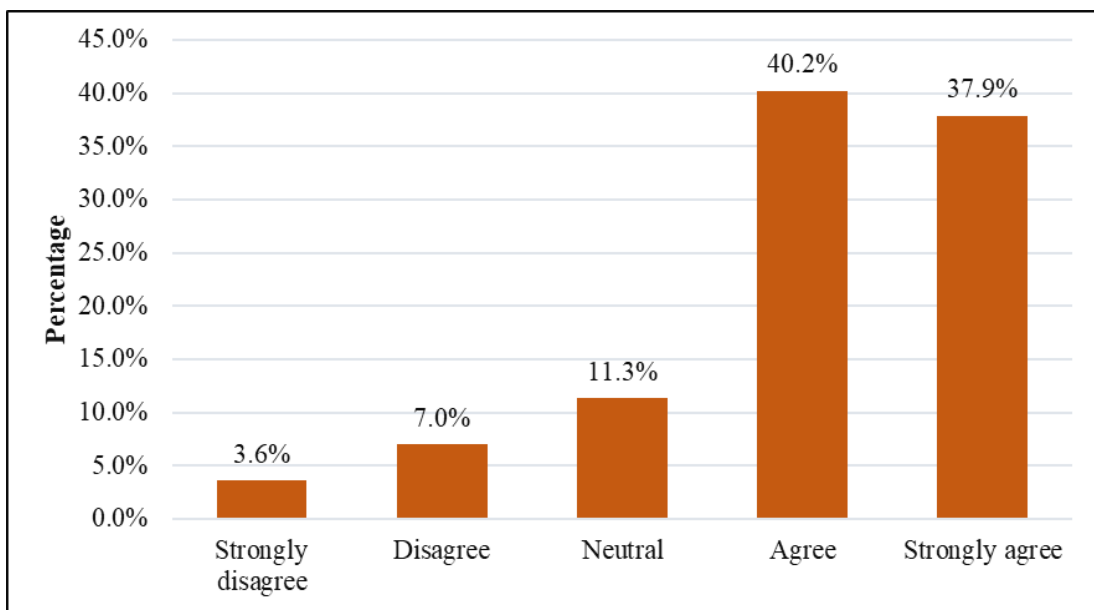


Figure 1. Responses regarding Digital Replicas at Ithra Museum: A Near-Authentic Experience

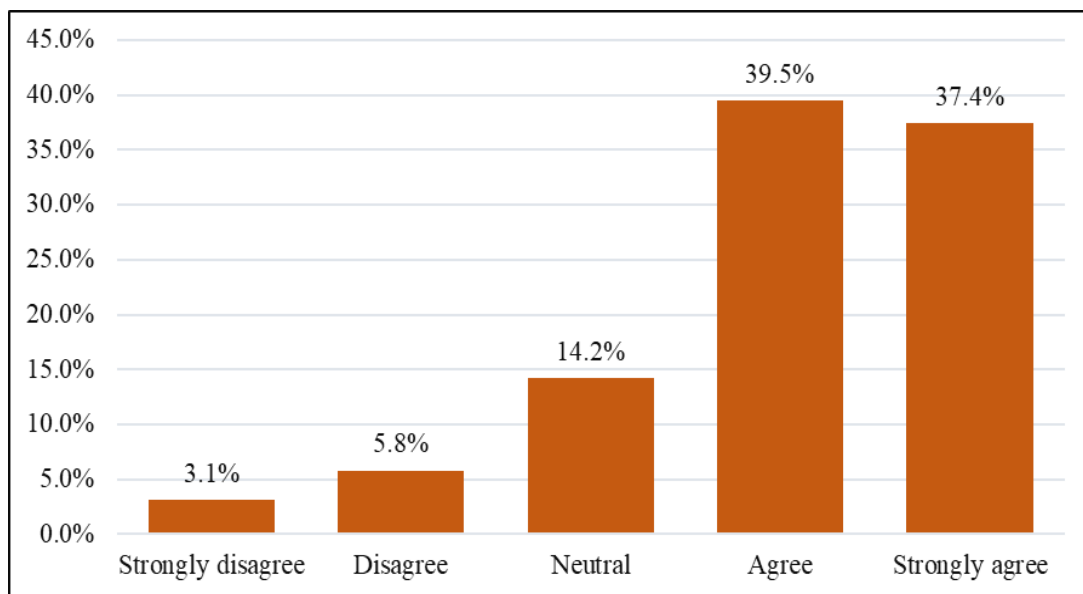


Figure 2. Responses regarding Digital Artifacts at Ithra Museum: Bridging Time and Imagination

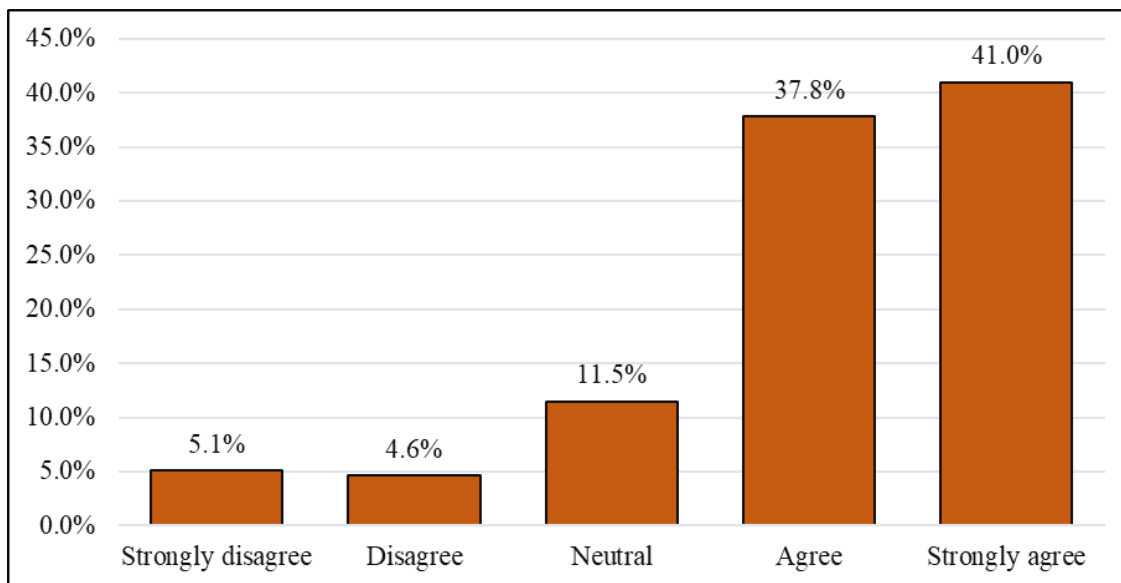


Figure 3. Responses regarding Digital Echoes at Ithra Museum: Igniting Curiosity About the Past

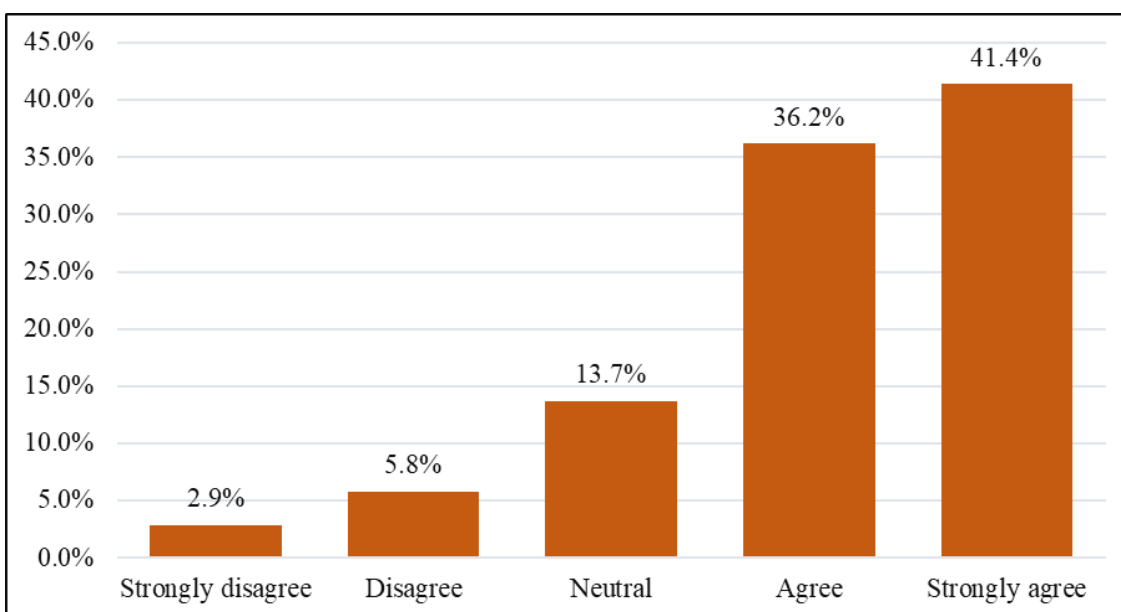


Figure 4. Responses regarding Digital Wonders at Ithra Museum: A Journey of Amazement and Impressions

This result, along with the perspectives of various scholars, suggests that Ithra Museum can present its content digitally by evoking the emotions of the past, prompting visitors to either embrace or reject the notion of authenticity in digital objects. As an illustration, consider the Ajyaal exhibition's design, which offers historical and cultural background for Saudi Arabia's past while making links to the present, and is accessible virtually online, or in person at Ithra. Bryce et al. argue that when considering an imagined past setting, it is crucial to comprehend the contemporary individuals' aspirations and perceptions of the past. The pursuit of authenticity, self-perception, and ancestral exploration becomes even more heightened when one envisions or discovers ancestral connections at the destination.² In the virtual tour, visitors can discover more about the traditional clothing of the Kingdom, which often indicated the wearer's social position and varied depending on their place of origin. Ajyaal hosts "Being Saudi" deftly combines aspects of Saudi Arabia's historical past with the

quickly advancing technological landscape of today for example, in the display of face and head coverings in addition to Dira'a and Abayas, traditional clothing. Through an interactive screen, visitors to Ithra in person can choose one to wear themselves and learn about the many embellishments, cuts, and fabrics used in their creation. As the Kingdom looks to the future, 'Being Saudi' shows the Kingdom's heritage — a heritage that can evoke nostalgic feelings and reinforce collective memory.³ This might be because nostalgia is a central motivation, and it is hypothesized that satisfaction with some heritage events is based on perceived authenticity. As long as the mix of factors is able to produce the desired feeling of nostalgia, it is not necessary for every aspect of the experience to be authentic or even satisfying, as Charbra, Healy and Sils argue, both the media and the public can partly control this perceived authenticity.⁴ This method strengthens visitors' feeling of identification and connection to the past at Ithra museum by making the past seem more real and relevant as well as by assisting them in seeing how their own lives fit into a bigger historical story. Therefore, it is hypothesized that satisfaction with a heritage event is not dependent on its authenticity in the literal sense of whether it is an accurate re-creation of some past conditions, but rather on its perceived authenticity that is consistency with nostalgia for past.

This can assist Saudi individuals in better rethinking to the authenticity of the digital objects within a larger historical framework. To clarify, a story that successfully bridges the gap between "then" and "now" might elicit sentiments of nostalgia by highlighting the ways in which events, lifestyles, or beliefs from the past continue to reverberate in the present day in Saudi Arabia. This could potentially explain the positive responses across all results regarding the Ithra participants' perspectives on whether digital objects have the potential to excite the audience's feelings about the past in the Ithra museum, with a range of agreement between 76.9% and 78.8%.

The Constructivist view of authenticity: How We Interact with Digital Objects

Providing opportunities for visitors to the Ithra Museum to engage with immersive museum experiences could enhance the authenticity of the digital artefacts on display there. There were two questions in the questionnaire that measured how audiences interact with digital objects' meanings and how is that affected the objects' authenticity. This can occur when visitors participate in interactive exhibits that help them to remember the meaning of digital objects that bring people closer to their common past. This in turn demonstrates that authenticity is not fixed and can be subject to alteration depending on fresh insights and viewpoints.

In summary, this links to the Constructivist and the Existential approaches to authenticity, in which, both emphasize authenticity is not an inherent quality of an object but is constructed by individuals and societies based on their values, beliefs, and contexts.⁵ This can be demonstrated by exploring the responses of visitors to the digital objects at Ithra museum. The first question was "seeing a digital copy of an artifact at Ithra can make you want to look at it for a long time" and 72.5% either agreed or strongly agreed Figure 5. As for, the second question, most respondents, 71.2%, also agreed with the next question "When people see digital objects and interact with them in different ways, this will lead them to different conclusions about the value of these objects." Figure 6. These high percentages, which constituted almost one-third of the sample (from 71.2% to 72.5%), indicates that digitization at Ithra museums might be more acceptable because it considers Saudi histories and the past lives of the items it represents by the sensations and relationships they elicit.

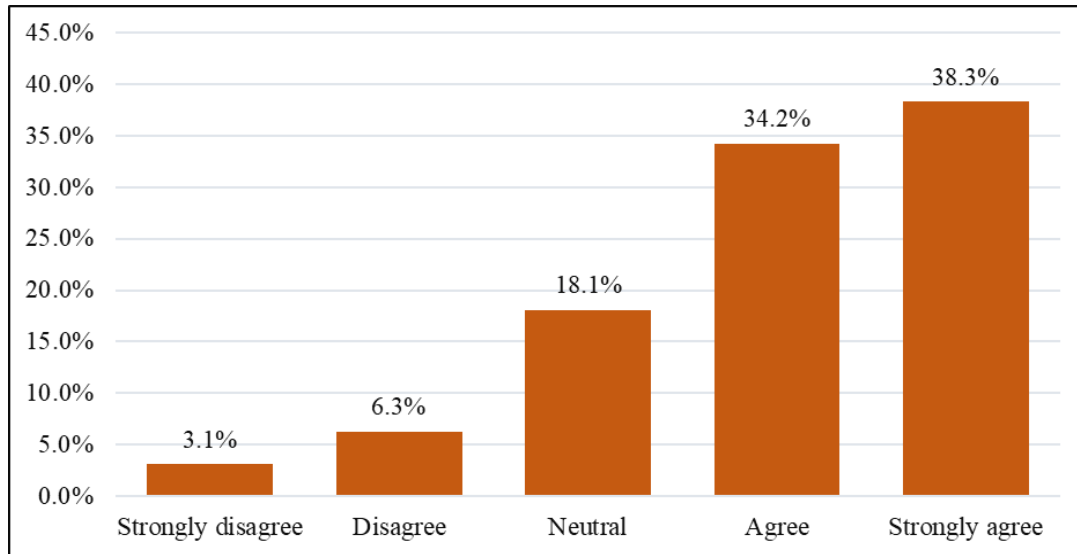


Figure 5. Responses regarding Seeing Digital Artifacts at Ithra

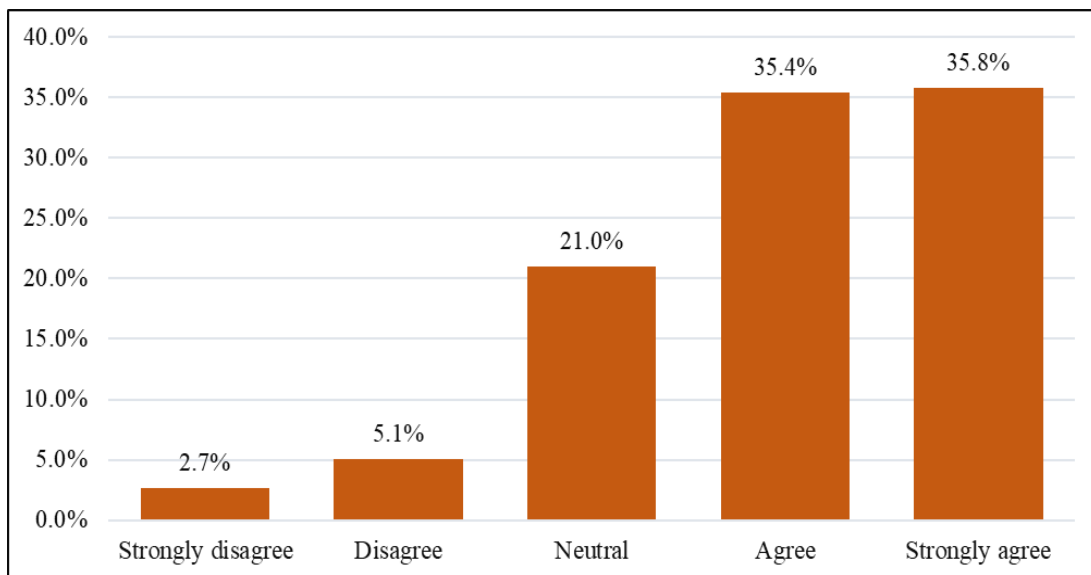


Figure 6. Responses regarding Interactive Digital Objects: Diverse Interactions, Varied Valuations

For instance, Rehlaat exhibition at the Ithra, where you can immerse yourself in the heritage of the Arabian Peninsula, deeply ingrained in Saudi collective memory. Furthermore, explore the diversified geographical setting, which is home to a wide variety of animal species and natural treasures that are exclusive to the Arabian Peninsula.⁶ The multimedia infused Rehlaat Gallery is devoted to showcasing the topography of the Arabian Peninsula throughout its history, as well as its relationship with people through time, with an immersive and interactive gallery through screen and sound effects. The 180-degree video projection and surround sound system take guests on a detailed tour of the Arabian Peninsula's natural treasures. Audiences would be able to fly over the tallest mountains, traverse through scorching deserts, and cruise along the Arabian coasts, which are still used as trading posts today.⁷ Visitors can experience the plants, animals, and people of this distinct region of the world through the Rehlaat Gallery, which speaks volumes to them. Therefore, by utilizing augmented and virtual reality technology here, Ithra visitors may immerse themselves in exhibitions, constructing their own meaning and experiencing a range of emotions as they explore various parts of collective

memory and reflect on their own and others' past. A person's deep engagement with heritage stories, their feeling of connection to the local past, and their in-depth knowledge of the places they visit all contribute to their Existential authenticity.⁷ In which the Constructivist approach holds that people's interactions with heritage artefacts and their intangible cultural meanings and beliefs serve as a catalyst for Existential authenticity. As Cohen argue about authenticity can be attained by self-discovery that is primarily determined independently of the heritage producer ...the creation of cultural heritage artefacts serves as a catalyst for existential truth-seeking experiences.⁸

Ithra increasingly turns to constructed sites of memory to anchor visitor's sense of Saudi identity. This process reflects a need to preserve a connection to the past. This demonstrates that authenticity is subject to change considering fresh evidence and viewpoints. As people gain more life experience and education, their subjective reactions to museum displays can evolve over time, encouraging them to find their own meaning in the digital exhibits. Jones and Jeffrey's Constructivist approaches to authenticity in museums suggest that authenticity is not so much substantial quality of an object as it is something that is constructed through social and cultural contexts through interactions between the visitor and the object. It comes from their previous relationships and experiences, which enables them to hold on to bond with those people and situations.⁹

The Constructivist approach to authenticity and Existential authenticity both contribute to the way collective memory is experienced and understood at Ithra museum. In fact, museums would still use virtual reality technologies as devices for 'reconstructing' past or inaccessible built or natural environments that can offer a venue where audiences could gather or explore ideas in this space. Constructivist approach highlights the role of Saudi social and cultural contexts in shaping what is considered authentic, by creating chances for visitors to interactive with immersive museum experiences that foster existential authenticity. This emphasizes the audiences' engagement and makes collective memory meaningful by creating engaging experiences at Ithra museum that connect individuals to their shared history in profound and personal ways.

The Material View of Authenticity: Originals vs. Digital Copies.

The previous questions in the two elements aimed to gather participants' opinions about digital objects, while the current questions focused on comparing the digital and physical experiences at Ithra. Four questions were asked to the Ithra audiences about comparing the digital and physical experiences at Ithra exhibitions. This allows us to measure the Ithra visitors' perspectives about the objects based on their material and tangible conditions, and physical evidence compared to the digital environment.

To summaries these four questions' results, only 21.2% of participants disagreed with the first statement in this regard: "Digital copies of an artifact are not as impressive as the real artifact (original)." In contrast, 59.6% of participants agreed with the first statement Figure 7. The second statement was that digital copies of an artifact are not as unique as the real artifact (original). 62.1% agree, and 17.9% disagree with Figure 8. The third statement was, "Digital copies don't have a strong physical presence, which can lead people to underestimate their value." 22.2% of respondents disagreed with that, while 56.8% agreed with it Figure 9. The fourth statement was, "Copies can be reproduced from an artifact easily, which can make people underestimate their value." 18.1% disagreed, while 57.1% agreed with that. Figure 10. More than half of the respondents, specifically 56.8%–57.1% and 59.6%–62.1%, agreed with that they prefer physical objects over digital ones. Whereas 17.9%, 18.1%, 21.2%, and 22.2% disagreed with that.

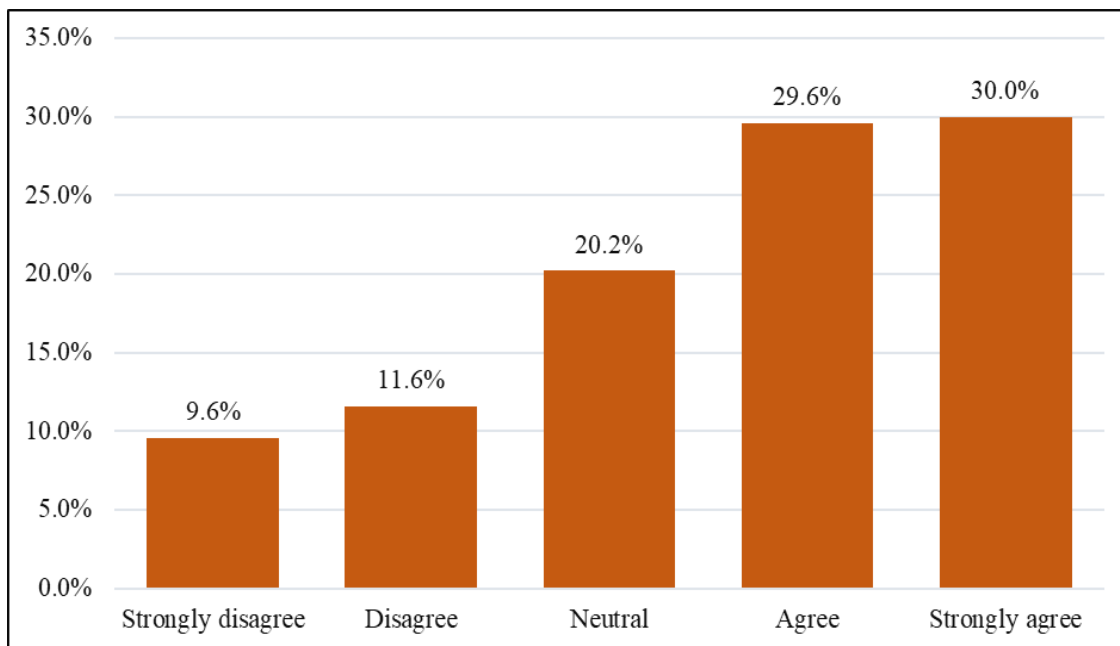


Figure 7. Responses regarding Digital Versus Original: The Unmatched Impact of Authentic Artifacts

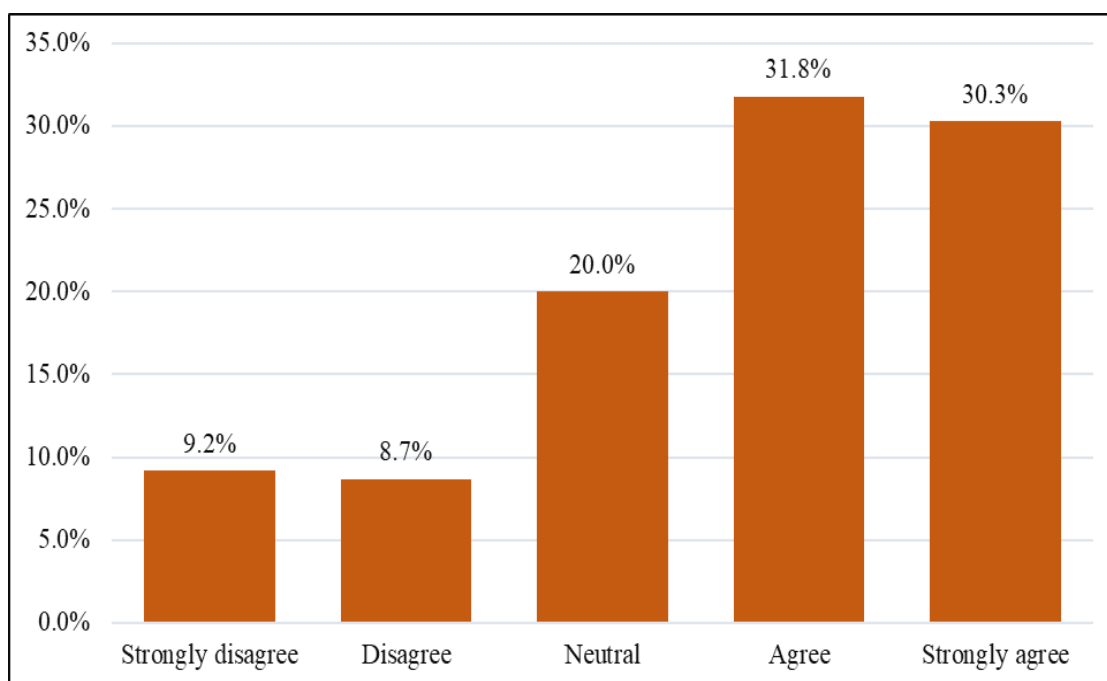


Figure 8. Responses regarding Original vs. Digital: The Unrivaled Uniqueness of Authentic Artifacts

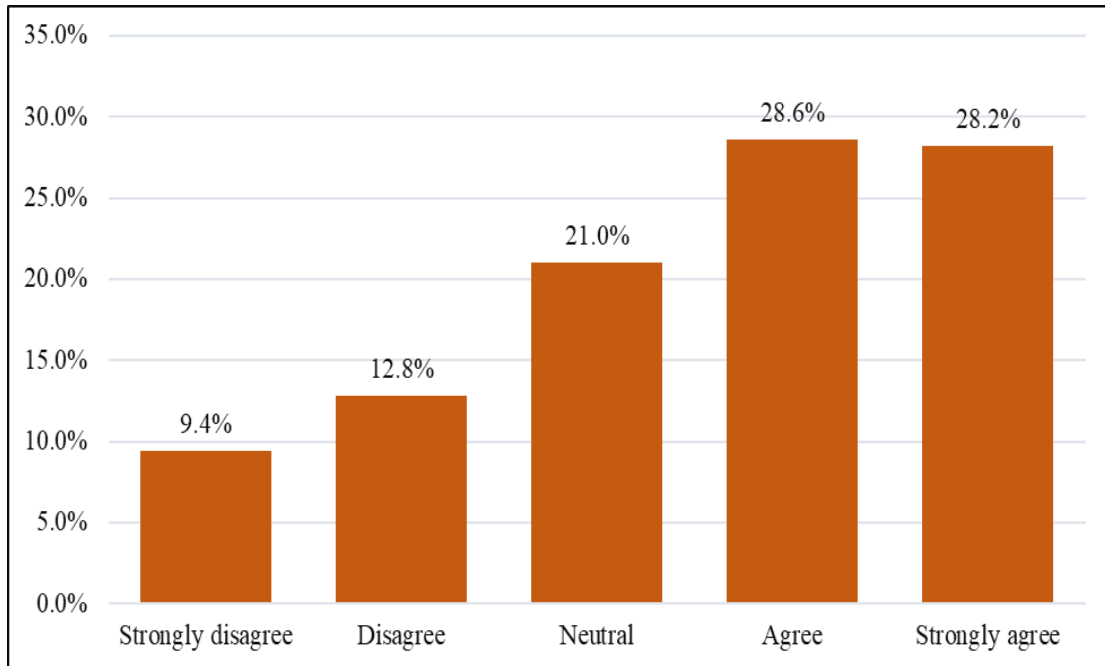


Figure 9. Responses regarding Digital Shadows: The Underappreciated Value of Virtual Artifacts

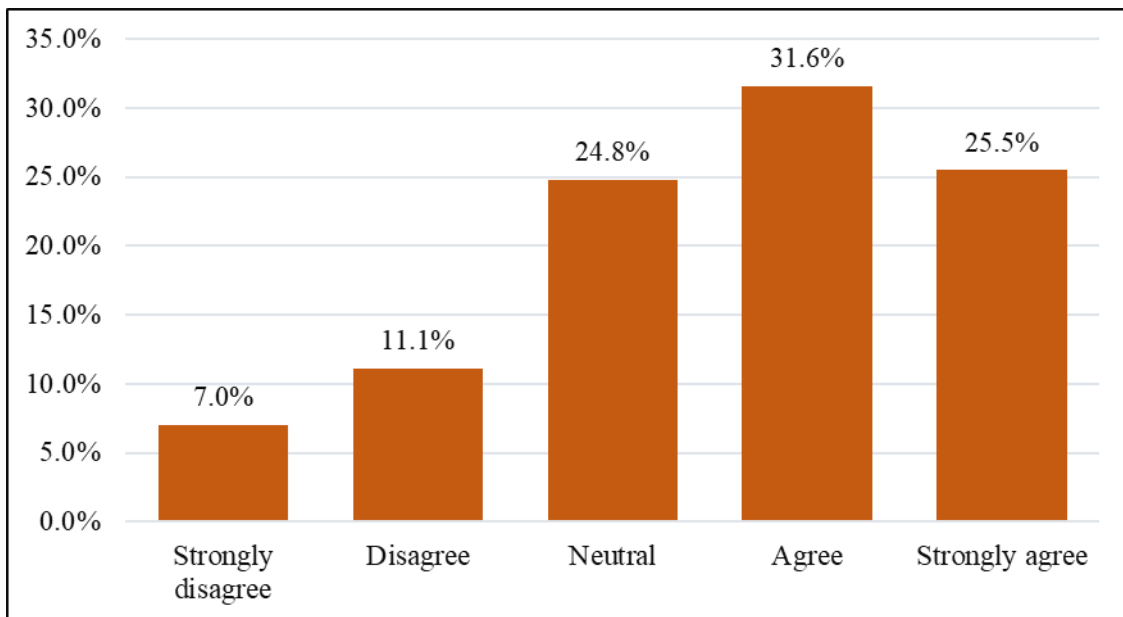


Figure 10. Responses regarding Reproducibility and Perception: The Devalued Essence of Digital Copies

However, the data reveals a significant level of neutrality (ranging from 20.0% to 24.8%) that represents a quarter of participants. The neutrality in this section might indicate the presence of a balanced perception among respondents. While some participants might have preferences, as we mentioned above, a significant group might find both experiences to be somewhat similar and equally valuable. Moreover, this neutrality might reflect the various preferences of Ithra’s audience. It highlights that different segments of the audience might have varying levels of linking to digital and physical experiences or might value some aspects of each.

The outcome that can be derived from this approach and the previous data that was presented earlier reveal the Ithra audience prefers the physical experience over the digital one. Ithra visitors may prefer

to see authentic objects to evoke the pastness through relevant material clues, such as wear and tear, decomposition, and disintegration, rather than seeing only the copies. This result might align with Holtorf's initial criterion for pastness, which requires tangible proof of material clues. An object lacks pastness and may not be interpreted as belonging to the past when relevant material clues—such as wear and tear, decomposition, and disintegration—are absent in the material.¹⁰

This could reveal the logical explanation for the high percentage of 59.07% who visited the From Earth exhibition. It features numerous originals and physical artworks. When the Ithra audiences were asked about their gallery visits, the percentage of visitors to the Art of Orientation and Rehlaat was comparatively lower, at 20.25% and 9.07%, respectively. These exhibitions combine physical and digital environments to show the history and cultural heritage of Saudi Arabia. That indicates the visitors' preference for the physical objects at Ithra Museum.

The exhibition "From Earth" centers on the relationship Saudi artists have with Saudi Arabia's natural landscape and heritage, and how this relationship has influenced their artistic expression. From Earth exhibition allows Saudi artists to display their works that explore their relationship to the Kingdom. Through original and one-of-a-kind artwork, the exhibition seeks to portray a variety of viewpoints, echoes the material and intangible parts of the artists' experience, and highlights the artists' interactions with the Saudi environment. This might seem compatible with a materialist approach aiming to comprehend these objects in relation to their material circumstances. Similarly, objective Authenticity is grounded in tangible evidence and facts, operating under the assumption that there exists an objectively existing reality that can serve as a criterion when assessing the truth, accuracy, and authenticity of something. This exhibition is subject to some requirements: the artwork must be authentic and creative; it must not be copied or quoted from other works. The artwork should be rooted in the natural world in Saudi Arabia and not rely on technology.¹¹

For a large portion of the Ithra audience—just over half of the participants—viewing a digital copy may not have the same emotional and sensory impact as encountering the original artefact. How worthwhile and genuine the cultural experience seems to be impacted by this. But we can't discount the remaining responses, which comprise over half of the participants and fall somewhere between disagreement and neutral. Therefore, the Ithra Museum might provide the best of both worlds by integrating digital and real experiences. While visitors can appreciate the tangible impact of artefacts, digital technologies can elevate their experience by enhancing their comprehension of the artefacts through additional information, interactive components, and context.

CONCLUSION

According to this research, Ithra museum acts as anchors for Saudi collective memory by the possibility of preserving and evoking a feeling of the past in the digital era. Therefore, the management of Ithra museums can enhance visitors' sense of authenticity by promoting digital heritage interactions with objects on display in most Ithra exhibitions. This stems from the claim put out by Constructivists, which state the base is social or personal, thus, authenticity is prone to change, and highly flexible. For instance, Cohen suggests that authenticity is a dynamic term that can be negotiated, rather than an inherent quality of something.¹² When it comes to Ithra displays, it is obvious that the digitalization of artefacts is not a replacement for physical preservation and exhibition processes; rather, it is a strategy that complements these processes. To clarify, Ithra has a balanced approach that makes use of digital technology to complement and enhance the appreciation of original artefacts to preserve and showcase Saudi cultural heritage. This is accomplished by utilizing digitalization as a tool for preservation and access, while maintaining a continued emphasis on the significance of preserving the original artefacts that are displayed in its exhibitions.

NOTES

- ¹Heike Schänzel and Neil Carr, *Children, Families and Leisure*, (Routledge New York, 2016).
- ² Derek Bryce and others, 'Visitors' Engagement and Authenticity: Japanese Heritage Consumption', *Tourism Management*, 46 (2015).
- ³ "Being Saudi' Reveals Kingdom's Rich Cultural Fabric," ARABNEWS, March 13, 2023. <https://www.arabnews.com/node/1610926/lifestyle>.
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- ¹⁰ Cornelius Holtorf, 'On Pastness: A Reconsideration of Materiality in Archaeological Object Authenticity', *Anthropological quarterly*, (2013).
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THE ROLE OF FRANK STREET IN THE PUBLIC LIFE OF IZMIR

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INTRODUCTION

This article delves into Izmir's urban history from 1850 to 1922, with a particular focus on Frank Street, a crucial commercial and public thoroughfare. During this period, Izmir underwent significant growth, emerging as a major port city with a distinctive path toward modernization. The research highlights Frank Street, recognized as the longest commercial and public thoroughfare in Izmir, and explores its impact on communal and public life. It also examines the relationship between Frank Street and its surrounding environment, such as Kemeraltı and the coastline, considering the effects of coastal embankment measures and how this relationship evolved over time.

Despite its significance, Frank Street has been largely overlooked in academic studies. This research aims to fill that gap by analyzing the street's role in Izmir's transformation into a western-oriented city. Employing a cultural-historical approach, the study synthesizes data from maps, photographs, postcards, traveler notes, and literature to provide a comprehensive interpretation of Frank Street's importance. Ultimately, the research contributes to a deeper understanding of Izmir's modernization and the role of commercial corridors in shaping the city's identity and development.

Literature Review

In exploring Izmir's rich historical and cultural landscape, scholars have made significant contributions through focused research on various aspects of the city's past. Sibel Zandi Sayek explored the Levantine community, examining the city's coastal interactions and earlier periods while highlighting the public and daily life of its inhabitants.

Rauf Beyru expanded on this by detailing Izmir's 19th-century transformation, grouping neighborhoods and addressing how major fires and infrastructure developments reshaped the urban landscape, complementing Sayek's work on daily life.

Çınar Atay shifted focus to the Punta and Kordon regions, emphasizing the commercial structures and trade networks in Kemeraltı. His research illuminates the economic activities that spurred the city's growth, building on Beyru's analysis of infrastructural changes.

Fuhrmann offered a more personal view by presenting sections from period newspapers, capturing the social dynamics and everyday occurrences of Izmir, tying in with Sayek's exploration of public life and Atay's focus on commerce.

Lastly, Georgelin used travelers' and consuls' notes to document the Levantine heritage, adopting an elegiac tone to capture the community's diminishing influence with the rise of the nation-state. His

work provides broader context for the Levantine influence discussed by Sayek and the transformations detailed by Beyru and Fuhrmann.

Historical Evolution of Izmir: From Ancient Smyrna to an Ottoman Commercial Hub

Izmir, historically known as Smyrna, is a major city on Turkey's western coast along the Aegean Sea, as indicated in Figure 1, is a major city on Türkiye's western coast along the Aegean Sea. Dating back to around 3000 BC, Izmir's history includes its founding by Ionian Greeks in the 11th century BC, and its growth as a port and commercial center known for olive oil, wine, and textiles.¹ Conquered by the Lydians, Persians, and Alexander the Great, Izmir thrived under Roman rule from the 2nd century BC to the 3rd century AD, becoming an intellectual and cultural hub with notable architectural achievements.²



Figure 1. Map of Turkey highlighting the location of Izmir and its neighboring countries. Source: Google Maps.

Following the Roman Empire's division, Izmir became part of the Byzantine Empire, maintaining its importance despite invasions.³ The Ottoman period, beginning in the 15th century, saw Izmir transition from a small port to a significant trade center, influenced by the Ottoman focus on international trade.⁴ Key developments included the establishment of the Levant Company in 1581 and French trade monopolies in 1666, solidifying Izmir's role in exporting textiles, agricultural products, ceramics, and luxury items.⁵

By the 19th century, Izmir had evolved into a bustling cosmopolitan city with a diverse population including Greeks, Armenians, Jews, and Levantines. Its demographic diversity and the Ottoman policy of religious tolerance fostered trade and settlement.⁶ Global events like the American and French Revolutions boosted Izmir's commercial growth, as Western European industrialization increased demand for agricultural goods and raw materials.⁷ Reforms such as the Baltalimanı Treaty of 1838 and the Tanzimat Reforms of 1839 modernized trade and administrative systems, integrating Izmir into global networks.⁸

The 19th century saw significant urban transformations, including the creation of new neighborhoods and major infrastructure investments. The Izmir-Aydın Railway, inaugurated in 1860, linked Izmir to its hinterlands. Financial institutions such as the Commercial Bank of Izmir, founded in 1843, Crédit Lyonnais, established in 1860, and the Ottoman Bank, which began operations in 1863, were instrumental in boosting trade and investment.⁹ The late 19th century furthered Izmir's development

with Western-influenced districts like Punta and Darağaç, and expanded port facilities enhancing commercial activities.¹⁰

Izmir's strategic location, diverse population, and integration into global trade networks have shaped its development, maintaining its significance as a vital center of trade, culture, and intellectual achievement in the Mediterranean.

Izmir and Ottoman Port Cities as Key Players in Mediterranean Trade Network

The Ottoman Empire, at its peak, was home to significant port cities in the Eastern Mediterranean, crucial for trade, commerce, and cultural exchange. These cities facilitated interactions between various ethnic groups, religions, and civilizations within the Empire.

Izmir, the first coastal city occupied by the Ottomans in the late 14th century (around 1424), became a key port due to its strategic location along the Aegean coast. Izmir's natural harbor, the Gulf of İzmir, made it a vital connection between Europe, the Eastern Mediterranean, and Asia. The city's maritime trade was dominated by Levantine merchants, Greeks, and other local communities, contributing to its commercial prosperity. Izmir's port thrived on diverse imports, including luxury goods like spices, silk, fine textiles, and raw materials such as metals and timber. The city also became a major exporter of agricultural produce like grains, olives, figs, and high-quality textiles, particularly silk and cotton fabrics.

Thessaloniki, conquered by the Ottomans in 1430, was another crucial port city on the Balkan Peninsula, strategically located along the Aegean Sea. The Ottomans invested in the city's infrastructure, enhancing its port facilities in the 1860s and 1870s (Kihtir Öztürk, 2006).¹¹ Thessaloniki's commercial prominence dates back to ancient times, and under Ottoman rule, it became a center for trading textiles, spices, and grains. However, its textile industry declined after the classical era, with the city's economy increasingly reliant on trade with European markets. The establishment of consulates in the 18th century marked a shift in its economic landscape. Although cultural freedoms were limited, such as the suppression of an illegal Jesuit church, Thessaloniki remained economically significant.¹²

Istanbul, conquered in 1453, became one of the most important Ottoman port cities, controlling the Bosphorus and regulating trade between the Black Sea, the Aegean Sea, and the Mediterranean. It was a major hub for the import and export of silk, spices, precious metals, and grains.

Beirut, under Ottoman rule from 1516, had a vibrant maritime trade history, known for exporting silk, textiles, spices, and agricultural products. European companies significantly enhanced Beirut's port facilities in the 19th century.¹³ Similarly, Tripoli, also conquered in 1516, played a role in regional and Mediterranean trade networks, albeit on a smaller scale compared to cities like Istanbul or Alexandria. Tripoli's trade involved textiles, olive oil, grains, spices, and ceramics, serving as a vital link in the broader maritime trade networks of the Eastern Mediterranean.¹⁴

In 1517, Alexandria became part of the Ottoman Empire after the conquest of Egypt. The city's natural harbor, the Eastern Harbor, and its position at the mouth of the Nile River delta made it a gateway for trade between the Mediterranean and Egypt's inland regions. Alexandria's port experienced significant growth in the 19th century, becoming a major hub for Egypt's cotton-driven economy and the transit trade through the Suez Canal.¹⁵ Haifa, another coastal city conquered in 1517, had a long history of maritime trade, dating back to ancient times. However, its role in the broader Eastern Mediterranean trade networks was more limited compared to larger port cities. Haifa's trade focused on agricultural products, timber, handicrafts, textiles, and pottery, serving primarily regional connections.

Despite similarities in the trade activities of these coastal cities, Izmir's central location within the Ottoman Empire made it a pivotal trade node, particularly in the 18th and 19th centuries. Trade

statistics from 1784 show that Izmir had the largest share in imports and exports with Marseille, surpassing even Istanbul and Thessaloniki.¹⁶ The city's port lifestyle, marked by leisure and entertainment, underwent a radical transformation in the 19th century, creating new industries and provoking societal debates.

Levantine Community in Izmir

The term Levantine refers to individuals of European descent who settled in Anatolian coastal cities, such as Izmir and Istanbul, during the late Ottoman Empire. This community included people of British, Italian, French, Hungarian, and Slavic origin, who played a significant role in state affairs and commercial life.¹⁷ While the exact definition of Levantine varies, it generally applies to Europeans living in Eastern Mediterranean cities.

In Izmir, the Levantine presence began in the late medieval or Byzantine period but expanded notably during the late Ottoman Empire. The 1856 Property Ownership Rights allowed wealthy Levantine families to purchase land, leading to the development of new suburbs like Bornova and Buca, and an expansion of the Frank Quarter, which became densely populated with Levantine merchants from England, Austria, and France.¹⁸ Punta, now Alsancak, became a center for middle-class Levantines, while wealthier members settled in suburbs, leading to European-style mansions with local features.¹⁹ The Levantines significantly impacted Izmir's economic and cultural life by establishing European investments, such as railways, trams, and docks. They founded institutions like clubs, banks, churches, and schools, enhancing community cohesion and preserving cultural heritage. Their influence extended to the city's entertainment scene with venues like the Theater de Smyrne (1911) and the first large beer garden on the quays.²⁰ They also established renowned hotels, such as the Grand Hotel Kraemer Palace, and other notable establishments like the Brasserie Graz and Brasserie Budapest, which contributed to Izmir's cosmopolitan reputation.²¹

The Levantine community was also active in sports, introducing Izmir's first horse race in 1861, football match in 1877, and athletic competitions in 1892. They established the Bournabat Football and Rugby Club in 1894, Izmir's first football club, and promoted modern sports and interaction among different ethnic groups.²²

Their educational contributions included institutions like the Italian Girls School (Figure 2), Saint Jean-Baptiste de la Salle, Saint Joseph High School, and missionary schools such as Saint-Polycarpe and Propaganda College, which offered diverse and multilingual education. These schools reflected Izmir's cosmopolitan nature and the Levantines' commitment to education.²³



Figure 2. Italian Girls School. Source: Levantine Heritage Foundation

Additionally, the Levantines influenced İzmir's media landscape by establishing newspapers in various languages, such as French, English, and Italian, contributing to cultural exchange.²⁴ Politically, they used their economic influence to act as intermediaries between the Ottoman Empire and Europe, although their prominence declined with the political changes of World War I and the Greco-Turkish War.

Frank Street in the Urban Pattern

The Frank Quarter in İzmir, also known as "Birinci Kordon," extended from Konak to Alsancak along the southern Izmir Gulf, housing Levantine and other non-Muslim communities. This area became crucial for international trade and community interaction, featuring European residences, consulates, and commercial enterprises, as depicted in Figure 3.



Figure 3. *Bella Vista, 1904.* Source: *The Levantine Herald, 2022.*

In the 19th century, Izmir's urban landscape comprised five residential districts, including the Frank Quarter, which housed Europeans who settled in the coastal area in the 17th century. The city did not enforce strict religious or national segregation, with transitional spaces facilitating interaction among different communities.²⁵

The Frank Quarter, north of Izmir's bazaar, was originally a seaside enclave for European merchants and evolved to meet the needs of international trade. Its layout featured narrow streets and long, thin building parcels, creating a distinct pattern between the city and the sea.²⁶ This quarter expanded over time, merging with the rest of the city both physically and functionally.²⁷

Izmir's rise as a commercial hub in the 18th century was aided by Ottoman policies that attracted non-Muslim traders, including low customs duties and property rights for foreigners.²⁸ Frank Street, located in the Frank Quarter, became a bustling bazaar, central to the city's commercial life. Also, the Levantine community's social hubs, such as places of worship and schools, were centered around Frank Street. However, the quarter suffered significant damage from several fires in the late 18th century, leading to the emergence of new suburban settlements.²⁹

Evolution of Frank Street in Izmir's Coastal Landscape

In the early 19th century, Smyrna's thriving commercial activity was supported by its natural harbor, but the advent of steamships revealed the Gulf's inadequacies for efficient loading and unloading.³⁰ As the city expanded, particularly around the Frank Quarter, land reclamation projects like the 1834 remediation of Mesudiye Street (Figure 4) facilitated construction along the coast, leading to significant changes in the urban landscape.



Figure 4. The shore preceding the coastal embankment, 1865. Source: George Poulimenos Online Archive.

The construction of the quay and promenade embankment between 1867 and 1876, -as illustrated in Figure 5- driven by French capitalists Joseph and Emile Dussaud, marked a major shift. This project not only transformed the port of Smyrna, allowing it to accommodate 300 ships, but also modernized the city's appearance, making it comparable to European cities.³¹ The new quay, stretching from Punta to the Amber Barracks, introduced new urban plots and redefined the relationship between the city and the sea, creating a communal space where the inhabitants could interact with the shoreline.³²



Figure 5. Plan of the new quay and basin under construction, 1867. Source: George Poulimenos Online Archive.

Frank Street, originally a social and commercial hub near the waterfront, moved further inland by the late 19th century as the coastline was altered. This shift reflected the evolving dynamics of the city and its maritime activities. The street became a major north-south artery of Izmir, home to a diverse range of establishments, from businesses and foreign consulates to social clubs and churches, catering to a mix of social layers (Figure 6).³³



Figure 6. A view from the Frank Street. Source: *Levantine Heritage*.

During this period, the impact of natural and man-made disasters, particularly fires, can be analyzed on the city's development. Numerous fires between the 18th and 19th centuries, including the devastating fire of 1922, led to significant damage and reconstruction efforts, ultimately reshaping Frank Street and its surroundings.³⁴ The dynamic evolution of Frank Street mirrors the broader challenges faced by Izmir in maintaining and adapting its urban infrastructure over time.

CONCLUSION

This study offers a detailed exploration of Izmir's urban history between 1850 and 1922, emphasizing the significant role of Frank Street in shaping the city's trajectory. As a central commercial and social artery, Frank Street was not only a focal point of economic activity but also a barometer for Izmir's broader transformation into a modern Mediterranean metropolis.

Frank Street stands as a testament to Izmir's rich and dynamic history, illustrating the city's evolution from a bustling commercial hub to a modern metropolis. This vibrant street, situated in the Frank Quarter, exemplifies the intersection of international trade, diverse communities, and urban development in Izmir. Originally a haven for European merchants and settlers, Frank Street played a crucial role in shaping Izmir's commercial and social landscape during the Ottoman era.

Throughout the 19th century, the street's transformation mirrored the city's broader urban development, influenced by both natural and man-made changes. As the city expanded and modernized, Frank Street adapted, reflecting the shifting dynamics of Izmir's maritime and commercial activities. The construction of new infrastructure, such as the quay and promenade embankment, and the impact of multiple fires, significantly altered the street's character and its relationship with the waterfront.

The Levantine community, central to Frank Street's identity, contributed profoundly to Izmir's economic and cultural life. Their investments and social institutions helped shape the city's cosmopolitan nature, fostering a diverse and dynamic urban environment. Despite facing challenges

such as fires and economic shifts, the street's evolution underscores the city's resilience and adaptability.

In essence, Frank Street encapsulates Izmir's journey through its periods of prosperity and transformation. It highlights the city's ability to integrate various cultural influences and adapt to changing conditions, cementing its status as a key player in the Mediterranean trade network and a significant urban center. As the city continues to grow and evolve, Frank Street remains a symbol of its historical depth and enduring significance in the region.

Throughout this period, Izmir's evolution from a historical port city to a vibrant hub of commerce and culture was marked by substantial changes, many of which were encapsulated in the life and development of Frank Street. The street's prominence reflects the city's broader shift towards modernization, driven by its strategic location along the Aegean coast and its integration into global trade networks. Frank Street, with its bustling markets and diverse commercial enterprises, symbolized Izmir's role as a vital node in the Mediterranean trade system.

The role of the Levantine community in Izmir's evolution cannot be overstated. Their contributions extended beyond mere commercial interactions; they played a central role in shaping the city's urban fabric and cultural landscape. The architectural innovations introduced by Levantine families, including European-style mansions and public buildings, were pivotal in modernizing Izmir's appearance and character. Their involvement in establishing key institutions, such as banks, schools, and entertainment venues, further underscored their influence on Izmir's development.

The study also highlights the impact of global events and reforms on Izmir's growth. The city's integration into international trade networks, facilitated by treaties and infrastructural investments, was crucial in shaping its economic and social dynamics. The expansion of the port, the development of new districts, and the establishment of modern financial and transportation systems all contributed to Izmir's emergence as a significant player on the Mediterranean stage.

NOTES

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MAPPING THE DEGREE OF CHANGE: A MORPHOLOGICAL APPROACH TO THE ANALYSIS OF CANBERRA

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INTRODUCTION

This paper explores the urban fabric as a spatio-temporal layering and unpacks how the diversity of ideas and planning principles come together to form the current conditions of a city. This is especially evident in the planned cities of the twentieth century, where the urban grain that was designed with the fascination of the car is increasingly going through transformations towards more pedestrian orientated spaces in the last few decades. Thus, this paper asks how to analyse those spatio-temporal processes, where the confronting nature of grain emerges, and how is this negotiated within the urban fabric. The paper proposes to explore these questions through the case study of Canberra. The density of the street and block pattern within the first Griffin Plan was intended to create an urban grain that was highly connected at both the city block and building levels.¹ However, subsequent changes to the plan, through a variety of different influences and approaches, manifested this change in the spatial patterns of the city.

The paper starts with an outline of the morphological approach being applied to map the physical aspects of the changing urban fabric. It proposes the use of the degree of change as the primary means of interrogating the physical and planned qualities of the urban environment. The changes to the Canberra plan are explored over two points in time; from its initial design in 1912 to the first 1927 phase of initial construction in the city. The paper then describes the GIS mapping and diagramming methods being applied, and finally discusses the initial results and findings identified within the various urban transformations, thus reading of the city as a layering of spatial and temporal changes.

Morphological analysis

This research applies urban morphological analysis to investigate ideas of change and transformation in the urban grain, focusing on the built aspects of the city. The morphological approach is premised upon the three foundational elements: the blocks (or streets), the lots, and built spaces of the city with their associated open spaces.² Importantly, a morphological approach to analysis as is applied in this research, presupposes that the urban fabric needs to be considered through time, as the elements of the city undergo continuous change and transformation.³

The degree of change is studied through the comparison of the block sizes within the plan, and the changes to these blocks through different iterations of the city plan, as initial understanding of the grain. This block comparison is supplemented with a neighbourhood-scale figure-ground analysis and

a fine-grain exploration through the comparison of key forms and their historical precedents. The fabric of the city is analysed through the aspects of form, resolution or grain, and time, which are the fundamental aspects of morphological analysis.⁴ The analysis focuses on the transformations and how those generate confronting moments in the built environment.

Historical overview of Canberra

The city of Canberra was planned as the National Capital at the beginning of the twentieth century, and since its inception has reflected various influences including urban theories, social, and political factors that have shaped its development. The Griffins' design (created by Marion Mahoney Griffin and Walter Burley Griffin) was announced as the winning entry of the Federal Capital Competition in 1912 and is still recognised for the way it cohesively integrates the design and structure of the city into the contours of the landscape.⁵ This paper explores the changes that took place following the adoption of the 1912 Griffin Plan and the 1927 plan which presents the first phase of construction and development within the city.

The Griffin Plan

The Griffin's plan is centred on two intersecting geometric frameworks that provide the backbone to the plan and connect the city to the landscape. The first of these is the National Triangle, with its three apexes on three hills. The southernmost point is located on Kurrajong Hill, the western apex on City Hill and the eastern point on Russell Hill. The three points of the triangle are connected by thoroughfares that form the central avenues within the city. The National Triangle is crossed by two main axes that further organise the city and provide the garden and landscape frontage to the structures within the National Triangle and across the city more broadly.⁶ Running roughly north to south is the Land Axis, connecting Mount Ainslie, Mount Kurrajong and Mount Bimberi approximately 50 kilometres to the south. The triangle is crossed by the Water Axis which sits perpendicular to the Land Axis, leading from Black Mountain roughly across the line of the Molonglo River and the new ornamental lake (now Lake Burley Griffin). The hexagonal radials that form the city and street network spread outward from this central geometry and form the third major aspect of the Griffin Plan.

Two of the primary influences that shaped the Griffin Plan were the Garden City and City Beautiful movements. The underlying principles of the Garden City can be seen in the Griffin Plan through the connection between the city and its natural setting, and the organisation around multiple radiating town centres.⁷ In addition to this the influence of the City Beautiful movement is evident in the focus on centralising axes. The traditional approach to City Beautiful design is typified by two elements: the grand massing of significant civic buildings and the use of boulevards to direct views to important landmarks. This can be seen in the main avenues that connect the various parts of the Canberra plan as the Griffins terminated most vistas on landscape features and important civic buildings.

The changing plan

This paper investigates the first in the change and development of the city (Figure 1). The Griffin Plan established the backbone and general structure of the city; however, the subsequent decades brought a variety of changes that impacted the spatial properties and qualities of the plan. The 1920s phase of development brought the gazettal of the Griffin Plan and was focused on the central areas of the city, specifically the Civic Centre, provisional Parliament House in the National Triangle, and the Initial City development to the south of the Molonglo River. The extent of the change is visible in the 1927 plan of the city which shows the departure from the core principles of the Griffins' plan, including continuity of the streets, density and symbolism.⁸

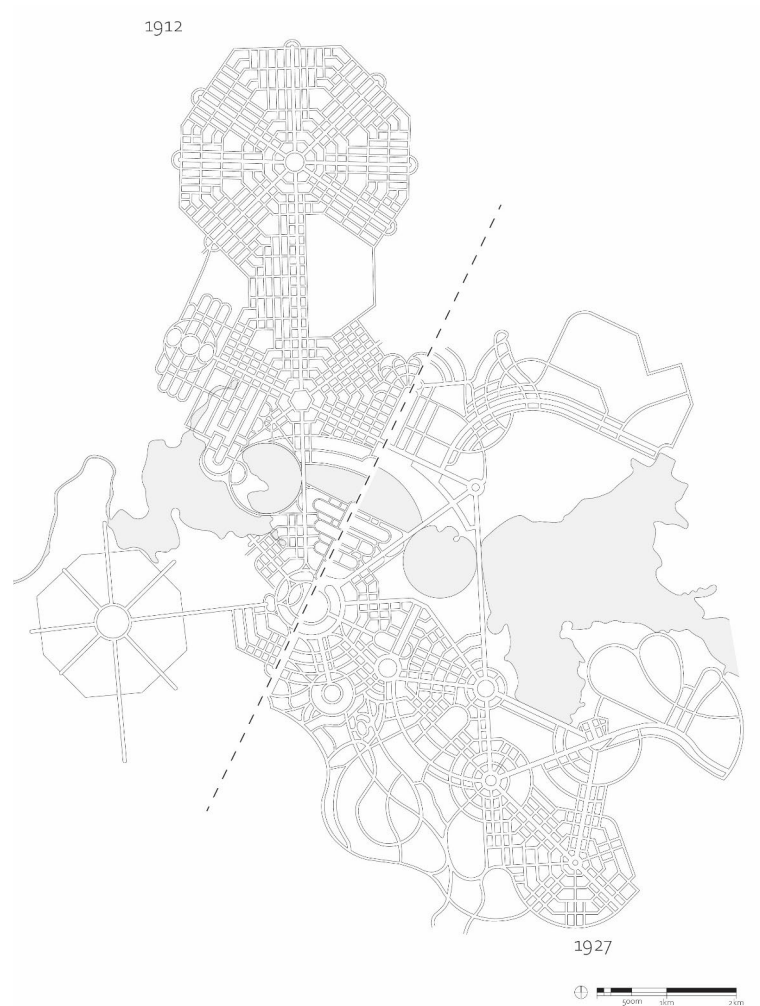


Figure 1. Comparison of the 1912 and 1927 plans for Canberra.

While the first Griffin Plan saw the city as ‘a geometrical road pattern closely related to the topography’ the plans that immediately succeeded it focused on the road pattern only (Figure 2).⁹ Later plans for the city then reintroduced a focus on civic design and the city’s overall structure. This means that the city functions as a layering of the changes and transformations that have affected the development of the city. An analysis of these changes can offer a means to explore the physical and planned qualities of the urban environment and lead to an additional aspect in the understanding of the city. While the city underwent numerous iterations throughout the twentieth century, the scope of this paper is limited to the first 1912-1927 changes, to conduct a multi-scalar and in-depth investigation.

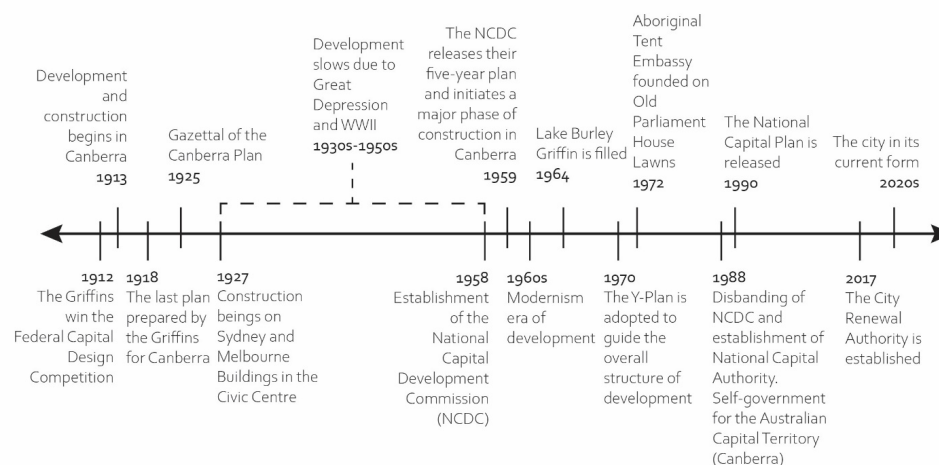


Figure 2. Timeline showing major events in the development of the Canberra urban fabric.

METHODOLOGY AND METHODS

This paper explores the degree of change within the urban grain in the early development and planning strategies for Canberra. It applies GIS mapping alongside diagramming methods to explore the change. In addition to two dimensional explorations of the urban grain, we explore a selected building and the transformation of its idea, from the president to the built version in Canberra. We contend that these methods are complementary, offering a whole city, a neighbourhood and a building exploration and through their layering provide a more holistic understanding and insight into the interrelationship of physical and planned aspects of the urban transformation.

GIS mapping: the city scale

GIS mapping was applied as a quantitative method to explore the degree of change in the Canberra plan.¹⁰ The degree of change is measured in percentage based on the difference in size of each block in two subsequent periods 1912 and 1927. It needs to be noted that the maximum degree of change is calculated as 100%. The area of the blocks was selected as a demonstration of the urban grain and pedestrian experience of the city. We argue that the smaller the block size in the city, the more pedestrian oriented it is. This GIS statistical analysis results were explored specifically through the natural breaks to investigate the changes to the blocks within the plan. Natural breaks were used for data classification as they are data-led, this approach partitions the data into intervals based on the naturally occurring groupings.¹¹ Interestingly the results from the natural breaks analysis were similar to the results from the standard deviation, meaning that statistically these groups demonstrate similar amounts of change through either of these methods.

Figure-ground analysis: the neighbourhood scale

The figure-ground in this analysis is applied to explore the morphology of urban blocks. While the figure-ground has “rich perceptual potential” it has several limitations associated with its use.¹² First, the simplification of the city required for this two-dimensional representation “results in a flattened city, where difference and complexity (beyond the formal) are rendered invisible by the ubiquity of the black on white (or white on black)”.¹³ Secondly, with the condensation of a three-dimensional reality to a two-dimensional graphic, the spatial characteristics of the city are not shown, including building heights and public spaces.¹⁴ To overcome these limitations, the figure-ground in this research

is used as a tool to complement the GIS mapping to investigating the changing morphology and block patterns of the city, and when used in addition to other methods it enhances the understanding.

Precedent study: the building scale

A precedent study was used to explore the fine grain of the building scale development within the central area of Canberra. This paper contends that the historical provenance is a crucial aspect when conducting analysis of the layering and changing of the urban fabric. The tracing of the historical precedent of the fine grain or building scale is needed to gain an in-depth understanding of the changes to the context. The precedent of a form has important implications for the formal characteristics and the way it creates relationships within the urban fabric, and as such, this research explores the precedent of a selected urban form within the case study to further interrogate the spatio-temporal layering.

RESULTS

City scale

A total of 348 blocks were measured and the results are presented on the 1927 Plan (Figure 3). The darker colour blocks correspond to an increased level of change. There are five groups in the data—roughly equating to a 20-percentage point increase in each grouping.



Figure 3. The degree of change in the Canberra Plan 1912-1927.

There are two primary points of interest in the results. The first of these is the distribution of the degree of change through the city, with no one area showing no change, the least amount of change,

or the converse. There is a mix of results over the whole map. The second point of interest is the level of change evident in the National Triangle. Located at the core of Canberra's geometric framework, the National Triangle is the centre of the Griffins' 'urban uses framework', creating the connection across the two sides of the lake and linking the various parts of the city as well as connecting the urban developments to their landscape context.¹⁵ While the overarching geometry of the triangle and the two axes crossing through has been maintained, it is also evident that the area is dominated by a higher degree of change in its grain.

Neighbourhood scale

The central areas of Reid and the Initial city were examined through a figure-ground comparison of the blocks in the years 1912 and 1927 (Figure 4). A sampling strategy was used to select these two areas with two main criteria. First, they are two areas from the earliest developments within Canberra and as such can be used to explore the changes to the grain most fully. Second, historically, their origins have different influences, as Reid was part of the 1912 Griffin Plan whereas the Initial city was introduced at the direction of the Board in the 1913 revised Plan. In addition, they showed similar level and distribution of transformation through the GIS analysis.

The 1912 plan for both areas shows a structure that is highly geometric and regular. The 1927 plan for the area of Reid maintains the arterial avenues however the regularity of the radial street structure is altered, and the comparison shows increase of the size of some of the blocks and with this a more irregular pattern in relation to the previous plan. The change is even more evident in the Initial City area (Figure 5), with the grid like pattern changed to a semi-formal axial arrangement. Both areas show a change to the design structure of the plan, evident in the pattern of the streets/blocks, specifically in the regularity of the layout and the scale of the individual blocks, however Reid demonstrates the growth in the block sizes as the dominant change while keeping the axial design and major avenues. In comparison, the Initial City changed the overall geometry dominantly and maintained the size of the blocks. Thus, the comparison of the neighbourhoods reveals the juxtapositions which are created through the urban transformations from 1912 to 1927 plan on the one hand increasing some block sizes while on the other keeping and changing the overall geometry of the neighbourhood.

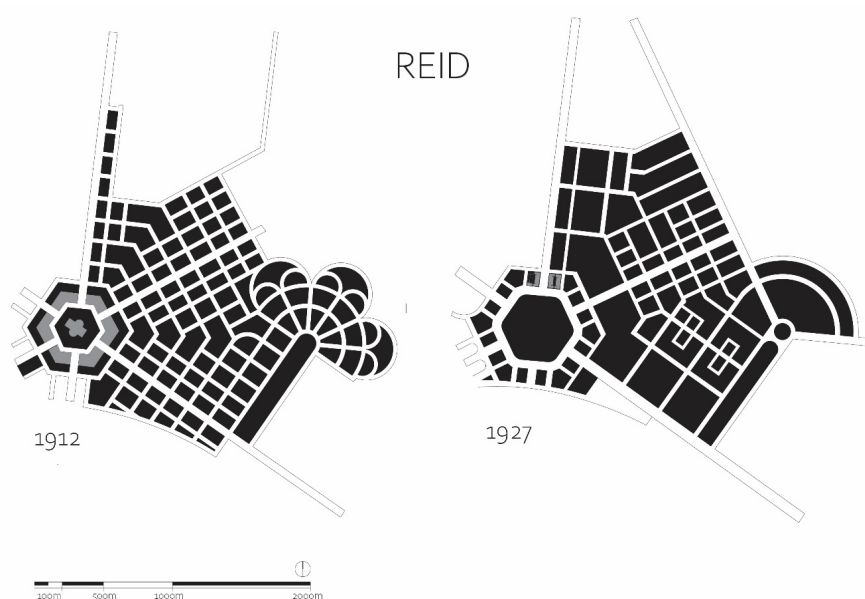


Figure 4. Figure-ground comparison of the blocks of Reid showing the changing pattern of the plan.

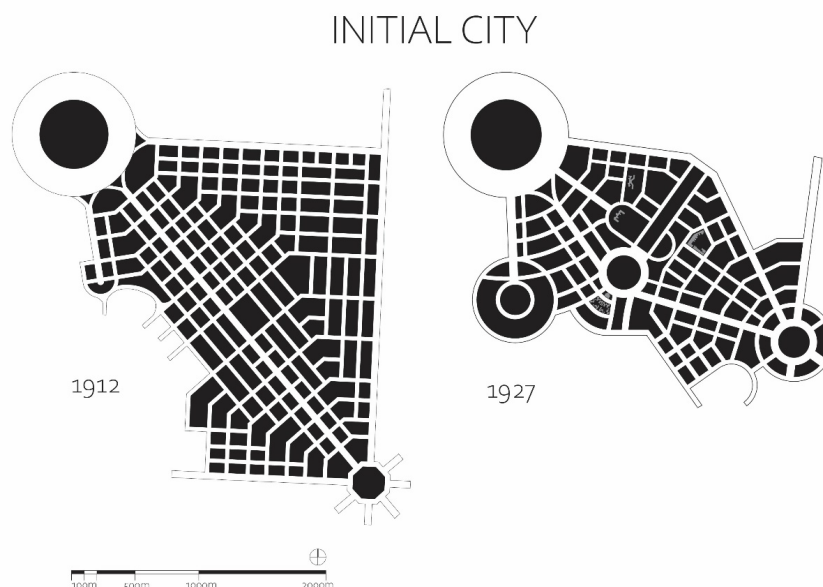


Figure 5. Figure-ground comparison of the blocks of the Initial City showing the changing pattern of the plan.

Building scale

The historical precedent comparison examines the Sydney and Melbourne Buildings from the Civic Centre of Canberra and the Ospedale degli Innocenti from Florence which informed their design. These were two of the first buildings to be constructed within Canberra, with works beginning in 1926, and the Sydney Building completed in 1927.¹⁶ The architectural concept is attributed to J.S. Sulman, primarily the continuous ground level colonnade at the perimeter of the block (Figure 6). The buildings as they appear today were designed by J.H. Kirkpatrick in the office of the Federal Capital Commission from Sulman's concepts. The colonnaded façade is derived from Sulman's concept of an arcaded loggia and is tied to Brunelleschi's Renaissance design of the Ospedale degli Innocenti (Foundling Hospital) and the cloisters of the Basilica di San Lorenzo in Florence.¹⁷

By tracing back this fragment, two aspects become visible. First and foremost, the size and proportion of the two buildings is quite disparate, which is especially visible in the colonnades. Due to the proportion, the colonnade of the Sydney and Melbourne Buildings appears smaller and more repetitive. In comparison, the colonnade of the Ospedale degli Innocenti appears proportionally taller. Second, the Sydney and Melbourne Buildings are built as urban blocks whereas the Ospedale degli Innocenti is built as part of a finer grain context that then integrates into the adjoining fabric. This reveals the different contextual conditions, the Ospedale degli Innocenti is embedded into and responding to the continuous pre-modern fabric of Florence, while the Sydney and Melbourne Buildings in Canberra's Civic Centre are designed as standalone blocks, working in partnership with each other. Additionally, the pattern of the blocks shows the regularity of the Civic Centre in contrast to the irregularity of the Florentine street and block arrangement. There is no considerable difference in the size and scale, although the Florentine blocks are slightly larger. The pattern of the lots however reinforces the scale and density of the buildings' figure-ground, with the Ospedale degli Innocenti being a much denser and more fine-grain urban fabric. The results from this morphological diagramming comparison demonstrate the intention for an integrated urban fabric, through fine-grain detail and design of the Sydney and Melbourne Buildings; however, it also demonstrates a schism in the transportation of the historical form into the new context.

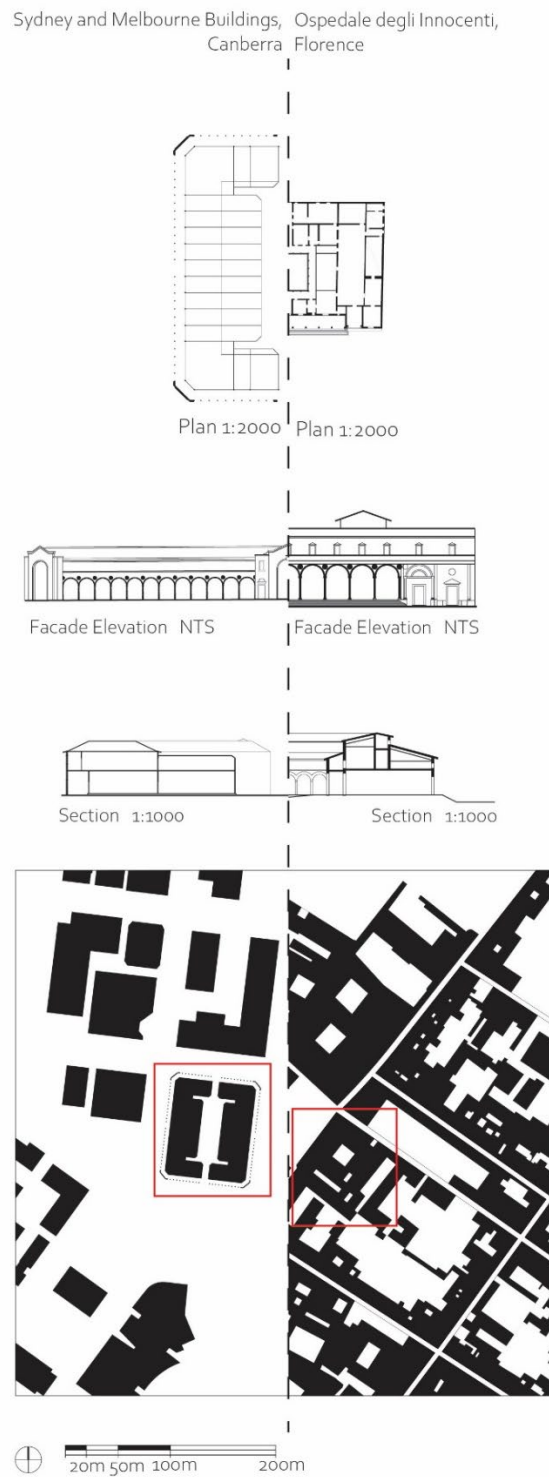


Figure 6. Comparison of the Sydney and Melbourne buildings to their design precedent, the Ospedale degli Innocenti.

CONCLUSION

The morphological analysis of Canberra highlights the nature of the city as a spatio-temporal layering. The interrelation of the physical aspects such as the built forms, and the planned aspects such as the overall structure and pattern of the city, were used to explore the degree of change within the plan, specifically in relation to the urban grain. This analysis uncovered some of the juxtapositions that are evident in the urban fabric due to the spatio-temporal layering and the changes to the grain, specifically in the transportation of the historical forms into new contexts. As such, the investigation of the degree of change within the plan adds to the understanding of the city as the site of urban transformation in the context of a planned twentieth century city.

NOTES

- ¹ Stuart Mackenzie, Ian Wood-Bradley, David Headon, and Christopher Vernon, *The Griffin legacy: Canberra the nation's capital in the 21st century* (Canberra: National Capital Authority, 2004), 46-54.; Paul Reid, *Canberra Following Griffin: a design history of Australia's national capital*, (Canberra: National Archives of Australia, 2002).
- ² Sigridur Kristjánsdóttir, "Roots of Urban Morphology," *International Journal of Architecture & Planning* 7, Special Issue (2019): 22, DOI: 10.15320/ICONARP.2019.; Albert Levy, "Urban Morphology and the problem of the modern urban fabric: some questions for research," *Urban Morphology* 3, no. 2 (1999): 80, DOI: <https://doi.org/10.51347/jum.v3i2.3885>.
- ³ Anne Vernez Moudon, "Urban morphology as an emerging interdisciplinary field," *Urban Morphology* 1, no. 1 (1999): 7, DOI: <https://doi.org/10.51347/jum.v1i1.4047>.
- ⁴ Moudon, 7.
- ⁵ Reid 2002; Christopher Vernon, "Canberra: Where Landscape is Pre-eminent," in *Planning Twentieth Century Capital Cities*, ed. David L. Gordon, (New York: Routledge, 2010), 134-135.
- ⁶ Mackenzie et al., 52-54.
- ⁷ Mackenzie et al., 36-41.; Reid 2002.
- ⁸ Reid 2002.
- ⁹ National Capital Development Commission, *Tomorrow's Canberra* (Canberra: Australian National University Press, 1970), 61.
- ¹⁰ Christopher D. Lloyd et al. "Exploring change in urban areas using GIS: data sources, linkages and problems," *Annals of GIS* 18, no. 1 (2012): 71, DOI: 10.1080/19475683.2011.647079.
- ¹¹ Michael de Smith, Mike Goodchild, Paul Longley et.al, *Geospatial Analysis 7th Edition* (London: University College London 2024). <https://www.spatialanalysisonline.com/>; "GIS Dictionary: natural breaks classification," Esri, accessed August 6, 2024, <https://support.esri.com/en-us/gis-dictionary/natural-breaks-classification#:~:text=%5Bdata%20management%5D%20A%20method%20of,the%20low%20points%20of%20valleys>.
- ¹² Steven Hurr, "Conjectures on Urban Form," *Cornell Journal of Architecture* 2 (1983): 56.
- ¹³ BD Wortham-Galvin, "The Woof and the Warp of Architecture: The Figure-Ground in Urban Design," *Footprint: Drawing Theory* 7, no. 7 (2010): 66, DOI:10.7480/footprint.4.2.726.
- ¹⁴ Charles Graves, "The Legacy of Colin Rowe and the Figure/Ground Drawing," (paper presented at Urban Design and the Legacy of Colin Rowe, Rome, June 18-21, 2014), <<https://lookingatcities.info/2020/03/23/the-legacy-of-colin-rowe-and-the-figure-ground-drawing/>>.
- ¹⁵ Mackenzie et al., 54.
- ¹⁶ Duncan Marshall, Geoff Butler, Joy McCann, and Brendon O'Keefe, *Sydney & Melbourne Buildings Conservation Management Plan* (Canberra: ACT Economic Development Directorate, 2011), 98-99.
- ¹⁷ Australian Institute of Architects, Register of Significant Twentieth Century Architecture: Sydney and Melbourne Buildings (Canberra: AIA, 1985), <https://www.architecture.com.au/wp-content/uploads/sydney-amp-melbourne-buildings.pdf>.

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ARTEFACTS OF DISASTER MEMORY: UNDERSTANDING DISASTER MEMORIALS IN TÜRKIYE

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INTRODUCTION: REMEMBERING DISASTERS THROUGH ARTEFACTS

Disaster memorials play a vital role in helping people and communities grieve, remember those who were lost, support collective healing, and build resilience. However, disaster memory is not just a static reflection of the past; it is complex and dynamic, shaped by varied interpretations over time.¹ This dynamic nature of disaster memory requires careful consideration of how these memorials select and reflect specific political and cultural meanings.² Accordingly, this memorialization process becomes selective, reflecting specific political and cultural meanings.³ The design of these memorials ties aesthetics to politics, embodying government or institutional views on disaster response and influencing the narrative of vulnerabilities, resilience and recovery.⁴ However, their role in disaster recovery has not been thoroughly explored in disaster studies.

Based on this gap, our research aims to understand how disaster memorials shape and redefine disaster narratives through their design. We recognize disaster memorials as dynamic and interactive entities that engage with the complex process of narrating disasters. This interplay emphasizes the fluidity of memory construction, highlighting how narratives are continually reshaped by the design and purpose of these memorials.

As presented in Figure 1, our theoretical framework explores the intricate relationship between disaster narratives and the commemorative acts that result in memorialization. Factors such as religion, culture, political motivations, the scale and impact of a disaster, resource allocation, priority setting, and the ethics of remembrance all play a significant role in shaping how disasters are remembered and commemorated.⁵ These elements drive the creation of disaster narratives and inspire specific commemorative actions, such as the establishment of memorials.

However, these narratives are not static. The motivations behind the creation of memorials, their location, format, design, and the individuals or groups who initiate them, along with the interests they represent, all significantly influence how these narratives are formed and reformed over time. The design and location of a memorial can highlight certain aspects of a disaster while minimizing others, thereby shaping public perception and collective memory.⁶

This framework suggests that disaster memorials are not merely static symbols of remembrance but are dynamic entities that interact with and are shaped by the broader social, cultural, and political context. By analysing the factors that influence both the creation of disaster narratives and the development of memorials, this research aims to uncover how these narratives are continuously constructed, challenged, and redefined. From this perspective, memorials are viewed not just as final

products of commemorative acts but as active participants in the ongoing process of shaping disaster memory and identity.

To define the commemorative acts through memorials, we use Herbert Simon's concept from "The Sciences of the Artificial," defining artifacts as interfaces between "inner" and "outer" environments.⁷ These include both physical and social products of human design. In disaster memory, artefacts merge impacts with emotions, traditions, and social structures, playing roles in grief, cultural identity, governance, and community resilience.

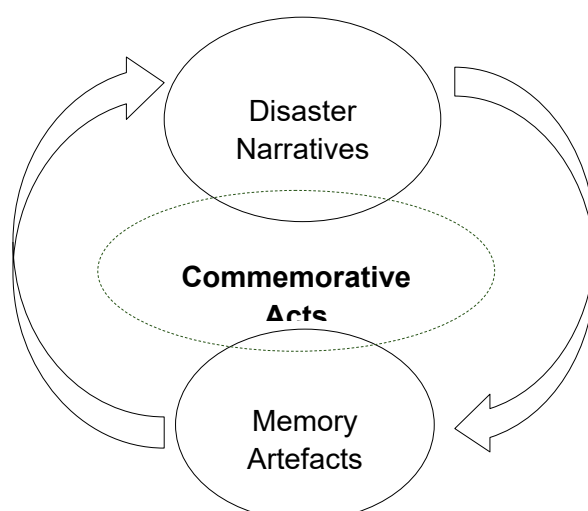


Figure 1. The Dynamic Nature of Disaster Memory

To further explore how commemorative acts take shape through memorials, we draw on Herbert Simon's concept from "The Sciences of the Artificial," which defines artifacts as interfaces between "inner" and "outer" environments.⁸ In this context, an artifact is not merely a physical object or structure; it is a medium through which human experiences, emotions, and social practices interact with the external world.

When applied to disaster memorials, this concept helps us understand these memorials as more than just monuments or markers of past events. They are active interfaces that bridge the gap between the personal and collective experiences of disaster (the "inner" environment) and the broader socio-political and cultural landscape (the "outer" environment). These artefacts—whether they are physical structures like monuments, museums or social constructs like rituals and commemorative events—serve as conduits through which the emotional and psychological impacts of disasters are expressed and processed within the public sphere.

In disaster memory, artifacts function on multiple levels. Physically, they might take the form of monuments, preserved ruins, or memorial parks, which provide tangible spaces for reflection, mourning, and remembrance. Socially, these artifacts might manifest as rituals, ceremonies, or anniversaries that bring communities together to collectively honour those who were lost and to reinforce shared cultural and historical narratives.

These artefacts merge the impacts of disasters with the emotional, traditional, and social frameworks of the affected communities. For instance, a memorial might incorporate religious symbols that resonate with the cultural identity of a community, thus reinforcing a sense of shared grief and resilience. Alternatively, the design of a memorial might reflect the values of governance and social responsibility, emphasizing the role of institutions in disaster response and recovery.⁹

By acting as interfaces, these artefacts not only preserve the memory of the disaster but also shape the ongoing narrative around it. They play crucial roles in helping communities process grief, reinforcing

cultural identities, supporting governance structures, and fostering community resilience. In this way, Simon’s concept allows us to see disaster memorials as dynamic entities that both reflect and influence the complex interplay between individual experiences and collective memory within the broader socio-cultural context.

Through a comprehensive literature review, we have identified eight forms of disaster memorials: museums, which house exhibits and collections related to disasters with guided tours; monuments that stand as static reminders of significant events; preserved ruins and landscapes, such as parks and forests, that embody the memory of disaster; signs and boards that provide informative context; temporary memorials and rituals that offer expressions of grief and remembrance; and fountains, often integrated into memorial sites as symbols of life and continuity.

Motivations behind Memorialization

Understanding the deep motivations behind why we choose to remember disasters is essential for uncovering how memorials shape and define the narratives of these events. As illustrated in Figure 2, we categorize the motivations behind disaster memorials into three key areas: intended outcomes, unintended consequences, and ambiguous grey zones. Intended motivations for commemorating disasters through memorials include creating spaces for individual and collective grieving, preserving remembrance and honouring lost lives, and sharing experiences that foster a shared history.¹⁰ Memorials also aim to promote resilience by highlighting community strength,¹¹ express gratitude for recovery assistance,¹² and, in some cases, address waste management in post-disaster environments.¹³ However, the memorialization of disasters through artefacts can also have unintended consequences. It may create a false sense of disaster preparedness,¹⁴ suggesting that the community is more equipped for future events than it truly is. Additionally, making trauma more visible can inadvertently revive painful memories for survivors.¹⁵

In the grey areas, where motivations can be both intentional or unintentional, the memorialization of disasters through artefacts may be used as a warning or to raise awareness about future risks, provide education on disaster preparedness, and even attract dark tourism.¹⁶ This process can also serve as a political statement about the disaster, contribute to identity reconstruction for affected communities, and play a role in healing and fostering solidarity.¹⁷

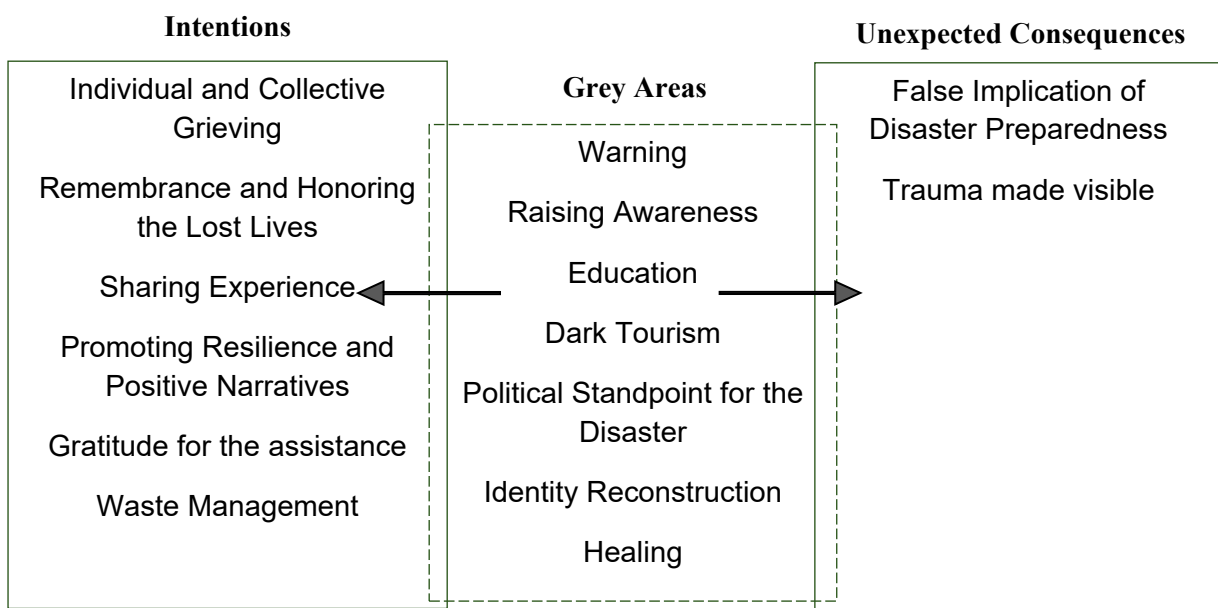


Figure 2. Motivations behind Memorialization of Disasters

Research Method

To explore how physical disaster memory artifacts shape disaster narratives in Türkiye, we combined literature review, field research, and narrative analysis methods. We began with a literature review in both Turkish and English, focusing on natural hazards and disaster memorials. This review covered a wide range of disaster types, time periods, and cultural contexts, helping us identify key themes such as government narratives, cultural memory, and the political implications of memorialization. The insights from this review guided our research and highlighted gaps in the existing scholarship, particularly in the context of Türkiye.

Following the literature review, we conducted field research, examining 13 disaster memory artifacts across Türkiye as listed in Figure 3.

Memorialized Earthquake	Name of the Artefact	Type of the Artefact
1939 Erzincan Earthquake	İsmet İnönü Monument	Monument
1939 Erzincan Earthquake - 2020 İzmir Earthquake	Çiğli Earthquake Monument	Monument
1971 Burdur Earthquake	Yazıköy & Yarıköy Preserved Ruins	Preserved Ruins
1999 Marmara Earthquake	Adapazarı Earthquake Culture Museum	Museum
	August 17 Earthquake Remembrance and Awareness Museum	Museum
	August 17, 1999, Earthquake Monument & Museum	Monument & Museum
	August 17, 1999, Memorial Park	Landscape & Park
	1999 Marmara Earthquake Martyrs Monument	Monument
	1999 Marmara Earthquake Monument	Monument
	November 12, 1999, Earthquake Monument	Monument
2020 İzmir Earthquake	October 30, 2020, Earthquake Monument	Monument
2023 Kahramanmaraş Earthquakes	Memorial Forest for Martyrs of the 2023 Earthquakes	Landscape & Park

Figure 3. Analysed Disaster Memory Artefacts in Türkiye

During these visits, we carefully observed and documented the physical characteristics of each artefact, including their design, materials, spatial arrangements, and symbolic elements. We aimed to understand how these features contribute to the narrative each artefact conveys. Additionally, we collected supplementary materials like brochures and official documents to help contextualize the design narratives within broader discourse.

After completing the field research, we used narrative analysis to interpret the collected data. Our goal was to uncover the stories, themes, and messages conveyed by the disaster memorials and understand their role in shaping public memory in Türkiye. We began by coding the data to identify recurring themes, symbols, and motifs. Key themes included grief, resilience, national identity, and the role of the state in disaster response. We analysed how symbolic elements and spatial arrangements, such as the layout of memorial parks or the placement of monuments, or name of the artefact contribute to the overall narrative and reflect broader socio-political messages.

We then placed these narratives within the broader socio-political and cultural context of Türkiye, considering how historical events, political dynamics, and cultural values influenced the design and messaging of the memorials. Finally, we synthesized the findings to create an overarching narrative that describes how disaster memory is shaped in Türkiye, emphasizing the interplay between official state narratives, local community experiences, and cultural symbols.

Research Results

Our research findings reveal a prominent trend in Türkiye's disaster memorials, where artefacts are predominantly initiated by local governments but are heavily influenced by central governmental narratives.

Emphasis on Grief and Remembrance

In Turkish examples, memorials often focus on grief and remembrance, reflecting a top-down approach to disaster memory that aligns with state-driven perspectives. This emphasis on mourning the past is not merely about commemoration; it also serves to reinforce a dominant narrative shaped by political and cultural agendas. The artefacts, while intended to honour those lost and raise awareness about disaster risks, often prioritize the depiction of suffering and resilience, subtly shaping public memory and national identity in ways that emphasize the state's role in disaster response. This approach, however, tends to overshadow proactive risk reduction strategies, leading to a critical discourse on the balance between memorialization and preparedness in Türkiye's disaster management practices.

Figure 4 illustrates the August 17, 1999, Earthquake Memorial & Museum in Yalova, designed like a tombstone with engraved names on marble stones. Initiated by the local government and inaugurated in 2000, it features holes next to the names of those who lost their lives in the 1999 earthquake, specifically for placing flowers during anniversary events. In the centre of the monument, there is a steel column symbolizing the tears shed after the earthquake.



Figure 4. August 17, 1999, Earthquake Memorial & Museum in Yalova with engraved names in marble stones

Similarly, the 2020 İzmir Earthquake Monument, shown in Figure 5, features plates engraved with the names of the deceased, focusing on both personal and collective remembrance.



Figure 5. The 2020 İzmir Earthquake Monument, Plates Engraved with the Names of the Lost

In Adapazarı, the Earthquake Culture Museum, showed in Figure 6, presents memorial monuments and boards inscribed with the names of the victims.

Artefacts as a Tool to Strengthen Dominant Disaster Narratives

In addition to their role in collective grieving and remembrance, disaster artifacts are strategically used by the government to define and reinforce a specific disaster narrative. The concept of "Earthquake Martyrs," prominently featured in earthquake memorials, is designed to imbue the loss of life with religious sanctity. This narrative not only honours the deceased but also serves a critical function for the government: it shifts focus away from its responsibility to prevent and mitigate disaster risks. By framing these losses as part of a sacred narrative, the government eases the pressure on itself to take accountability for avoidable disasters.¹⁸ The 1999 Marmara Earthquake Martyrs Monument in Gölcük (Figure 6) and the Memorial Forest for Martyrs of the 2023 Earthquakes are clear examples of how this intended narrative is constructed to serve these purposes.



Figure 6. 1999 Marmara Earthquake Martyrs Monument, Gölcük

An example of how artifacts can transform reality through design is the 1939 Erzincan Earthquake sculpture, built in 1948. This monument, which was inspired by an iconic photograph of the earthquake, has been deliberately altered to depict President İsmet İnönü embracing a crying woman (Figure 7). The purpose of the monument is to symbolize the gratitude and support provided by the state to the region during the recovery process.¹⁹



Figure 7. (left and middle) Ismet Inonu Monument (source: authors), (right) 1939 Erzincan Earthquake²⁰

Focus on Severe Impact and Inevitability of Disasters

Despite their varied purposes, almost all the artefacts focus on the moment of the disaster and its destructive power, neglecting the fact that earthquakes are natural hazards that can be mitigated. This emphasis on destruction often overshadows the importance of risk reduction strategies, leading to criticism of Türkiye's disaster management approach, which tends to prioritize search and rescue over proactive mitigation. The Çiğli Earthquake Monument in İzmir and the 1999 Marmara Earthquake Monument in Istanbul (Figure 8) are examples of how this focus on the immediate aftermath of the disaster can eclipse the critical need for long-term risk reduction efforts.



Figure 8. (left) Çiğli Earthquake Monument, İzmir (right) 1999 Marmara Earthquake Monument, İstanbul

Another notable example is the August 17 Earthquake Remembrance and Awareness Museum in İzmit, which is dedicated to conveying the experience of 1999 Marmara Earthquake through various means. The museum features powerful images, guided tours, and educational boards that provide detailed information about the earthquakes, emphasizing their inevitability and destructive effects through impactful visuals.

One of the main attractions in the museum is an earthquake simulation room, where visitors can experience the intensity of an earthquake firsthand. This immersive experience is designed to take visitors on a journey from the chaos and devastation of debris to a place of light and hope, symbolizing being rescued from a damaged building (Figure 9).



Figure 9. Earthquake Simulation Room in August 17 Earthquake Remembrance and Awareness Museum, İzmit

Similarly, the Adapazarı Earthquake Culture Museum (Figure 10), dedicated to the 1999 earthquake, is designed to look like a collapsed building. The museum, just like the August 17 Earthquake Remembrance and Awareness Museum in İzmit, includes an earthquake simulation located at the end of the museum tour, allowing visitors to experience an earthquake after viewing photographs that display the pain and suffering experienced during the disaster.



Figure 10. Adapazarı Earthquake Culture Museum, Sakarya

CONCLUSION

This research on disaster memorials in Türkiye provides valuable insights into the complex dimensions of disaster memory and the role of design in shaping memorialization. The theoretical framework, rooted in the dynamic and interactive nature of disaster memorials, has guided our exploration of the complex relationships between artifacts, spatialization, and the evolving narratives of disasters. The research aimed to understand the components of disaster memorialization, motivations for commemoration, and the evolving role of artifacts, have been addressed through a combination of literature review and field research.

The findings reveal a diverse array of disaster memorials in Türkiye, ranging from museums and parks to monuments, art installations, and preserved ruins. The motivations behind these memorials are diverse, including collective grieving, remembrance, sharing experiences, and raising awareness, among others. However, the research also identifies how the country's cultural approach to disasters becomes visible in the ways that these events are commemorated.

The role of design emerges as a crucial factor in defining the purpose of memorials, influencing motivations, and impacting both intended and unintended outcomes. Memorial designs become cultural and political acts, reflecting governmental and societal stances on disaster response, redefining historical narratives, and aiding in the reconstruction of identities. The interplay between design intentions and impacts underscores the complexity of memorialization, requiring a nuanced approach to balance commemoration with psychological well-being.

The research's theoretical and practical implications extend to researchers, policymakers, and practitioners engaged in urban planning and design. This research contributes to the broader understanding of disaster memorials as dynamic entities that actively participate in the construction, reflection, and challenging of narratives related to disasters. The findings underscore the importance of a comprehensive and sensitive approach to memorialization, recognizing the evolving nature of memory and the influential role of design in shaping societal understanding of disasters. Further research is required to refine and expand our understanding of disaster memorials, ensuring their effectiveness in fostering resilience, healing, and positive societal narratives in the face of future challenges.

NOTES

- ¹ Ricardo Fuentealba, “Divergent Disaster Events? The Politics of Post-Disaster Memory on the Urban Margin,” *International Journal of Disaster Risk Reduction* 62 (2021): 102389, accessed January 10, 2025, <https://doi.org/10.1016/j.ijdr.2021.102389>.
- ² Sebastian Brett et al., “Memorialization and Democracy: State Policy and Civic Action” (Santiago, Chile: International Center for Transitional Justice, 2007), accessed January 10, 2025, https://www.ictj.org/sites/default/files/ICTJ-Global-Memorialization-Democracy-2007-English_0.pdf.
- ³ Millie Creighton, “Wasuren! —We Won’t Forget! The Work of Remembering and Commemorating Japan’s and Tohoku’s (3.11) Triple Disasters in Local Cities and Communities,” *Journal of Global Initiatives: Policy, Pedagogy, Perspective* 9, no. 1 (2014): 97–119.
- ⁴ Edward Simpson and Malathi De Alwis, “Remembering Natural Disaster: Politics and Culture of Memorials in Gujarat and Sri Lanka,” *Anthropology Today* 24, no. 4 (2008): 6–12, accessed January 10, 2025, <https://doi.org/10.1111/j.1467-8322.2008.00599.x>.
- ⁵ Simpson and De Alwis.
- ⁶ Joachim Wolschke-Bulmahn, *Places of Commemoration: Search for Identity and Landscape Design*, 1st Edition, vol. 19 (Washington, D.C.: Dumbarton Oaks, 2001).
- ⁷ Herbert Simon, *The Sciences of the Artificial, Reissue of the Third Edition with a New Introduction by John Laird*, Third Edition (Cambridge, Massachusetts: The MIT Press, 2019).
- ⁸ Simon.
- ⁹ Anne Eyre, “In Remembrance: Post-Disaster Rituals and Symbols,” *The Australian Journal of Emergency Management* 14, no. 3 (1999): 23–29.
- ¹⁰ Shoko Baba and Nevin Thompson, “Cherry Blossoms Help Japanese Town Shake Off Tsunami Sorrow,” *GlobalNews*, April 1, 2015: accessed January 10, 2025, <https://globalvoices.org/2015/04/01/cherry-blossoms-help-japanese-town-shake-off-tsunami-sorrow/>.
- ¹¹ Creighton, “Wasuren! —We Won’t Forget! The Work of Remembering and Commemorating Japan’s and Tohoku’s (3.11) Triple Disasters in Local Cities and Communities.”
- ¹² İnönü Vakfı, “İsmet İnönü Heykeli ve Parkı / Erzincan,” *İnönü Vakfı*, 2023: accessed January 10, 2025, <https://www.ismetinonu.org.tr/ismet-inonu-anit-ve-heykelleri/>.
- ¹³ Silke Arnold-de Simone, “The Ruin as Memorial—the Memorial as Ruin,” *Performance Research* 20, no. 3 (2015): 94–102, accessed January 10, 2025, <https://doi.org/10.1080/13528165.2015.1049040>.
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- ¹⁵ Sandrine Revet, “Remembering La Tragedia: Commemorations of the 1999 Floods in Venezuela,” in *Grassroots Memorials: The Politics of Memorializing Traumatic Death*, ed. Peter Jan Margry and Cristina Sánchez-Carretero, vol. 12, Remapping Cultural History (New York: Berghahn Books, 2022), 208, accessed January 10, 2025, <https://doi.org/10.1515/9780857451903-011>.
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- ¹⁷ Baba and Thompson, “Cherry Blossoms Help Japanese Town Shake Off Tsunami Sorrow.”
- ¹⁸ Yasmin Aldamen and Dilana Abdul Jaleel, “Stimulation of the Collective Memory of the 1999 Turkey Earthquake through the Turkish Media Coverage of the 2023 Earthquake,” *Online Journal of Communication and Media Technologies* 14, no. 2 (2024): accessed January 10, 2025, <https://doi.org/10.30935/ojcm/14407>.
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TERRITORIAL MUSEUMS EXHIBITIONS—THE ENTANGLEMENT/INTERWEAVING OF NARRATIVE DESIGN AND LOCAL CULTURE

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INTRODUCTION

In contemporary discourse within the design realm, narrative design has emerged as a prominent topic, particularly within the context of the evolving landscape of museums. The terms "narrative" and "museum" have become inextricably linked. Concurrently, advancements in technology have led to a shift in how audiences perceive museum exhibitions. Museums are increasingly viewed as dynamic spaces, fostering immersive experiences where visitors engage with narratives through various stimuli and share emotional connections with others. This evolution transcends the traditional notion of museums as mere repositories of collections, moving towards a concept of museums as centers of storytelling.¹

This paradigm shift significantly impacts Territorial Museums as well. In such museums, "exhibits" include not only tangible artifacts but also various displays, such as models, sculptures, and installations, that narrate local history. These elements encapsulate and illustrate the unique identity of local culture within the narrative framework of the territorial museum. Hence, local culture assumes a pivotal role as both a design concept and a thematic narrative element. The intricate relationship between narrative design and culture thus warrants thorough exploration, particularly regarding exhibition narratives in territorial museums.

This study aims to delve into the correlation between local culture and narrative design, examining the potential of narrative design methodologies within territorial museums. Additionally, it seeks to identify disparities between existing territorial museums in Europe and those in the East across distinct cultural contexts. Furthermore, the study assesses the viability of implementing narrative design strategies within specific cultural regions of China.

Ultimately, this study explores the definition of Chinese-approach Territorial Museums within the context of Chinese cultural traditions, as well as the potential of this museum type. It analyzes the role of Chinese-approach Territorial Museums as venues for showcasing local characteristics and identities, along with their impact on presenting and enhancing both tangible and intangible cultural heritage.

LITERATURE REVIEW

State of the Art

While the term "narratology" didn't emerge until 1969 in Tzvetan Todorov's book "Grammaire du Décaméron" (1969), the study of narrative boasts a rich scholarly history. However, a uniform definition of narrative has eluded scholars, leading to varied criteria for establishing narrative across different media.

Within all narrative mediums, Museum Studies has long grappled with fundamental questions about the nature and purpose of museums from both theoretical and practical perspectives. Building on the seminal work of Eilean Hooper-Greenhill,² which elucidated how museums function as institutional tools for asserting power through knowledge and truth, this discipline has extensively examined the genesis and molding of museum narratives by objects, practitioners, communities, and practices .

Museums use narratives in their written and web-based materials

to engage visitors with their activities.³ Like text, exhibition is also a form of storytelling in that it is structured according to a narrative matrix based on elements organized on the basis of specific hierarchies, in a syntax functional to the content to be shown.⁴ When narrative design intersects with museum exhibitions, crafting the cultural experience involves shaping the interactions between visitors and cultural artifacts, as well as between objects and exhibition spaces. These interactions embody the communicative and narrative functions of exhibitions.

Within the museum setting, the presentation of local culture undoubtedly serves as a showcase of local cultural heritage. As Duranti once expressed, "The value of cultural heritage encompasses not only the tangible attributes of a specific cultural asset, such as authenticity, rarity, preciousness, craftsmanship, and the prestige of the artist, but also its intangible significance".⁵ This encompasses the circumstances of its creation, its history of ownership, its symbolic and archetypal identity, and its role in traditions or oral narratives.⁶

Therefore, territorial museums not only exhibit material cultural heritage but also highlight intangible cultural heritage. Narrative exhibitions serve as mediators that logically connect the audience, exhibits, and space. Through the narrative of exhibitions, they effectively convey and showcase not only tangible artifacts but also intangible cultural heritage.

Theoretical Framework

From the literature in museum studies and narrative theory, it is evident that storytelling serves as a crucial medium for museum exhibitions. The practice of storytelling has assumed a fundamentally important role in the relationship between heritage and user because it is the tool that translates and makes comprehensible the communicative capacity inherent in every cultural artifact.⁷ I contend that focusing on the relationship between narrative design and local culture, and analyzing the patterns of exhibition narratives in territorial museums, can provide a fruitful avenue for scholarly exploration in museum exhibition design. Additionally, it holds significant research value in defining territorial museums within diverse cultural contexts.

Embarking on an exploration of a fundamental query: *What defines an Exhibition Narrative?* A thorough examination of the interplay between exhibition and narrative demands attention to two seminal works, namely 'Museum Making: Narratives, Architectures, Exhibitions' and 'The Narrative Turn in Contemporary Museum Exhibitions.'

Jonathan Hale and Suzanne MacDonald underscore the emergence of museum makers as storytellers and the genesis of narrative environments within museums in their preface to 'Museum Making: A Place of Narrative.' The essays within this volume delve into the notion that, owing to its multidimensional space, the museum offers greater potentialities than other narrative mediums, therefore the museum's capacity as a locus of narrative is immensely promising.

The exhibition narrative realm of museums serves as an "objective world" meticulously curated and reorganized through subjective comprehension, thereby evolving into a form of reality shaped by the principles of surrealism.⁸ Museum exhibition narratives neither replicate objective reality nor constitute purely subjective narratives; instead, they occupy a liminal space between the subjective and objective realms. They possess the dual capability to recount reality and present alternative possibilities transcending it.

Understanding the significance of exhibition narratives can aid me in better analyzing *The Relationship between Narrative and Museums*. As museums transition into more directed and distinctive entities, such as territorial museums within the cultural energy field, local culture and cultural heritage become paramount narrative subjects. There are many connections between narratology and museums. First of all, the museum's collection of cultural relics is inextricably linked to historical stories, and narratology is commonly known as a discipline that studies the ways and rules of storytelling. The display scenes in the museum promote the development of narrative stories, while the stories also give the museum space narrative connotations, and the museum space scenes are the keys for visitors to interpret the museum narrative theme stories. The design of museum displays is mostly based on the narrative structure of literary narrative: the design can be based on flashbacks, interpolations, and supplementary narratives borrowed from narratology to meet the needs of museum design research, making the museum narrative experience more perceptive. The museum's narrative experience can be made more engaging. The concepts and methods of literary narrative can be applied to the design of museum experiences by using the narrative sequence to organize museum narrative themes, thus enriching the museum experience.

Museums, memorial centers, and other heritage institutions have traditionally relied on physical artifacts to provide visitors with an authentic experience. Increasingly, they are using other strategies to stimulate the imagination that either support or replace existing modes of display.⁹

In discussing what exhibition narratives are, I found that narratives have a dual role in museum exhibitions: 1. to tell the content 2. to manage the exhibition system. Also, if museums are informal educational institutions, then exhibitions are their essential educational medium or means. The museum exhibition's embrace of the narrative is also mainly about finding an efficient tool for information dissemination from the particular properties of the collection and the cognitive characteristics of the audience.¹⁰

Turning to the topic of Territorial Museums, the definition of such institutions in museum studies has long been ambiguous. The diversity in cultural backgrounds and heritage complicates the definition of these museums further. Consequently, this study's focus is gradually becoming clearer: defining territorial museums, particularly within the cultural contexts of Italy and China.

In Italy, "La città è un museo,"¹¹ as a showcase for local culture and history, territorial museums have the function of enhancing local tangible and intangible cultural heritage and local cultural identity. Studio Azzurro's series of practices on narrative museums is a perfect example. Among the realizations, it is worth mentioning the Museo Laboratorio della Mente (Rome, 2008), the Montagna in Movimento (Vinadio, 2007) museum. From these experiences emerges an idea of the museum as a narrative habitat, an active place of artistic experimentation, more importantly--a territory of memory.¹² Therefore, in the exhibition narrative of territorial museums, local culture possesses the dual characteristics of being both a design element and a display object (narrative object), i.e., a. local culture as a design concept b. local culture as a narrative theme.

Returning to China, there isn't a specific category of museums labeled as "Territorial Museums." However, many museums in China perform functions similar to those defined under the category of territorial museums in Italy. Comparative case studies of museums with similar characteristics in Italy

and China are instrumental in analyzing the intricate relationship between local culture and exhibition design. They also facilitate the analysis and classification of analogous museum types in China, ultimately leading to the definition of a Chinese-approach Territorial Museum.

FROM RESEARCH HYPOTHESES TO RESEARCH QUESTIONS

Starting from Initial Research Hypotheses

The inquiry initiates from a pivotal question: Can exhibition narrative be employed as a strategy within territorial museums? The literature review highlights a prevalent consensus regarding the utility of storytelling as an instrumental medium for exhibition communication. Recent scholarly endeavors have shifted towards analyzing terminal communication techniques and categorizing various storytelling styles. Insights derived from practical exhibition implementations have yielded constructive recommendations for integrating storytelling within such contexts.

Historically, Atelier Brückner pioneered the application of the Creative Structure (CS) during the "Expedition Titanic" exhibition at Hamburg's Speicherstadt in 1997. This innovative approach encompassed the utilization of direct quotations from Titanic passengers, thus transforming objects into subjects with narrative capacities—for instance, portraying them as "spaces of silence" rather than mere archaeological artifacts. The spatial configuration was deliberately designed as a narrative plane, akin to a theatrical stage, with integrated and synchronized design elements such as lighting and sound. This setup invited visitors to immerse themselves as passengers, experiencing the exhibition as a narrative journey with a dramatic trajectory.¹³ Consequently, in this scenario, visitors transcend their roles as mere spectators or consumers, becoming active participants within a spatial narrative experience.¹⁴

In their seminal work, *Musei di Narrazione*. Interactive paths and multimedia frescoes, Studio Azzurro delineates their pioneering endeavors within thematic and territorial museums, showcasing a collection of projects and insights derived from empirical experimentation. Central to the narrative is the conceptualization of a novel museum paradigm: the Narrative Museum.

A significant lacuna identified in current research is the absence of a comprehensive schematic framework characterizing the inherent properties and logical structures of narrative exhibitions specific to territorial museums. Moreover, the integration of multimedia technologies has facilitated an experiential methodology in museum settings, thereby augmenting interactive modalities and promoting engagement with both physical visitors and virtual communities. A further consideration involves evaluating whether exhibition narrative effectively engage local communities. Within the domain of territorial museums, there exists a noticeable deficiency in direct guidelines for exhibition teams concerning the utilization of exhibitions to narrate local stories and leverage these narratives to propel the function of an exhibition or territorial museum at large. Addressing these gaps is also one of the objective of the present study.

Research Aims and Questions

The aim of this study is to investigate the interplay between local culture and narrative design, with a focus on analyzing the potential of narrative design methodologies within territorial museums. It seeks to discern the disparities in existing territorial museums between Europe and the East across diverse cultural frameworks. Moreover, the research aims to assess the viability of implementing narrative design strategies within specific cultural regions of China.

Furthermore, this study will scrutinize the evolving landscape and future trajectories of contemporary museums within contemporary cultural milieus. It will primarily delineate exhibition narratives from a design standpoint, supplemented by an aesthetic perspective. The overarching goal is to substantiate

the hypothesis that exhibition narratives represent the most effective means for territorial museums to convey both tangible and intangible cultural heritage.

In addition to the aforementioned research gaps, it is crucial to address the definition of territorial museums. At the outset of my study, the ambiguity surrounding this term posed obstacles in the collection and organization of cases. The definition of territorial museums, especially in the cultural contexts of Italy and China, presents significant differences, thus creating a new research void. Furthermore, within museum studies, the museum paradigm is experiencing a profound transformation, affecting nearly every aspect of museums from within. This transformation is poised to foster increased diversity and openness, while enhancing the interaction between museums and the natural world. American museum expert Sherman Lee warns of the peril of museums succumbing to a fate akin to Disneyland, devolving into cultural wastelands.¹⁵ Museum narratives encounter challenges in event selection and authenticity.¹⁶ This concern is not unwarranted, as many museums appear to be ensnared by the pragmatic demands of a new developmental model focused on providing experiences and entertainment. In such a milieu, exhibitions, serving as museums' most direct conduit to the public, inevitably confront these issues head-on.

RQ1: What are the distinctions in narrative methodologies employed in exhibitions and museums between European and Chinese cultural contexts?

RQ2: What are the specialized applications of narrative approaches in exhibition design within the framework of territorial museums?

During my research, particularly in the collection and analysis of cases related to exhibition narratives in Chinese territorial museums, I have identified a recent challenge facing the museum sector. Many museums' exhibition designs prioritize entertainment value to such an extent that they have adopted entrenched patterns in presenting and promoting exhibitions. This inversion of priorities has led to entertainment overshadowing other functions, becoming the primary focus of attention in museums. Numerous newly built or renovated museums in China exemplify this trend.

RQ3: How can exhibition narratives mitigate the perils of over-commercialization and entertainment-driven approaches?

Sub-question: In what ways can exhibition narratives within territorial museums be harmonized with secular life while preserving cultural autonomy?

METHODOLOGY AND RESEARCH TECHNIQUES

The research encompasses two primary domains: narratology and design, elucidating the interface between humanities and design, which constitute pivotal interdisciplinary fields. Through a comprehensive literature review, these areas are delineated and augmented by allied disciplines such as narratology, cultural geography, sociology (territorial sociology), cultural anthropology (ethnography), various historical disciplines (local, social, ethnic, and urban history), aesthetics, religion, art (including visual arts and art history), and museology. Design disciplines including exhibition design, interaction design, narrative design, and communication design are intricately interlinked with, and at times overlap, these domains and museology.

Given its multidisciplinary nature, the research methodology incorporates qualitative and quantitative approaches alongside interdisciplinary research, with a particular emphasis on case studies. Desk research predominantly addressed the inquiry, "What defines an exhibition narrative?"

Subsequently, case study research was employed to develop and categorize case studies, construct a conceptual map, and critically analyze it, thereby generating scenarios. The aim was to compile a total of 40 case studies globally, with a focus on territorial museums within the European Union, notably in Italy, and in China. Cross-case comparative analysis involved extracting data from these studies,

identifying typical cases from Italy and China, comparing them, and synthesizing conclusions for future experimental endeavors.

Following the refinement of case study objectives, on-field research was conducted by visiting and studying select territorial museums, particularly within China, and conducting semi-structured interviews with relevant professionals. Between July and October 2023, four interviews were conducted with museum directors, exhibition curators, museum exhibition designers, and academic experts in exhibition design. I have categorized my inquiries into five main themes: Identity, Audience, Strategy, Narrative, and Exhibition. Following the initial interviews, the number of questions for experts was reduced from 30 to the following 15:

Identity

1. What perspective does the Territorial Museum adopt in the exhibition narrative to convey the cultural significance of the region?
2. How does the exhibition narrative highlight the uniqueness and contributions of regional culture? Could you provide examples?
3. Does the Territorial Museum aim to unearth forgotten or lesser-known cultural elements in the exhibition narrative? Please provide an example.

Audience

4. Does the exhibition narrative consider the needs and interests of different age groups? How is this achieved?
5. Does the Territorial Museum consider the educational needs of visitors when designing the exhibition narrative? Please share some design ideas regarding educational elements.
6. What were the most positive aspects of visitor feedback from a recent exhibition, and how did visitors understand and feel about the exhibition narrative?

Strategy

7. How does the Territorial Museum select narrative threads when designing exhibitions?
8. Does the Territorial Museum utilize digital technology in the exhibition narrative? How is technology integrated with traditional display methods?
9. Does the Territorial Museum collaborate with local communities, scholars, experts, or design teams in the exhibition narrative? Why is this collaboration important?

Narrative

10. Can you describe the narrative design of the exhibition and the story it aims to tell?
11. Does the exhibition narrative emphasize the historical development of the territory? If so, could you provide an example?
12. Does the exhibition narrative attempt to link regional culture with contemporary societal issues? If so, could you share an example?

Exhibition

13. Does the exhibition narrative focus on specific local figures or events? Why were these chosen?
14. Does the Territorial Museum explore connections with other regions or cultures in the exhibition narrative? Why?
15. Besides permanent exhibitions, does the museum organize temporary exhibitions or other cultural activities such as educational short-term study programs?

Additionally, during the research period, I employed action-grounded research methodologies through projects such as temporary exhibitions and workshops related to exhibition narrative.

RESEARCH FINDINGS

Through desk research, the research addresses *RQ1: What are the distinctions in narrative methodologies employed in exhibitions and museums between European and Chinese cultural contexts?*

In the volume 'Writing Spatial Stories: Textual Narratives in the Museum,' an article titled 'Museum Construction: Narrative, Architecture, and Exhibition' delves into the exploration of figuration, imagery, presence, and absence within museum textual narratives. The author, Hanks, examines various museum cases to analyze narrative structures in terms of meta-narrative and metaphor, plot and rhythm, as well as the beginning, middle, and end.

Therefore, within the Western cultural context, disruptions in exhibition narrative structures frequently require textual contexts to ensure coherence: although the written word is essential in shaping exhibition narratives, it does not always take center stage.

In "Narrative Space: Three Post-Apartheid Museums Reconsidered," Nic Coetzer conducts a comparative analysis of the Apartheid Museum, the Red Location Museum, and the District Six Museum. Coetzer suggests that these museums represent distinct types of narrative spaces: singular, random, and multivalent, respectively. While Coetzer's emphasis leans toward the physical examination of space rather than textual elements, his classification of narrative spaces is primarily guided by the architectural design of the exhibitions rather than their organizational frameworks.

On the other hand, Tricia Austin, in "Scales of Narrativity," introduces a planar, right-angled coordinate system designed for assessing narrativity levels, offering a qualitative perspective on storytelling across different mediums. Austin's system comprises two perpendicular axes: the horizontal axis, ranging from low to high narrative levels, and the vertical axis, extending from evocative connotative communication to direct denotative communication. According to Austin, this coordinate system facilitates comparisons of narrative levels within various narrative contexts and communication forms. Such qualitative assessments are instrumental in evaluating the completeness of narrative exhibitions.

The educational significance of Zhang Wanzhen's book, "The Narrative Turn in Contemporary Museum Exhibitions," extends beyond being merely the first systematic monograph on exhibition narratives in China. Within this book, Zhang delves into various aspects, including why museums prioritize exhibition narrative, the nature of narrative, how exhibitions convey stories, the textual constraints and features of exhibition narrative, and audience attitudes towards exhibition narrative. Zhang argues that narrative serves as a means of cultural comprehension,¹⁷ tracing the evolution from the inception of narratology to the onset of the narrative turn in humanities and sociology, with museums actively participating in this transition.

While Zhang's exploration of narrative exhibitions involves reducing exhibitions to analyzable texts and comparing narrative elements identified by scholars in various fields, a definitive definition of exhibition narrative remains elusive. She contends that narrative exhibitions, as opposed to non-narrative ones, are characterized by description, debate, description, and dialogue. However, even from a purely textual analytical standpoint, these four text types are integral components of narrative works.

Zhang's discussion on the limitations of exhibition narrative focuses on narrative phenomena that cannot be fully realized within an exhibition setting, attributing them as elements of exhibition narrative. Yet, her study overlooks the spatial aspect of exhibitions, placing excessive emphasis on

conservation, with minimal renovations or extensions. Conversely, in the case of Chinese museums, the concept of "territorial museums" is largely absent, and most museums operate at the municipal or provincial level without a specific territorial focus.

The shift in focus between the two regions can also be attributed to the scarcity of examples of museums in China that have undergone transformation from historical buildings. Exceptions include the old Suzhou Museum, which was repurposed from a historic building dating back to the Taiping period, and the Shijia Hutong Museum, which was transformed from a unique historic building known as a Hutong. Notably, both examples exhibit innovative architectural styles and boast substantial volumes.

This is where the concept of the territorial museum diverges significantly between Italy and China. Given China's expansive territory, territorial museums are typically constructed on vast areas, integrating modern architectural styles and outdoor planning into the museum's design. Consequently, these museums no longer function solely as standalone exhibition spaces but rather resemble entire communities. Moreover, China's rapid technological advancement has spurred an increased demand for entertainment, resulting in museums adopting additional functions.

As a consequence, many museums in China face the risk of commercialization and becoming overly patterned or even entertainment-oriented. For instance, the Jinsha Site Museum in the northwest of Chengdu, which showcases ancient Shu culture dating back 3200 to 2600 years ago, serves as a prime example. Spanning over 300,000 square meters, the museum comprises various facilities including a relic hall, a 4D cinema hall, a culture and art center (Jinsha Theatre), an education and experience area, and a garden area (Deer Park). It functions as both a theme-based museum and an archaeological site park dedicated to preserving, studying, and displaying the Jinsha culture and ancient Shu civilization.



Figure 2. Jinsha Site Museum (Bird's-eye view)

While these offerings provide excitement and cultural enrichment, they also prioritize entertainment and commercial interests over educational objectives. Regardless of their original purpose, museums often offer items like ice cream for purchase to visitors. For instance, the Jinsha Site Museum has introduced ice cream inspired by its most famous Shang Dynasty gold mask and bronze statue. Consequently, visitors are drawn more to these peripheral attractions, inundating social networks with posts about the museum's special ice creams, while discussions about the museum's exhibitions take a back seat.



Figure 3. Golde Mask (Shang Dynasty)



Figure 4. Bronze statue (Shang Dynasty)



Figure 5. Ice creams of Jinsha Site Museum

However, when attempting to address the question posed by RQ2, "What are the specialized applications of narrative approaches in exhibition design within the framework of territorial museums?", notable examples of territorial museums in Italy also emerge. One such example is the Biellese Ecomuseum, which comprises a collection of 15 local museums and historic buildings scattered across the Biellese region. Each of these museums and buildings serves a unique role: some recount the history of the structures and the transformations in the local environment, while others act as pavilions to showcase stories of notable individuals and local culture. Certain pavilions have undergone conversions from historic buildings into galleries to foster the cultural and artistic progression of the area. For instance, the Cittadellarte - Fondazione Pistoletto, formerly the Trombetta woolen mill, has been repurposed from a disused factory into a contemporary art showroom. These buildings, situated throughout the city, collectively form a network of museums that utilize their geographical locations as narrative threads to present local culture and history organically and comprehensively. This approach achieves a harmonious equilibrium between preserving and promoting local culture while complementing urban development.



Figures 6 and 7. Cittadellarte - Fondazione Pistoletto The former Trombetta woolen mill (A part of the Biellese ecomuseum)

Replicating a successful model like the Biellese Ecomuseum in China is entirely feasible; in fact, many regions across China boast their own distinct cultures and abundant historic buildings. However, if museum exhibition planning in China consistently revolves around the creation and development of new Intellectual Property (IP), there is a risk of museums becoming excessively focused on entertainment and commercialization. Visitors may find themselves guided through museums by flashy narrative lines, resulting in a surplus of amusement rather than genuine knowledge and information.

Moreover, within the framework of the territorial museum concept, the narrative structure may become convoluted, leading to a neglect of the territorial museum's core responsibility: presenting tangible and intangible cultural heritage as a reflection of local identity. Instead, the emphasis may be placed on attention-grabbing attractions, diverting attention from the museum's primary purpose.

Regarding RQ2, which focuses on the specialized applications of narrative approaches in exhibition design within the context of territorial museums, I endeavored to uncover insights through practical activities such as workshops. Specifically, we engaged in design practice through the Territorial Museum Narrative Design Workshop hosted at the School of Design, Shandong University, China.

During this workshop, students were divided into two groups and tasked with designing an exhibition for the territorial museum, focusing on Jinan, the capital city of Shandong Province. One group was assigned to envision the exhibition's design for the next five years, while the other group concentrated on planning for the next fifty years. Throughout the design process, narrative design principles were integrated, encouraging participants to broaden their perspectives and foster creative imagination.

The following provides a brief overview of the outcomes of Group A. The title of this group's exhibition is "In Search of Lost Memories of Jinan." At the outset of the design process, the students delved into the aspects of old Jinan that are not typically found in history books: the ancient flour mills, the former Jinan train station, and the traditional courtyards that have faded over time but remain deeply ingrained in people's hearts. Group A's design concept aimed to resurrect memories from the past by showcasing faded buildings and obsolete objects, recreating unforgettable scenes, and illuminating buried thoughts. The narrative primarily revolves around the perspectives of elderly Jinan residents. Given Jinan's reputation as the "City of Springs," renowned for its numerous ancient springs, the students chose to center the exhibition narrative around these springs, with water serving as a recurring motif throughout the design.

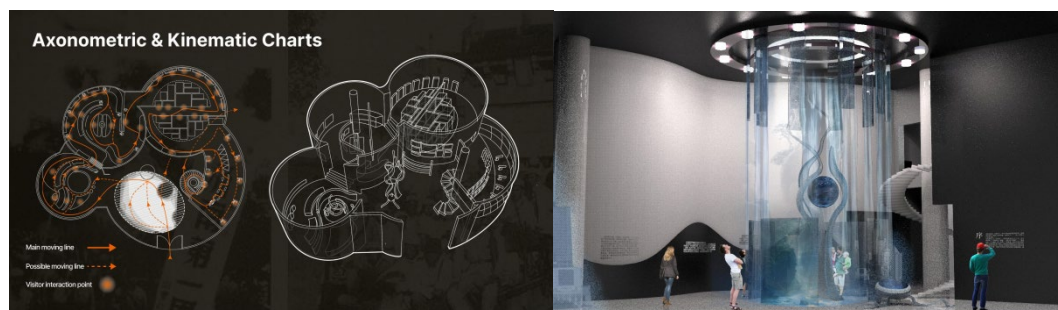


Figure 8. Axonometric of the exhibition hall

Figure 9. Preface hall simulation rendering

Ultimately, these two groups not only crafted a comprehensive exhibition narrative but, more significantly, encapsulated the role of a territorial museum in enriching local cultural heritage. The culture and history of Jinan City were seamlessly woven throughout the exhibition narrative process. The workshop effectively steered participants in the initial stages of the program to envision a rational image of the future. The outcome of the workshop illustrates that narrative design can serve as a viable approach in territorial museums. Moreover, it highlights that the historical integrity of territorial museums is better safeguarded when guided by narrative design, which, in turn, endeavors to preserve and elevate local culture.

After conducting a thorough analysis of Chinese museums, it has become evident that alongside the issues of museums adopting more secular and entertaining approaches, larger institutions like the Jingzhou Museum tend to feature older permanent exhibitions characterized by monotonous and schematic narrative structures. This contrast becomes more apparent when compared with establishments such as the Yichang Museum, which effectively showcase similar regional cultures,

making it impossible to ignore. These two phenomena are prevalent across many Chinese museums. It's crucial to recognize the differing cultural backgrounds between Western countries and China. Consequently, the exhibition narrative models employed in Italy may not be directly applicable to Chinese territorial museums.

It is noteworthy that the semi-structured interview method brought to attention previously unexplored facets of the research. Among these was the respondents' unfamiliarity with the concept of "territorial museum." Consequently, subsequent interviews concerning territorial museums could not proceed. This underscores the necessity of defining territorial museums and Chinese-approach territorial museums.

CONCLUSIONS AND FUTURE DIRECTIONS

In conclusion, the urgent need for a precise definition of territorial museums, particularly Chinese-approach territorial museums, highlights the significance of this study. This research addresses both theoretical and practical gaps in the field by compiling and organizing a comprehensive glossary database tailored to the scope of this inquiry. This effort not only facilitates a clearer conceptual framework but also contributes to a systematic understanding of the subject.

Significant progress has already been made during the course of this study. The findings from ongoing case studies will be meticulously documented and analyzed to reveal the unique characteristics and potential of Chinese-approach territorial museums. Future research will include further semi-structured interviews with stakeholders such as museum directors, curators, and design experts. These interviews will play a pivotal role in enriching the empirical foundation of this research and providing valuable insights into the practical challenges and opportunities in the development of territorial museums.

Ultimately, this research seeks to establish a foundation for the future development of Chinese-approach territorial museums. By providing insights into their theoretical underpinnings, design possibilities, and cultural significance, this endeavor not only bridges existing gaps but also opens avenues for further scholarly dialogue and practical innovation in the field of museum studies.

NOTES

- ¹ Studio Azzurro. *Musei di narrazione. Percorsi interattivi e affreschi multimediali* (Milano: Silvana Editoriale, 2011).
- ² Eilean Hooper-Greenhill. *Museums and the Shaping of Knowledge*. (London: Routledge, 1992).
- ³ Susan A Crane. "Introduction: Of Museums and Memory." In *Museums and Memory*, edited by Susan A. Crane, 1–13. Stanford: (Stanford University Press, 2000).
- ⁴ Raffaella Trocchianesi. *Design e narrazioni per il patrimonio culturale*. (Sant'Arcangelo di Romagna: Maggioli, 2014).
- ⁵ Daniela Duranti, and Damiano Spallazzo. "Tangible Interaction in Museums and Temporary Exhibitions: Embedding and Embodying the Intangible Values of Cultural Heritage." In *Systems & Design Beyond Processes and Thinking*. (Milan: FrancoAngeli, 2016).
- ⁶ Jonathan Hale, Suzanne Macleod, and Helen Hanks. *Museum Making: Narratives, Architectures, Exhibitions*. (Oxford: Routledge, 2012).
- ⁷ Raffaella Trocchianesi. "Oggetti transitivi: il potenziale narrativo dell'oggetto nel progetto espositivo." In *Il design vive di oggetti-discorso*, edited by A. Penati, 45–62. (Sesto San Giovanni: Mimesis, 2013).
- ⁸ Degeng Li. *Liquid Museum*. (Beijing: Culture and Art Publishing House, 2019).
- ⁹ Bella Dicks. *Culture on Display: The Production of Contemporary Visitability*. (Maidenhead: Open University Press, 2003).
- ¹⁰ Jie Xu. *The Construction of Narrative Exhibitions in the Spatial Form*. (Beijing: Museum, 2017).
- ¹¹ Andrea Emiliani. *La città è un museo*. (Bologna: Nuova Alfa, 1985).
- ¹² Studio Azzurro. *Musei di narrazione. Percorsi interattivi e affreschi multimediali*. (Milano: Silvana Editoriale, 2011).
- ¹³ Atelier Brückner. *Scénography*. Atelier Bruckner 2002-2010. (Ludwigsburg: Avedition, 2011).
- ¹⁴ Atelier Brückner. *Scénography 2. Staging the Space*. (Basel: Birkäuser, 2018).
- ¹⁵ David Carrier. *Museum Skepticism: A History of the Display of Art in Public Galleries*. (Durham: Duke University Press, 2006).
- ¹⁶ Degeng Li. *Liquid Museum*. (Beijing: Culture and Art Publishing House, 2019).
- ¹⁷ Wanzhen Zhang. *The Narrative Turn in Contemporary Museum Exhibitions*. (Beijing: Yuan Liu, 2014).

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LA CHIMBA AS URBAN HETEROTOPIA: ARCHITECTURE AND LITERATURE IN SANTIAGO DE CHILE

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INTRODUCTION

La Chimba is one of the oldest neighborhoods in Santiago de Chile, etymologically meaning "on the other side of the river".¹ A place that has been condemned since the Spanish conquest, since its beginnings it was destined to house everything that was not considered civilized. Thus, it was used as a place for the indigenous population,² and it was also considered a place of unrest and lawlessness.³ Since then, this neighbourhood started to house all those activities that were not regarded in accordance with a newly enlightened society, for example: cemeteries, asylums, madhouses, lazarettos, casual markets, and secluded religious places such as nunneries and convents. More recently, this has been the preferred location of a so-called a red-light district, as well as being a preferential neighborhood for immigrants. Many of these programs constitute what Foucault defines as heterotopias,⁴ and many of them have remained as such for centuries.

In this condition this district has turned into a source of a fertile imaginary that has nourished Chilean literature and cinema in recent times. Precisely from one of its best literary products that we would like to examine *La Chimba* neighborhood, which is José Donoso's *El Obsceno Pájaro de la Noche* (The Obscene Bird of the Night).⁵ The hypothesis would be that this book is a summary of this suburb, since the chronotopical spaces depicted by Donoso, are no more than a mirror of what exists in the area itself. Moreover, the personages who inhabit these fictional spaces are simply a representation of the users who regularly visit, and inhabit the hospitals, psychiatric hospitals, madhouses and brothels of *La Chimba* itself.

The architectural and cultural value of this neighbourhood lies in the fact of being a place which has defied modernity, appearing itself as a kind of counter-modernity, corresponding to a pre-capitalist urban order, spaces that are now extinct in most of our cities, and which somehow need to be preserved, because they form part of the very identity of our cities.

La Chimba as a space of absences and representation.

"They say that the devil liked *La Chimba* so much that he almost cried with pleasure when he saw himself in it," says Nora Fernández in her book *Mapocho*.⁶ *La Chimba* seems to have been born under an ominous fate, since most of the colonial cartography tended to orient the map towards the mountain range, thus leaving this district on the sinister side of our cartography (Figure 1). Several readings seem to arise from this conspicuous and ancient quarter of Santiago de Chile, *La Chimba*, at

times it appears to us as a muted, enclosed, and opaque area for our gaze, at others it reveals itself as an alluring, festive, and colorful neighborhood. The reasons for this dichotomy apparently lie in what has been the history of this quarter, but also in the rich imaginary that we have built of it.

Thus, to address the subject, we must look at it from two perspectives: the historical reality and the imaginary that goes with it. To this end, we will resort to two disciplines that usually meet and complement each other, which are literature and architecture.

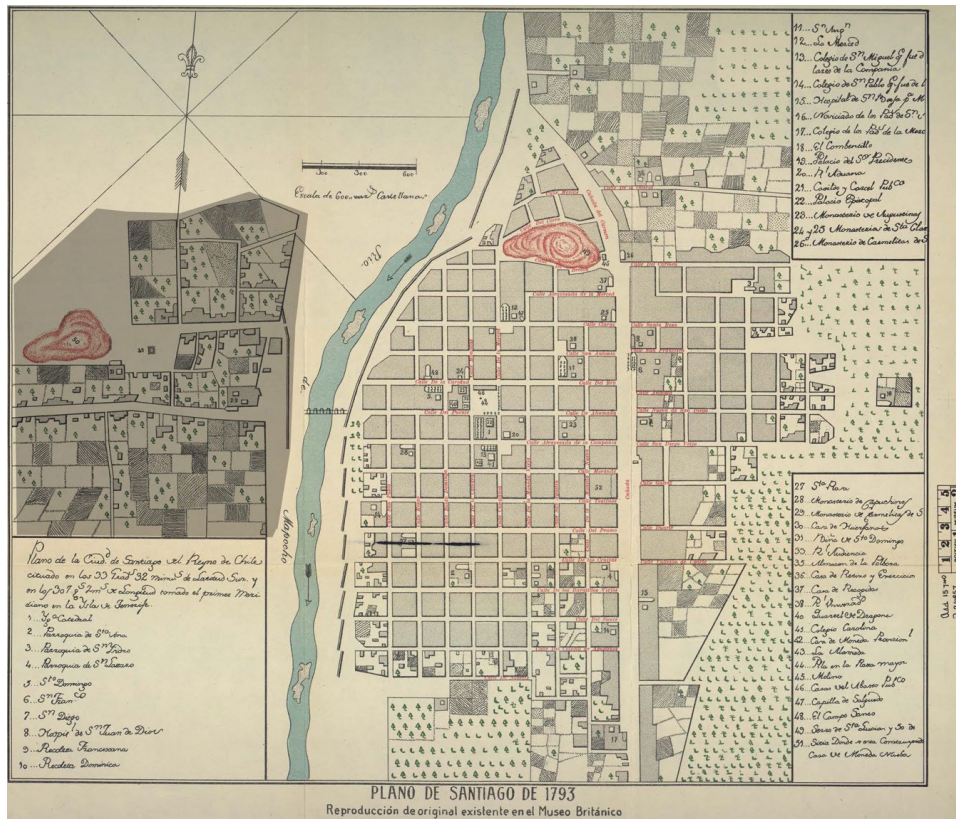


Figure 1. Plan of Santiago from 1793. La Chimba in the dark gray area on the left side of the map. Intervened by the author. Source: National Digital Library.

In José Donoso's aforementioned work, the main space in which the action takes place is the *Casa de la Rinconada*, an old convent located in *La Chimba*, where he took as a reference a conventual space in the same neighborhood. One of the most common chronotopes in Donoso's work is the "house": *Coronation* (1958), *This Sunday* (1966), the *Obscene Bird of the Night* (1970), *Casa de Campo* (1978) and other works all take place in houses. The house has been a frequent topic in many writers, which is the reason we will use the concept of *House of Fiction* coined by Henry James,⁷ as it somehow alludes to both physical and literary space. The same term that is used by Flora González Mandri in her work *The Donoso's House of Fiction*,⁸ which constitutes one of the best analyses of the author's work. Here, the author hypothesizes that the houses, in Donoso's work, became a space of representation, a *stage*, on which their characters performed, and thus they become a theatre. It is precisely this concept of representation where both Donoso's work and *La Chimba* neighbourhood seem to converge, which we will discuss below.

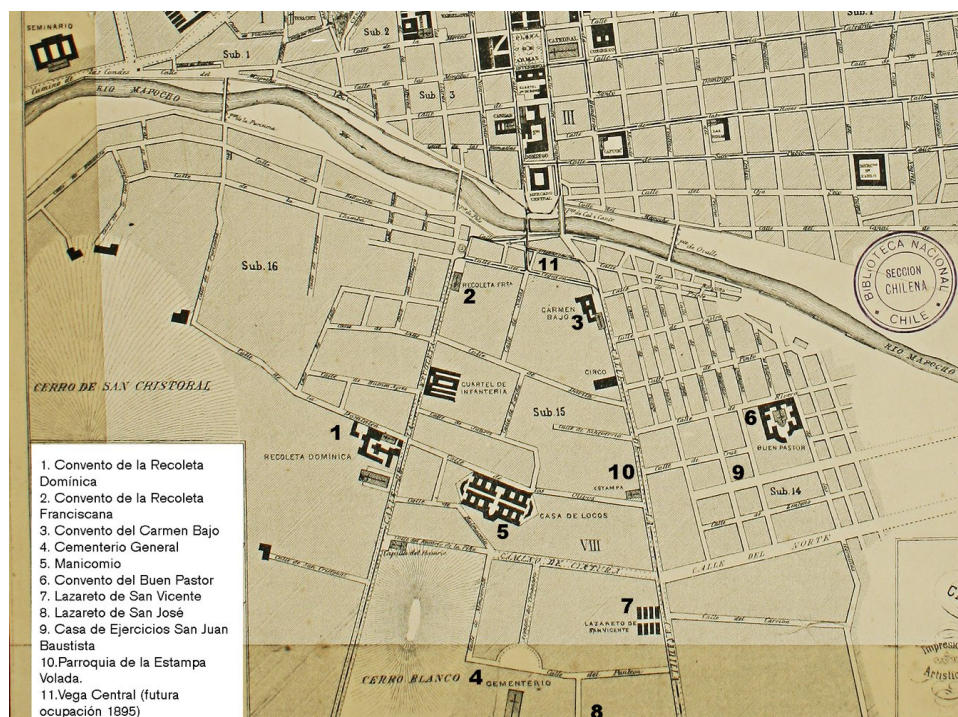


Figure 2. Plan of the Chimba Sector, extracted from Plano de Santiago de Chile, 1878. Intervened by the author. Source: National Digital Library.

La Chimba has usually been considered through the prism of the stigmatization to which it was condemned from its origins, a place where everything that the Chilean society of the time was not willing to see was located, giving rise to the vision of a punished city, "La ciudad potrero" (the pasture city) of Vicuña Mackenna,⁹ or "la ciudad bárbara" (the barbarian city) by Faustino Sarmiento.¹⁰ Carlos Franz tells us that from its origin it has been a place where one finds everything that has been denied by the city: death, madness, old age, etc.¹¹ These absences, however, became presences, because they somehow had to be contained and housed in an ad-hoc architecture, which is why these urban heterotopias began to emerge at an early stage and began to populate its territory. Thus, as early as the colonial period, the convents arose: Recoleta Dominica (1750), Monasterio del Carmen Bajo de San Rafael (1776), Colección Franciscana (1643) and Congregación del Buen Pastor (1859). Subsequently, in the Republican era, the hospital enclosures appeared: Lazaretto de San Vicente de Paul (1872), Lazareto del Salvador (1887); the first State Asylum, Casa de Orates (1852), the Public Cemetery (1821), and the Catholic Cemetery (1883). All of them conveniently distanced from the urban center, the city needs its scapegoats, Gravano tells us.¹² Around the northern edge of the river, the food depots that would give rise to what is now known as *Vega Central* (1895) were later installed. All these buildings cover an ample territory of *La Chimba*, each of them adopting a clear heterotopic physiognomy, which, undoubtedly allows us to visualize this quarter as a great urban heterotopia. (Figure 2).

La Chimba is in some degree marked by absences, but these absences appear to be made more evident by the resources used to conceal them: high walls, enclosures completely opaque to the passer-by, which sometimes extend over entire blocks, even closing off streets,¹³ as was the case of the convents. These absences, which have not only been hidden, but also accumulated over centuries (the public cemetery alone houses more than 2 million deceased), seem to achieve a hyperpresence that sometimes seems grotesque to us, hence the permanent necessity to elude and hide it, this is why, for many centuries, the Mapocho River that separates the center of the city from *La Chimba*, was

considered to be the death threshold¹⁴ of our city: “Crossing the Mapocho in this area and taking Avenida la Paz is like crossing the River Styx”.¹⁵

La Chimba as anus mundi and Imbunche.

Carlos Franz talks to us about the tendency in the urban novel to depict the city as a theatre of horror, an *Anus Mundi*, and an *imbunche*.¹⁶ In this sentence, the author seems to summarize clearly two features that are attributed to *La Chimba*, especially in the literary field, which is to be a packaged space, and the back of the city.

Heterotopias undoubtedly constituted the cloakroom of modernity, as anti-modern spaces. Thus, whereas the rest of the city was being transformed, *La Chimba* remained in a rural lethargy from which it seemed to have no intention of emerging. Urban heterotopias are opposed the capitalist city paradigm,¹⁷ since most of them are non-productive spaces: cemeteries, convents, insane asylums, places whose temporality appears to be at a standstill. These are precisely the people who inhabit these places, the ones who constitute Donoso’s main characters of in his work: old women, disfigured people, the insane, the sick, etc., make up the spectrum of *La Rinconada*’s residents. For them that Donoso builds this literary heterotopia that is the *Casa de la Rinconada*, in order to house all his monstrosities, constructed both from true references and based on his own traumas, fears and anxieties.¹⁸

A second figure alluded by Carlos Franz is the *imbunche*.¹⁹ The *imbunche* is none other than this mythical being from the south of our country, which appears as the main metaphor for enclosure, which, here, we understand as the enclosure is constantly alluded by Donoso throughout his work, in addition to the physical and, above all, symbolic confinement under which *La Chimba* has remained for centuries. According to Adriana Valdés, the *imbunche* is a sign of a hidden power that is deeply present in Chilean culture, a mode of existence, which has been a true force and leitmotiv for the construction of the literary and cinematographic imaginary of recent decades in our country.²⁰ The *imbunche* is a remnant of that rural, colonial Chile, that was perpetuated in the national identity for centuries. Representing a feudal world, it is therefore a figure that symbolises confinement, but not any confinement, but rather that closure that is the result of eternal covering, weaving, enveloping, culminating in the paralysis of the individual, expressed metaphorically through the solipsism related to the madness and the asphyxiating expansion that the house undergone,²¹ a situation that in the urban space becomes translated into the metaphor of the cloister.²²

Against the urban disorder of the city, and behind closed walls, these cloisters with its orchards and gardens, exists in a paradisiacal space.²³ Indeed, it is precisely based on this figure that Donoso builds his *Casa de la Rinconada*,²⁴ but here the Arcadia is distorted into decadence. This mirror play, where the paradisiacal is transformed into something infernal, becomes a literary device through which Donoso introduces the grotesque into the story.²⁵ The grotesque can also be considered as an escape, an escape, from the author himself, from his text and from his reality. An escapism which is also a hiding place, which is embodied in physical space in a device widely used by literature and in architecture, the labyrinth.²⁶ The Labyrinth-House of *La Rinconada* becomes a prison for its inhabitants, as it is usually connected in the literary imagination with the situation of the prisoner in his own labyrinth.²⁷



Figure 3: 1. Shops in Avda La Paz. 2. Vega Central 3. Houses in Avda La Paz. 4. Old houses in Santos Dumont Street. 5. Old walls of the first Psychiatric Hospital. 6. Public Cemetery, Main entrance. 7. Walls of the Ex-Hospital San José. 8. Old entrance of the Catholic Cemetery. Source: Photos by the author.

The labyrinth emerges as a central topic in Donoso's work. Writers such as Borges, Cortázar, Saramago and others have made the labyrinth a chronotope: "The city is the locus of modernity, and its time-space is the chronotope of constantly changing inhabiting and long-rooted nostalgia".²⁸ As for our author, it is a figure that adopts two faces, one as literary structure, and the other as mental structure.²⁹ The mental labyrinth is but a refuge from the cartesian space of the urban grid. This urban grid, so distinctive of the centres of the Spanish-American cities, which arose as the imposition of the enlightened and civilized European thought in the face of the indomitability of the indigenous landscape. Confronted to this, any *Chimba*, or indigenous space, is nothing but a refuge from this enforced rationality. The orthogonal city is not a city of corners, as Bachelard would tell us.³⁰ Indeed, it is the literary space that can build the folds and meanders on this asphyxiating homogeneity, to make it liveable. Somehow, this is what Donoso does when he creates the *Casa de la Rinconada*, as a labyrinth of multiple dimensions: mental, psychic, symbolic and physical.

Donoso's generation has been described as a generation of urban writers,³¹ where the rural leitmotiv has disappeared to become a topic associated with backwardness, unculture, savagery and grotesqueness. And this is manifested by the constant references to the countryside that the author constantly refers by the presence of animals such as stray dogs, the habits and manners of many of his characters, who come from the rural world: "the calm silence in those courtyards whose rough adobe architecture indicated an almost frontier life compared to the one he knew".³² The constant references to the heavy adobe walls of these houses, an indigenous material, associated with poverty and backwardness, and one that, is also linked to the idea of closure and the phenomenon of the confinement of the *imbunche*, since the walls seem to immobilize both his characters and himself. Most of these walls, which are still present in *La Chimba*, are indeed the byproduct of these heterotopic spaces of concealment and are a common recurring literary theme.

An atavistic fear seems to exist in the author of this presence and at the same time absence of the rural in his work, which is clearly very evident in this suburb, but to which he does not cease to return, since the rural is associated with those origins that he also seems to want to return to in part. Because in Donoso seems to subsist part of that idealized rurality by the criollo movement and the traditionalism of the first half of the twentieth century, which influenced many writers of the so-called literary Boom of the 1960s and 1970s.³³

In summary, we can clearly observe that through the themes of closure, of the labyrinthine, the *imbunche*, the decayed, Donoso manages to construct, with his literary and architectural figures, a whole landscape of decadence. All these seem to have a common element, that for some authors seems to be summed up in the writer's permanent fear of the world outside,³⁴ and for this reason Donoso takes refuge in the figure of the house and the neighbourhood. Therefore, as a final part, we

would like to address the other dimension of the Chimba, as exists today, among ruins, decay, disorder, etc., in the postmodern landscape of the city.

CONCLUSION: THE LIMINAL CHIMBA.

Santiago was born under the sign and stigma of exclusion.³⁵ The Spanish conquerors were looking for a medieval arcadia and they found barbarism, their attempts to eradicate savagery only ended up creating a second barbarous America, which whether buried, hidden, concealed, persisted throughout the centuries and ended up becoming completely fully present through the periphery. This periphery, which as a palimpsestic and rhizomatic ensemble infuses surreal experiences to its passers-by and his inhabitants on the margins of the city, was a subject much exploited by urban literature.³⁶

The history of American literature has been nothing but the transit between this barbarism, initially wild, and later becoming urban. The pampas, the jungle, the desert were replaced as topics by the slums, the shantytowns, the *callampas*, *campamentos*,³⁷ whatever the southamerican urban periphery is called. The Latin American urban centres failed, in most cases, to produce a literature like their European counterparts. For this reason, the absence of style that Carpentier accuses, giving rise to a third style, proper to that which does not seem to have one.³⁸

The idea of a third style seems to make a lot of sense nowadays, although for centuries the dichotomy between a barbarian city and a proper city was suggested regarding *La Chimba*,³⁹ but this division no longer seems to make sense when the whole of Santiago has become a *Chimba*. From this point of view, it would be more appropriate to consider *La Chimba* today as a liminal space, as this quarter was no longer a frontier or limit, but rather a door, a threshold to everything that has historically remained buried or hidden, and which in today society of transparency is impossible to hide. In the contemporary world of globalisation and the promiscuity of networks, the multiracial and hybridity have ceased to be marginal and now occupy a central place. For this reason, the theory of the third space of Babha,⁴⁰ Soja,⁴¹ etc., becomes a more appropriate answer to the current urban situation of *La Chimba*.

The abstraction of the Hispanic urban grid, the denial of the indigenous city, and the exclusion of its native inhabitants, and the subsequent instances of refusal and concealment, only contributed to the construction of a structural emptiness that has settled in our consciousness, and that has populated our history with utopias which have become heterotopias and dystopias, fully of incomplete and unfinished projects. Hence, the importance of this third space, that of literature, which in some way intends to mend, patch up, reassemble the unfinished and battered landscape of our cities. This is the role of Donoso's *imbunche*, the fictitious construction of a device woven from scraps, affective, psychic, but also physical and urban, which attempts to recompose either a personal or social history or a landscape, trying to give closure and completion to whatever has not been able to do so, thereby the strong necessity of closure, both *imbunche* and of the literary space.

Throughout his work, Donoso not only worked with the topic of the house in almost all his work, but also his entire oeuvre could be understood as the construction of a great house, of his own fictional house. This is nothing but a mirror of the history of *La Chimba*, built through infinite heterotopias, which ended up turning it into a great urban heterotopia, which after centuries now seems to have opened up to the world.

NOTES

- ¹ From the Quechua, *Chimpa*- The other side of the river, the other side, what's opposite (Lenz, 1980). There is also the mention that could be associated with the word Hookah, from Portuguese *Cacimba*: pipe or hole to fetch drinking water. (Corominas, 1984)
- ² In colonial times, the plots within the urban layout were assigned by the respective Cabildo to the "neighbors", leaving the indigenous population out of this distribution. See (Góngora, 1970)
- ³ Maximiliano Salinas. «Comida, música y humor. La desbordada vida popular» in *Historia de la Vida Privada en Chile. Vol.2*, ed. Rafael Sagredo y Cristian Gazmuri, 86-117. (Santiago: Taurus, 2006).
- ⁴ Michel Foucault. *El Cuerpo Político. Heterotopías*. (Buenos Aires: Nueva Visión, 2010).
- ⁵ *The Obscene Bird of the Night* was first published in Spanish in 1970, by Seix Barral, and in English in 1973 by Alfred A. Knopf.
- ⁶ Nora Fernández. *Mapocho*. (Santiago: Ediciones Alquimia, 2022), 77.
- ⁷ Henry James. *The Art of the Novel: Critical Prefaces*. (New York: Charles Scribner's Sons, 1962), 46.
- ⁸ Flora Gonzalez Mandri. *Jose's Donoso's House of Fiction*. (Detroit: Wayne State University Press, 1995), 19.
- ⁹ Benjamín Vicuña Mackenna. *Un Año en la Intendencia de Santiago*. (Santiago: Imprenta de la Librería del Mercurio, 1873), 125.
- ¹⁰ Sarmiento, A. B. (Ed.). *Works by D.F.Sarmiento. Conflict and Harmony of the Races in America*. 2nd Posthumous Part. (Vol. XXXVIII). (Buenos Aires: Mariano Moreno Printing and Lithography, 1900)
- ¹¹ Carlos Franz. *La Muralla Enterrada*. (Santiago: Editorial Planeta, 2001), 33.
- ¹² Ariel Gravano. *Antropología de lo Barrial*. (Buenos Aires: Espacio Editorial, 2003), 25.
- ¹³ Just in 1874 the law was enacted that put an end to the blocked streets of downtown Santiago, lasting for nearly all the colonial period. Library of the National Congress of Chile.
- ¹⁴ This idea of the Mapocho River as the Styx seems to have been exacerbated with the construction of Avenida la Paz (c.1910), one of the main thoroughfares of the Chimba, and whose main function is to link the center of the city with the General Cemetery.
- ¹⁵ Franz, 39.
- ¹⁶ Franz, 199.
- ¹⁷ Boris Muñoz and Silvia Spitta. *Más Allá de la Ciudad Letrada: Crónicas y Espacios Urbanos*. (Pittsburgh: University of Pittsburgh Press, 2003)
- ¹⁸ Miguel Angel Nater. 2006. «José Donoso o el Eros de la Homofobia.» *Revista Chilena de Literatura* 68. 123-140(2006): 126.
- ¹⁹ According to Chiloé (Chilean) mythology, the *imbunche* or *machucho* is the gatekeeper or guardian of the witches' caves. He is a child, the son of sorcerers, given to the community by his own father as soon as he was born; As a first providence, they break his right leg and twist it over his head; they bring him up entirely naked and with an absolute impediment to hear the human voice; Their diet begins with black cat's milk and continues with meat from the carcasses of goats or goats. Because of the absolute abandonment in which it grows, always inside the cave that serves as its home and prison, the *imbunche* is completely covered with hairs like an animal and its voice loses its human characteristics; It emits guttural cries that resemble the bleating of a snitch. His mission is to guard the cave to which he has been donated by his father; He opens and closes it every time sorcerers hold a meeting there. (Coluccio, 1953)
- ²⁰ Adriana Valdés. «El "Imbunche". Estudio de un Motivo en El Obsceno Pajaro de la Noche.» In *Donoso. La Destrucción de un Mundo*, de Promis et al. (Buenos Aires: Fernando García Cambeiro,1975).
- ²¹ Miguel Angel Nater. *José Donoso entre la Esfinge y la Quimera*. (Santiago: Editorial Cuarto Propio, 2007), 93.
- ²² Andres Ferrada. *Los Paisajes Urbanos en la escritura de José Donoso*. (Santiago: Editorial Universitaria. 2022), 19.
- ²³ Sol Serrano. «El ocaso de la clausura: mujeres, religión y estado Nacional. El caso chileno.» *Historia* II no 42. 505-535 (2009).
- ²⁴ The literary building of House of *La Rinconada* was inspired by the San Juan Bautista Retreat House, located between Cruz, López, Escanilla and Colón streets, in the city of Santiago, which was demolished in 1965.
- ²⁵ Wolfgang Kaiser. *Lo Grotesco. Su Realización en Literatura y Pintura*. (Madrid: La Balsa de la Medusa, 2010).
- ²⁶ Wendy Faris. *Labyrinths of Language*. (Baltimore: The John Hopkins University Press,1988), 153.
- ²⁷ Augusto Sarrocchi. «El Laberinto y la Literatura». *Signos* no 43/44. 113-124 (1998).
- ²⁸ Cristián Cisternas. *Imagen de la Ciudad en la Literatura Hispanoamericana y Chilena Contemporánea*. (Santiago: Editorial Universitaria. 2011), 23.

- ²⁹ Ludmila Kapschutschenko. *El Laberinto en la Narrativa Hispanoamericana Contemporánea*. (London: Tamesis Books Limited, 1981), 19.
- ³⁰ Gastón Bachelard. *La Poética del Espacio*. (Ciudad de México: Fondo de Cultura Económica, 2012), 127.
- ³¹ Muñoz and Spitta, 7.
- ³² José Donoso. *El Obsceno Pájaro de la Noche*. (Santiago: Plaza&Janés Editores. 1994), 153.
- ³³ Valeria Bril y Mario Sabugo. *Arquitectura y Ciudad: imaginarios fronterizos*. (Buenos Aires: Diseño, 2017), 194.
- ³⁴ Pablo Catalán. *Cartografía de José Donoso*. (Santiago: Frasis Editores, 2004), 181.
- ³⁵ Bartolome Leal, ed. *Santiago Canalla*. Digital. (Santiago: Espora Ediciones, 2019).
- ³⁶ Lieven Ameel and Jason Finch. *Literature and the Peripheral City*. (New York: Palgrave MacMillan, 2015), 8.
- ³⁷ *Callampas* and *Campamentos* is the name given in Chile to informal settlements.
- ³⁸ Alejo Carpentier. *Tientos, diferencias y otros ensayos*. (Barcelona: Plaza&Janés Editores, 1987), 14.
- ³⁹ Francisca Marquez. «Habitat la Ciudad Bárbara. La Chimba del Siglo XXI.» *Revista 180* no 29. 6-9 (2012)
- ⁴⁰ Homi. K.Bhabha. *El Lugar de la Cultura*. (Buenos Aires: Manantial, 2002), 57.
- ⁴¹ Edward Soja. *Thirdspace: Journeys to Los Angeles and Other Real-and-Imagined Places*. (Massachusetts: Blackwell Publishers, 1996).

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A POSTCOLONIAL ANALYSIS OF THE LURE OF MECCA THE INTRODUCTION TO ZIAUDDIN SARDAR'S MEMOIR *MECCA THE SACRED CITY*

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INTRODUCTION

This paper, a postcolonial analysis of the introduction to Ziauddin Sardar's historical memoir *Mecca the Sacred City*,¹ titled *The Lure of Mecca*. discusses Sardar's journey to Mecca. It explains why Muslims must make a journey to Mecca at least once in a lifetime to perform pilgrimage (Haj). How Sardar was educated and brought up to respect and revere the holy city is analysed. It examines Sardar's writing from a Muslim postcolonial perspective. It employs holy doctrines; the Al Quran and the Hadith, two Muslim holy texts, the first a revelation from Allah (God) and the second the sayings and way of life of the Prophet Muhammad (pbuh).² It points out the importance of Mecca to Muslims as decreed by Allah and discussed by Sardar. Sardar's view and portrayal of the holy city is analysed. This paper observes the accuracy of Sardar's historical and sociological view of the city and its history.

To understand Mecca, we must define the Muslim. A Muslim is a person who professes to Islam. According to Samir Abuznaid in his essay titled *Islam and Management: What Can Be Learned?*³

Islam is an Arabic word connoting submission, surrender, and obedience. As a religion, Islam stands for complete submission and obedience to Allah—and that is why it is called Islam.

Thus, a Muslim is a person who submits his whole being and will to Allah, and his centre is Mecca because the focal point for his prayers is Mecca, Thus, a Muslim's religious identity is homogenous, but racially Muslims are heterogenous.

Sardar's book has gone through many reviews. They reflect Sardar's thoughts and some of them contemplate on them. One of them is Christopher de Bellaigue, who discusses it well in his review of it in *The Guardian* newspaper.⁴ He postulates that Mecca is important to Sardar. He also portrays the holiness of the city and its importance to Islam and Muslims. He asserts the importance of Mecca to the whole world. His review reflects the importance of Sardar's work not only to the Muslims but to all other religions. It is a book that elucidates what Islam is and the sacredness of the religion.

The introduction gives us a very thorough summary of Mecca, its inhabitants and its visitors. Sardar explains to us very clearly, in clean and crisp English that is not hampered with too much jargon except that is connected to Islam and its religious rituals, the essence of Mecca and what makes it and its inhabitants as well as its visitors tick and move. This is the beauty of this introductory chapter that makes the whole book alluring to its readers.⁵

MECCA AND THE MUSLIM'S RELIGIOUS DUTY

Initially the Muslim's did not pray five times a day. The obligatory five daily prayers were decreed to the Prophet Muhammad (pbuh) when he travelled up to heaven on the night that is called Israk Mi'raj. A journey that took place from Jerusalem up to heaven. The Angel Gabriel flew the prophet up to heaven and there he was ordered by Allah to instruct his people to worship him the way the Muslim's worship Allah today.

Initially the focal point of prayers was Jerusalem, the place from where the Prophet journeyed up to heaven. Later, because the Jews of Medina used to taunt him and the Muslims, Allah ordained him to change their prayer direction toward Mecca.⁶ The five daily prayers are part of the Haj rituals which a Muslim performs at least once in a lifetime in Mecca the holy city, in Medina and a few other places in Saudi Arabia.

This is the city where the Prophet Muhammad was born, and his forefather Prophet Ismail (Ishmael). This is where, miles away from the holy city in a cave named Hira' Prophet Muhammad received his first revelation from Allah by way of Arch Angel Jibrael (Gabriel) on a night that the Muslims name as Nuzul Al Quran (the Quran Revelation Day) which took place on the 17th day of the month of Ramadan.

The Hajj is an obligatory act on all Muslims when they can afford to travel to Mecca. It is a once in a lifetime obligation. Unless a Muslim can afford it financially, biologically and spiritually, then he/she does not need to perform his/her Haj. It is stated in the 5 Pillars of Islam this duty of a Muslim. According to Khwaja Kamal-ud-Din in his book *Five Pillars of Islam* (1900) Islam as a faith is constituted of five principles: the formula of the faith (Kalima Taiyyiba), Prayer, Fasting, Almsgiving, and Pilgrimage.⁷ According to Abuznaid,⁸ "Islam is built on five pillars. They are the testimony of faith, prayer, alms, fasting, and pilgrimage to the city of Makkah". The Hajj is the last of the five pillars of Islam. When a Muslim is prepared financially and spiritually, amongst other things, only then he can perform his Hajj.

ANALYSIS

Sardar begins his Introduction with the description of himself in a pilgrim bus. He looks out of the window and sees multitude of humans. The picture is of the abundance of human beings in Mecca that have come from around the world, and are millions in number. All of them, the men, are dressed in the same fashion, i.e. two pieces of white cloth, named ihram, that is unstitched.⁹ What he does not tell us here is that one piece is draped across the waist down and another piece draped across the torso like the Romans used to in Ancient Greece. He likens Mecca to an ocean. Mecca is intriguing to Sardar. His journey on the bus to Mina, to a place which is required for Muslims to be at and perform the sacred act of stoning three pillars which represent the act of stoning the devil that was carried out by the first inhabitant of Mecca, Prophet Ibrahim (Abraham) on the orders of the Arch Angel Jibrael (Gabriel). He pelted the devil with seven stones each time it appeared in front of him at three different locations. Thus, this sacred act of the Muslims throwing seven stones at the pillar represents Prophet Ibrahim's act of stoning the devil.

The dress that Muslims must wear during the pilgrimage is homogenous. Even a king uses the same garb. This means in Allah's eyes all human beings are equal. Only their deeds separate them from each other. The ocean of humanity that is present during Hajj is a reminder to the Muslim of the day of reckoning. This is how mankind will be when they are resurrected after dooms day. The Haj in Mecca is a holy act, and it is in remembrance of Prophet Ibrahim that was ordained upon the first Muslims; Prophet Muhammad (pbuh), his family and sahabah (friends), also upon all Muslims after that.

Sardar feels awe at the power of Mecca. The ideal and reality meet in Mecca. The ideal is the age of Prophet Ibrahim, whereas the reality is modern day Mecca that is filled with millions of pilgrims. The ideal is the act of worship, the pilgrimage, that Muslims carry out in the name of Allah in the memory of the Prophets of Islam. The Hajj is not only an emulation of the acts that Prophet Muhammad carried out. It resonates the past, the Mecca before Muhammad, the Mecca that Prophet Ibrahim created and freed from idol worship. It is his duty that the Muslims resonate in this last pillar of Islam.

The Ka'bah is called the house of Allah, and is situated in Mecca. This is the house that Prophet Ibrahim protected even from his own father who was a pagan and idol worshipper.

Mecca is close at heart to every Muslim from the day he/she begins to pray, which is at the age of seven. He/she must know the direction of Mecca so that his/her prayers are accepted by Allah. Sardar's discussion above is nothing new to every practicing Muslim. They idolize it and its inhabitants. The Zam-Zam well which exists until today, and is holy to the Muslims, was discovered under the feet of Prophet Ishmael when his mother was looking for water to feed her new-born son. A valley that was barren prospered and became rich due to the discovery of the Zam-Zam well.

Sardar's quest for Mecca began in Pakistan, where he was born. Sardar's description of the calendar picture of the Sacred Mosque (Masjidil Haram) and the Kaaba in his house shows how Muslims in Pakistan venerate Mecca. The picture is not there to be worshipped, because Muslims cannot worship anything or anyone except for Allah, the God in Heaven, whom they believe is the one and only God. Most Muslim households have Islamic religious artefacts in them. However, they are not for worship. They are there to remind them of the fact that they are Muslims, and that they need to respect and practice their religion and their holy scriptures which are the Al Quran and the Hadith. Sardar's quest for Mecca is every Muslims quest. They are educated and brought up to perform their Islamic duties toward Allah and to one day travel to Mecca to perform the final duty, the Hajj, that is stated in the Pillars of Islam.¹⁰

It is a city which a Muslim must be worthy of.¹¹

Sardar's attachment to Mecca did not just sprout from looking at a calendar picture. He describes his lifestyle as a Muslim and his upbringing since childhood. The discipline at home and in school created the Sardar that worships Allah and venerates Mecca. Sardar's conviction to perform his Hajj was instilled in him at home and at the religious school which is called the madrassa. Sardar is no different from any other practicing Muslim who is educated at home and in school. A Muslim must practice his duty toward Allah – follow the Pillars of Faith (Rukun Iman) and the Pillars of Islam (Rukun Islam) precisely. Mecca is every Muslim's dream, and Sardar resonates that via his writing.¹²

A Muslim when he practices his religion well is a very disciplined human being. When he understands his faith, has the soul of Islam inside him, emulates the lifestyle of the Prophet Muhammad (pbuh) is a very gentle human being that has mercy in his heart for his fellow human beings and other creatures too. A Muslim is brought up and educated with the Prophet Muhammad (pbuh) as a model. Prophet Muhammad (pbuh) was a very gentle and trustworthy human being. He was dubbed as Al Amin (The Honest One) by the Arabs because of his honesty.

Sardar takes the opportunity of working at the Hajj Research Centre to perform his Hajj. For five years while working there he does not fail to perform his Hajj. A duty that is a luxury for many Muslims, and is performed only once by many of them becomes an easy and achievable task for Sardar due to his career. The feeling that Sardar feels upon entering the Sacred Mosque for the first time cannot be described. However, his love for the holy city resonates through this work and his rhetoric of it.¹³

We must understand that Sardar reached Mecca in 1975. The 70s were years that were not as prosperous for the Muslims and the world as they are today. To a Muslim to be able to perform his Hajj in the 70s and especially before that was like a miracle. Air travel was still a luxury and most

pilgrims still travelled by way of the sea on board of ships, which was much cheaper. The travellers on the Titanic would seem less exotic compared to those of the Hajj travellers.

Mecca, Sardar points out is a city of rituals. The Hajj is not the only Muslim ritual that is observed in Mecca. Since the inhabitants are Muslim and Umrah, the smaller pilgrimage is allowed during Ramadhan, the month when Muslims are required to fast for 30 days, thus this ritual makes the city tick too and controls it.¹⁴ The feeling of awe and excitement that Sardar feels upon starting his Hajj ritual can be understood when we read the book. Sardar was in Mecca before technology was used to show us the rituals that are performed in Mecca.

The Muslim calendar is not static like the Gregorian calendar. It follows the cycle of the moon each year. Thus, “Ramadan moves through the varying temperatures of the year, like the Hajj season. The Islamic calendar, based on the Moon, is eleven days shorter than the Gregorian, so the fixed dates in the Islamic calendar move through the seasons in a stately progress”.¹⁵

The Hajj takes place in the month of Dhu al-Hijjah. According to Sardar, “The Hajj officially lasts for ten days in the month of Dhu al-Hijjah”.¹⁶ When a Muslim completes this religious ritual, normally he becomes holier and more spiritual. He/she normally finds peace with himself/herself and the world around him/her. Most Muslims leave this ritual till they are of an age where they can understand and embrace spirituality well. Most pilgrims are above fifty years old.

CONCLUSION

This paper has analysed the introduction to Sardar’s historical memoir using the postcolonial and Muslim lens. It has discussed Sardar’s journey to Mecca, and why he took the journey, at a general level. It has also explained the reason behind the journey to Mecca that Sardar and other Muslims make at least once in a lifetime. It briefly explained the pilgrimage of Muslims that is labelled as Hajj. Where possible the researcher has used her knowledge of the Al Quran, the Muslim’s holy book to explain religious rituals and have footnoted this.

This paper emphasizes the fact that Muslims like Sardar have to make a journey to Mecca at least once in a lifetime to perform their pilgrimage. It also points out how Sardar was educated and brought up to respect and revere the holy city. Sardar is a Muslim that has lived in the centre, i.e. London. However, this research finds that the uprooting from a Muslim culture to a Christian country did not diminish his religious belief and love for Islam. He is an example of Muslims that deem Mecca as an integral and important city in their lives. This paper has pointed out the importance of Mecca to Muslims as decreed by Allah and discussed by Sardar. The author’s views and portrayal of the holy city is analysed well by the researcher vis-à-vis this paper. The conclusion is that this book is not only well researched but is written from his personal experience and contact with the sacred city named Mecca.

NOTES

- ¹ Ziauddin Sardar. *Mecca the Sacred City*. (London: Bloomsbury, 2004).
- ² Peace Be Upon Him (pbuh)
- ³ Samir Abuznaid. Islam and Management: What Can Be Learned? *Thunderbird International Business Review*. Volume 48, Issue 1: Journeys Along the Silk Road: Intercultural Approaches to Comparative Business Systems and Practices. 125-139. 2006. Accessed February 22, 2023. https://onlinelibrary.wiley.com/doi/epdf/10.1002/tie.20089?saml_referrer
- ⁴ Christopher de Bellaigue. Mecca: The Sacred City by Ziauddin Sardar review – ‘The pilgrimage is now an adjunct to the retail’ in *The Guardian*. 20 Nov 2014. Accessed March 1, 2023. <https://www.theguardian.com/books/2014/nov/20/mecca-the-sacred-city-ziauddin-sardar-review>.
- ⁵ Ziauddin Sardar. *Mecca: The Sacred City*. (London: Bloomsbury. 2014). xix.
- ⁶ Refer to Surah al Baqarah, ayat 144-150, in the Al Quran.
- ⁷ Kamal-ud-din Khawajja AlHajj. *Five Pillars of Islam*. (Surrey: Woking Muslim Mission & Literary Trust, 1990)
- ⁸ Samir Abuznaid. 2006. Islam and Management: What Can Be Learned? *Thunderbird International Business Review*. Volume 48, Issue 1: Journeys Along the Silk Road: Intercultural Approaches to Comparative Business Systems and Practices. pp.125-139. Accessed February 22, 2023 https://onlinelibrary.wiley.com/doi/epdf/10.1002/tie.20089?saml_referrer
- ⁹ Ziauddin Sardar. *Mecca: The Sacred City*. (London: Bloomsbury. 2014). xi.
- ¹⁰ Ziauddin Sardar. *Mecca: The Sacred City*. xiii.
- ¹¹ Ziauddin Sardar. *Mecca: The Sacred City*.xiv-xv
- ¹²Ziauddin Sardar. *Mecca: The Sacred City*. xv.
- ¹³ Ziauddin Sardar. *Mecca: The Sacred City*. xvii
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THE APPLICATION OF VISUAL SYMBOLS IN VR VIRTUAL MUSEUM NARRATIVE

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INTRODUCTION

Museums are evolving from traditional institutions focused on artifact collection and interpretation into dynamic platforms for cultural engagement.¹ The rise of digital technology, the internet, and artificial intelligence has made virtual exhibitions a vital part of modern museum practices, transforming collections into multifaceted projects that engage diverse audiences.² This shift moves beyond the traditional aura of artifacts, as described by Benjamin,³ towards more varied and transformative forms of cultural presentation.

While Virtual Reality (VR) technology has the potential to revolutionize museum experiences through immersive and interactive dimensions,⁴ the challenge lies in optimizing user engagement with effective narrative techniques.⁵ Most current research focuses on technological advancements and interaction design,⁶ often neglecting the crucial role of visual symbols in VR narratives. According to Deleuze,⁷ visual symbols uniquely convey abstract meanings and establish comprehensive narrative frameworks.

This study investigates the importance of visual symbols in the narratives of VR virtual museums. By combining theoretical *poetic theory*⁸ with practical applications, this research employs literature reviews and case studies to explore how these symbols shape content narratives. The study argues that the effectiveness of these narratives depends on the materiality, content, and positioning of visual symbols.

Via Gaston Bachelard's *poetic* theory, which emphasizes the intimate relationship between space and human experience. Bachelard's theory *posits* that spaces are not merely physical entities but are imbued with personal and emotional significance. This poetic approach highlights the dynamic interplay between memory, imagination, and perception in creating meaningful spatial experiences. By applying Bachelard's concepts to the virtual museum context, this research explores how visual symbols can evoke profound emotional and cognitive responses, thereby enriching visitors' engagement.

This paper examines the critical relationship between real and virtual spaces, focusing on how visual symbols function within VR virtual museums. By integrating historical and philosophical contexts with cognitive and perceptual theories, the study investigates how virtual environments can replicate and enhance the sensory and emotional impact of physical spaces. Through detailed case studies, this research analyses the practical implementation of visual symbols, demonstrating their role in shaping immersive and resonant narratives.

Ultimately, this study aims to develop a guiding framework for incorporating visual symbols into virtual museum design. This framework is intended to enhance the effectiveness of content narratives, providing museum professionals with new insights and strategies for creating engaging and meaningful virtual experiences. By recognizing and leveraging the poetic and symbolic dimensions of space, museums can transcend traditional boundaries, offering visitors a deeper and more personalized connection with cultural heritage.

VIRTUAL MUSEUM - SPATIAL PERCEIVING OF POETIC BODY

Traditional museums have long been dedicated to collecting, researching, and displaying objects. However, with the advent of postmodernism and a growing emphasis on human-centered experiences,⁹ this object-centric approach is evolving. The introduction of virtual art is redefining the structure and purpose of museums, prompting a shift towards a more perceptive design focus.

Modern museums are increasingly valuing the imaginative and experiential aspects of their collections,¹⁰ integrating virtual elements to create immersive virtual museums. In these virtual spaces, audiences engage not only as passive observers but as active participants in the experience, cognition, and even the documentation and collection processes. The essence of virtual museum objects lies in their ability to merge the sensory experiences of sight, sound, and touch, transforming these artefacts into elements of everyday life.

Thus, the focus of virtual museums is less on the physical artefacts and more on the narratives and symbols they represent, highlighting the experiential and conceptual dimensions of the museum experience. This transition from the physical to the experiential realm allows museums to preserve and present immaterial aspects of civilization, enhancing a daily connection between people and their cultural heritage.

Epistemology suggests that museums should prioritize experiential engagement over the mere acquisition of knowledge, emphasizing the sensory involvement of the body over the static display of objects. This approach embodies the museum experience, making it more immersive and meaningful.

Furthermore, virtual museums reflect the phenomenological world of everyday life, rich with associative experiences. Just as our homes serve as spaces for daily life, museums can now be experienced from the comfort of home, reinforcing the idea that museums should be accessible and integrated into our daily lives.

In this context, the body becomes a crucial element in both museum and daily behavior. The virtual museum, through a dialectical analysis of the body, seeks to evoke forgotten expressions and creativity, leading to multiple interpretations and new concepts. This *embodiment* of the museum experience fosters a deeper connection between individuals and the cultural narratives they engage with, making the act of looking not an end but a starting point for holistic perception.

MEMORY AND PHENOMENA - VISION IS NOT JUST SEEING BUT PERCEIVING

Plato asserted that vision gave rise to philosophy, a belief echoed through the ages. An American philosopher Hans Jonas similarly noted, *Where the sight goes, the mind goes.*¹¹ The concept of vision, however, varies across disciplines. Biologists investigate the mechanisms of visual encoding,¹² while cognitive scientists explore the relationship between vision and memory.¹³

Studies on *situationism*¹⁴ in memory indicate that items are not stored independently. Instead, they are linked with spatial context information (the spatial layout of the items) and feature context information (the overall characteristics of the items). Consequently, visual information is inseparable from its spatial context for effective analysis. Visual working memory is structured beyond individual items and needs to be integrated spatial and contextual details.

Moreover, seeing and perceiving are distinct processes: what one sees is not the whole what one perceives. For individuals without physical impairments, multi-sensory impressions guided by vision play a crucial role in cognition.¹⁵ Research into the impact of vision and perception on memory reveals that, while vision has an intuitive influence, other senses, more closely linked to the body, often trigger deeper memories. However, people's perception is still mostly influenced by visual elements.¹⁶ So, when researching vision in virtual realms, we should analyse it from a more comprehensive level of perception.

Perception is inherently tied to memory and frequently operates unconsciously. It merges the present with memories, creating a unified experience. As Erving Goffman¹⁷ observed, both external and internal experiences shape human perception. Thus, while the eyes are often considered the window to the mind, vision serves not as the endpoint but as the starting point of comprehensive perception.¹⁸ This concept is evident in spatial scanning technologies. In 3D scanning (Figure 1), vision integrates with the structure, functioning like a skin. The perception of objects arises through the absorption of visual information and the visual changes experienced during movement. The initial step, extracting visual information, can be analyzed using image research methods. Each visual slice contains both surface details and underlying information. The moving visual image is compared with the observer's cognition, highlighting the interplay between movement and structure.

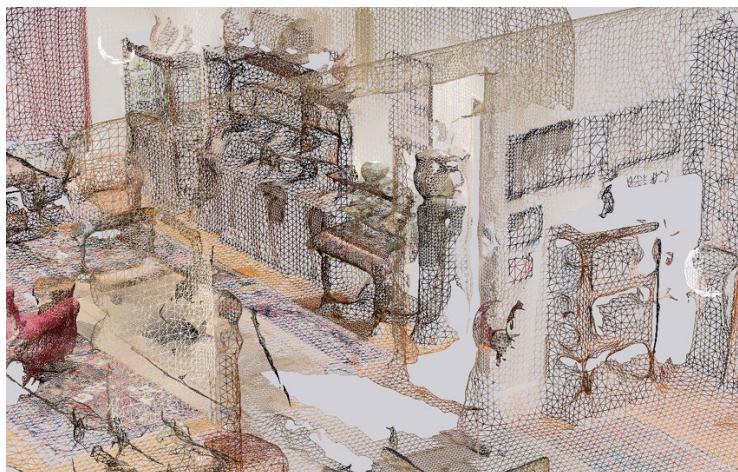


Figure 1. 3D scanning space, Freud Museum, London.

Bernard Tschumi¹⁹ emphasises that during movement, the observer's shifting viewpoint interacts with spatial structures, making space perception dynamic rather than static. This dynamic interaction and multi-angle viewpoint transformation lead to a profound understanding of space. Thus, the dynamic visual perception process forms a spatial narrative, which is crucial for cognition and comprehension of space.

Visual logic in space differs from that in cinema. While films create an immersive experience through the continuity of images, spatial perception is formed through movement. Consequently, images in space should be considered as *space*. By combining landscape features and imagery, memory presentation becomes symbolic and concise. An old photograph, for instance, can evoke numerous associations with its historical context. However, the creation of memories is driven by imagining behaviors and continuous landscape experiences.

This dynamic, behavior-led interaction with space underscores the significance of vision as the starting point of overall perception. Movement through space and the resulting visual changes deepen our understanding and form a comprehensive narrative of our environment.

This study aims to investigate the relationship between the emotional perceptions evoked by visual symbols in memory and the actual landscapes in space. It seeks to address the issue that visual symbols often overlook bodily perception in narrative processes. By examining the atmosphere and intimacy between visual symbols and landscape spaces, we can understand how human subjective consciousness blends these elements, producing condensed and personalized narratives.

Visual symbols alone cannot capture the full essence of a landscape, which embodies human values and resists external visual control and guidance.²⁰ This characteristic highlights the intrinsic human value of space. Narratives, as defined in this study, are visions of events arranged in a specific rhythm of poetry, rooted in lived experiences. These narratives typically follow a structure: orientation, chronological events, and a conclusion. They can be conveyed in various forms, including written, oral, or visual representations, as long as they reflect the storyteller's lived experiences and perceptions.²¹

Humans have the innate ability to recall and imagine spatial content. As Gaston Bachelard stated, *Memory and imagination go together*.²² The processing of memories and the formation of associations are deeply connected to bodily perception. English artist Henry Moore argues that individuals project their inner worlds onto the people, places, and events they encounter, intertwining these experiences. Bachelard compared memory in life to a *Roundness*—imperfect, unbounded by the stimuli of images, yet shining with frankness and sincerity. Some images are devoid of past contexts and thus propose a *metapsychological perspective*. According to Bachelard, existence experienced both internally and externally forms a complete roundness, with everything revolving around a central point, symbolizing our individual consciousness.

In conclusion, this study emphasizes that vision is the starting point of overall perception, but it must be integrated with bodily and emotional experiences to form a holistic understanding of space. By acknowledging and exploring these interconnected dimensions, we can create richer, more meaningful narratives that truly reflect human experience and values in both memory and physical landscapes.

EXPERIENCE AND EXPRESSION - VISION AS A METHOD TO PRESENT SPACE

Vision plays a crucial role in our understanding of space. But how do people express space visually? The concept of space in philosophy provides a foundational framework. Eminent thinkers such as Aristotle, René Descartes, and Immanuel Kant have each offered unique perspectives on the nature of space.

Aristotle viewed space as a relational construct existing between objects or as a potential container for them. This perspective highlights the interconnectedness and interactions within a given space. René Descartes, on the other hand, perceived space as an infinite, extended entity that exists independently of the objects within it. Descartes described space as a continuous extension populated by objects but distinct from their essence. Immanuel Kant proposed that space is not an objective entity but a subjective form of perception. In his *Critique of Pure Reason*, Kant argued that space represents our experience of the external world and serves as a cognitive structure through which we perceive and comprehend our surroundings. This creates a dynamic relationship between the *subject* (the observer) and the *object* (the observed).

Translate to vision express, artists often strive to present these complex relationships. M.C. Escher's artwork *Relativity* (Figure 2) serves as an illustrative case study for these philosophical perspectives on space.

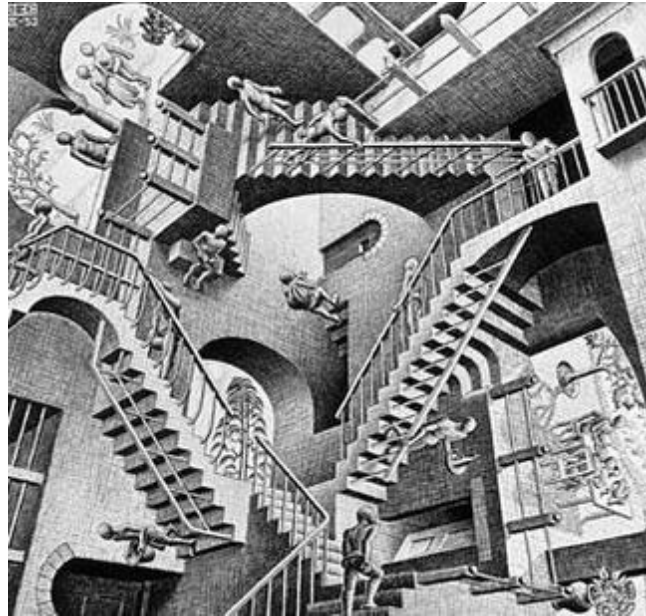


Figure 2. *Relativity*, 27.7x29.2 cm, M.C. Escher, 1953.

In *Relativity*, Escher presents a complex, interconnected environment where multiple perspectives and gravitational directions coexist. The various figures and architectural elements interact within a shared, multi-dimensional space, constantly shifting and challenging the viewer's perception of spatial order. The intricate network of staircases and passages appears to extend infinitely in multiple directions, suggesting a boundless space that exists independently of any singular viewpoint.

This depiction creates a disorienting and subjective experience for the viewer, with multiple perspectives and varying gravitational forces. Each observer may perceive and interpret the space differently based on their cognitive structure and individual perspective. This subjective nature of space is central to the experience of *Relativity*, where the relationship between the subject and object is fluid and dynamic.

M.C. Escher's *Relativity* visually display the philosophical concepts of space proposed by Aristotle, Descartes, and Kant. By examining this artwork, we can see how relational, infinite, and subjective aspects of space are expressed through visual art. Escher's intricate and thought-provoking depiction of space challenges viewers to reconsider their perceptions, aligning with the philosophical idea that vision is fundamental to understanding and expressing space.

In the context of museum display areas, understanding space as a concept within philosophy and human cognition necessitates considering human memory and the interaction between subjective cognition and the objective environment. This approach allows for the exploration of virtual spaces created by computers, providing a basis for comparison with physical spaces.

By integrating historical and philosophical contexts, particularly through Gilles Deleuze's concept of *virtuality*,²³ with cognitive and perceptual theories, this study delves into visitors' psychological experiences of virtual environments. This enhances our understanding of visitor engagement. Analyzing case studies of virtual museum implementations and technological advancements offers concrete examples and practical insights for museum professionals. Emphasizing interactive and participatory elements reveals the potential for deeper emotional and intellectual connections with exhibits.

Ultimately, space is understood as both a relationship and a structure, while spatial experience is personal and intimate. Vision significantly influences spatial cognition, although other factors such as personal and cultural history and psychological states also play a role. These elements are recreated in

the symbols of memory, yet the knowledge of space begins with our sensory perception. Through continuous reflection, humans gradually uncover the essence of space.

The process of understanding space is akin to a wayfinding process, as outlined in the theory of spatial cognition. In 1997, M. Raubal explored a method for spatial understanding based on image schemata, where spatial information is derived from abstract images.²⁴ Despite advancements, the field of integrating space from spatial vision remains incomplete. From a situationist perspective, Guy Debord criticizes the reliance on symbols and images to convey space,²⁵ arguing that such methods alienate people's understanding of spatial relationships. In his *The Society of the Spectacle*, Debord would critique a situation where a city's redevelopment project focuses heavily on creating a visually stunning skyline, complete with iconic skyscrapers and visually striking landmarks. While these images can be powerful symbols of progress and modernity, Debord would argue that they alienate the inhabitants from the real, lived space. The focus on the spectacle—how the city looks—overshadows the functional and social needs of its residents, leading to a disconnection between people and their environment.

Landscape, as a relationship, cannot be effectively communicated through simple graphic design. Instead, analyzing the vision of space and visual memory, and comparing multiple visual results through a phenomenological lens, reveals numerous subtle differences between the internal and external experiences of space. Gaston Bachelard (1957) used the concept of *poetry* to discuss space, employing the repetition and rhythm of resonance and reverberation as metaphors for the possibilities of space in human consciousness.

Bachelard advocated abandoning the rigid logic of geometric methods in favor of embracing ambiguity and fusion, which he identified as a virtual state. This approach simultaneously evokes calm and conflict. He referenced a French poet and writer of Uruguayan origin, Jules Supervielle's work to illustrate the claustrophobic wildness and the cage as external elements, highlighting the complex interplay between inner and outer spaces. We can use the following case to discuss the ability of ambiguity and fusion vision to create landscapes and its application in virtual exhibitions

SUR - IMAGINATION - VIRTUAL SPACE CASE

In 2022, *Space Popular* held a virtual reality exhibition *Gateways to other worlds* (Figure 3) at Sir John Soane's House Museum, exploring how fictional doors facilitate travel through space and time. This concept aligns with the museum's theme of folding and mapping information about artifacts. As Gaston Bachelard noted, a door represents a semi-open universe and the origin of new perspectives. It symbolizes the entrance to imagination, whether actively opened or passively encountered. The fluid and flexible visual elements in this exhibition interact dynamically with human consciousness.

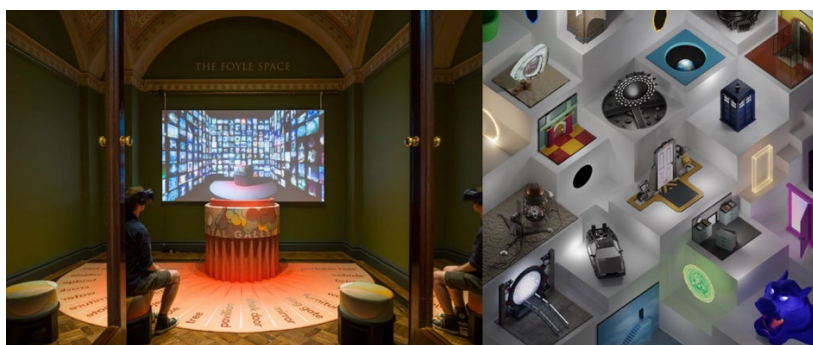


Figure 3. *Gateways to other worlds* exhibition, John Soane's House Museum, 2022, Space Popular.

Museums, as cultural symbols with thresholds, must convey evolving attitudes to their visitors, rather than relying on static exhibits. The physical door of the museum exists outside the visitor's personal space, but this virtual exhibition challenges the traditional boundary between the inside and outside. The depiction of the door, its state, and the manner of its opening stimulates comprehensive cognitive engagement. Visual symbolism here extends beyond mere symbols to include the reverberation and resonance of poetry, expanding human imagination. This boundless exploration allows thoughts to become reality, enabling audiences to embrace and enjoy the experience. Reserving ample imaginative space allows for a vision that need not be overly visual rhetoric. On the contrary, visual design in this context should resemble poetry—concise and rhythmic. It should prioritize conveying possibilities and atmosphere over precise expression.

Space Popular collaborated with illustrator Rechel Swetnam to create interactive card faces in the Soane Museum space. Originally, Sir John Soane played with the space of the museum by incorporating a series of paneled frames with doors. In his picture room (Figure 4), these doors opened up to reveal the display of his collection of oil paintings by William Hogarth. This ingenious design allowed for a dramatic unveiling of the artworks, creating an interactive and dynamic experience for the viewer. The use of hinged panels and movable walls not only maximized the display space but also provided a sense of theatricality and surprise, transforming the act of viewing into an engaging narrative journey.

Additionally, Soane's innovative use of colored skylights (Figure 5) was pivotal in crafting distinctive spatial elements throughout the house. By manipulating natural light with tinted glass, he was able to create varied atmospheric effects in different rooms. For instance, he employed yellow, blue, and red glass to cast subtle hues across surfaces, enhancing the mood and perception of space. This careful orchestration of light and color not only highlighted architectural features and art objects but also evoked emotional responses, making each room feel unique and alive.

The designers of this virtual exhibition appear to be acknowledging these original interior design methods in their work. By integrating interactive elements and thoughtful lighting schemes, they pay homage to Soane's pioneering use of doors, space, and light. Their approach mirrors Soane's ability to transform functional spaces into immersive environments, reflecting a deep appreciation for his legacy and an understanding of the powerful interplay between architecture, art, and the viewer's experience.

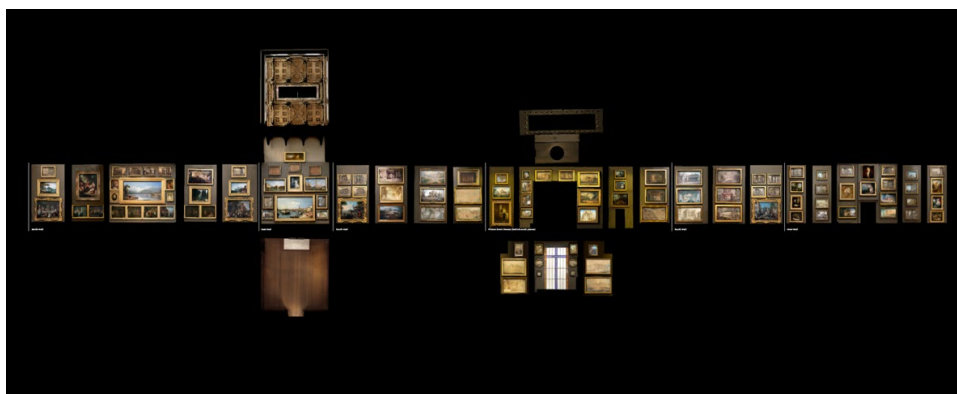


Figure 4. Unfold picture room, picture display combines with door structure, John Soane's House Museum.

Sum up, this virtual exhibition added another dimension to the visual and behavioral aspects of the door, leading to a series of narratives and logical sequences. The door retains its real characteristics, but the extended possibilities of flat vision encourage audiences to rethink and interact with it.

Different creators can present varying content within the same space, demonstrating how reprogramming allows existing content to re-enter public life in ways that transcend traditional boundaries and collections.²⁶

CONCLUSION

This paper explores how visual-guided cognition aids in recognizing space and how to present space in virtual. Throughout this cognitive process, emotions and narratives are created, forming our memories and influencing our perception of space. Drawing on Gaston Bachelard's concept of *inside and outside*, we see that space itself holds a poetic relationship with its observer, influenced by the context of time and place. Bachelard summarized this relationship as one of resonance, suggesting that repeated occurrences and references in memory continually challenge visual boundaries, enhancing the potential for broader readability and understanding.

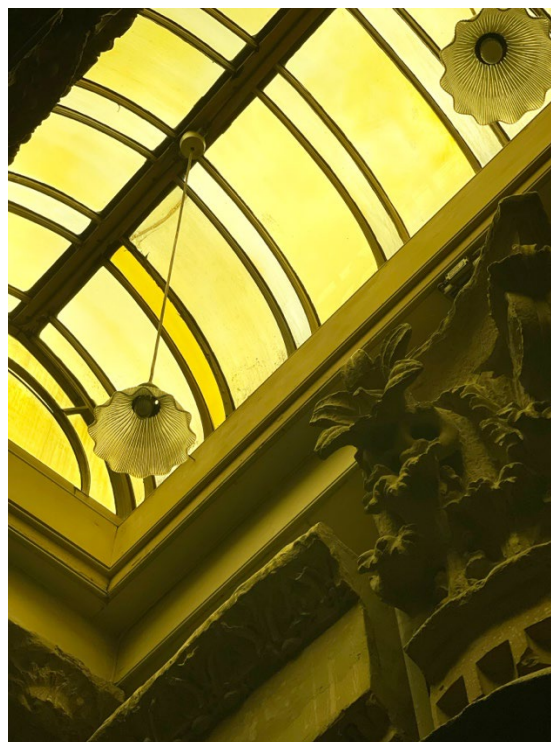


Figure 5. Colored skylights in John Soane's House Museum.

By comparing the virtual space created by *Space Popular* with the physical space of John Soane's House Museum, this paper addresses how virtual exhibitions can expand the possibility of traditional display methods. It demonstrates that spatial cognition, primarily driven by vision, can help exhibits overcome the constraints of situationism and promote local development. *Situationism*, as understood in the context of Guy Debord's theories, refers to the way in which modern society is dominated by representations, images, and spectacles that obscure and alienate people from their authentic experiences and interactions with the world. Debord argued that in *The Society of the Spectacle*, individuals are passive consumers of images and symbols that substitute for real, direct engagement with life and social relations. Virtual exhibitions, such as those created by Space Popular, offer a transformative potential for traditional display methods by leveraging spatial cognition—the mental process by which people perceive, interpret, and understand spatial relationships in their environment. In the context of virtual exhibitions, spaces can create highly interactive and immersive experiences that engage visitors in ways that static displays cannot. By allowing users to navigate through a digital

environment, interact with objects, and experience different perspectives, virtual exhibitions can foster a more active and participatory form of engagement. Virtual exhibitions are not limited by the physical constraints of a traditional museum. They can incorporate vast and complex environments, display large or fragile artifacts in their virtual form, and create dynamic narratives that change based on user interaction. By promoting active participation and direct interaction, virtual exhibitions can counteract the passive consumption characteristic of the society of the spectacle. They provide an opportunity for users to engage with content in a meaningful way, fostering a deeper connection with the material and a more authentic experience.

Virtual exhibitions can also integrate real-world data and user-generated content, creating a more collaborative and community-focused approach to exhibition design. This can help to build a sense of local identity and involvement. People's perception and description of space is essentially the practice of self-existence, which not only stays in the physical level of creation, but also in the spiritual level. Virtual Spaces can use fuzzy, moving vision to engage the body's senses, which Bachelard's idea of *Etre là* (being there) implies that removing simple geometric and geographical boundaries allows exhibits to be understood from within, enriching the inner mind's perception.

In conclusion, the integration of visual cognition in virtual museum narratives offers a deeper understanding of space, transcending physical constraints and enhancing the viewer's engagement with exhibits. This approach not only preserves the essence of the exhibits but also fosters a more profound and personal connection with the audience.

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GARDENS OF RUBIÓ: A MANIFESTATION OF PUBLIC SPACES IN BARCELONA

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INTRODUCTION

Nicolau Maria Rubió i Tudurí, an influential figure in Barcelona's urban development, began his career as the director of *Parcs i Jardins de Barcelona* in the early 20th century. Collaborating with Jean-Claude Nicolas Forestier on the *Montjuïc* gardens, Rubió i Tudurí significantly impacted the city's landscape with his designs. His tenure from 1917 to 1937 marked a period of substantial urban transformation, where he focused on creating public spaces that blended ecological considerations with urban needs.

Rubió i Tudurí advocated a balance between built and natural environments, inspired by Mediterranean and Latin traditions. His work was rooted in the garden-city movement, aiming to enhance urban liveability through green spaces. This paper explores Rubió i Tudurí's contributions as an architect, urbanist, and garden designer, highlighting his enduring legacy in shaping Barcelona's urban fabric and foresight in contemporary urban planning.

PUBLIC SPACES IN BARCELONA

Barcelona's urban landscape reflects a rich history of transformation, particularly since the implementation of The Cerdà Plan, *Eixample* project. In the 20th century, Rubió i Tudurí's vision for public spaces, and the urban interventions made during the post-dictatorship period, especially after the 1980s shaped the city's layout. Located between two rivers, major spaces such as *Montjuïc*, *Parc de la Ciutadella* (Figure 1), and *Vila Olímpica* frame the city, while *Plaça de Catalunya* and *Passeig de Gràcia* mark Barcelona's vertical axis with *Gran Via* highlighting the horizontal axis. Parks and gardens completed an interior belt, and a second belt was formed by larger-scale public spaces, providing a continuation of collective areas between the inner and outer city.

Within the general unity and balance, if examined singularly, each of these public spaces would provide a variety of characteristics in terms of origins, layout, scale, facilities or usage, and design components. Besides, some of them continued their development throughout decades as in examples of *Plaça d'Espanya* and *Plaça de Catalunya* or as in the case of *Montjuïc*, the city's natural monument which connected the 1920s to the 1980s. Notable transformations include *Parc de la Ciutadella* from a military compound to a lush urban park and *Montjuïc* from a barren cliff to a cultural landmark hosting major events such as the 1929 International Exposition and 1992 Summer Olympics. Likewise, *Vila Olímpica*, built on former industrial land, connected the seafront with parks, shaping modern Barcelona.

From the 1920s, Barcelona focused on creating new public spaces and addressing urban gaps, a strategy that continued into the 1980s for suburban neighborhoods. In contemporary Barcelona, in addition to projects planned for unconstructed lands, renovation of small-scale squares in *Ciutat Vella* to improve urban quality, and reutilization of underused/forgotten areas are among the methods for obtaining new public spaces.



Figure 1. Museum of Modern Art in Ciutadella Park, 1927.

The layout of Barcelona's public spaces varies, from informal gardens to structured designs. Artworks within these spaces add to their appeal, with careful consideration given to each element's significance. They facilitate social interaction, reflecting the city's emphasis on outdoor living. Streets and squares serve as symbols of identity and historical memory, shaping collective perceptions of urban life.

The transformation of Barcelona and its public space throughout the 20th century has been an unceasing progression, and this conversion has been mirrored in public spaces which connect the Pre-War and Post-Franco periods of Barcelona, that is to say, linking the city's contemporary period with its former decades.

RUBIÓ I TUDURÍ

Barcelona of the final decades of the 19th century and the first quarter of the 20th century witnessed an important development of infrastructure such as electrification and transportation, and the system of open spaces became a priority issue. Therefore, the City Council created a directorate of parks and gardens to endorse the conceptualization of “public space” and encourage the construction of new green areas. Architect, garden designer, urbanist and writer Nicolau Maria Rubió i Tudurí, who was the director of *Parcs i Jardins de Barcelona* between 1917 and 1937, was one of the outstanding actors in the development of public spaces in Barcelona, especially by his approaches to park and garden designs. His versatile personality and skills provided him to live his life also as a novelist, translator, and playwright who even designed the costumes of the actors, and as a painter who reflected his visual perception, especially on watercolor paint landscapes as well as on sketches showing various townscapes that he drew during his exile years in Paris, and an indefatigable, curious traveler that travelled to Africa five times and wrote many books about what he explored.¹

He was born in *Maó, Menorca* and his family moved to Barcelona in 1896, when he was 5 years old. He took drawing lessons in *Acadèmia Galí* during his architectural education in *Escola Superior d'Arquitectura de Barcelona*, where he graduated in 1916 and obtained the title of ‘architect’.²

In 1915, *Mancomunitat de Catalunya* invited French landscapist Jean-Claude Nicolas Forestier, head architect of parks and gardens of Paris, for the remodeling project of *Montjuïc* as the venue for the future International Exposition of Barcelona, and at the beginning of his career, Rubió i Tudurí was appointed as Forestier's assistant. His earlier works were influenced by Forestier, whom he respected and admired, after this collaboration in 1916 as they undertook the design of some open spaces in Montjuïc as *Jardins de Laribal*, *Jardins d'Amargós* (*Jardins del Teatre Grec*), and *Jardins de Miramar* (Figure 2). They designed “a project of parks within a park” taking the existing vegetation into account and they adapted new species to topography.³



Figure 2. *Jardins de Miramar*.

In addition to his works in Paris, Forestier was the author of several urban planning projects as Buenos Aires beautification plan and Havana urban extension, and he was a planning consultant for cities of New York, Lisbon and Mexico which proves his perception of larger scale and achievement in considering the fundamental role of green space within urban fabric.

Forestier's approach to garden as a work of art and the way he provides an organization by using natural elements with a sensitivity of *jardinier-artiste* can be seen in Rubió's designs. A clear geometry and an attractive simplicity can be found in Forestier's works which exemplify an eclecticism of French garden tradition united by Classicist, Landscapist, and Romanticist manner including elements from Islamic gardens. This explains the classical eclecticism seen in Rubió's first projects in which, like his master Forestier, the environment is never defined or dominated in a rigid discipline, creating a harmonic integration of designed elements with the rest of the garden.⁴

Systematization of Public Spaces

When Rubió became the director of parks and gardens, he reconsidered green areas that are abandoned or in danger of losing their public character. He directed an effective policy of creating parks on empty territories of the city.

Changes in public space policies encouraged more funds for the maintenance of existing gardens and the acquisition of new ones which were oriented towards the creation of urban parks or squares, and finally reached an area of 1.730.237 m² by 1923. An overall area of public spaces of 517 hectares, showed the progress made during Rubió i Tudurí's direction since 1910 when this amount was only 71 hectares.⁵

For him, orderliness and implementation on the territory were important. He prepared a systematization of public spaces in Barcelona within the context of their locations, as *Parc de Montjuïc*, *Plaça Letamendi*, *Plaça de la Sagrada Família*, *Plaça de Les Glòries*, *Parc de la*

Ciudadella were ‘inner city’, *Hipòdrom*, *Turó Parc*, *Park Güell* and *Parc del Guinardó* were ‘suburban’, and *Parc del Llobregat*, *Jardins de Pedralbes*, *Parc del Tibidabo*, and *Parc del Besòs* were ‘outer belt’. He created a system of carefully designed public spaces with his team and undertook reforms of *Plaça Reial* and *Park Güell*.⁶

Rubió considered “land intended for construction” as lost territory.⁷ He defended the necessity to reserve open spaces and he underlined the obligation of the City Council to “encourage the development of parks, and multiplication of vegetation and public gardens”.⁸ Therefore, the Regional Planning document drafted by him in 1932 was a plan for the distribution of zones, aimed to protect landscape and natural reserves.

Mediterranisme

Rubió was into *Mediterranisme*, which was his perception of Mediterranean and societies living around the sea, a ‘Latin Spirit’, a confederation of Latin countries as he describes in his book *La Patria Llatina*, and he created his own manner of Mediterranean landscape garden with an influence of English landscape gardens instead of transporting common elements from Italian or French garden designs. In his gardens, there is an order hidden in disorder and his designs seem spontaneous with natural barriers formed by cypresses, pine trees, palms, bushes, water elements or walking paths. Behind his selection of such vegetation, there are symbolic reasons -as he pays homage to the Latin Spirit and cultures of antiquity- as well as physical, visual and climatic factors. There are numerous public and private gardens designed by him between 1917-1937 (until his exile in Paris) and 1945-1981 (from his return to *Catalunya* until he passed away) all around *Catalunya*, Valencia, Canary Islands, and Madrid. In these projects, a poetic approach is observed as he always considered the garden as a “work of art”.⁹

Rubió’s Urbanism

Rubió, like Cebrià de Montoliu who introduced the theories of Ebenezer Howard to *Catalunya* through the civic society *Ciutat-Jardi*, was a defender of the virtues of the garden city and thus, he undertook the direction after Montoliu in 1920.¹⁰ He referred to this notion in his presentation for Future Barcelona in the 1929 Barcelona International Exposition which was a wider perspective of Barcelona as a Metropolitan Area. It was an acceptance of the urban reality and its consequences as a gradually developing structure through fictitious sceneries that depicted an air station on the rooftop of a warehouse in the future city, an industrial quarter where industrial buildings and residences could coexist, and megastructures formed by bridges and residential tower blocks over *Llobregat* river connecting the port and industrial center (Figure 3). The last drawing of ‘Future Barcelona’ referred to a garden-city with a complex of detached houses expanding in rows towards the mountain.¹¹

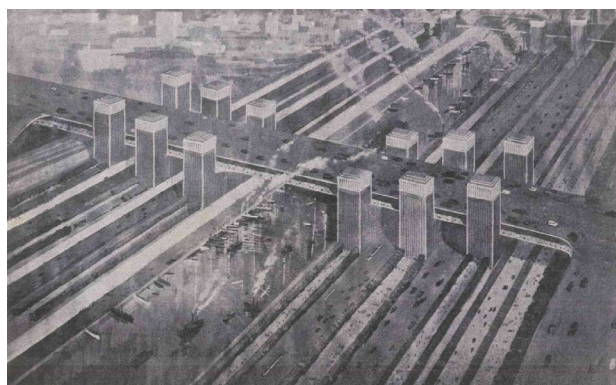


Figure 3. Future Barcelona.

One year later, in his article “Urbanizació Regional” he restated the future of Barcelona and mentioned the influence of the city on the spirit of *Catalunya*. He named Barcelona “a magnificent instrument of collective life”¹² which needs a wider area to grow through regional urbanization without separating the city from the landscape.

Notable Works of Rubió

As Rubió believed that a large city requires scenic spots, from the first years of his professional career, he had worked and thought on *Montjuïc* which has been one of the fundamental elements of the city’s growth. From the beginning, he was an effective assistant to Forestier, during the establishment of *Jardins de Laribal* (Figure 4) for the 1929 Barcelona International Exposition. Located on a slope, the design took advantage of topography by usage of elements like steps, terraces and waterfalls, combining Mediterranean garden tradition with Hispano-Arabic inspiration. The two architects also collaborated on *Jardins del Teatre Grec* (Figure 5) adorned with geometrical parterres, pergolas and citrus trees, and *Jardins de Miramar* which is a Mediterranean garden with a classical taste, overlooking the sea through a large panoramic terrace.



Figure 4. Jardins de Laribal.



Figure 5. Jardins del Teatre Grec.

The influence of Forestier’s Classicist French style and Rubió’s own Mediterranean-Landscapist approach can be observed in *Jardins del Palau Reial de Pedralbes* (Figure 6) after he was in charge of the transformation of former gardens that belonged to the Güell family. He maintained a large number of existing trees¹³ within a decorative geometric layout that contained water elements and walking paths and designed symmetrical gardens on both sides of the main axe of the palace.

He was a strong defender of the necessity of public spaces within the dense urban structure and mentioned the importance of a public garden with quiet corners, sensitivity and respect as seen in his *Plaça de la Sagrada Família* (Figure 7) project dating back to 1928. He evited frontal perspectives and orthogonal viewpoints by using curved and diagonal paths, creating a sense of an informal, natural garden where the vegetation framed the frontal view of the temple. Situated on the other side of the temple, the urbanization of *Plaça de Gaudí* was entrusted to Rubió i Tudurí who designed a public space which provided a wide perspective of the façade through a natural-looking landscaped public space with Mediterranean vegetation, marked by a central pond offering impressive reflections. However, starting in 1978, this project was his final work and he passed away before it was finished.



Figure 6. Jardins del Palau Reial de Pedralbes.

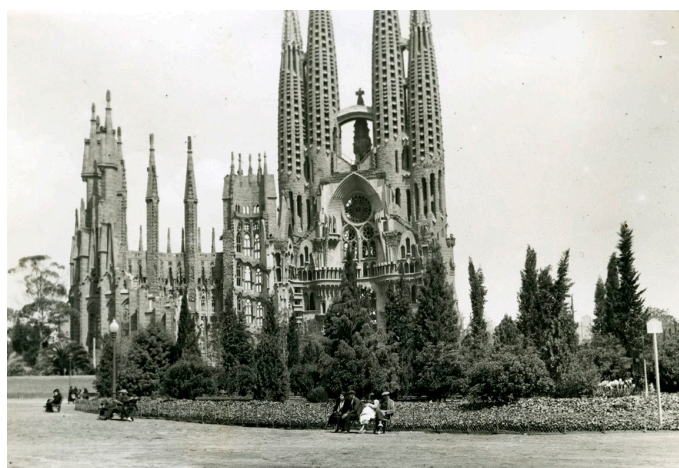


Figure 7. Plaça de la Sagrada Família.

Rubió was always focused on continuity on urban character and his idea was to create gardens or parks in all neighborhoods creating a green belt of public spaces. In his writings, he especially appreciated the example of Central Park which was constructed as a very large open space surrounded by a great density of buildings despite occupying an area within an extremely expensive habitation zone which could be a target for investors.¹⁴ Therefore, he designed *Turó Parc* (Figure 8) with a similar intention and he based his project on the idea of ‘considering enjoyment as a functional approach assimilated from a perspective entirely Mediterranean, a landscape that is natural, friendly and Latin with a balanced order and sensitivity to human scale’ which could be observed through general design principles of the park.



Figure 8. Turó Parc.

FROM RUBIÓ TOWARDS CONTEMPORARY BARCELONA

Today's Barcelona is a consequence of transformations done to improve its urban quality. Rubió's foresight on a belt of green areas can be accepted as developed during later period since post-dictatorship years also witnessed a similar urban policy followed by the democratic City Council.

More than an architect, a garden designer, and a writer, Rubió was an urbanist, considering how the future Barcelona should be growing while protecting existing green areas and natural resources and increasing the amount of greenery in the city. He always took into account the larger scale and the effect a small space could have on the larger urban pattern. Therefore, he considered his designs together with their surroundings, defending his approach to urban continuity and 'the compact city'.

Rubió i Tudurí's approach to urbanism, particularly his emphasis on public space holds significant relevance for contemporary urbanism, sustainability, and urban justice.

- Contemporary Urbanism: Rubió's focus on creating public spaces and green belts within the urban fabric aligns with contemporary principles that emphasize the importance of accessible and inclusive public spaces. There is a growing recognition of the role of public spaces in fostering community cohesion, promoting physical and mental well-being, and enhancing the overall quality of urban life.

- Sustainability: Rubió's advocacy for green areas and parks reflects an understanding of the environmental benefits of urban greenery. In contemporary urbanism, sustainability is a key consideration, and the integration of green spaces into the urban environment is recognized as essential for promoting ecological resilience. His approach to designing parks and gardens that respect natural topography and incorporate local flora demonstrates a sensitivity to ecological context, which is valued in sustainable urban design practices.

- Environmental Justice: Rubió's efforts to create public parks and gardens in all neighborhoods contribute to the promotion of environmental justice by ensuring that residents, regardless of socio-economic status, have access to green spaces and nature. Rubió's vision of a green belt of public spaces advocates for equal access to nature, which is essential for addressing inequalities and promoting social inclusion.

- Spatial Justice: By designing parks and gardens that complement their urban context and contribute to the continuity of the city's fabric, Rubió emphasized the importance of equitable and integrated spatial planning. In contemporary urbanism, there is a growing emphasis on creating well-connected,

walkable, and transit-accessible neighborhoods that promote spatial equity and facilitate social interaction.

CONCLUSION

Nicolau Maria Rubió i Tudurí's legacy in shaping public spaces in Barcelona resonates profoundly in contemporary urban discourse. His visionary approach to urbanism, characterized by a harmonious integration of built and natural environments, has left a permanent mark on the city's landscape. Rubió's emphasis on creating equitable, accessible public spaces aligns with modern principles of urbanism that prioritize community cohesion, sustainability, and urban justice.

The evolution of Barcelona's public spaces from the early 20th century to the present day reflects Rubió's enduring influence. His advocacy for green areas and parks, rooted in a deep understanding of ecological context and social dynamics, continues to inform contemporary urban design practices. By promoting the equitable distribution of high-quality green spaces across neighborhoods, Rubió defended a greener urban environment, laying the groundwork for a more inclusive and sustainable urban future.

As Barcelona continues to evolve, Rubió's principles of urban continuity and the importance of public space must serve as guiding inspirations for city planners and designers. His holistic approach to urbanism, which considers the larger urban pattern alongside the details of public spaces, remains relevant in addressing the complex challenges of contemporary urbanization. In embracing Rubió's legacy, Barcelona can reaffirm its commitment to creating vibrant, livable, and equitable urban environments for all its residents.

NOTES

- ¹ Fundació Privada Nicolau Maria Rubió i Tudurí.
- ² Nicolau M. Rubió i Tudurí, *El Jardí, Obra d'Art* (Barcelona: Editorial Gustavo Gili, 1985), 98-100.
- ³ Joan Busquets, *Barcelona: The Urban Evolution of a Compact City* (Rovereto: Nicolodi, 2005), 213, 219.
- ⁴ Josep Bosch i Espelta, Mercè Rubió i Boada, Cristina Domínguez, and Ignasi de Solà-Morales, *Nicolau Maria Rubió i Tudurí (1891-1981): Jardínero y Urbanista* (Aranjuez: Doce Calles, 1993), 43, 90.
- ⁵ Fundació Privada Nicolau Maria Rubió i Tudurí. "Els Parcs Públics de Barcelona," 8-10. Archive document.
- ⁶ Bosch i Espelta et al., *Nicolau Maria Rubió i Tudurí*, 75, 82, 85, 93-95, 104.
- ⁷ Nicolau Maria Rubió i Tudurí and Manuel Ribas i Piera, *Nicolau M. Rubió i Tudurí i El Planejament Regional* (Barcelona: Institut d'Estudis Metropolitans de Barcelona, 1995), 70.
- ⁸ Arxiu Municipal Contemporani de Barcelona. "Memoria." January 28, 1926. In "Relatiu al projecte de construcció de jardí a l'Avinguda d'Alfonso XIII." File 199/21, 1925.
- ⁹ Oriol Bohigas, *Refer la Memòria: Dietaris Complets* (Barcelona: La Magrana, 2014), 46-47.
- ¹⁰ Celia Cañellas, Rosa Toran, and Llorenç Torrado, "Nicolau M. Rubió i Tudurí, Entre la Razón y la Sensibilidad," *Cuadernos de Arquitectura y Urbanismo* 113 (1976): 49.
- ¹¹ Pere Joan Ravetllat, "Barcelona Futura," in *1856-1999 Barcelona Contemporània, Centre de Cultura Contemporània de Barcelona* (Barcelona: Centre de Cultura Contemporània de Barcelona, 1996), 95.
- ¹² Nicolau Maria Rubió i Tudurí, "Urbanització Regional," *Mirador: Setmanari de literatura art i política* 59 (March 1930): 3.
- ¹³ Nicolau Maria Rubió i Tudurí, "Progresos de la Urbanización en Barcelona: Los jardines del Real Palacio de Pedralbes," *Barcelona Atracción*, no. 186 (December 1926): 12-15.
- ¹⁴ Nicolau Maria Rubió i Tudurí, "Plaça d'Espanya, Centre Actiu de Barcelona," in *Nicolau M. Rubió i Tudurí i El Planejament Regional* (Barcelona: Institut d'Estudis Metropolitans de Barcelona, 1995), 99.

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- Arxiu Municipal Contemporani de Barcelona.
- Fundació Privada Nicolau Maria Rubió i Tudurí.

TRANSLATING ETHNOGRAPHIC DATA INTO REPRESENTATIONS OF CULTURAL HERITAGE IN VIRTUAL REALITY

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INTRODUCTION

This paper proposes using constructivist grounded theory (CGT) to extract tangible and intangible data from ethnographic sources, for use in the digital representations of cultural heritage (CH) sites. The Odin Cinema in Sophiatown, a historic neighbourhood in Johannesburg, South Africa which was demolished around 1959, is used as a case study. Digital representations of CH sites, including virtual reality (VR) and augmented reality (AR), often focus solely on their visual appearance. This is done using current, physical data to represent the tangible aspects of CH sites. While current digital representations of CH sites focus on visually preserving sites with existing physical data, there is a significant gap in representing physically lost CH sites where such data is unavailable. This preference for representing well-preserved CH sites favours the developed world, particularly Europe, where most digital CH representations are based due to readily available spatial data. By contrast, CH sites in developing countries (including South Africa) are frequently degraded, continuously occupied, altered, or physically lost, complicating the acquisition of physical data and resulting in fewer digital representations of these sites. Additionally, intangible aspects of any CH site, such as the memories, rituals, and events, crucial for communicating the significance of CH, may not be well-represented through visual sources alone. Ethnographic sources emerge as valuable data sources. They not only have the potential to provide spatial descriptions of physically lost CH but may also provide rich accounts of intangible CH in ways that physical data sources cannot. This paper aims to demonstrate how ethnographic sources can be systematically translated into both tangible and intangible data, thereby expanding the scope of data sources available for accurately representing CH sites in VR.

REPRESENTING PHYSICALLY LOST CULTURAL HERITAGE

According to European Commission findings CH in VR experiences mainly use current, physical data for representing CH in VR.¹ Zhao identifies current data as physical and objectively verifiable data such as direct measurements mathematical measurements, automatic IBM such as LIDAR or photogrammetry and manual IBM using historical site plans, photographs or films as reference.² Current data tends to provide data on tangible CH. However, CH includes intangible CH in addition to tangible CH. According to Bakka intangible CH are the practices animating the physical components of cultural heritage.³

CH in VR representations do not often use ethnographic sources as data for the representation of the tangible and intangible values of CH sites, often leading to a dearth of intangible CH in the representation.⁴ The lack of non-physical data sources in many CH in VR representations contributes to two main problems: Firstly, a geographic bias favouring the creation of CH in VR projects in the West, where CH sites tend to be protected and physically intact more often. And secondly, a bias towards the representation of the tangible aspects over the intangible aspects of CH.

According to Galland et al. in Europe, access to physical data for use in the representation of CH sites are accessible and abundant.⁵ European CH sites tend to be well-maintained physical spaces formally declared as museums or heritage sites. By contrast, Thiaw has noted that the process of cultural erasure imposed by colonialism has degraded, plundered, or destroyed many physical and intangible CH sites in Sub-Saharan Africa and much of the developing world.⁶

Secondly, the preference for physical data sources in many CH in VR representations contributes to a bias towards the representation of the tangible aspects of CH over the intangible aspects of CH. Bakka has noted that there is no CH that does not also have intangible aspects to it; working with CH inherently involves working with objects and places that signify a multivocality of different stories, values and perspectives.⁷ The meaning of a CH site to different populations changes through time, carrying the weight of many past lives. Any bias towards current, physical sources for CH in VR projects may lead to spatially accurate depictions of CH that lack any meaningful representation of intangible CH.

The Odin Cinema in Sophiatown, Johannesburg is a case in point. Since the physical CH site of the cinema, along with the rest of Sophiatown, has almost entirely been destroyed, any representation of it in VR cannot rely on current, physical sources alone. Under the current dominant paradigm that leans towards representing only the physical aspects of CH sites using physical sources, a place like the Odin Cinema, and Sophiatown at large are essentially un-representable. How then can we represent CH sites for which there are no or very few physical remains and insufficient photos/film? Can ethnographic sources and memories be used to assist in representing physically lost CH?

Ethnographic data within a hierarchy of data sources

Trinlae argues that CH in VR experiences will only empirically represent real events and places when they are made using diverse and valid data.⁸ Following this, Potgieter et al. proposes the use of a hierarchy of data sources to be considered in the representation of CH in VR experiences as illustrated in Figure 1.⁹ This paper focusses on how ethnographic data may be used to extract valid data for use in the representation of CH in VR experiences within this hierarchy.

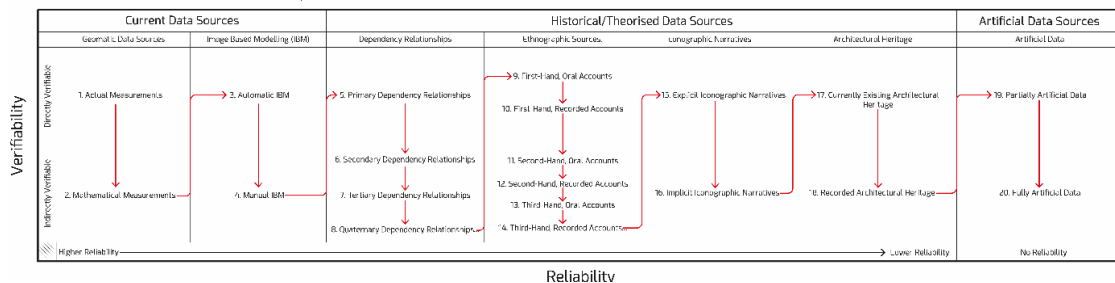


Figure 1. Hierarchy of data sources to consider for the representation of CH.

Principle 3.1 in the London Charter defines research sources as “All information, digital and non-digital, considered during, or directly influencing, the creation of computer-based visualisation outcomes.”¹⁰ However, research sources need a certain level of validity to ensure that they reflect

reality. Ethnographic sources mediated through memory and historical records are in many ways subjective and often incomplete. Selmanović et al. have noted that working with historical records, including ethnographic records can lead to subjective misinterpretations of heritage, especially concerning intangible heritage.¹¹ Because of this, these sources need to have their validity proven. What then are the characteristics of valid sources? Günay has identified two parameters that make a source valid; A source's verifiability and its reliability.¹²

The verifiability of a source is determined by how many sources agree on a data point. Günay sums this up by stating that "Verified data is data that could be found in more than one historic resource."¹³ Data can either be directly verifiable, meaning that the team doing the representation of CH can gather data directly from its source. Or the data may be indirectly verifiable meaning that data cannot be verified directly at its source but through non-first-hand accounts. For ethnographic research sources, finding and triangulating multiple sources that independently describe places and events in the same way lends a high verifiability to ethnographic data.

Trinlae defines the reliability of a data source as the confidence in the consistency between the initial description or observation of a CH site, event, or artefact and its subsequent recording.¹⁴ Ethnographic data sources have a low reliability because it may not be possible for the events and descriptions conveyed to be corroborated by the researcher. This is especially true in the case of physically lost CH. Additionally ethnographic data mediates information through memory which may alter the original facts as received by the interviewee. Günay admits to this, claiming that there are limitations to the requirement for reliability.¹⁵ They note that in cases where CH sites are physically lost or where the amount of information that can be gathered from different sources is limited, data that has been verified by more than one source should be used. Here Günay argues for the primacy of verifiability over reliability when considering sources that have lower reliability, such as ethnographic sources. In other words, if a source is less reliable, but has been verified by multiple different sources, it can be considered to have some validity.

TRANSLATING ETHNOGRAPHIC DATA INTO SPATIAL DATA

After ethnographic data is gathered, it needs to be analysed. Firstly, interviews conducted with former residents of Sophiatown were transcribed. CGT was used as the theoretical basis for the analysis of the transcribed interviews into data that can be used to inform a CH in VR representation of the CH site in question. CGT is a tool that provides "systematic, yet flexible guidelines for collecting and analysing qualitative data to construct theories 'grounded' in the data themselves."¹⁶ A key aspect of CGT is the development of codes and category used to analyse ethnographic data.

Coding ethnographic data

After the interviews were transcribed, they were loaded into ATLAS.ti. The interviews were coded and memos were written up as the interviews were read through from start to finish. In this process several codes were identified. The identified codes followed a who, where and what approach. Quotations corresponding to a specific place and event were extracted and highlighted as illustrated in Figure 2.

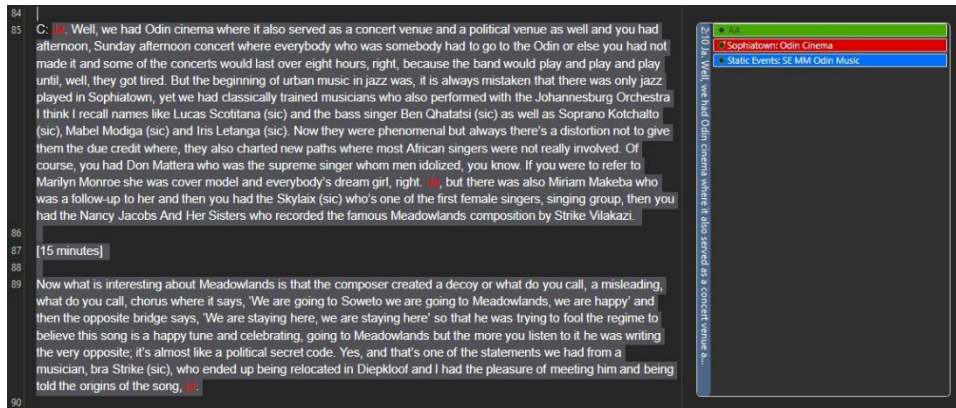


Figure 2. Example of the transcript coding.

From this, six code categories emerged as illustrated in Figure 3. One category of code noting the participant (the who), two codes corresponding to the where and three codes corresponding to the what. Each snippet of text received three codes a who, where and what. The exception to this was for general comments that did not refer to a specific place. In these cases, the text received only two codes, a what and a who. In total 32 codes specifically mentioned events and descriptions of the Odin Cinema as illustrated in Figure 4. The more connections a conveyed event or description has the higher its verifiability and therefore validity.

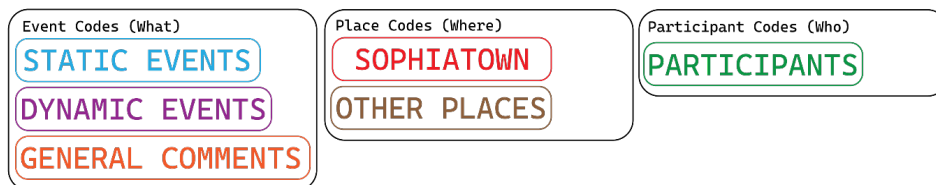


Figure 3. The six categories of codes used.

Participant Codes

Codes corresponding to the participant speaking was made green. Each participant was assigned a generic code, AA, BB, CC etc. This had several purposes. Firstly, this anonymised the participants and ensured their privacy. Secondly, some participants made a larger contribution than others. By taking note of discrepancies like this the research can ensure that participant CC is prioritised to represent them as much as possible. Finally, taking note of each participants contribution made it possible to equally distribute the participants presence in the VR experience. This helped to distribute more equally who speaks and how often, ensuring variety. A fairer distribution of the participants according to age, race, gender etc can also be more easily managed.

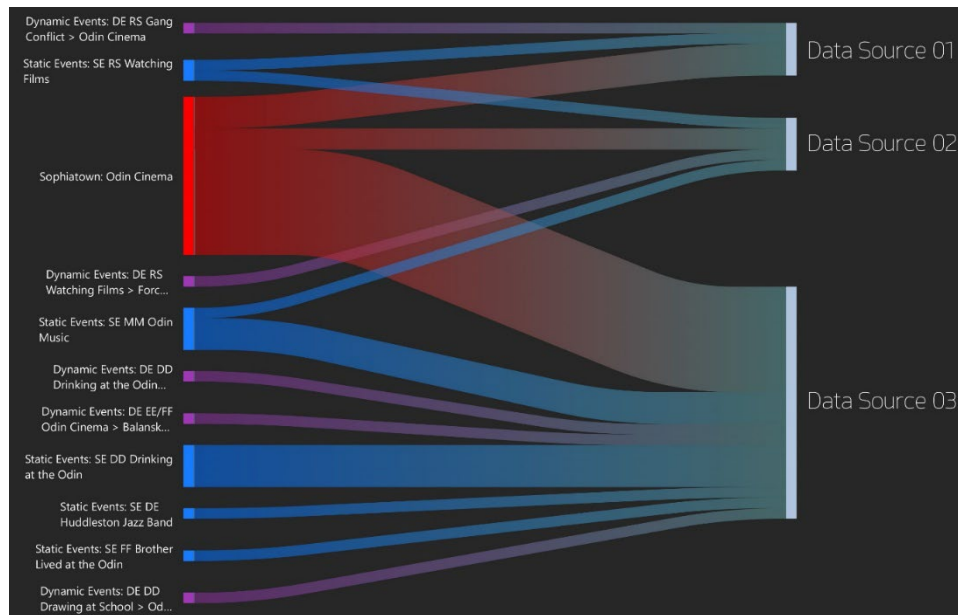


Figure 4. Events and descriptions extracted from the ethnographic data.

Place Codes

Two codes corresponding to the places that the participants spoke about were identified. Red for places within Sophiatown and brown for places outside of Sophiatown. Because this paper is interested in only looking at the Odin Cinema, the brown codes were irrelevant. The places coded depends on the goal of the representation. If the goal is to represent a whole neighbourhood, then the place codes may be of different places in the neighbourhood. If the goal is to represent a single building or site, then the place codes might refer to different rooms. If the goal is to represent the building during different events or points in time, then the place codes may refer to different points in time at the same physical site. Ultimately how the place codes are determined by what the representation of CH in VR aims to achieve.

Event Codes

Three codes corresponding to events described by the former residents were identified: static events in blue, dynamic events in purple and general comments in orange. The identification of intangible CH such as events are one of the advantages of using ethnographic data for the representation of CH in VR. People often remember spaces as a setting for their memories of events. Place and event are therefore often interconnected when conducting ethnographic research. When participants mention events, a setting is usually a given. This provides an opportunity to prod and ask the interviewees about the places mentioned in their recollections as they came up. There are two main benefits with this approach. Firstly, the interviewees are given control to speak about whatever spaces they remember and want to speak of. This led us to stories about well documented spaces such as the Odin Cinema's main hall, but also to less known spaces such as the ticket office or projector room. These spaces would not have been identified and described, had they not emerged as the setting of events recollected by the former residents. Secondly, codes about the events that animated life in the Odin Cinema provided a wealth of data on intangible cultural heritage, invaluable in the representation of any CH site.

Two kinds of events were differentiated: static and dynamic events. Static events are events which occurred at a single location and were confined to that location. For example, cooking a meal in AA's

kitchen. Dynamic events are events which happen between locations. For example, cooking a meal in AA’s kitchen to be eaten at BB’s house. In this way a network emerged that connected different places. This network informed the structure of the CH in VR experience so that a user engaging with a static event will naturally be led to a different part of the representation through the subsequent dynamic event.

Creating a network of codes

From the codes assigned to the identified quotations in the transcripts of the interviews, a network emerged as illustrated in Figure 5. This network maps places mentioned by the former residents, static events that occurred at these places, and dynamic events that link different places together. Place codes were noted first, followed by static events and then dynamic events leading to a different place code. Format A as illustrated in Figure 6. was followed to create most of the network. In some cases there were static events without any following dynamic event, i.e. events which remained in one place. For the most part this was not a problem if there was at least one dynamic event joining one place to another. However, in some cases there were no dynamic events joining places, thus creating a dead end. In these cases, format B was used as illustrated in Figure 6.

The network is a collective map of the Odin Cinema and creates a composite snapshot of the interconnected lives of the interviewees as they relate to this place. Identified events as told by multiple former residents carried varying perspectives and recollections. This provided multiple viewpoints of the same event as the memory of it is filtered through each former residents lived experience. As Don Mattera wrote, “Nobody can write the real story of Sophiatown.”¹⁷ By providing multivocal viewpoints simultaneously on the same place, it becomes difficult to interpret the representation of CH in VR as a definitive representation of the CH site. Places may be remembered in very different ways by the different participants. Sites of joy may be where painful experiences took place for others, and vice versa. In this way a complex and difficult to pin down representation of CH is represented.

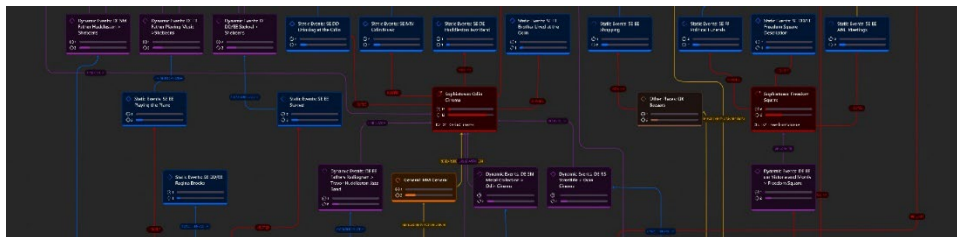


Figure 5. Snippet of the network pertaining to the Odin Cinema.

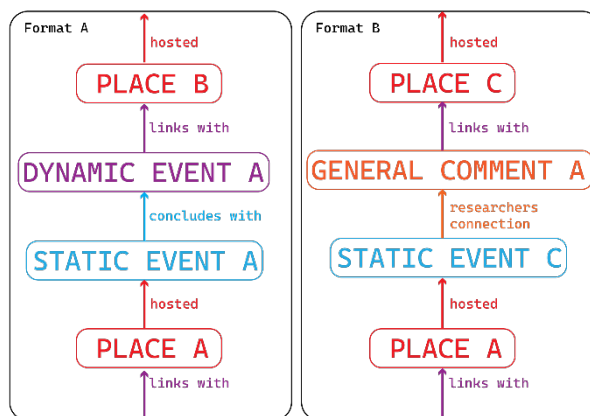


Figure 6. Format A in the network (by the author).

USING ETHNOGRAPHIC DATA TO REPRESENT THE ODIN CINEMA

The network conveniently grouped all data related to a specific site together. In this phase of the representation's creation, the verifiability, and therefore the validity, of the data used should be determined. Data with higher validity should be given preference, however the level of validity required for data to be used in the representation of CH should be established by the goals of the representation. Ultimately, making public the findings, opening them up to discretion and being transparent about the level of validity for all data used is more important than setting a potentially arbitrary level of validity required by any data used. Denard explains that "heritage visualisation is, above all, a hypothesis machine."¹⁸ When the validity of each element of the CH representation is made public then it opens itself up to being challenged, and to incorporate new sources of data that may present itself.

The excerpt corresponding to each code was read and analysed for spatial descriptions of tangible CH as well as intangible CH as described by the memories of events. The extracted data was then used in the representation of the CH site as illustrated in Figure 7 which shows how different parts of the Odin Cinema's representation was directly acquired from interview excerpts. Descriptions of tangible CH was 3D modelled and added into the CH representation depending on the specificity of the description. If there were gaps in the description, then other sources with lower reliability were consulted to fill in the gaps – see Figure 1. Descriptions of intangible CH can be used in the representation of the CH site in multiple ways. The event described could be reenacted or, the audio from the interview could be played at the place in the VR representation where the event occurred along with relevant music or available sound clips of the event. This study went with the latter approach leaving the sight of the described event up to the imagination of the user.

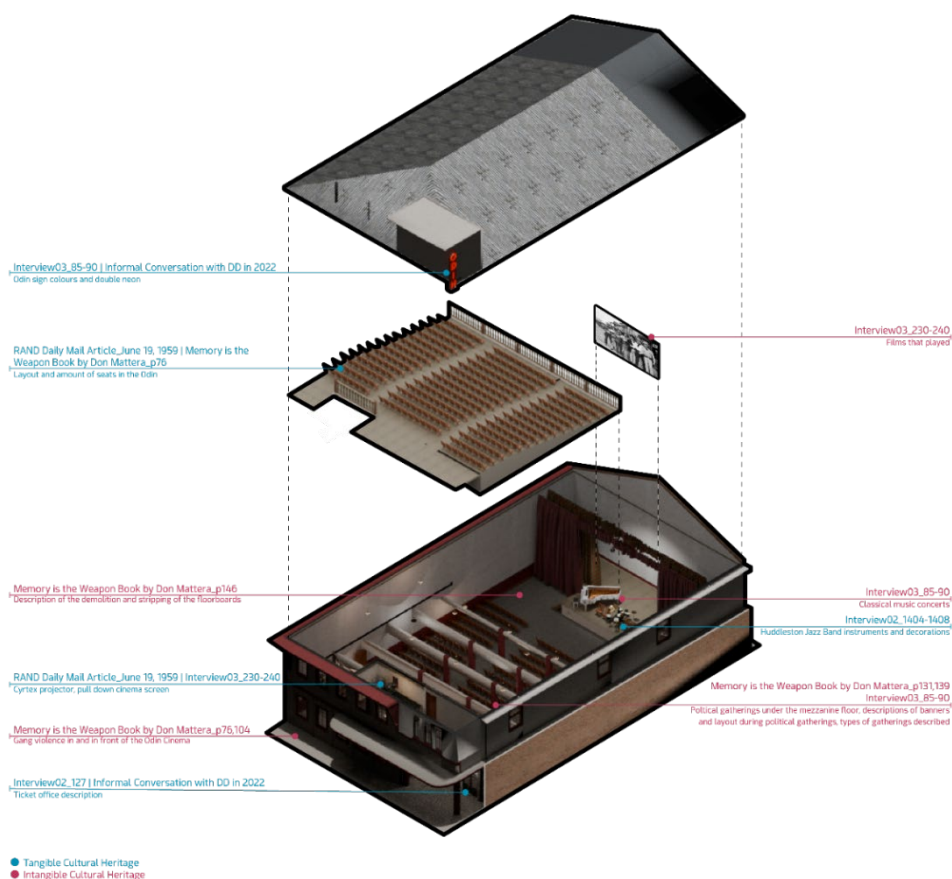


Figure 7. Contribution of ethnographic data sources to the VR representation of the Odin Cinema.

CONCLUSION

This paper demonstrated the potential of using CGT to extract both tangible and intangible data from ethnographic sources for the digital representation of CH sites. Through the case study of the Odin Cinema in Sophiatown, the research highlighted the limitations and structural inequalities perpetuated by digital representations which focus solely on the visual appearance of CH sites using physical data. The study further emphasized the importance of intangible aspects of CH, such as memories, rituals, and events, which are crucial for conveying the full significance of CH sites. Systematically translating ethnographic data into valid data provides new sources of both the tangible and intangible aspects of CH sites for use in their representation. This research expands the potential for accurately and more fully representing CH sites in VR, addressing a gap in the potential for representing physically lost or altered CH sites, particularly in underrepresented regions of the world.

ACKNOWLEDGMENT

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NOTES

- ¹ European Commission, *Decision C (2020)6320 of 17 September 2020*. 2020, 41.
- ² Zhao Qinqing, "A Survey on Virtual Reality," *Science in China Series F: Information Sciences* 52, no. 3 (2009): 352.
- ³ Bakka Egil, "Safeguarding of Intangible Cultural Heritage – The Spirit and the Letter of the Law," *Musikk og Tradisjon* 29 (2015): 138.
- ⁴ European Commission, *Decision C (2020)6320 of 17 September 2020*, 41.
- ⁵ Galland Pierre, Karin Lisitzin, Annick Oudaille-Diethardt, and Christopher Young, *World Heritage in Europe Today* (Paris: UNESCO, 2016), 18.
- ⁶ Thiaw Ibrahima, *The Management of Cultural World Heritage Sites and Development in Africa*, 2014, 69.
- ⁷ Bakka, *Safeguarding of Intangible Cultural Heritage – The Spirit and the Letter of the Law*, 138.
- ⁸ Trinlae Bhikshuni Lozang, "Ethical Considerations and Methods for Diversifying Representations of Cultural Heritage: A Case Example of the Swayambhu UNESCO World Heritage Site in Nepal," *Emerging Technologies and the Digital Transformation of Museums and Heritage Sites*, ed. Mona Shehade and Theopisti Stylianou-Lambert, (Cham: Springer International Publishing, 2021), 331.
- ⁹ Potgieter Izak Frederik, Hendricks Denver Mark, Ntshona Mxolisi, "Using a Hierarchy of Data Sources to Represent Cultural Heritage Sites: A Case Study of Sophiatown, Johannesburg in Virtual Reality," *Metaverse and Application*. (Cham: Springer Nature, 2025), 6.
- ¹⁰ Denard Hugh, ed., *The London Charter for the Computer-Based Visualisation of Cultural Heritage*, 2009, 7.
- ¹¹ Selmanović Edin, Sabina Rizvić, Colin Harvey, Dijana Bošković, Vedad Hulusić, Morad Chahin, and Samir Šljivo, "VR Video Storytelling for Intangible Cultural Heritage Preservation," *Eurographics Workshop on Graphics and Cultural Heritage*, ed. Reinhold Sablatnig, and Michael Wimmer, (Vienna: Eurographics Association, 2018), 1.
- ¹² Günay Sevil, "Virtual Reality for Lost Architectural Heritage Visualisation Utilizing Limited Data", *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences XLVI-2/W1-2022*. (Göttingen: Copernicus Publications, 2022), 253.
- ¹³ Günay, *Virtual Reality for Lost Architectural Heritage Visualisation*, 253.
- ¹⁴ Trinlae, *Ethical Considerations and Methods for Diversifying Representations of Cultural Heritage: A Case Example of the Swayambhu UNESCO World Heritage Site in Nepal*, 333.
- ¹⁵ Günay, *Virtual Reality for Lost Architectural Heritage Visualisation*, 253.
- ¹⁶ Charmaz Kathy, *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis*, (London: Sage Publications), 2006, 3.
- ¹⁷ Mattera Don, *Memory is the weapon*, (Johannesburg: African Perspectives Pub), 2009, 49.
- ¹⁸ Denard Hugh, "A New Introduction to the London Charter," *Paradata and Transparency in Virtual Heritage*, ed. Anna Bentkowska-Kafel, Drew Baker, and Hugh Denard, (London: Routledge, 2012), 68.

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SITUATING THE SELF: DOV KARMI'S ARCHITECTURE AS BRIDGING COMMUNAL AND INDIVIDUAL IDENTITIES

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INTRODUCTION

Dov Karmi (1905-1962) immigrated in 1921 to British-ruled Palestine from Zhavanets, Ukraine, aged 16. As his daughter indicates, Karmi did not share his memories from Europe and his difficult journey to Palestine.¹ Between 1925 and 1929 he studied architecture and engineering in Ghent, Belgium, after which he returned to Palestine, where he worked as an active architect mainly in pre-statehood times and during the first years of Israel's foundation. Karmi stands out for his contribution to the shaping of local Israeli architecture in its crucial nascent years (from the 1930's to the 1960's). In 1957 he was awarded the Israel Prize for Architecture - the first recipient of the Prize in this field. He designed more than two hundred buildings in a comparatively short career (Karmi died at the age of 57), and they have been acknowledged as important milestones in the shaping of Israel's, and especially Tel-Aviv's, physical landscape.²

The International Style assumption

Until recently, most of Dov Karmi's buildings (Between 1920 to 1950) were classified under the general semantic grouping known as *International Style* later considered an important part of the heritage of the so-called "*White City*".³ Founded in 1909 and developing as a metropolitan city under the British Mandate (1917-1948), Tel-Aviv experienced growth at the time that the *International Style* was flourishing overseas. Many of the architects in Palestine were immigrants from Europe who imported this 'style' of architecture from overseas. However, the reasons the *International Style* was adopted in Tel-Aviv ran deeper than this. The *International Style* or at least some of its feature expressed ideas that, understood in retrospect, suited postmodern desires and pre-statehood social disposition (in the 1930s-1940s), and the ideology adopted in Israel in the first years of its foundation (in the 1950s).⁴

In his book *White City, Black City* Sharon Rothbard addresses the many *a priori* and *posteriori* reasons for which Tel-Aviv has been identified as the *white city* and its building classified as Bauhaus - first, after the exhibition *The White City* curated by Michael Levine, in 1984, and later after UNESCO's recognition of Tel-Aviv as Modern World Heritage site in 2003. Reasons for recognizing Tel-Aviv as an *International Style* city include: a willingness to be counted as a city with an international flavor; the aspiration to receive scholarly and architectural attention; and a postmodern indulgence in modern ideas and the architectural style that brought them forth. Rothbard also explains how the articulation of Tel-Aviv as an *International Style* city was overlapped with its articulation as

a Bauhaus city, expressing the desire to celebrate the Jewish achievement of overcoming the *Holocaust* by reviving in Israel the architectural style that had been prohibited by the Nazis. *A priori* reasons to adopt the Bauhaus architectural style in Tel-Aviv derive from the relevance of Bauhaus economic and socialist ideas to the ideology adopted in Israel in pre-statehood times (1930's- 1940's) and in the first years of its foundation. Ideas such as modesty, honesty, functionality, low-cost living and practicality, which originated in socialist Germany, matched well the ideology promoted by the socialist *Zionist* movement which was very dominant in Israel until the 1950's and which held political power in Israel until the late 1970's.⁵

The International Style Mis- Conception

"Architecture in Palestine", the main article in the 9th issue of *L'architecture d'Aujourd'hui* (Sept. 1937), was embellished with *Modernist* apartment buildings designed by Dov Karmi - 9 Gordon St (1934) and 29 Idelson St (1936). As Yagid explains, while the two buildings indeed display some well-known characteristics of the *International Style*, a second look sheds light on the many ways in which they, like other projects by Karmi, differ from *International Style* and *Bauhaus* buildings. Both are unique characters of his buildings- their firm situation on the ground, lacking full stories of columns (*pilotis*); instead they are defined by distinct, enclosed, envelopes and lack the Bauhaus horizontal window. They enjoy their concealed secretive interior spaces, which are generally composed of clearly separated rooms (rather than open plans). They have enveloping thick walls (rather than thin surfaces), and rather than expressing their interior staircases on the façade as extroverted pathways lit by vertical windows, these are enclosed; the penetration of light penetrates from a skylight in the ceiling. The buildings are articulated with delicate details such as handrails, benches, gratings, coatings, light features, staircases, mailboxes and other elements whose aesthetic is anything but functional, simple, or modest. These are just a few of their architectural characteristics which differ from those of the Bauhaus. These unique components make Karmi's buildings special, and it is possible that precisely because of them his buildings have been so much appreciated. Yagid also sheds light on the artistic method through which Karmi pursued his work, and explains how his bourgeoisie character influenced it.⁶

Dov Karmi – Background and Education & The Art Nouveau Influence

Though educated in Europe, Dov was not taught by any *International Style* teachers; neither was he educated according to the Bauhaus tradition. He studied architecture in the School of Engineering and Architecture in Ghent, Belgium (1924-1929), where no Bauhaus teacher and, moreover, no modernist faculty member taught.⁷ In the School of Engineering and Architecture in Ghent, architecture was taught as a poetic field of expression and experience, whose goal was addressing symbolic and psychological realms of life. While the school taught practical and technical architectural methods, these were to be used as concealed or background skills in architectural design. They served only to assist the architect in their main task, which was to address the inner and intangible realms of life (in this the school set itself apart from the 19th century, aesthetic approach to architecture). The school's pedagogy was influenced by the ideas of the *Art Nouveau* movement originating in Belgium, and were expressed in the many Art Nouveau buildings in Ghent, particularly those of architect Victor Horta.⁸ Indeed Karmi's ordering of spaces reminds of Art Nouveau traditional buildings, with which Dov Karmi was familiar from his studies in Ghent.

The Personal Take on Socialist Ideas

According to his daughter Ada Karmi, Dov Karmi felt he was part of the Zionist achievement and was proud of the new Israeli socialist state, in some respects he kept apart from socialist ideas and way of life. While Dov felt part of the cultural Israeli context, he maintained a private lifestyle.⁹ Meira Yagid adds that, immigrating from Ukraine and studying in Belgium, Karmi was equipped with a typically European, introverted bourgeois culture.¹⁰ He was a-political in the sense that he never belonged to a union or organization which pursued political ideas. Ada Karmi explains that their family adopted some socialist beliefs, but it promoted debate about many of the ideological ideas dominant in Israel at the time. Unlike his contemporaries, architects Arie Sharon and Ze'ev Rechter, Dov Karmi was never a member of the *Histadrut* - the General Organization of Workers in the Land of Israel (Israel's organization of trade unions), and was never given any jobs by that organization other than the Va'ad Hapoel in Tel-Aviv in 1956.¹¹

As Nitza Smook notes 'Dov Karmi combined the abstract forms of modern buildings with necessary components such as balconies, handrails in balconies and in stairs, canopies and handles that were delicately designed as decorative elements. This combination broke the harshness of the modernist architectural language. It gave the houses a human touch and softened them... (in so doing) Karmi influenced the pleasant nature of the Tel-Aviv's streets.'¹²

While Smook and Yagid touch upon the unique tectonic and aesthetic features of Dov Karmi's architecture and relate them to his personal and architectural background, to better understand the meaning of his architecture one should investigate his work through lenses which can clarify his ideas. As Yagid mentions, very few of Karmi's own personal documents have survived, which "makes it difficult to track the development of his ideas prior to their articulation within the properly *architectural discourse*".¹³

DOV KARMI'S DRAWINGS

Initially, Dov Karmi studied art at the Bezalel School of Art and Craft, Jerusalem, where he received his education in the arts. His son, architect Ram Karmi explained: "dad and I had made the same journey. We both wanted to be painters. He went on to study architecture because he was told he couldn't make a living out of painting."¹⁴ Only later did he choose to study architecture; he traveled to Belgium to obtain his architectural degree. After his return from Belgium Dov was engaged deeply in the profession, yet he drew extensively throughout his architectural career. Drawing for Dov Karmi was something of a routine. He used sketchbooks (whose formats varied from A4 to A3 sizes), which he constantly carried with him, as a window on reality. However his drawings, including approximately 100 pieces, were found only after his death; they have so far received almost no scholarly attention. Ada Karmi included five of Dov Karmi's drawings in her book on her father, but refers only generally to them in her writing.¹⁵ The possible relationship between Dov Karmi's artistic and architectural work has not yet been addressed.

Phenomenological insights shed light on the potential of drawing to embody the world and serve as an inquiry channeling a poetic, place-specific and culturally-specific architecture. In this paper I investigate Karmi's drawings as phenomenological investigations of his surroundings. I bridge from this understanding of his drawings to three of his architectural projects. In so doing, I propose a new understanding of Karmi's work as authentic and contextual: it is a body of work whose importance lies precisely in the fact that it expressed a certain moment in time and place – a specific identity before and during the foundation of the Israeli state.

Drawings as Phenomenological Inquiries Channeling Poetic Architecture

Vesely points out that music, dance, drawing and painting are phenomenological inquiries that can enable humans to embody the world.¹⁶ Pallasma explains that interaction between the surroundings, the artist's body and mind, and the tools used by the artist, together bring forth 'a condition of haptic immersion'.¹⁷ In the artistic act 'a powerful identification and projection takes place...the entire bodily and mental constitution of the maker becomes the site of the work'.¹⁸ Such artistic creation is, as Wittgenstein explains, a 'work of philosophy...work on oneself. On one's own conception. On how one sees things'.¹⁹ Thus, the work of art becomes an integration of the environment and the artist – and expresses their combination as a united entity.²⁰ Merleau-Ponty explains that drawing demands embodiment, since the artist lends himself to the world, becomes part of it, while structuring it.²¹ When drawing, the architect conceptualizes the environment²² so that his or her understanding can be integrated into the design process and serve as an inquiry channeling poetic architecture. This conceptualization, and the artist's imagination, are always embodied, never merely abstract.²³

The following section describes Dov's drawings. Dov Karmi's drawings are read in light of the work of his contemporaries (1920-1960), painters who immigrated from Europe and taught at Bezalel (which was founded in 1906 and which Karmi joined in 1920), as well as Israeli-born painters with whom Dov Karmi was acquainted. So doing, Karmi's drawings as are understood as phenomenological inquiries into his environment, and assist in understanding the meanings which emerges in them. Then, the paper examines three of Karmi's architectural projects and shows how the ideas expressed in his drawings are engrained in his designs.

The subjects of Dov Karmi's drawings consist of:

1. Israeli landscapes (Tel-Aviv, Tiberias, The Kineret, Tiv'on, the Galilee and others):

Open landscapes – Vast abstract open scenes depicted by continuous nearly-horizontal ink strokes extending from one side of the canvas to the other.

Open landscapes with specific places (such as "landscapes with a house / a hut") - whose foregrounds and background depict the surroundings abstractly, while the middle ground describes a place or an event, whose source of life/activity is concealed, and which is illustrated in detail using pen strokes in different densities.

Intimate Landscapes - scenarios in which certain situations (such as a tree, a bench and pathway) are documented; the elements are located on different parts of the canvas, depicted with small pen strokes in different densities.

Interiors- Drawings depicting fragmented views of private spaces as they are perceived from windows, doors or entrances so that most of the space remains concealed and secretive. The interiors described are detailed and use color playfully.

The Israeli VS the European Landscape



Figure 1. Israeli landscape as described Artists:

1a– Left: Jerusalem by Ze'ev Raban

1b- Middle: Hebron by Ze'ev Raban Source: Special Collection, Bezalel Academy of Arts & Design, The Palestine Poster Project Archive, <https://www.palestineposterproject.org/special-collection/bezalel-academy-of-arts-and-design>, 15122024

1c-Photograph by Abraham Soskin, The Lottery of the Empty Lots of 'Ahuzat Bayit' ("House Estate" or "Homestead", the name of the association which established the neighborhood, a name changed the following year to 'Tel Aviv'), 1909. Source: Israel State Archive.



Figure 2. Dov Karmi's Drawings

Figures 2a, 2b. Two drawings on the right: Israel's landscape, Undated. Source: Dov Karmi's Sketchbook. 2c - Two drawings on the left: Zurich, 1962 Source: Dov Karmi's Sketchbook. (These are only few examples of dozen of pictures of the Israeli vs the European landscape drawn by Karmi during the years and are brought here as a manifestation of a governing meaning and method he used).

The teachers in Bezalel – who had immigrated from exile as adults – depicted the local landscape of the holy land with its detailed historical houses and monuments as can be seen in Ze'ev Raban's drawing of Jerusalem and Hebron. In contrast, the first decade of Israeli artists who arrived in Israel when they were young painted the Hebraic landscape as unbuilt, empty, barren and deserted waiting to be cultivated and to become a homeland,²⁴ and avoided integrating any evidence of existing heritage and or their own European past. These tendencies can be observed in the drawings of Reuven Rubin,²⁵ Shmuel Charuvi Nachum Gutmann²⁶ who described Tel-Aviv as the city of sand. Ideas of a new beginning were also expressed in the songs and poems of the time and depicted in staged photography as propaganda - such as in the photos of Zoltan (Zvi) Kluger²⁷ and Abraham Soskin²⁸ (Fig 1a-c). In these works the willingness to create a new society, without relating to the local existing contexts or a historical diasporic past was manifested. Like his contemporaries, Dov Karmi depicts the emptiness of the Israeli landscape. Using loose delicate lines, emphasizing the horizontality of space, and depicting the horizons within the frame of the canvas rather than extending to or beyond the edge, Karmi emphasizes the open land, its emptiness calling for husbandry and intervention. However, in his European scenes Karmi describes in detail the landscape its vegetation and built structures. He used thick compressed vertical pen strokes that reached the edges of the canvas. The passion in which the drawings of the European landscape were drawn, the detailed manner in which the environments are described points towards Karmi's immersivity in the situations drawn and the feel of belonging in the European environment (Fig 2a-c).

Details as an Expression of Unconscious Feelings of Desire to Situate – The Path, The Bench, The Tree – Search, Rest, Shelter & The introverted Private Bourgeois World

During his architectural studies in Ghent, Karmi must have visited some of the famous buildings of architect Victor Horta (considered the father of the Art Nouveau movement) and became familiar with the psychological and symbolic ideas promoted by the Art Nouveau movement. Influenced by psychological ideas (Sigmund *Freud*), theories of empathy (Theodor *Lipps*), thoughts regarding synesthetic perception (Charles Baudelaire) and the expression of unconscious feelings promoted by Symbolic art, Art Nouveau artists and architects used detailed organic forms and curving lines to express feelings of desire; a multiplicity of layers differentiating between inner and outer spaces and creating the sense of depth; maze-like movement to promote curiosity; and fleshy components to create empathic feelings - all aimed to express the dreams, desires and passions of the bourgeoisie of the late 19th and early 20th centuries.

While Karmi's drawings of the Israeli landscape abstract scenes filling the entire canvas, attention is drawn to specific elements, usually developed vertically, that are detailed perpendicularly in an Art Nouveau manner. By using curving lines in a variety of thicknesses and densities Karmi depicts the fleshy nature of trees, puts them in movement, and gives them a life of their own. These draw the observer's attention and provoke in him feelings of empathy (Fig 3).



Figure 3a. Upper and middle rows: Dov Karmi's paths, benches & trees.

(These are only two examples of dozen of pictures of the Israeli landscape drawn by Karmi during the year and are brought here as a manifestation of a governing meaning and method he used).

Figure 3b- Bottom row: The Bugoise private realm as depicted by Dov Karmi (Source: From Dov Karmi's *Privtae Sketchbook*)

Painters contemporary to Dov Karmi frequently included in their barren landscapes trees representing new life in Israel. These can be observed in the paintings of Shmuel Charuvi, Ya'acov Eisenberg,²⁹ Arie Eloil, and Anna Ticho; some also included historical ruins symbolizing the irrelevant and decaying past. As Ticho explained, in drawing trees she overcame the feelings of loneliness that she felt in the open landscape of Jerusalem and started feeling a part of the evolving homeland; thus her

feelings of belonging were strengthened.³⁰ Karmi also depicted detailed trees in his otherwise abstract landscapes. Next to these he sometimes included benches, with pathways leading to them. The feeling of loneliness in the empty landscape is expressed, yet a hope for dwelling is brought forth. The observer is invited to walk along the pathway, to sit on the bench and to stand under the tree's shade. All offer different ways of interacting with the surroundings: the path - of movement (Fig 3a: the bench – of rest, and the tree – of shelter).

The public arenas Karmi documented were empty. Showing respect for the private realm, Dov Karmi depicted only fragments of interior spaces and gave himself, as well as the observer, the pleasure a glimpse into the private realm (Fig 3b).

Drawings as Embodiments of Meaning

To sum up, Dov Karmi's behavioral conducts and drawings express the true search of a European to situate himself in the newly evolving Hebraic, Zionist, and socialist culture. His "thinking hands" (quoting Juhani Pallasmaa)³¹ expose a person who struggled to find his own authenticity in an evolving public context of which he was proud, and in which he took an active part as 'a good citizen,' as his daughter Ada has pointed out,³² as well as a practicing architect. Dov's drawings express his fascination with the Mediterranean climate – its landscape, its horizontal coastlines and mountains, its climate, its special glare and sunny places – but at the same time reveal his desire for the European atmosphere – its vertical landscape, wintery weather and gloomy quality of light. The drawings convey Dov Karmi's enthusiasm and expectation for the new Hebraic beginnings possible in an empty barren land. Yet they are also imbued with a desire for old routes and for an intimate situation in space – to sit on a bench and to find a personal path in the new wilderness. They reveal an excitement about the Israeli culture yet to form, and a willingness to preserve the habits and feelings of a private European life from the recent past.

DOV KARMI'S ARCHITECTURE

Dov Karmi designed 15 private residences and several urban apartment blocks,³³ most of which are located in Tel-Aviv.³⁴ While they differ from each other in their composition, aesthetics and detailed programs, they share specific characteristics.³⁵ These can be observed in the Ayala Zacks House (13 Ben Gurion Blv., Tel-Aviv, 1955-57), the Libling House (Idelson 29, Tel-Aviv, 1936-37) and Karmi's own residence (Levi Ytzchack 19, Tel-Aviv, 1951-53), but they characterize many of his other residential buildings. These mutual characteristics express the ideas and meanings brought forth by Karmi's drawings as discussed above.

The Abstract Façade - The Collective Realm & The Zionist atmosphere and the call for a beginning from a tabula rasa

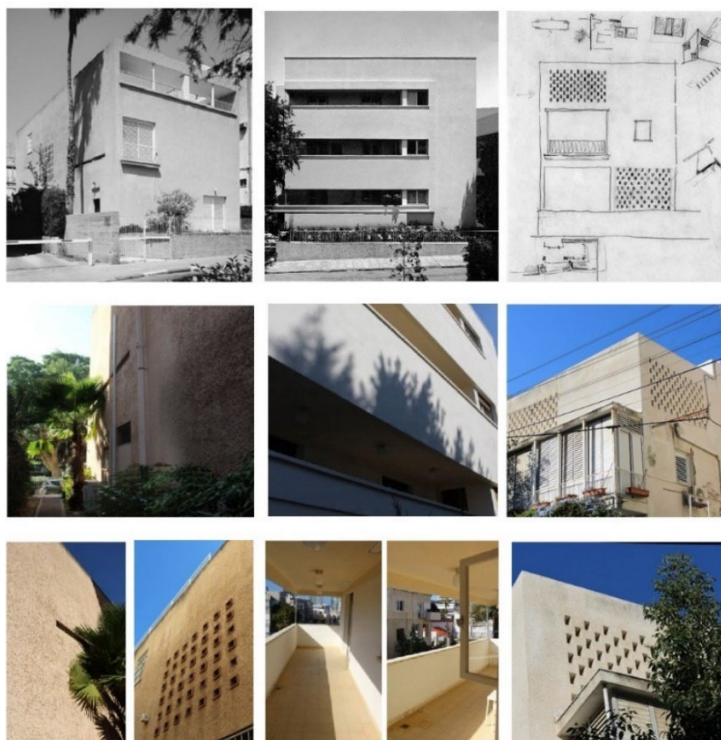


Figure 4. The exteriors of Dov Karmi's buildings:

Figure 4a. Right column: Ayala Zacks House, Tel-Aviv, 1955-57. Up- The main façade. Source: Ada Karmi Melamede, *My Father, Dov Karmi (Babel: The Azrieli Archive of Architecture, Tel-Aviv Museum, 2018)*, 163. Middle & Bottom – Piercing in the abstract facades. Source: Author's photos.

Figure 4b. Middle column: Libling House, Tel-Aviv, 1936-37. Up- The main façade. Source: Ada Karmi Melamede, *My Father, Dov Karmi (Babel: The Azrieli Archive of Architecture, Tel-Aviv Museum, 2018)*, 55.

Middle & Bottom -The enclaved areas between the exterior façade and the walls of the apartments. Source: Author's photos

Figure 4c. Left column: Karmi's own residence, Tel-Aviv, 1951-53. Up- Karmi's drawing of the main façade. Source: Ada Karmi Melamede, *My Father, Dov Karmi (Babel: The Azrieli Archive of Architecture, Tel-Aviv Museum, 2018)*, 26. Middle & Bottom- Piercing in the abstract facades. Source: Author's photos.

Dov Karmi's building envelopes are typified by clear, abstract, and united facades. In their austerity they echo the barren landscape as depicted in drawings by Karmi and his contemporaries. Their horizontal openings stretch from one side of the building to the other; a few cubical openings are often placed on the facade in an unbalanced and asymmetrical arrangement. These elements conceal inner functional components – the various apartments and their specific elements – which are usually on display in *Bauhaus* buildings, and they endow the façade with a monumental appearance suiting the collective realm. As Dov Karmi explained in his article "Of the Problems of Planning Apartments in Tel-Aviv," buildings should serve as backdrops for new behavior, and for the projection of upcoming public events.³⁶ Thus, they foreground the idea of beginning anew in a new Hebrew land (Fig 4).

Abstract Collective Backgrounds and Private Interiors

The white facades, create abstracts backgrounds for the new collective ideas and conducts. By creating enclaved areas between the exterior façade and the walls of the apartments, in the form of balconies and exterior patios, Karmi surrounded the interiors of his buildings with layers.³⁷ By piercing vertical openings in the apartment walls and opening the exterior “floating” patios (those located on upper levels) to the sky (Fig 5), Karmi created in his buildings dim interiors. In his article "The Orientation of the Tel-Aviv Apartment" Dov Karmi mentions the that the living room should orient towards the North.³⁸ While Karmi’s explanation might seem to be based on climatic considerations, a re-reading of these ideas in light of his drawings point to his willingness to create dim private concealed milieux.

Extroverted rough exteriors vs introverted bourgeois interiors



Figure 5. Dov Karmi’s buildings – Interior halls & staircases Ayala Zacks House, Tel-Aviv, 1955-57. Uppet Row - Elevation and Section. Source: Ada Karmi Melamede, *My Father, Dov Karmi* (Babel: The Azrieli Archive of Architecture, Tel-Aviv Museum, 2018), 164. Bottom row: Ground floor (left), 1st floor (middle) and 2nd floor (right) plans. Source: Ada Karmi Melamede, *My Father, Roof plan* (up) Ground floor (bottom) From Karmi-Merlmed Ada, *Dov Karmi* (Babel: The Azrieli Archive of Architecture, Tel-Aviv Museum, 2018), 164.



Figure 6. Dim private Interior’s and sliding doors separating the apartment rooms of Dov Karmi’s buildings:

Right: Interior of the Ayala Zacks House, Tel-Aviv, 1955-57. Source: Author’s Photo.

Middle- Interior of the Libling House, Tel-Aviv, 1936-37. Source: Author’s Photo.

Left: Interior of Karmi’s residence, Tel-Aviv, 1951-53. Source: Ada Karmi Melamede, *My Father, Dov Karmi* (Babel: The Azrieli Archive of Architecture, Tel-Aviv Museum, 2018), 29.

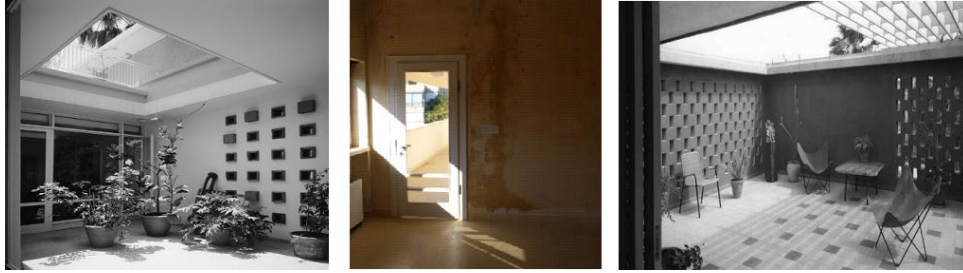


Figure 7: Interior patios and enveloping deep balconies in Dov Karmi's buildings:

Left- A patio opening to the sky and defined by a mashrabiya in the Ayala Zacks House, Tel-Aviv, 1955-57. Source: Metzger Szmuk Nitza, Houses form Sand, International Style Architecture in Tel-Aviv (Tel-Aviv, The Ministry of Defense: 1994, p. 266).

Middle: View towards the surrounding balconies in the Libling House, Tel-Aviv, 1936-37. Source: Author's Photo.

Right: A patio opening to the sky and defined by a mashrabiya in Karmi's Residence, Tel-Aviv, 1951-53. Source: Ada Karmi Melamede, My Father, Dov Karmi (Babel: The Azrieli Archive of Architecture, Tel-Aviv Museum, 2018), 27.

The rough and austere envelopes of Karmi's buildings might seem to express collective ideas of modesty and restraint relevant to the evolving *Zionist* ethos of the time, which were also expressed in Karmi's drawings of the barren landscape of Palestine. However, behind the exterior facades of his buildings, beyond the enclaved balconies sheltering private from public realms, and as can be observed through measured vertical openings in the walls defining the inner space of the apartments, Karmi located intimate and introverted private interiors (Fig 6) resonant with those depicted in his drawings.

Karmi also developed *mashrabiya*-like walls, built from blocks, to create a more transparent layer differentiating between inside and outside – the two realms which were so important for him (Fig 7). In his article "The Orientation of the Tel-Aviv Apartment" Karmi also mentions the advantage of using pocket windows and the need to separate an apartment into different rooms – treating each according to its needs; however, he recommended closing their entrances with sliding doors or curtains. Karmi explained the climatic considerations for this treatment of openings (allowing air to flow between the different areas of the apartment as well as treating the hot and humid Mediterranean weather), but he also explained poetically that such a use of openings alludes to a Mediterranean atmosphere in which 'doors never close'. This points towards Karmi's understanding of the tension between public and private realms in his time in Palestine. Bridging between a collective ideology and a desire for authenticity, he negotiated between a new Hebraic Zionist agenda and a subdued European identity.

Karmi's *mashrabias* and the pierced vertical windows located in the exterior walls surrounding his apartments, the apartments' large entrance doors, and the interior walls separating the apartment rooms, with their sliding doors (Fig 4, 5, 6, 7), echo his art: the delicately delineated semitransparent planes in his landscapes of create secretive interiors hills and bushes, and his drawings in which interior spaces are revealed via 'layered' fragmented walls.

The apartments designed by Dov Karmi surround interior private halls, and his buildings were equipped with public spaces (functioning as public halls) to which the public staircases descended, usually lit by a skylight or by controlled light through a *Mashrabiya* which was located within the wall of the exterior wall (Fig 5,6,7) In *Bauhaus* buildings minimal staircases were located on the exterior envelope of the building, and were usually extroverted, illuminated by a long window located on the façade to reveal the functional parts of the building. In contrast, interior public halls and courtyards

serving as spaces of movement lit from above were used in Art Nouveau buildings to mediate between outside and inside - between public and private realms - and to create introverted spaces for living that addressed the private concerns of dwellers (as can be found in Hora's Hotel Tassel).

Karmi explained the many advantages of apartments built with walls composed of two half blocks (rather than one block), making the width of the wall 26 cm (instead of 22 cm), and the use of concrete rib ceilings infilled with hollow blocks. These features both guarantee the acoustics and preserve the feeling of privacy in the apartments. While Karmi's explanation again seems to be based on climatic consideration, a re-reading in light of the ideas expressed in his drawings also suggest the desire to create apartments that preserve the feeling of intimacy and privacy, which as his drawings show were important to him.³⁹

Karmi used dark materials such as wood, metal and brass (Fig 5,6,7) in elaborate interiors which were detailed in a sophisticated manner and included handrails, benches, libraries, light features, staircases, and other elements materializing bourgeois traditions and behavior like those of his family, as depicted in his drawings.

Sophisticated details of movement, rest, and shelter as expressions for the desire to situate

As discussed before, Dov Karmi's drawings depict long empty paths in the anonymous landscapes of Palestine, leading to the basic private place of rest (the bench) and shelter (the tree) allowing one to situate oneself. Echoing his drawings, the relationship between the public and the private spheres in Karmi's buildings is charged. The private domain is difficult to reach, distant and hidden from the building's envelope, and gently manifested in space. The entrances to Karmi's buildings are not located on the front façade but are reached via a long path on the side of the buildings leading to the entrance located on one of the sides (Fig 8).

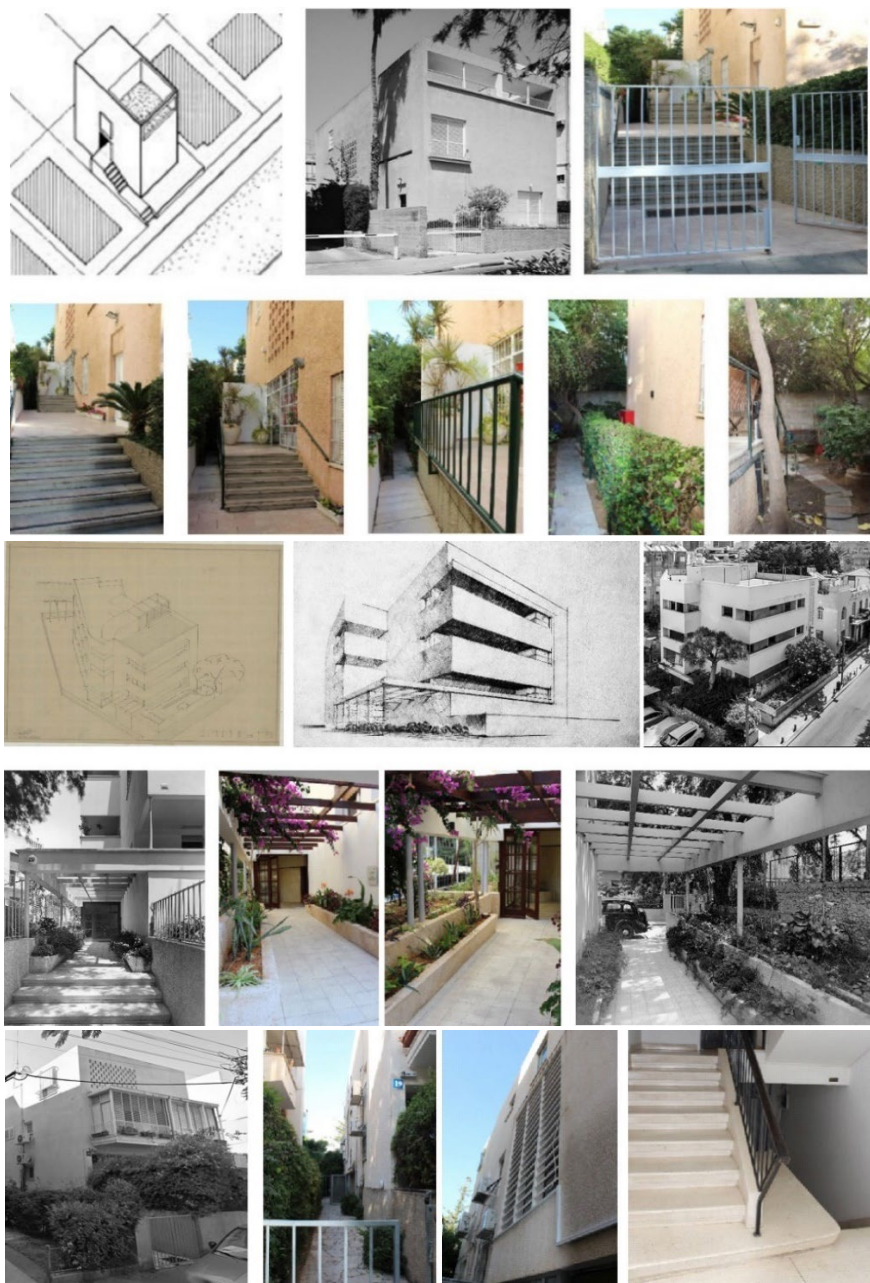


Figure 8. The pathways in Dov Karmi's buildings

Figure 8a. Two upper rows: Pathways to the Ayala Zacks House, Tel-Aviv, 1955-57. Source of black & white images: Ada Karmi Melamed, My Father, Dov Karmi (Babel: The Azrieli Archive of Architecture, Tel-Aviv Museum, 2018, 57. Source of color images: Author's Photo

Figure 8b. Two middle rows: The pathway to the Libling house, Tel-Aviv, 1955-57 Source of black & white images: Ada Karmi Melamed, My Father, Dov Karmi (Babel: The Azrieli Archive of Architecture, Tel-Aviv Museum, 2018, 55. Source of color images: Author's Photo

Figure 8c. Bottom row: The pathway to Dov Karmi's residence, Tel-Aviv, 1951-53. Source: Author's photos.

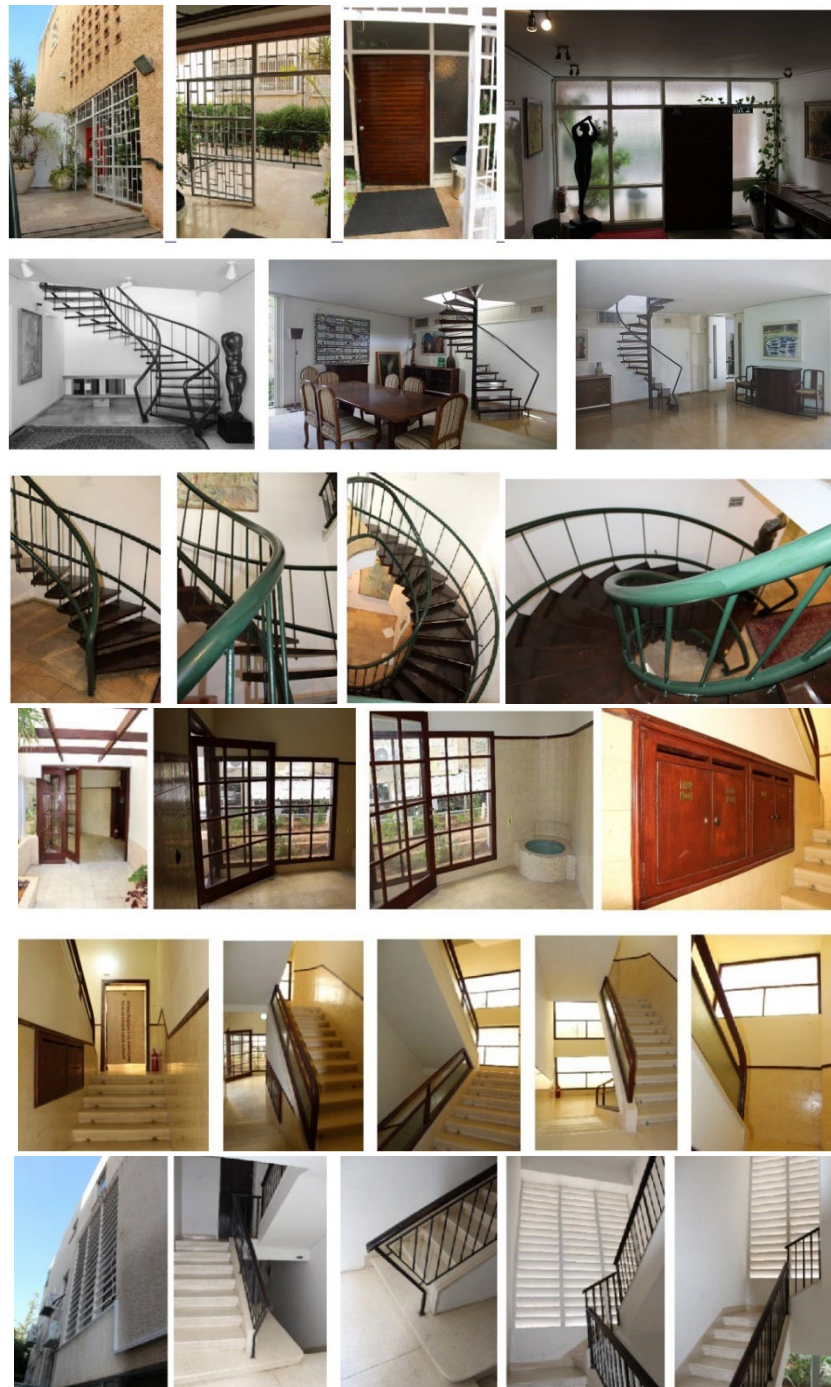


Figure 9. Halls & Staircases in Dov Karmi's Buildings:

Figure 9a. Three upper rows: Halls and staircases in the Ayala Zacks House: Upper 1st row-The public space forwarding the interior staircase of the Ayala Zacks House. 2nd row– The interior staircase. 3rd row- Staircase's rail and the indirect light penetrating into its space .

Figure 9b. Halls and staircases in the the Libling House. 4th row- Public space forwarding the staircase 5th row -Staircase the rail and the indirect light penetrating into its space.

Figure 9c. 6th row Halls and staircases in the Dov Karmi's residence Source: Author's photos
 * Photographs of the interior of Karmi's residences are not available. However, the author's visit had revealed a similar design of public hall forwarding the interior staircase inside the residence leading from the entrance to its first floor.

Inside these buildings one arrives at rather grand public halls, much larger than needed, equipped with chairs or benches or water fountains (resonating with the benches in Karmi's drawings) which float in the generous space, allowing one to rest before continuing a journey towards the private apartment. From there one ascends via delicate and wide spacious staircases, with detailed and organically embellished handrails similar in their intricacy to the vertical details of Karmi's drawings. These echo Art Nouveau treatments of such elements, which call for physical and emotional empathy and interaction, and slowly lead to the apartments (Fig 9).

In Karmi's apartments the very same narrative of continuous search occurs again, albeit on a more intimate scale. One arrives in a spacious apartment hall - whose dimensions (area and height) are quite large in relation to the total area of the apartment. In these halls Dov places a chair or two for rest. From the hall one begins a journey through the rooms of the apartment. In the rooms, thin material such as brass, wood and copper are used to delicately define elements such as libraries, benches, chairs, light structures, and chests of drawers dispersed loosely in the apartment. These details invite one to move within the space, and call for interaction and rest. At times they lead to interior courtyards and floating patios, as mentioned earlier, that provide a place for shelter and rest. Light penetrates these spaces through pierced ceilings and *mashrabia* walls, echoing the atmosphere under the trees depicted in his drawings (Fig 9).

CONCLUSION

As this paper shows, Dov Karmi's buildings differ from International Style or *Bauhaus* architecture. This difference does not derive from their original aesthetics alone. His buildings are unique because of the authentic meanings they embody. These meanings were already there to be observed in Karmi's personal drawings, when understood as phenomenological inquiries into his environment. While international influences affected Dov Karmi's architecture, as Ada Karmi explains he "sought for an architecture that suited the place in which it was built, developing from the needs, the expectations and the desires of its newly formed society"⁴⁰. Dov's buildings express the search for identity in Palestine in his era. They bring forth a willingness to create a shared new context expressing Zionists ideas of newness, modesty and the tabula rasa of a socialist Hebrew society, entangled with the desire to preserve memories of the past and to maintain European cultural conduct and identities.

Dov Karmi's buildings promote the possibility of authentically situating oneself in a shared, developing context. His projects mesh newly evolving ideas with existing and past beliefs, future desires with past memories. They bridge the here and now with the horizons of expectation, and hence bring forth a true sense of dwelling.⁴¹

NOTES

- ¹Karmi Ada Melamed, *My Father, Dov Karmi* (Tel-Aviv: Babel), 2018, p.18
- ² Mordechai Omer, in Yagid Meira, *Dov Karmi, Architect- Engineer, 1905-1962* (Tel-Aviv Museum of Art: Helena Rubinstein Pavilion for Contemporary Art) November 2010- February 2011, Foreword, p.84
- ³ Levin Michael, "The White City" in *Progressive Architecture* 11 (1984), pp. 114-120; מיכאל לוין, עיר לבנה; Szmuk Nitza, *Tel-Aviv's Modern Movement: The White City of Tel-Aviv, A World Heritage Site* (Tel-Aviv: Ma'aric), 2004, pp. 12; עמ' 12, 1984, מוזיאון תל אביב), *דיוקנה של תקופה (תל אביב: מוזיאון תל אביב)*, 1984, עמ' 12.
- ⁴ Rotbard Sharon, *White City, Black City* (Cambridge, Massachusetts: The MIT Press), 2015, Forward
- ⁵ Rotbard Sharon, *White City, Black City* (Cambridge, Massachusetts: The MIT Press), 2015, Forward
- ⁶ Yagid Meira, *Dov Karmi, Architect-Engineer, 1905-1962* (Tel Aviv: Tel Aviv Museum of Art), 2011, pp.80-81.
- ⁷ Ada Karmi, Dov Karmi's daughter. Conversation with Ada, Feb 2015.
- ⁸ Bouillon, Jean-Paul *Journal de l'Art Nouveau*. Paris, 1985.
- ⁹ Ada Karmi, Dov Karmi's daughter. Conversation with Ada, Feb 2015.
- ¹⁰ Yagid Meira, *Dov Karmi, Architect- Engineer, 1905-1962* (Tel-Aviv Museum of Art: Helena Rubinstein Pavilion for Contemporary Art) November 2010- February 2011, Foreword, p.77
- ¹¹ כרמי מלמד עדה, *אבא שלי, דב כרמי (תל אביב: בבל)*, 2018, עמ' 15
- ¹² ניצה מצגר-סמוק, *בתים מן החול, אדריכלות הסגנון הבין לאומי בתל אביב (תל אביב: קרן תל אביב וביטוח ומשרד מהבטחון)*, 1994, עמ' 54.
- Metzger Szmuk Nitza, *Houses form Sand, International Style Architecture in Tel-Aviv* (Tel-Aviv, The Ministry of Defense: 1994), p. 54. Author's translation from Hebrew. Hereby I quote the original: דב כרמי שילב בין צורות מעוקות ברזל במרפסות ובחדרי המדרגות, אבסטרקטיות של הבתים המודרניים לבין חלקי בניין שימושיים (ביניהם המרפסות הזיזיות פרגולות וידיות כניסה) שעוצבו בצורה קפדנית והפכו לאלמנטים דקורטיביים. השילוב שבר את הקשיחות המודרנית. העניק לבתים מימד אנושי וריכך את הבית. דוב כרמי השפיע על אדריכלים רבים והווה אחד מהאדריכלים שהשפיעו על "אופיו החינני והלא מחייב של הרחוב התל אביבי".
- ¹³ Yagid Meira, *Dov Karmi, Architect- Engineer, 1905-1962* (Tel-Aviv Museum of Art: Helena Rubinstein Pavilion for Contemporary Art) November 2010- February 2011, Foreword, p.73
- ¹⁴ Ram Karmi in conversation with Yagid, summer 2010, quoted in Yagid Meira, *Dov Karmi, Architect- Engineer, 1905-1962* (Tel-Aviv Museum of Art: Helena Rubinstein Pavilion for Contemporary Art), November 2010- February 2011, p.79.
- ¹⁵ כרמי מלמד עדה, *אבא שלי, דב כרמי (תל אביב: בבל)*, 2018
- ¹⁶ Dalibor Vesely, *Architecture in the Age of Divided Representation: The Question of Creativity in the Shadow of Production* (Cambridge, Mass, London, UK: The MIT Press, 2004), 76-77. See also Maurice Merleau-Ponty, *The Primacy of Perception* (USA: Northwestern University Press, 1964), Ch. 5: Eye and Mind, 282-83. On drawing as an important method for embodying the world see also Marco Francari, *Models to Drawings: Imagination and Representation in Architecture* (London ; New York: Routledge, 2008), Alberto Pérez-Gómez, *Architectural Representation and the Perspective Hinge* (Cambridge, Mass. : MIT Press, 1997), Variation Three.
- ¹⁷ Pallasmaa, "Eye, Hand, Mind, Fusion" in Pallasmaa Juhani, *The Thinking Hand: Existential and Embodied Wisdom in Architecture* (Chichester, UK: Wiley, 2009), pp. 72-73.
- ¹⁸ Pallasmaa, "Body Self and Mind", in in Pallasmaa Juhani, *The Thinking Hand: Existential and Embodied Wisdom in Architecture* (Chichester, UK: Wiley, 2009), p.123.
- ¹⁹ Wittgenstein Ludwig, *Culture and Value*, edited by Georg Harnik von Wright in collaboration with Heikki Nyman (Blackwell Publishing Oxford, 1998), p.24e quoted by Pallasmaa in "Body Self and Mind", in Pallasmaa Juhani, *The Thinking Hand: Existential and Embodied Wisdom in Architecture* (Chichester, UK: Wiley, 2009), pp.124-125.
- ²⁰ Pallasmaa in "Body Self and Mind", in Pallasmaa Juhani, *The Thinking Hand: Existential and Embodied Wisdom in Architecture* (Chichester, UK: Wiley, 2009), pp.124-125.
- ²¹ Maurice Merleau-Ponty, *The Primacy of Perception* (USA: Northwestern University Press, 1964), Ch. 5: Eye and Mind, 282-83 see also Maurice Merleau-Ponty 'Cézanne's Doubt', *Sense and Non-Sense* (Evanston, Illinois: Northwestern University Press), 1964, p.19.
- ²² On drawings as phenomenological enquiries see Marco Francari, *Models to Drawings: Imagination and Representation in Architecture* (London; New York: Routledge, 2008)
- ²³ On the relationship between the drawings and projects of Le Corbusier see Pérez-Gómez Alberto & Pelletier Louise, *Architectural Representation and the Perspective Hinge* (Cambridge, Mass. : MIT Press, 1997), Variation Three. On the relationship between the drawings and projects of of Carlo Scarpa see Marco Francari, "Architectural Synaesthesia: A Hypothesis on the Makeup of Scarpa's Modernist Architectural Drawings",

http://art3idea.psu.edu/synesthesia/documents/synesthesia_fascari.html, 11/09/2010, Marco Frascari, "The Body and Architecture in the Drawings of Carlo Scarpa," *RES 14 (1987): 123-42*.; Marco Frascari also discusses the sometimes hidden meanings of drawings and what they reveal about the architecture of those who drew them in Martin Moeller, "The Tell-Tale Drawing, an Interview with Marco Frascari," *Blueprints XXV, no. 3 (2007)*, On the relationship between the drawings and projects of Louis I. Kahn see Sarah Goldhagen, *Louis I. Kahn's Situated Modernism* (New Haven and London Yale University Press, 2001), 41-63, 196-98. On Aldo Rossi see Aldo Rossi, Carter Ratcliff, Stefanie Lew, *Also Rossi: Drawings and Paintings* (Princeton Architectural Press, 1993). On the relationship between Peter Cook's drawing and his architecture see Cook, Peter, "Architecture is Art" in *Architectural Monographs No 28, Peter Cook, Six Conversations* (Academy Editions, Erns & Sohn, London, 1993) & Cook Peter, *The City Seen as a Garden of Ideas* (The Monacelli Press, New York, 2003).

²⁴ שלמה שבא, לצייר ארץ כמולדת, סיפורו של דור האמנים הראשון (תל אביב: משרד הבטחון), 1992, ע"מ 7.

²⁵ שלמה שבא, לצייר ארץ כמולדת, סיפורו של דור האמנים הראשון (תל אביב: משרד הבטחון), 1992, ע"מ 9-19.

In Reuven Rubin's depiction of Tel-Aviv, it is a place of sandy mountains in which small, one-story houses are loosely located, drawn as if they had no foundations and seeming as if they could be blown away easily by the wind. Rubin described his enthusiasm when painting the Israeli landscape in this preliminary manner: "In Jerusalem, in Tel-Aviv, in Haifa and in Tiberius, I feel as if I was born anew. I feel as if the nature and life are mine. The grey clouds of Europe are gone. Everything glares here in the sun, in the bright light. In the same way that the desert flourishes due to the pioneers work, I feel my strength emerging in me....the horizons are wide, the air is clear, transparent, and the European scenery does not affect nature....Everything is new and with the eyes wide open they (*people here*) look at the world with amazement". Quotes are from pages 18-19. Author's translation from Hebrew.

²⁶ The author and painter Nachum Gutmann described the city of Tel-Aviv as a vacant place waiting to be settled in his book *A Little City with Few People* of 1959: "It is good to be between the two of your arms, Tel-Aviv: The blue arm (the sea) and the golden arm (the sand)" (authors' translation from Hebrew).

²⁷ Zoltan (Zvi) Kluger was born in 1895 in Hungary and immigrated to Palestine in 1933. In 1934 he became a partner and a chief photographer in the "East Photography Society for the Press". Zoltan worked mainly for the Jewish National Fund (founded in 1901, later to become the Keren Hakayemet - A Zionist organization that raised money and bought parcels of land in Israel mainly during the Ottoman regime and the British Mandate) and the Keren haYesod – United Israel Appeal (an official fundraising organization for Israel founded in 1920, to provide the Zionist movement with resources needed for the Jewish people to return to the Land of Israel) who both hired him to photograph the vacant landscapes of Israel, the Zionist economic enterprises and the pioneer immigrants working the land in the Kibbutzes and the Moshavs in Israel, and used his work to help fundraising for Zionist missions. באתר הארץ, המדינה-שבדרך, כפי שתיעד הצלם שעזב אותה, עופר אדרת, 2017 במרץ 22, <https://www.haaretz.co.il/blogs/oferaederet/BLOG-1.3949206>, entered 30102019

²⁸ Abraham Soskin (born in Russis in 1881, immigrated to Palestine in 1905) worked as a photographer who documented the Hebrew settlement in Israel. His photographs, many of which were staged sceneries, metaphors of what Israel and the cities and Israel were willing to tell about their origins, served as Zionists propaganda in the first years of Israel's foundation.

עיתון, "האיש שצילם היסטוריה: אברהם סוסקין, ראשון הצלמים בתל אביב", בינשטוק, אלה. באתר עיתונות יהודית היסטורית, 4 בנובמבר 1955, דבר, בארכיון עיתונות יהודית היסטורית. There were few photographers like Soskin and Iny few who documented the life in Palestine before the Hebrew settlement such (Maxim Salomon, Shlomo Ben David, Ze'ev Alexandrovich, but they were rare.

Zvi Elhanani, *White City, Black Room* in <http://www.avforum.org.il/emall/content.asp?cc=103687>.

²⁹ Sheva Shlomo, *Drawing a Country as a Homeland, The Story of the First Decade of Artists* (Tel- Aviv: Ministry of Defense), 1992, pp. 9-12. In Hebrew: שלמה שבא, לצייר ארץ כמולדת, סיפורו של דור האמנים הראשון (תל אביב: משרד הבטחון), 1992, ע"מ 9-12.

³⁰ The painter Anna Ticho (Born in Brno, Moravia, Czech Republic, immigrated to Palestine in 1912 aged 18, and lived in Jerusalem where she died in 1980) painted the landscape of Israel and mainly of Jerusalem. She describes her impressions of the surroundings: "The mountains were exposed. I looked, I was attracted, a swallowed with my eyes. The pure lines of the mountains, the repetitive lines, they extend to infinity and come from the origin beginning – evrythink spoke to me, I felt the landscape loneliness, but could not draw". Author's translation from Hebrew.

³¹ On the intricate relationships between the hand and the mind and feelings of the artists and the manner in which they together affect the process of making see Pallasmaa Juhani, "Embodied and Existential Wisdom in Architecture: The Thinking Hand" in *Body & Society*, March 2017, Vol 23 (1) pp. 96-111.

For a more expanded discussion of the topic see Pallasmaa Juhani, *The Thinking Hand: Embodied and Existential Wisdom in Architecture* (Chichester, UK: Wiley), 2009, especially Hand, eye, brain and language in part 1, and Eye, and mind in part 3.

³² Ada Karmi, Dov Karmi's daughter. Conversation with Ada, Feb 2015.

³³ There are also a few residences in Jerusalem (the Z.P. apartment building, Ben Maimon Boulevard, 1931-1932), Petach Tikva (the Abrasha Simkin House, 1934, demolished), Rishon Lezion (The Hirshfeld House, 1933, demolished), and Ramat Gan (Bejerano House, 14 McDonald St., 1945, currently residence of the Swiss Ambassador; & the house at 12 Alonim Street) (Yagid, 73-72)

³⁴ These include the following private residences: the Rachel House (28 Arnon Street, 1940) The Ben David House (3 Yahalel Street, 1940), The Minda House (4 Zvi Shapira Street, 1947), The Zikhron Meir House (121 Rothschild Boulevard, 1947), The Karmi Residence (19 Levi Yitzhak St, 1952), The Orenstein House (3 Rosenbaum Street, 1954), the Felman House (13 Ben Gurion Boulevard, 1955) The Ayala Zacks House 13 Ben Gurion Boulevard, 1955), the Bar Shira House (33 Ben Gurion Boulevard, 1958), the apartment building on 5 Zlocisti Street, 1959) and apartment buildings, mostly in collaboration with architect Zeev Recheter such as the Kopilov House (22 Ben-Zion Boulevard, 1945), the Kishenboim House and Auerbach House (14-16 Dizengoff Street, 1948), several apartment buildings in the Chocolate Houses (8, 12 & 14 Hurberman Street, 1948), Biederman Houses (33-34 HaShoftim Street, 1950), and the Beeri Buildings (38-48 Berri Street, 1960). Yagid Meira, *Dov Karmi, Architect- Engineer, 1905-1962* (Tel-Aviv Museum of Art:

Helena Rubinstein Pavilion for Contemporary Art) November 2010- February 2011, p.63-75.

³⁵ Yagid Meira, *Dov Karmi, Architect- Engineer, 1905-1962* (Tel-Aviv Museum of Art:

Helena Rubinstein Pavilion for Contemporary Art) November 2010- February 2011, p.72-73.

³⁶ "Of the Problems of Planning Apartments in Tel-Aviv" The Journal of the Israeli Association of Engineers and Architects, 1940, reprinted in Ada Karmi Melamede, *My Father, Dov Karmi* (Babel: The Azrieli Archive of Architecture, Tel-Aviv Museum, 2018) 74-77.

³⁷ Yagid Meira, *Dov Karmi, Architect- Engineer, 1905-1962* (Tel-Aviv Museum of Art: Helena Rubinstein Pavilion for Contemporary Art) November 2010- February 2011, p.72.

³⁸ Karmi Dov, "The Orientation of the Tel-Aviv Apartment" in "Habinyan BaMizrakh HaKarov ("The building in the Near East", November, 1936, reprinted in Ada Karmi Melamede, *My Father, Dov Karmi* (Babel: The Azrieli Archive of Architecture, Tel-Aviv Museum, 2018, 60-61).

³⁹ "Of the Problems of Planning Apartments in Tel-Aviv" in The Journal of the Israeli Association of Engineers and Architects, 1940, reprinted in Ada Karmi Melamede, *My Father, Dov Karmi* (Babel: The Azrieli Archive of Architecture, Tel-Aviv Museum, 2018, 74-77).

⁴⁰ Karmi Melamede Ada, *My Father, Dov Karmi* (Babel: The Azrieli Archive of Architecture, Tel-Aviv Museum, 2018), 43.

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KINETIC CANVAS: A PEDAGOGICAL JOURNEY INTO DIGITAL INTERPRETATIONS OF ARTWORKS

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INTRODUCTION

Background and Context

The intersection of art and digital technology has increasingly become a focal point in contemporary art education, offering new avenues for creative expression and audience engagement. As the digital realm expands, traditional art forms are being reinterpreted and transformed, creating a need for innovative pedagogical approaches that bridge the gap between classic artistic practices and modern technological advancements.

Optical and Kinetic art, with its emphasis on movement, perception, and visual interaction, provides a unique platform for such explorations. Originating in the mid-20th century, these art forms challenge viewers' perceptions through the use of motion and optical illusions, often requiring active engagement from the audience. The Atkinson Museum's 2023 exhibition, featuring works from the Tate Collection, serves as a significant cultural event, bringing these dynamic art forms to a broader public, including a younger demographic.

In this context, a collaborative pedagogical exercise was conceived, involving design students from universities in Porto. The exercise was integrated into the exhibition at the Atkinson Museum, with the dual aim of offering students real-life project development opportunities and creating digital interpretations of the artworks that resonate with a younger audience. This initiative aligns with contemporary educational goals that emphasize experiential learning, where students apply theoretical knowledge to practical challenges, thereby enhancing their creative and professional skills.

The project's focus on digital interpretation reflects the growing importance of digital media in the art world, particularly in engaging younger audiences who are native to digital environments.¹ By creating digital counterparts to the Optical and Kinetic artworks, the students not only reimagine these pieces for a new generation but also contribute to the ongoing dialogue about the role of technology in art. The initiative highlights the potential for digital tools to expand the reach and impact of traditional art forms, making them more accessible and engaging to diverse audiences.

The exhibition, which concluded on November 30th, 2023, provided a real-time case study of how these digital interpretations were received by the public, particularly by primary and secondary school children. This demographic is crucial, as their interaction with art at a young age can significantly influence their appreciation and understanding of cultural heritage. Preliminary observations suggest that the digital interpretations successfully facilitate individual interpretations within a shared space, encouraging active engagement and personal connection with the artworks.

As the exhibition progresses, the study employs qualitative methodology to analyze the effectiveness of these digital interpretations in achieving the project's educational and artistic goals. The final analysis, to be conducted post-exhibition, will offer insights into the successes and challenges of the initiative, providing valuable feedback for future pedagogical strategies at the intersection of art and technology. Through this collaborative exercise, the study aims to validate a pedagogical approach that not only enriches students' learning experiences but also enhances the cultural engagement of younger audiences, thereby contributing to the broader field of art education.

Scope and Significance

This study focuses on a specific pedagogical exercise within the context of the 2023 Optical and Kinetic art exhibition at the Atkinson Museum, involving design students from universities in Porto. The scope encompasses both the educational and artistic dimensions of the project, examining how the integration of digital technology into art interpretation can serve as a bridge between traditional art forms and contemporary audiences.

The significance of this study lies in its potential to contribute to the fields of art education and digital media studies. By analyzing the creative processes and outcomes of student projects, the study offers insights into the ways digital tools can be harnessed to reinterpret and revitalize classic art forms. Furthermore, the focus on engaging younger audiences highlights the importance of adapting educational practices to meet the needs and expectations of digital natives, thereby fostering a lifelong appreciation for the arts.

Additionally, the study's findings are expected to inform future pedagogical strategies that seek to combine practical project development with artistic innovation. By validating a model that successfully integrates art, education, and technology, the research may influence curriculum design and teaching methodologies in design and art programs, ultimately contributing to the professional development of students and the cultural enrichment of the public.

LITERATURE REVIEW

Optical and Kinetic Art: A Historical Perspective

Optical and Kinetic art emerged in the mid-20th century as avant-garde movements that sought to challenge traditional notions of visual perception and engage viewers in new ways. Optical Art, often referred to as "Op Art," is characterized by the use of geometric patterns and contrasting colors to create visual effects that simulate motion or cause optical illusions.² Artists such as Victor Vasarely and Bridget Riley were pioneers in this field, exploring the potential of static images to create dynamic visual experiences.

Kinetic Art, on the other hand, extends the concept of movement from the visual illusion to actual physical motion. This movement includes both mechanical systems and natural forces like wind or gravity. Artists such as Alexander Calder and Jean Tinguely.³ pushed the boundaries of sculpture by incorporating movement into their works, thereby creating interactive experiences that engage the viewer in a more immersive way. Both Optical and Kinetic art forms revolutionized the way art is perceived, emphasizing the active participation of the viewer in the creation of the artistic experience.

Digital Interpretation in Art Education

The integration of digital tools into art education has transformed how students engage with and reinterpret traditional art forms. Digital interpretation allows for the creation of multimedia experiences that can enhance the understanding and appreciation of artworks, making them more accessible to a wider audience. In educational settings, digital tools such as video editing software, 3D

modeling programs, and interactive platforms enable students to explore new creative possibilities that extend beyond traditional media.

The literature on digital interpretation in art education highlights its potential to foster creativity, critical thinking, and technical skills among students.⁴ By engaging with digital technologies, students can experiment with new forms of artistic expression and develop projects that resonate with contemporary audiences. Additionally, digital interpretations can serve as a bridge between historical artworks and modern viewers, particularly younger generations who are more familiar with digital media.

METHODOLOGY

Qualitative Research Design

This study employs a qualitative research design to explore the creative processes of design students, the impact of their digital interpretations of Optical and Kinetic artworks, and the effectiveness of these interpretations in engaging younger audiences. Qualitative research is particularly suited for this study as it allows for an in-depth exploration of participants' experiences, perspectives, and creative outputs. Through this approach, the study seeks to capture the nuances of artistic expression, audience interaction, and pedagogical outcomes in a real-world educational setting. John W. Creswell notes⁵ that qualitative research is particularly valuable in exploring complex phenomena where the focus is on understanding the lived experiences and perspectives of participants. It provides depth and context that quantitative methods alone cannot capture.

The research design involves a case study of the collaborative exercise at the Atkinson Museum, providing a detailed examination of the project from conception to execution. By focusing on the lived experiences of both the students and the younger audiences, the study aims to generate rich, descriptive data that can offer insights into the effectiveness of the pedagogical approach and the creative processes involved. Yin pointed out that a case study approach offers insights into the processes and outcomes that might not be apparent through broader surveys or experimental designs.⁶

Participants: Design Students and Younger Audiences

The participants in this study include two primary groups: design students from universities in Porto and younger audiences, specifically primary and secondary school children, who engaged with the digital interpretations at the Atkinson Museum. As noted by Denzin & Lincoln, studying participants in their natural settings and capturing their authentic experiences provides a richer understanding of how educational practices impact learning outcomes and creative development.⁷

Design Students: The participants include a selected group of design students enrolled in design courses at Porto's universities. These students were chosen based on their involvement in the digital interpretation project, which formed part of their academic coursework. Their participation in the study is crucial for understanding the creative methodologies and softwares they employed, the challenges they faced, and the skills they developed through the project.

Younger Audiences: The younger audience participants consist of primary and secondary school children who visited the Atkinson Museum and interacted with the digital interpretations of the Optical and Kinetic artworks. This group was selected to evaluate the effectiveness of the digital interpretations in engaging younger viewers and facilitating their understanding of the art forms. However, it is important to note that, to date, no formal analysis of the results from these interactions has been conducted. Future research should aim to assess how these digital interpretations impact younger audiences, offering insights into their effectiveness and areas for improvement.

Data Collection Methods

- Observations: Participant observation was employed during the exhibition at the Atkinson Museum, focusing on the interactions between the younger audiences and the digital artworks. Observations aimed to capture the behaviors, reactions, and engagement levels of the children as they explored the digital interpretations.

- Artifacts and Visual Analysis: The digital interpretations created by the design students were collected and analyzed as artifacts. This analysis focused on the content, design elements, and the ways in which these digital pieces reinterpreted the original artworks. Visual analysis was also applied to examine the artistic and technical aspects of the students' projects.

CREATIVE PROCESSES

This collaborative pedagogical exercise was done with three distinct groups of students split into two different methodological approaches.

One group consisted of students from the BA programs in Communication Design and Audiovisual and Multimedia

Communication at Universidade Lusófona Porto (ULP), as well as from the Master's program in Image Design at Faculdade de Belas Artes (FBAUP). This group participated in an extracurricular workshop at ULP, which comprised four sessions held over two months. The first session introduced the project and analyzed artworks from Tate's Dynamic Eye collection. The second session focused on exploring and discussing the students' creative approaches and potential ideas. In the third session, students presented their initial animation experiments and discussed them with the group, which were then showcased in the fourth and final session.

The diversity of backgrounds in this group has resulted in a wide range of technical approaches, including the use of 3D software like Blender, video editing tools as Vegas, digital animation with After Effects and Pro Create, and manual stop motion techniques.

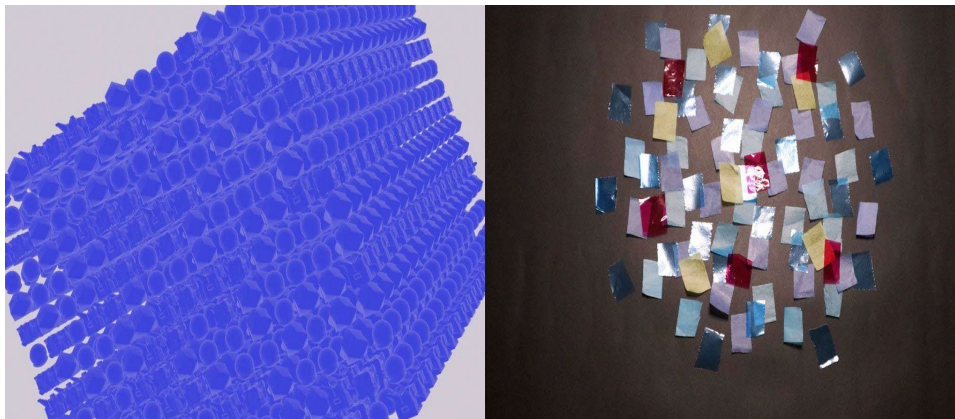


Figure 1 and 2. Recreation of *Blue Sphere* (Julio Le Parc, 2001) by João Santiago (left) and Raquel Nunes (right). Source: Authors, 2023.

To highlight this diversity, we can examine two different approaches to recreating the artwork *Sphere Blue* by Julio Le Parc (2001). On the left, in Figure 1, there is an animated 3D render by João Santiago, while Figure 2, there is a manual stop-motion animation by Raquel Nunes. Despite the technical and aesthetic differences between these approaches, a visual relationship can be observed, as both explore the modular concept of the original piece in distinct ways, creating new permutations and perspectives on the artwork.

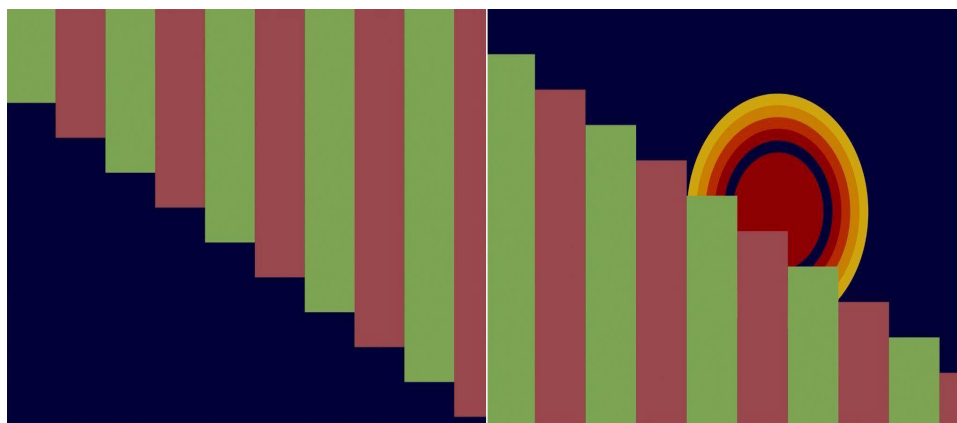


Figure 3. Two frames from the recreation of 'Casa' (Mohammed Melehi, 1970) by Ana Ferreira.
Source: Author, 2023

Apart from the differences in technical and aesthetic approaches, variations in the creative process and connection to the original artworks are also evident. Some students focused on a single artwork, staying visually close to the original. For instance, Ana Ferreira's digital recreation of Mohammed Melehi's *Casa* (1970) (Figure 3) precisely replicates the geometric shapes of the original piece, animating them to create a new visual narrative and perspective. Conversely, other students drew inspiration from two or more artworks, finding points of connection and crafting new works that capture the essence and concept of the originals rather than directly recreating them. An example of this is Sarah Nogueira's animation (Figure 4), which merges *Twelve Blacks and Four Silvers* by Jesús Rafael Soto (1965) with *Physichromie No. 113* by Carlos Cruz-Diez (1963) into a new visual narrative. Similarly, Hugo Machado's approach (Figure 5) combines *Supernova* by Victor Vasarely (1959) and *Physichromie No. 113* by Carlos Cruz-Diez (1963), creating an animation that offers a fresh perspective on their key visual features.

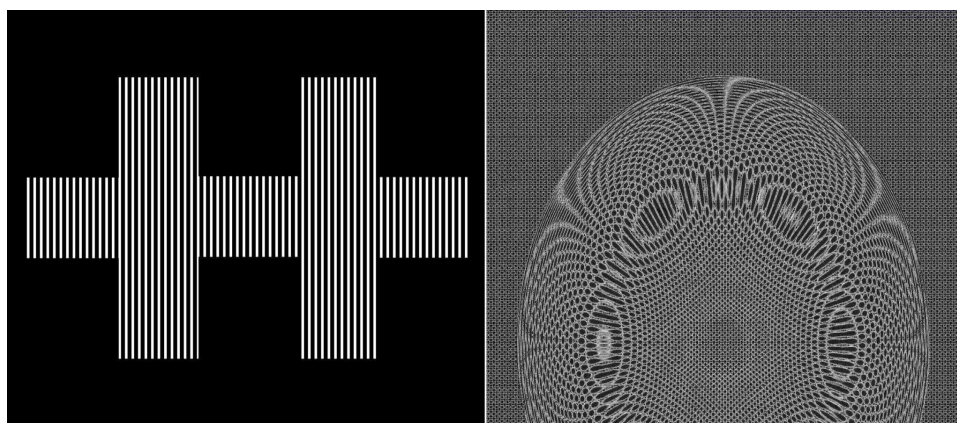


Figure 4. Recreation blending *Twelve Blacks and Four Silvers* (Jesus Rafael Soto, 1965) and *Physichromie No. 113* (Carlos Cruz Diez, 1963) by Sarah Nogueira.

Figure 5. Recreation blending *Supernova* (Victor Vasarely, 1959) and *Physichromie No. 113* (Carlos Cruz Diez, 1963) by Hugo Machado.

Another group consisted of students from the BA in Communication Design at Escola Superior Artística do Porto (ESAP), who worked within the curricular context as part of the 'Animation for Multimedia' course. Within this set of results, two distinct visual approaches can be identified. One is minimal and geometric, exemplified by the work of the group composed of Ana Silva, Raquel

Rodrigues, and Ana Freixeda, as well as by Pedro Fernandes in his recreation of Joseph Albers' series *Study for Homage to the Square* (1964-1966) (Figure 6 and 7). These students explored the square as a visual module, developing a series of narratives around its construction and deconstruction. The other approach is more organic, where geometric forms were translated into fluid, organic systems, as seen in Filipe Soares' recreation of *Ambiguous Structure No. 92* by Jean-Pierre Yvaral (1959) (Figure 8).

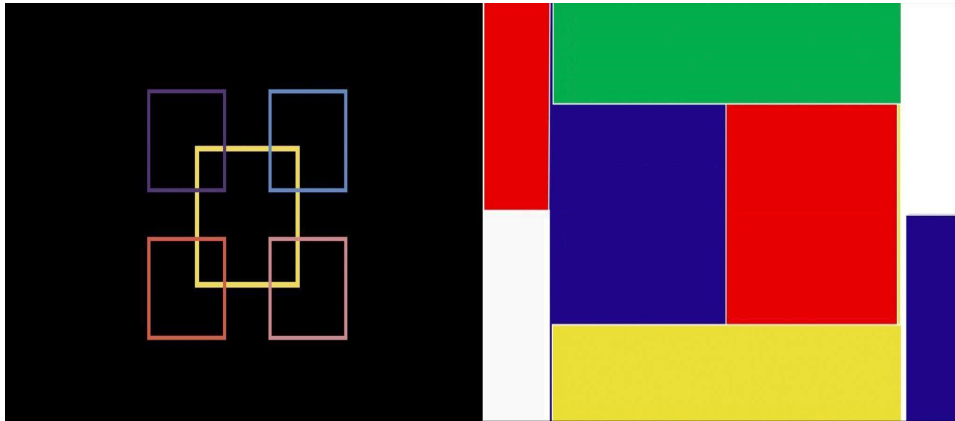


Figure 6 and Figure 7 . Recreation of *Study for 'Homage to the Square'* series (Joseph Albers, 1964-1966) by Ana Silva, Raquel

Rodrigues & Ana Freixeda (left), and Pedro Fernandes (right). Source: Authors, 2023

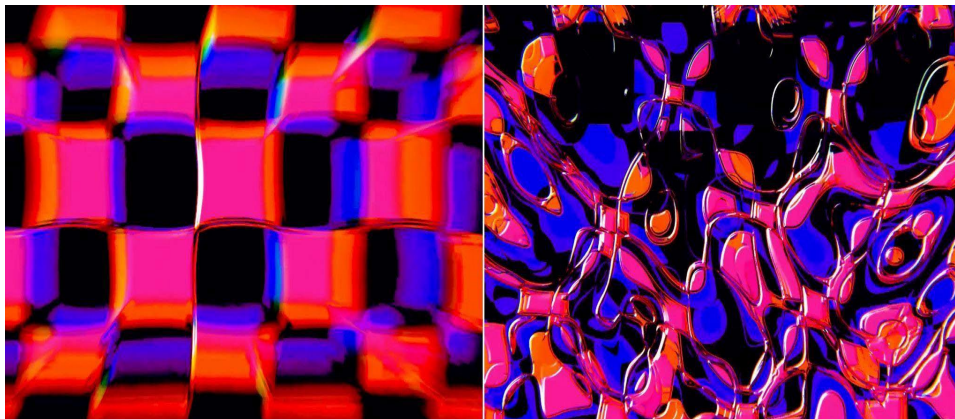


Figure 8. Recreation of *'Ambiguous Structure N°92'* (Jean Pierre Yvaral, 1959) by Filipe Soares.

Source: Authors, 2023

The third group comprised BA students in Communication Design from FBAUP, who conducted their work during the semester as part of a practical project in the 'Introduction to Programming' course. Similar to the other student groups, their goal was to reinterpret one of the proposed artworks. However, their approach was slightly different, as their results were dynamic and interactive.

In the context of the 'Introduction to Programming' course, students learn to code using Processing, a Java-based creative programming environment. They explore generative and computational strategies, using code as a creative tool for developing audiovisual and interactive projects. Each year, a project called 'Recreate the Past' invites students to recreate historical artworks through code. For the Dynamic Eye exhibition at the Atkinson Museum, students selected works from Tate Modern's Optical and Kinetic art collection.

The outputs were dynamic, interactive computer programs capable of generating infinite variations of the artworks using randomness and interactive techniques.⁸ Since the students' works were presented

as videos on a digital screen rather than as interactive pieces, the interactive outputs were screen recorded to capture a simulation of the interaction. The mouse pointer was intentionally left visible on the screen to demonstrate how the interaction works.

For example, in Ana Rita Ribeiro's recreation of **Four Segment Circles** by Herbert Bayer (1970) (Figure 9), moving the mouse across the screen altered features such as the radius of the circles and arcs, as well as their rotation speed, creating endless variations of the original work.

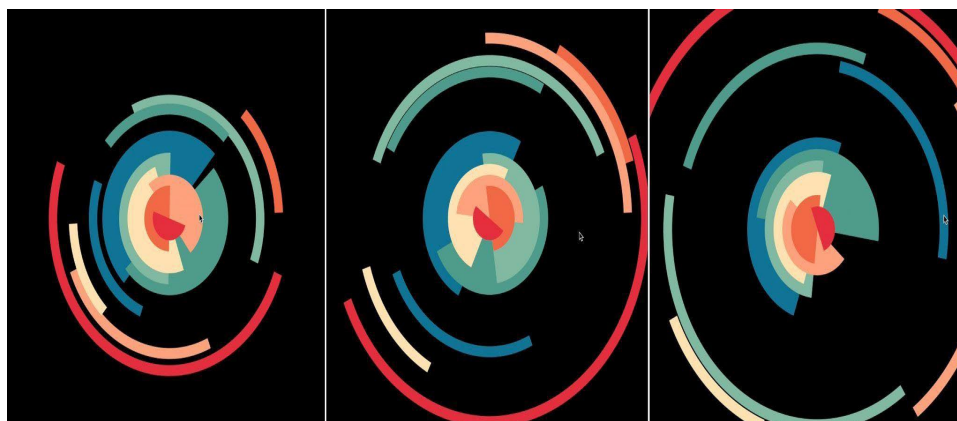


Figure 9. Three still images from the recreation of *'Four Segment Circles'* (Herbert Bayer, 1970) by Ana Rita Ribeiro.

A different approach was taken in the recreation of **Meta Esquema** by Hélio Oiticica (1958) (Figure 10), where Francisca Sá used a physics library to simulate a gravitational system and the collisions of the shapes in the artwork. The program begins with a blank screen; when the mouse is clicked anywhere on the screen, a shape is generated at that position. This shape then falls to the bottom of the screen, colliding with other shapes as it descends.

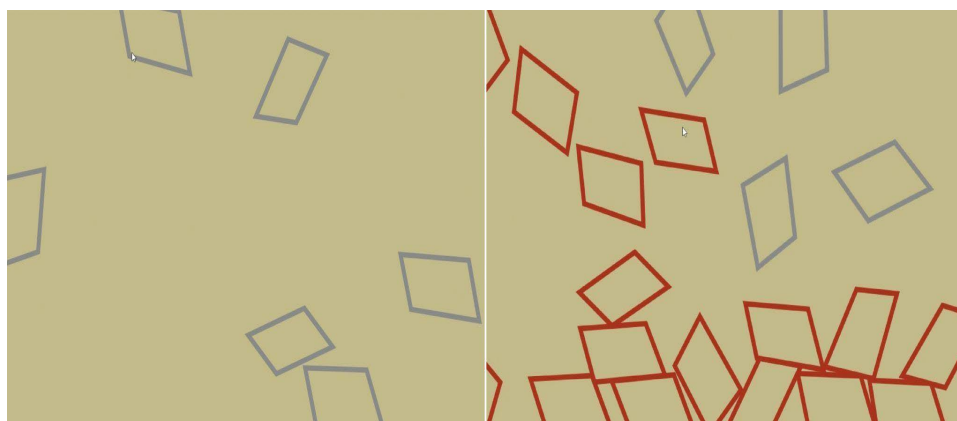


Figure 10. Two still images from the recreation of *'Meta Esquema'* (Hélio Oiticica, 1958) by Francisca Sá.

CONCLUSION

This article has explored the diverse creative approaches taken by students from different academic institutions in reinterpreting and recreating historical artworks through various mediums, ranging from digital animation and stop-motion to interactive programming. The projects showcased a wide array of technical and aesthetic strategies, reflecting the students' backgrounds and the distinct contexts in which they worked. Whether through visual recreations, like the digital animation of *Casa*,

or through innovative interactive programs, such as the simulation of a gravitational system in *Meta Esquema*, students demonstrated a deep engagement with the original artworks and an ability to generate new perspectives and narratives.

The pedagogical exercise proved to be highly effective in fostering both technical skill development and creative exploration. By challenging students to reinterpret existing artworks using contemporary tools and methods, the exercise not only deepened their understanding of the original pieces but also encouraged them to push the boundaries of their creative practices. The variation in approaches—from static visual recreations to dynamic, interactive experiences—highlighted the versatility of the students and the adaptability of the art forms they employed. Moreover, the collaborative and cross-disciplinary nature of the projects facilitated a rich exchange of ideas, enhancing the educational experience.

Recommendations for Future Initiatives

Based on the outcomes of this project, future initiatives should continue to embrace a cross-disciplinary approach, encouraging collaboration between students from different academic backgrounds. Expanding the range of technical tools and creative methodologies available to students could further enrich their explorations, allowing for even more diverse and innovative outputs. Additionally, incorporating more opportunities for students to present their work in both interactive and static formats would provide a fuller understanding of how different mediums can impact the perception and reception of their projects. Finally, future projects could benefit from a more formalised reflection process, where students critically assess their creative decisions and the effectiveness of their interpretations, thereby deepening their learning experience.

NOTES

- ¹ John Palfrey, and Urs Gasser. *Born Digital: Understanding the First Generation of Digital Natives*. New York: Basic Books, 2008.
- ² P UG. *Pop-Up Op-Art: Vasarely*. Munich: Prestel, 2014.
- ³ Hans-Christian von Herrmann, et al., eds. *Tinguely: Jean Tinguely: Retrospective*. Cologne: Walther König, 2016.
- ⁴ Judith Dinham. *Delivering Authentic Arts Education*. 3rd ed. South Melbourne, Australia: Cengage Learning, 2017, p 245.
- ⁵ John W Creswell. *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. 3rd ed. Thousand Oaks, CA: Sage Publications, 2014, p 8.
- ⁶ Dinham, *Delivering Authentic Arts Education*, 3rd ed. (South Melbourne, Australia: Cengage Learning, 2017), 245.
- ⁷ Denzin and Lincoln, eds., *The SAGE Handbook of Qualitative Research*, 5th ed. (Thousand Oaks, CA: Sage Publications, 2018), 17.
- ⁸ Susana Barreto, et al. "Reimagining the Dynamic Eye: Digital Interpretations of Tate's Optical and Kinetic Art Collection by University Students." *ARTECH 2023: 11th International Conference on Digital and Interactive Arts*, Faro, Portugal, November 2023.

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GENOCIDE OF AN URBAN ENCLAVE: THE ADDITION OF METRO RAIL TO SHAHBAGH AND THE LINKING CULTURAL CORRIDOR OF DHAKA

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INTRODUCTION

Dhaka, a Megalopolis of the Global South is one of the oldest settlements in South Asia. Tracing back its geographical identity from more than 400 years ago as a prosperous trade center of the deltaic Bengal, this is now, a city of approximately 23 million people with a global ranking of the 4th most densely populated cities worldwide.¹ Over time it has enormously transformed concerning spatial growth and rigorously evolved in terms of sociocultural, political, and economic development. Infrastructural development as an index of the growing urban economy has also led to the recent solution of adding metro rail to the city's transportation system to address the overbearing traffic congestion. The construction has started and the route has been partially operating since 2022. As an index of urban well-being and mobility comfort, this was welcomed, however, a certain segment of the urban form has been impacted by it in a not-so-visible way yet the effects are critical as those altered and to some extent destroyed the spatial meaning of the area that is closely connected to the nation's various identity formation process.

The historical enclave of Ramna, as a study area under those impacts, has been analyzed through urban semiotic lenses, firstly, to reveal the historical meaning-making process of the area which has constructed its spatial identity that later embodied the notion of a certain sociocultural and political identity of the place and secondly, by assessing the spatial intervention MRT along that segment, the study intends to interpret how that identity is stained or collapsed comparing to its past glory. The understanding concludes as such that this spatial intervention is more of an authoritarian occupation in the name of development than a practical sustainable approach to address a complex urban setting that is deeply associated with the human heritage of the city.

MORPHOLOGICAL SIGNIFICANCE OF RAMNA TO THE GROWTH OF DHAKA CITY

More than 400 years ago, Dhaka began as a trade center, also known as "bazaar" on the banks of the Buriganga River in the deltaic Bengal of the South-Asia. The Mughal settlements grew along the river naturally. Ramna, once on the outskirts of the city, became a preferred area as the British arrived and the riverside became crowded. Over time, Dhaka shifted from being river-centered to focusing more on land (Figure 1), with Ramna emerging as a prominent location. Ramna originally included residences for high Mughal officials, as well as gardens and green spaces. During the colonial period,

Dhaka was divided into two main areas: one extending from the existing Mughal city and another, Ramna, developing further away from the original city. The British cleared the jungle in Ramna and constructed a racecourse and boulevard where elites could stroll in the evenings.² When Dhaka became the capital of the new province of Bengal in 1905,³ government buildings were built in the south of the Ramna racecourse. This official area later became part of Dhaka University after the partition was annulled.

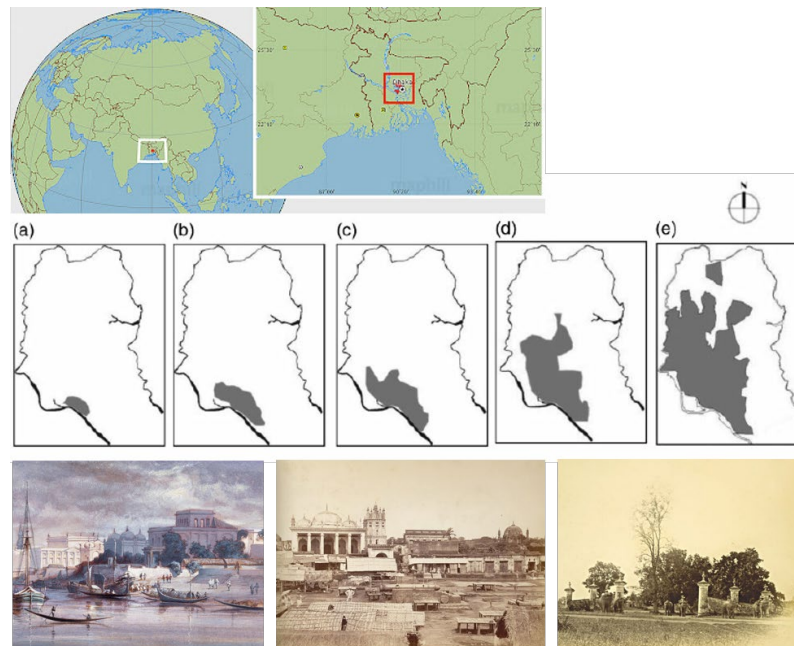


Figure 1. Top: Location of Dhaka in Global Map,⁴ Middle: City boundary of Dhaka city over the year. (a) Pre Mughal (1205–1610), (b) Mughal (1620–1757), (c) British (1758–1947), (d) Pakistan (1947–1971) and (e) Bangladesh (1971 onward);⁵ Bottom: (L) View from Buriganga river,⁶ (M) View of old Chawk Bazaar,⁷ (R) Mir Jumla Gate or Dhaka Gate of Mughal Period⁸

Shahbag, now situated at the northern end of Dhaka University, was originally known as "Bagh e Badshahi," the garden of the Nawabs of Dhaka. The remaining structures of the Nawabs reflect the history of that era. "Modhu'r canteen" is the remains of the Durbar hall of the Nawabs, while Eshrat Manjil, now the site of the Art faculty, was demolished during the university's construction phase. The surviving buildings in Ramna from various historical periods narrate the tales of the past. After the establishment of Dhaka University in 1921, additional buildings were gradually added to the university campus. The street that divides Ramna from Dhaka University became a pathway preserving the remnants of Dhaka's significant historical events through its buildings, monuments, and spaces.

METRO RAIL: CITY'S STATUS QUO.....TO BE OR NOT TO BE

The Dhaka Metro Rail, a mass rapid transit system in Bangladesh's capital city is initiated to alleviate traffic congestion. The network includes five planned lines: MRT Line 6 operational since December 2022, MRT Line 1 and MRT Line 5 are under construction, and MRT Line 2 and MRT Line 4 are in the planning stages. Initially planned from Uttara to Sayedabad, MRT Line 6 from its commencement phase, faced protests from Dhaka University students regarding potential disruptions of many sorts. While passing through Dhaka University, one of the oldest universities of the country, it takes a route which represents the cultural corridor of Dhaka that has three important nodes; Shahbag Square, Raju

Sculpture, and Doel Chatter (Figure 2). However, this route also near the Teacher-Student Centre was confirmed by the government, assuring minimal impact using sound insulation technology. This study focuses mainly on the urban segment from Shahabag Node to Doyel Chatter through Raju Sculpture, addressing its surrounding area as per their historic, socio-political, and cultural significance.

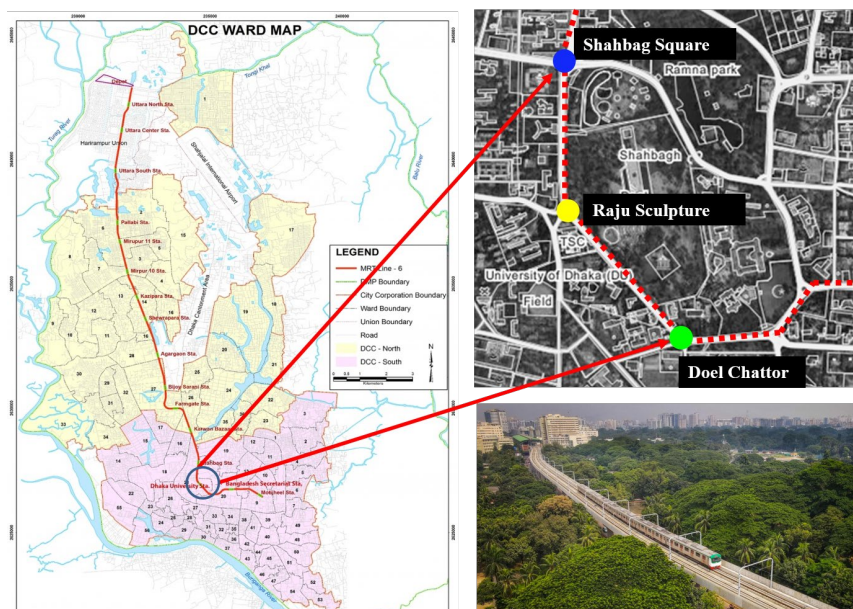


Figure 2. (L) MRT-Line 6 in Dhaka city map,⁹ (Top-R) Selected study area,¹⁰ (Bottom-R) Metro rail in action in the Ramna area.¹¹

URBAN SEMIOTICS: A MEANING-MAKING PROCESS

The study of meaning-making is scientifically called semiotics.¹² Semiotics in its basics is a philosophical approach that seeks to interpret messages in terms of the signs and city and its space can be studied as the collection of different signs.¹³ In the Semiotics view, meaning of environment is transmitted in the form of signs.¹⁴ A sign is something that refers to something else.¹⁵

Ferdinand de Saussure divided the sign into two components: the signifier, which is the sound, image, or word, and the signified, which is the concept or meaning the signifier represents.¹⁶ The signifiers are understood as such more by their correlative positions than by their contents; they carry in an intrinsic manner a value by offering a place for a possible signified.¹⁷ Umberto Eco, in his turn, underlines the denotational and the connotational type of the signified.¹⁸ Eco analyzed architectural components in terms of their meaning and function.¹⁹ He proposes to differentiate them in first, denoted functions, which articulate the building to a usage, and second, connoted functions which articulate it to distinctive values of cultural systems.²⁰ However, if the signs change, the meaning of the environment will change. In this view, the meaning is a very dynamic attitude.²¹

Urban semiotics deals not only with the built environment of the city, but also with place-name studies, landscape, social codes, as well as the influence of this factors on such phenomena as touristic attractivity of the city or the patriotism of its inhabitants.²² According to Gottdiener streets, squares, buildings and facades are the elements of urban space within the case of urban semiotics.²³ Barthes echoed similarly by saying, “In the case of urban semiotics these material objects may include elements as familiar as streets, sidewalks, tree plantings, public squares, building facades and buildings themselves.”²⁴

Barthes refers to urban semiotics as the study of the process of connotation or social signification of cultural objects relating to ascribed values.²⁵ Signification can be understood in terms of the built environments a symbolic act that involves some physical object as well as some discourse on that object.

SEMIOTIC ANALYSIS OF THE SELECTED URBAN SEGMENT

Focusing on the two nodes, ‘Doel Chattar’ and ‘Shahbag’, the road passing through the university area acts as a primary connector of the south and the north part of the city. It’s one of the major transport conduits of the city. Not only this, the listed heritage buildings along the road manifested the historical past and development that the city has gone through. After the establishment of Dhaka University, it became a space for protest against injustice, social issues, and also a linking ‘cultural corridor’²⁶ of the two parts of the city. The space became an urban enclave, a cultural hub, a space where a nation's cultural identity is being made. But, change is inevitable. There have been a continuous transformation and constructions due to the growing need of Dhaka University which is changing the essence of the space slowly and sometimes abruptly.

To delve into the semiotic analysis of the selected urban enclave, a pictorial inventory (Figure 3) has been categorically formulated to provide a visual anecdote of its multifaceted history, ranging from political, cultural, and social manifestations of various periods. The additive richness of diverse structures transformed the built environment within the area over time imbuing even deeper layers of meaning within it. The urban form has constructed a unique spatial identity showcasing the chronology of the city’s past to contemporary time in terms of architectural and urban interventions. The vivid and nuanced presence of individual and collective social contributions is felt in the atmosphere.

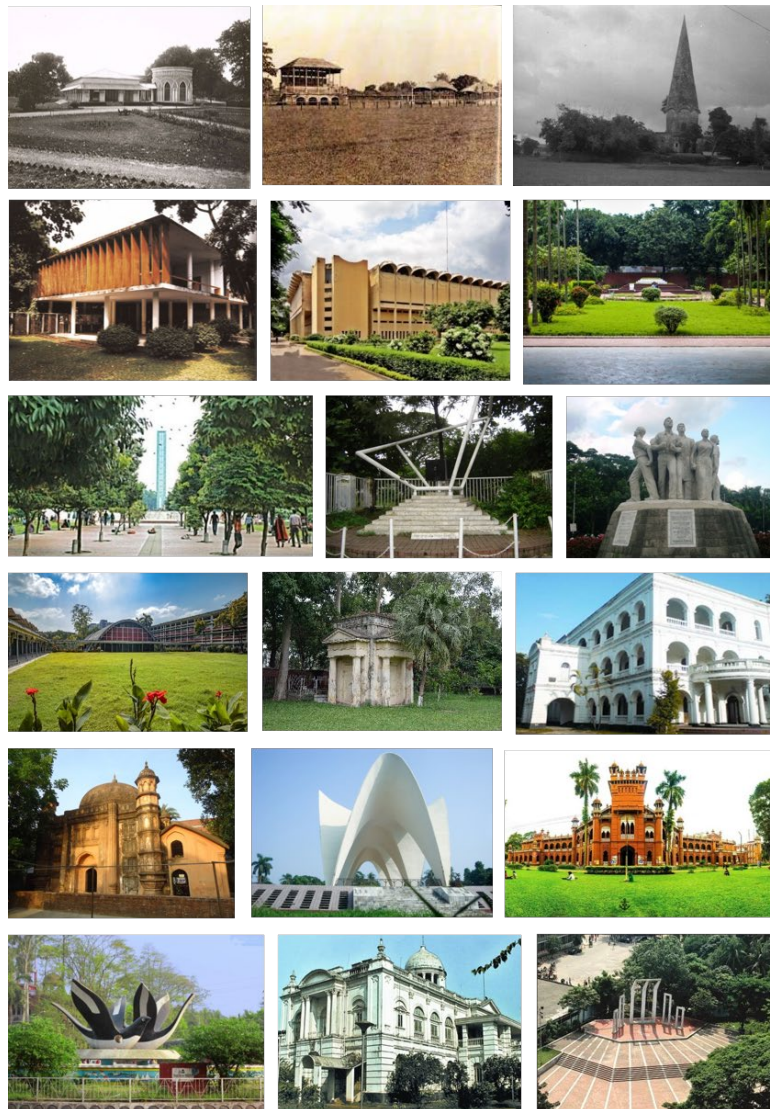


Figure 3. Inventory of structures from the selected study area

Moreover, the events and activities taking place within the area over time as history can be traced back strengthened that spatial identity, and germinated national identity-driven enormous political movements, cultural identity-defining initiatives, and social reformations-centric activities. To date, it's a place of the continuous act and enactment of those events as and when necessary with time. The inventory of the structures (Table: 01), as well as various events and activities (Table: 02) from the urban segment of Ramna, has been prepared considering the research objective. For ease of navigation on the map, the structures, e.g. buildings, and sculptures are clustered in the table keeping the significant nodes as a reference point (Figure 2).

Sl. No.	Structures of Significance	Building Typology according to functions	Reference Location in terms of significant nodes
01.	Bangladesh National Museum (Officially started in 1913, the present location of the museum had its now building in 1983.)	Cultural	Structures within the road segment from the Shahbagh node to the Raju Sculpture node
02.	Art College (1955)	Educational	
03.	Moselum of Kazi Nazrul Islam (2008)	Religious	
04.	Swadhinota Stombho (2013)	Monument	
05.	Racecourse Stand [Demolished]	Recreational	
06.	Ramna Kali Mandir (1859), Demolished in 1971, now rebuilt in the same location	Religious	
07.	Darbar Hall, at present, serves as a canteen	Recreational	Structures within the road segment from the Raju Sculpture node to the Doel Chattar node
08.	Memorial of Dr Milon (1990)	Sculpture	
09.	Raju Sculpture (1992)	Sculpture	
10.	TSC (1966)	Cultural and educational	
11.	Greek Memorial (1840)	Religious	
12.	Bardhaman House (1911), Currently used as 'Bangla Academy', an institute for language development	Cultural (earlier residential)	
13.	Khaza Shahbaz Mosque (1679)	Religious	
14.	Mausoleum of Three Leaders (1963)	Religious	
15.	Doel Chattar	Sculpture	Structures within the Doel Chattar and on its adjacent roads
16.	Shaheed Minar (1963)	Monument	
17.	Curzon Hall (1904), presently used as the Physic Department of Dhaka University	Educational	
18.	Government House (1905), initially used as the High Court, now accommodates government offices	Administrative	

Table 1. The inventory of the Structures and their functional category

While assessing the structures regarding their denotative meaning, it is observed that multiple buildings and sculptures had their origin of specific functional requirements at the time of construction that can be self-referential in understanding such meaning. However, few buildings have altered functions of many sorts over the period. Thus the denotative meaning for those has transformed into a newer one. Therefore, the original purpose and present functionality, both can describe the buildings more on a denotative level if the change of structures' names is explained by referencing the functions that had for them.

More generally denotative meanings for the above-mentioned structures can be simplified if categorized based on their functions as 'Denotation is a translation of a sign to its literal meaning'²⁷ and here buildings or structures are perceived as a sign in the semiotic analysis of the selected urban enclave. Therefore the cluster of educational buildings; e.g. Art College, Curzon Hall, the cultural and recreational edifices; e.g. National Museum, Bangla Academy (Bardhaman House), TSC, racecourse stand, Canteen (Darbar hall), and the group of religious structures; e.g. Ramna Kali Mandir, Khaza Shahbaz Mosque, Mausoleum of Kazi Nazrul Islam and three leaders of the country, Greek memorial, all bear denotative meaning from their respective categories.

However, 'Connotation translates a sign to meanings associated with it'.²⁸ As meaning is much of a relative essence if can be assessed from an individual perspective, the communal perception of meaning or the universal meaning of a sign, in this case, selected buildings and structures can be extracted based on the social memories they contain. 'Social memory as a kind of collective memory deals with the knowledge of the past and the present, about historical events and historical personalities, and includes emotional experience'.²⁹ In this way, if we look into the connotative

meaning of all the buildings, a rich layer of historical information emerges from material facts of their architectural styles to their layout in the urban landscape, social embodiment of diverse religious ideology within building forms, cultural diversity in intricate details, dynamics of political power play of urban elites in the locational significance of various structures, and social embodiment of diverse religious ideology within building forms, all are intertwined within this segment of urban Dhaka. Buildings tracing back from the majestic Mughal period, through Colonial sophistication, entering into modern minimalism, a geo-climatic representation of traditional building material and vernacular space preference to some extent is noticeable. A meaningful amalgamation of cultural texture through built form and overall urban fabric has defined the inclusive attitude of the people of this area.

Now for sculptures as a distinct category of structures in an urban context, the study area showcases two of its kind; a few celebrating historic victory or symbolizing national features of any sort, and the remaining commemorate dreadful pasts of the nation, communal grievances, the heroic sacrifice of individuals, as a process of achieving any political rights, social reformation or justice for wrongdoing. The connotative meanings that are conveyed through these sculptures are powerful. All the recent protests and movements in this segment have a nucleus either in the Raju sculpture area or in the Shaheed Minar precinct. However, Shahbagh node, as a culmination point of mass gatherings has garnered a spatial significance as it contains four primary arterial roads of the city even though it is not adorned with any significant sculpture, instead it is the void that acts as a plaza when needed.

Sl. No.	Activities within the enclave	Structures that represent the commemoration of the events, activities, or incidents
01.	The Language Movement of 1952	Shaheed Minar
02.	Speech of 7 March 1971 as the kickstart of The Liberation War;	Swadhinota Stombho commemorates both the historical events
03.	Surrender of Pakistan Army, 1971 in the racecourse, present Suhrawardi Uddyan	
04.	National Book fair known as 'Amor Ekushey Boi Mela'	Bangla Academy (Bardhaman House) and Shahwardi Uddyan
05.	Procession of 'Mongol Shovajatra' as a part of the Bengali New Year Celebration.	Circumulate a specific path starting from the Art college towards Shahbagh node that passes through Doel Chattar, Raju sculpture, Dr. Milan Memorial to finally end again in front of the Art College
06.	The movement for democracy and Anti-terrorism	Raju Sculpture
07.	Convocation celebration of Dhaka University as an academic event	Raju Sculpture
08.	Various Political and Social Protests (Protest against Metro Rail, quota reformation movement)	Raju Sculpture, Shahbagh node, Shaheed Minar

Table 2. List of significant activities

The historical events centered on political context, language movement as a form of cultural right for the people of the country, the commencement of war as a state emergency, and its ending formalities that took place within this segment, all are profoundly connected in shaping the national identity of the land. Additionally, the annual commemoration of those national events, along with many festive cultural activities like month-long 'Book fair', and celebrations of Bengali New Year with a vibrant and colorful procession every year, all happen at different times of the yearly calendar, paint the urban ambiance of Ramna with many hues. It seems as if multifarious cultural threads constantly weaving and strengthening the nation's identity through pain and sorrows, protests and movements, victory and celebrations engaging people of all strata.

In the post-independence era, in the process of establishing democracy in the political realm of the country all sorts of socio-political protests ignited in Dhaka and took multiple urban arenas including the DU campus that had frequently transformed into political spaces for mass voice. However, the changing nature of the spatiality of protest in Bangladesh considering the effect of the Shahbag movement, 2013 has been visible and protest locations have been shifted from Motijheel, Gulistan, Palton and other spaces of Dhaka city to Shahbag and TSC. Now, both liberals and radicals have been choosing the spatial centrality of Shahbag and Raju Memorial Sculpture at TSC for their protests due to the public visibility and viability, media and social media availability, nationwide publicity, mobilization feasibility, practices of quick messaging to the statehood, and trajectories of quick responsiveness of the statecraft to (re)think the issues of public protests.

This urban segment is a realm of condensed multiple pasts with intricate histories, a melting pot of happening present and a future that promises never-ending hopes and dreams. It provides a constant shape-shifting character for its users to dive into the preferred era from their present mind. Thus ‘semiotic density of material culture, activities, rules and social codes of behavior influences the minds of the citizens in creating their imagined community’.³⁰

DISCUSSION

The meaning-making process of a city is a tedious, long-term phenomenon. It takes decades and hundreds of years to shape its spatial, sociocultural, and political identities. ‘Genocide’ is an intense term, but we believe that the systematic killing of the identity of places is no less than a grave crime. ‘Genocide’ a combination of the Latin genus "lineage, race" and cidus "killer, kill", is undoubtedly referred to as one of the most serious crimes in history³¹ and according to the Genocide Convention of UN, it is ‘a crime committed with the intent to destroy a national, ethnic, racial or religious group, in whole or in part.’³² It is mostly a term associated with warfare that eventually led destruction of humanity to its worst level. However, the metaphorical meaning of genocide is visible in all significant points of the selected area. We are talking about buildings, spaces, and activities within them, which have become a victim of identity distortion in terms of the viewing angle of their spatial scale, and authoritarian suppression of imposing this structure even after plenty of protests.

Having assessed the semiotic meaning of the area as a whole emphasizing various buildings, sculptures, monuments, open spaces, and activities and events within or adjacent to those, a comparative pictorial survey documenting the before-after impact of metro rail in the same area has the following images (Figure 4).

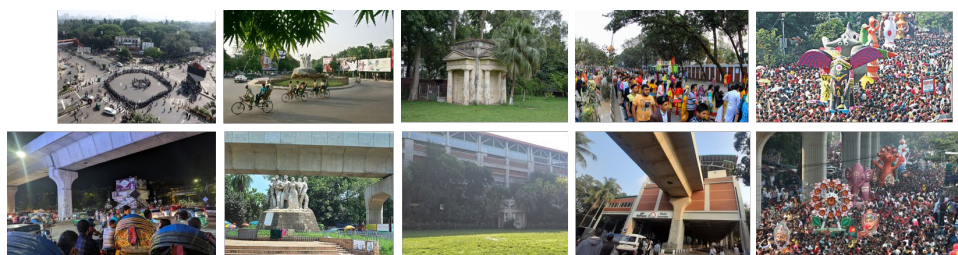


Figure 4. A before-after comparison of places and events within the Urban Form of Ramna

An in-depth observation of these visual comparisons shows that what has made for the mass people's comfort, has silently shattered this long-accumulated and hard-earned spatial character of the urban segment. The dire visual effect as well as the deterioration of the spatial quality of the ambiance is what can be felt immediately. However, the deep wound that it has caused by encroaching on the vast sky amidst the lush green which is the only prized possession of Ramna, is an unrepairable loss. The

never-ending noise of the mechanical monstrosity of Metro Rail, no matter how smooth it is, has ruined the harmonious voice of the everyday chit-chats of the masses, the slogans of the protestors, and last but not least the tranquility of this green heaven. Moreover the vibration and sound are continuously affecting the historic properties of the area. The uninterrupted sky was a backdrop for colorful masks and gigantic paper figurines on the eve of the Bengali New Year celebration and it has long gone. The sky is now not the limit but the track of the metro rail for fixing the heights of those cultural mementoes.

CONCLUSION

The space and places are not dead entities, especially in the urban realm, as they gather their self-expression and various characters over time. Development in cities is also inevitable, therefore the study is not aimed at standing against any sort of development; instead, it is a call for a prior understanding of any given place in a city that should be understood both as an independent part as well as its integral connection with the whole city that might not be always visible in plain sights. Failing to do so can cause severe damage to the essence of everyday life in the place under the disguise of infrastructural developments. These can even alter or redefine the spatial image in a ‘not so welcoming way’ that might contradict its past glory. In our particular case, the damage is so intense that it has alienated the whole area to a different level.

Unfortunately, this city has hardly any urban plazas or dedicated public squares. But the segment holding Shahbagh, Ramna, and its adjacent areas has gradually constructed an all-strata-people-centric domain. This spatial construction has embodied several intangible and ephemeral aspects. These have made this urban enclave a living organism of the city with condensed layers of glorious past, vibrant and happening every day with a promising future of telling today's children about the socio-cultural and political identity of the land that they can be proud of. Destroying all these essences can be interpreted as spatial Genocide. Last but not least, the MRT has its symbolic meaning in the context as it denied the understanding of its setting and the imposed decision marked the interpretation of authoritarian influence over the voice of mass people, even worse it deliberately failed to listen to the meaning of the urban character.

NOTES

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- ¹¹ Image courtesy: Rajib Dhar, <https://www.tbsnews.net/bangladesh/metro-rail-increases-trips-commuters-related-794330#lg=1&slide=0>
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A LIGHTING DESIGN PROPOSAL FOR THE BALAT DISTRICT

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INTRODUCTION

This study delves into the criteria and objectives of urban lighting, focusing on the importance and scope of a master plan for comprehensive urban illumination. The Balat area in the Fatih District, rich in historical heritage and designated as a UNESCO World Heritage site, is the chosen field of study. Despite its historical significance, Balat is often overlooked as a tourist spot in Istanbul. To address this, a tailored lighting design proposal has been crafted for a specific section of this neighborhood. The role of lighting in enhancing a city's heritage goes beyond mere illumination; it involves reimagining historical structures to integrate them seamlessly into the urban fabric. The complex historical context and cosmopolitan identity of Balat necessitate a detailed study and zoning analysis.

PURPOSE OF THE RESEARCH

This study aims to develop an urban lighting master plan for the Balat neighborhood in Istanbul's Historic Peninsula. The primary goals are highlighting the area's urban identity and enhancing nighttime safety and security. In the proposed Balat District Lighting Master Plan, key areas requiring prioritized illumination have been identified, and strategic walking paths have been created. Urban lighting is crucial for Balat, with its prominent coastal location along the Golden Horn and striking topographical silhouette. This study serves as an exemplar and reference for future lighting projects in Balat, demonstrating how thoughtful urban lighting can bring economic and socio-cultural benefits to the city. Additionally, this plan integrates smart city and smart lighting concepts. It sets the stage for advanced, future-oriented urban lighting solutions.

URBAN LIGHTING

Urban lighting serves two crucial purposes: functional and architectural. Functional lighting ensures safety and sustainability, while architectural lighting highlights and enhances the city's cultural values, making its identity more perceptible.

A well-designed lighting master plan combines modern techniques with appropriate standards, minimizing unnecessary energy use and establishing a sophisticated urban lighting system. Such a system is a crucial indicator of a city's quality of life and sophistication.

Functional Lighting

Functional lighting aims to offer people a safe urban life by ensuring security so that urban life can continue at night.

Architectural Lighting

Functional lighting aims to illuminate important works and historical structures with architectural and artistic values in the city and emphasize urban identity.

Affecting factors architectural lighting;

- Function of Structures,
- Relationship of the Building with the Near Environment and Background
- Geometric Forms of Structures
- Height of Structures
- Building Facade Lighting Techniques
- Exterior Material and Color of the Building

LIGHTING MASTER PLAN

"Lighting Master Plan" plays a crucial role in urban lighting to be prepared for urban beautification.

Thorough city analysis is essential in developing the Master Plan¹. A comprehensive and integrated approach is necessary when making lighting decisions that will impact the city's appearance, particularly in the selection of elements to be illuminated and their harmonious integration.

The evaluation of the city in general and in a special sense considers the concept of scale in the context of the whole city, region, and single elements (objects). It should not be forgotten that this planning has architectural and functional lighting dimensions.

The lighting master plan, implementation plan, and program are completed following the analysis process, scenario creation, and related design development.

- It includes fundamental decisions regarding lighting.
- It is the holistic analysis and planning of urban lighting.
- It allows urban texture and identity to be given meaning at night.
- It provides the desired effect to the city and increases urban quality.
- Analyzing the character of the city or region to be illuminated as a whole (zoning study),
- Identifying/analyzing the character and identity of specific regions,
- Analyzing original sites, buildings, structures, elements (urban elements),
- Improving the night image of the city (in line with the daytime image),
- Script preparation,
- Testing scenarios created with appropriate computer programs,
- Checking the feasibility of scenarios,
- Comparing the results and determining the most appropriate scenario

CASE STUDIES OF LIGHTING MASTER PLANS: INSIGHTS FROM EUROPE AND TURKEY

This section will discuss specific examples of lighting master plans, focusing on their unique characteristics and approaches.

In general, the stages of the lighting master plan are similar for each city; however, these stages may differ according to the city's identity and values. It is necessary to analyze the city as a whole, and after this zoning study, the city's character and identity should be determined.

Three samples were selected from lighting master plan studies in Europe and Turkey. The first of these, the “The Lyon Lighting Master Plan,” was prepared in 1989; this plan is the first of its type. In 2004, it was revised and improved. It is a holistic plan for the city. A city lighting that will reveal the identity has been prepared. The objectives of the plan can be listed as follows,²

- Revealing the city's night identity,
- Incorporating all-natural and artificial elements offered by the urban space into the night city identity, creating livable and quality urban spaces,
- City owners embrace their city and identify it as a source of pride,
- Increasing the attractiveness of the city for visitors,
- Reducing crime,
- Emphasizing buildings as a whole with other urban elements such as roads, parks, etc,
- Defining urban areas by emphasizing differences and similarities (Figure 1)

During the festival process, the city turns into an open-air museum. It is understood that artists exhibit their products and give social messages in this way.

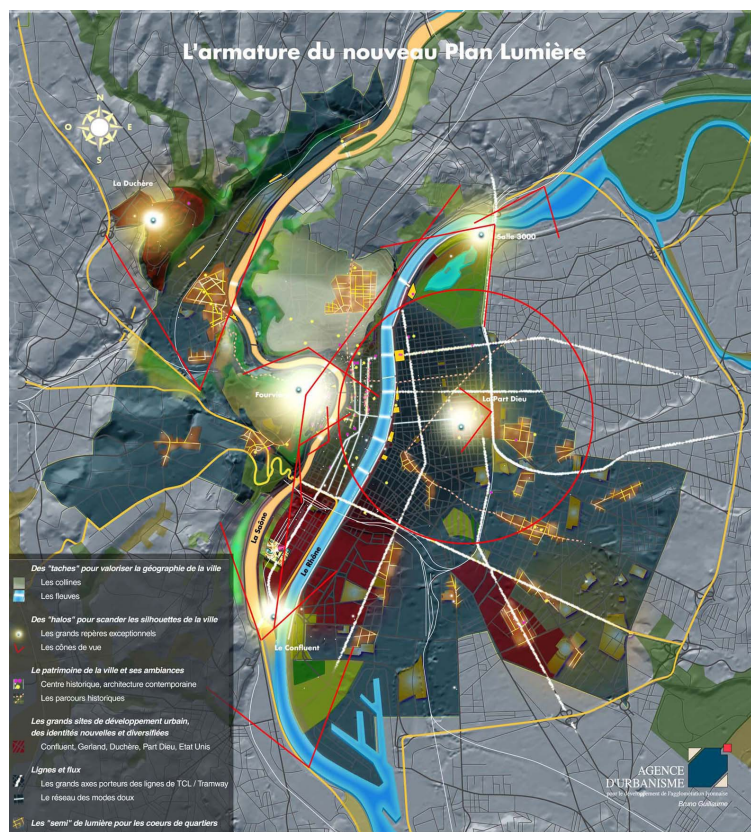


Figure 1. Lyon Lighting Master Plan (www.lightzoomlumiere.fr)

Another lighting master plan example from Europe is the “Brugge Lighting Master Plan.” Bruges, a world heritage site under UNESCO protection, is the best-preserved medieval city in Europe. Water canals and stone walls surround it. The lighting master plan aims to be based on walking, enabling tourists and cyclists to experience the city's water canals, parks for long walks, and traditional Flemish architecture at night.³ It focuses on pedestrians observing the historic center at night (Figure 2).



Figure 2. Steenhoudersdijk Rendering work (www.anticos.eu)

The lighting master plan study selected from Izmir city of Turkey is “Kemeraltı Lighting Master Plan.” Kemeraltı Lighting Master Plan (KAMP), prepared by Arup in 2018 for the Kemeraltı district of Izmir with the encouragement of the Izmir Metropolitan Municipality Directorate of Historical Places and Cultural Assets, aims to evaluate the historical and commercial features of the district with all its layers and to present its night image effectively.⁴

The aim of this plan;

- Emphasizing the identity of the city at night,
- Create an attractive and reliable environment
- Creating a sustainable plan
- Entry points to the Kemeraltı area were targeted with the realization of the facade lighting designs of the buildings located on the entrances and exits in creating the new night image of the region. Signage elements have been identified, and their areas of influence have been shown. The elements that become a reference for the user by illuminating at night serve as a guide for wayfinding. Roads are categorized according to their characteristics and proposed to be illuminated as needed (Figure 3).⁵



Figure 3. Kemeralti Lighting Master Plan. (Arup, 2018)

LIGHTING PROPOSAL RELATED WITH URBAN IDENTITY

Urban identity is a cultural hallmark that encapsulates a city's unique essence, setting it apart. The city's social structure, evolving through history, shapes its physical form. Geographical features, architectural styles, and social lifestyles contribute to the city's identity. Distinctive physical, cultural, socioeconomic, and historical factors enhance the city's imaginability.

Kevin Lynch's seminal 1960 study, "The Image of the City," identifies urban image elements based on human perceptions, usage, and movements: pathways, edges, districts, nodes, and landmarks. These elements also inform the strategies for urban lighting master plans, ensuring that lighting enhances the city's identity and legibility.

A lighting plan with a planned layout and design emphasizes urban identity and regional characteristics. Illuminating only the elements of urban identity in the urban whole makes other complex situations invisible and makes the city more authentic and beautiful. Especially in historical cities, an aesthetic silhouette is captured with architectural structures illuminated at night, and the urban identity that exists during the day is emphasized more intensely at night. The illumination of historical values significantly affects the preservation and transfer of these structures to the future and their memory. This study builds on the findings of previous Ok's master theses that have examined the integration of urban identity into lighting projects. It presents a comprehensive lighting master plan for the Balat region, a location renowned for its rich urban identity.⁶ Balat was chosen for its potential to serve as a model in which lighting design can both highlight and reinforce unique urban

characteristics. By analyzing various scenarios and approaches documented in earlier research, this study thoroughly assesses the urban identity elements of Balat. The proposed lighting strategies are meticulously designed to align with and enhance the area's historical and cultural significance. The insights gained from these theses have been crucial in developing a plan that not only provides illumination but also preserves and celebrates the distinctive character of Balat's urban fabric.

BALAT DISTRICT

Balat is located in the northern part of the Historical Peninsula region, in the Golden Horn's southern part between the Ayvansaray and Fener districts. Its opposite shore neighbor is the Kasımpaşa district of the Beyoğlu district.⁷ Balat is a region that has witnessed the Byzantine, Ottoman, and Republican periods (Figure 4). Balat is a region that has always been considered the most essential part of the city, thanks to its location and strategic importance.⁸ It has an increasingly urban identity that has become a particular part of the city throughout history, containing traces of many civilizations.⁹

About the district, which hosts many cultures together, Jak Deleon, in his book titled *Balat and Its Environment: Conquest of Istanbul and the Golden Horn Districts*, says: "...The Balat District, on the banks of the Golden Horn, where the Jewish community was concentrated after the 17th century, is a colorful cultural mosaic with its Jews, Muslims, Greeks, and Armenians."¹⁰

He said Balat was like a "microcosm" satellite of Istanbul."

The historical peninsula's urban traces, buildings, monuments, city walls, and location have given Balat an urban identity. The historical identity of the Balat region, which was analyzed through the city's components, was the guiding factor for the Lighting Master Plan proposal. When Balat is examined under the headings of City Image, Balat has memorable urban identity features.

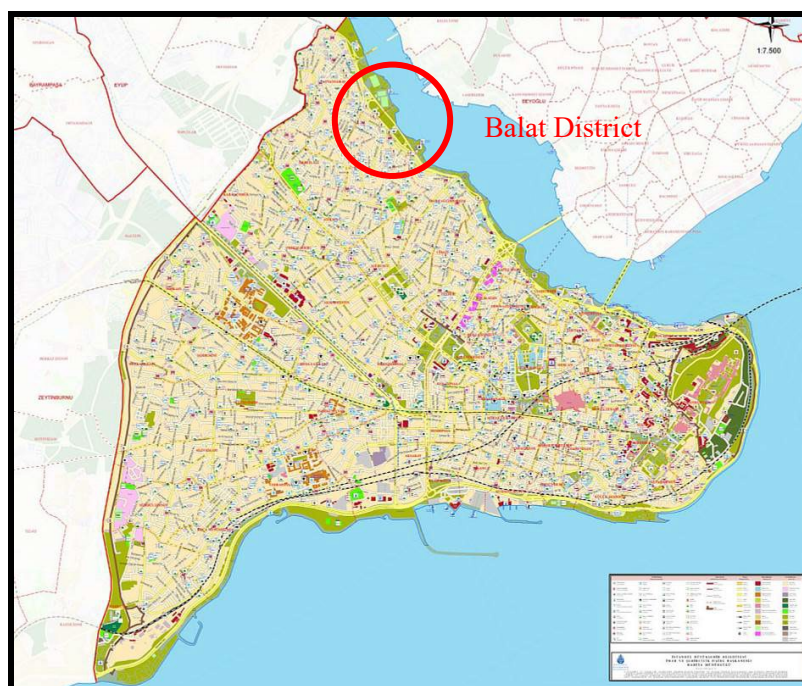


Figure 4. Guide Map showing the location of Balat District in the Historical Peninsula. (cbssr.ibb.gov.tr/sehirharitasi)

Balat District Site Analysis

In this section, a regional analysis of Balat will be made in terms of urban lighting for the proposed lighting master plan study, and the importance of its location within the city, its historical development, and urban lighting will be examined. The historical peninsula's urban traces, buildings, monuments, city walls, and location have given Balat an urban identity. The historical identity of the Balat region, which is analyzed through the components that make up the city, has been a guiding factor in this study for the Lighting Master Plan proposal of the Balat region.

According to Lynch's criteria, the Balat Region is discussed as follows;

- Roads: Ayvansaray -Mürselpaşa Street, Yildirim Street and Vodina Street
- Edges: Boundaries, Coastline, city walls
- Zones: Commercial and Residential zones, Religious and cultural zones, Recreation zones
- Nodes: Entry points to the region, Intersections
- Landmarks: Buildings with identity value and impact on the silhouette in Balat (Figure 5).

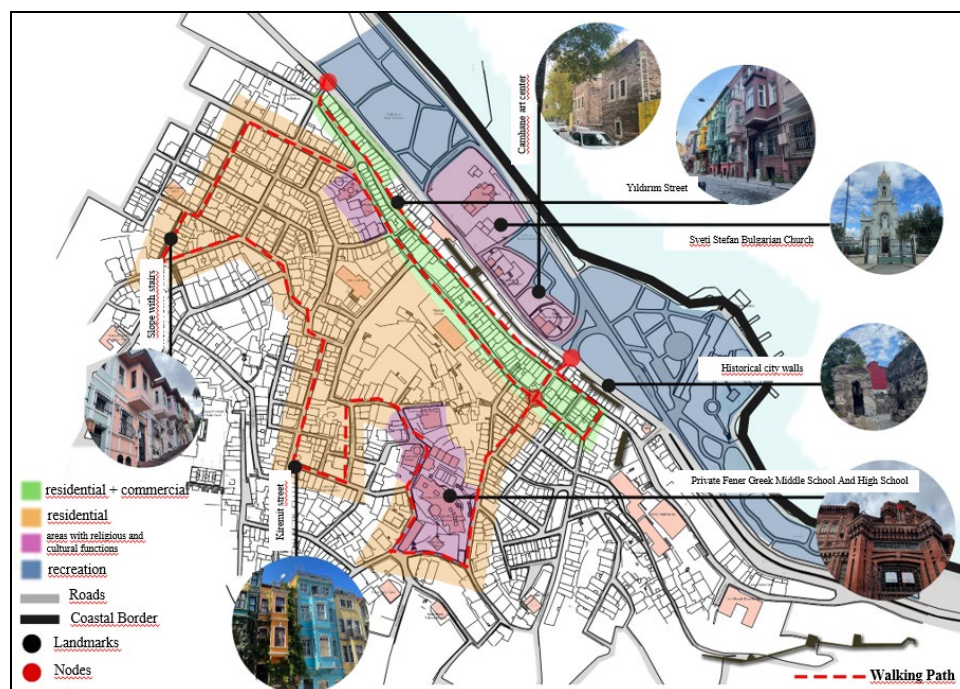


Figure 5. Balat Analysis map according to Kevin Lynch's five elements

Balat District Current Situation Analysis

On the streets of Balat, sodium vapor light sources with a color temperature of 2200K are used. In addition, at specific points, 6500K color temperature illuminations, which seem to have been added later, are used.

When the relationship between historical texture and color temperature is examined, it is understood that the current situation has become a mess. Catenary system lighting is used on the streets.

In the determined scenario, the current lighting conditions of the buildings and areas targeted to be added to the urban identity at night are given below (Figure 6).

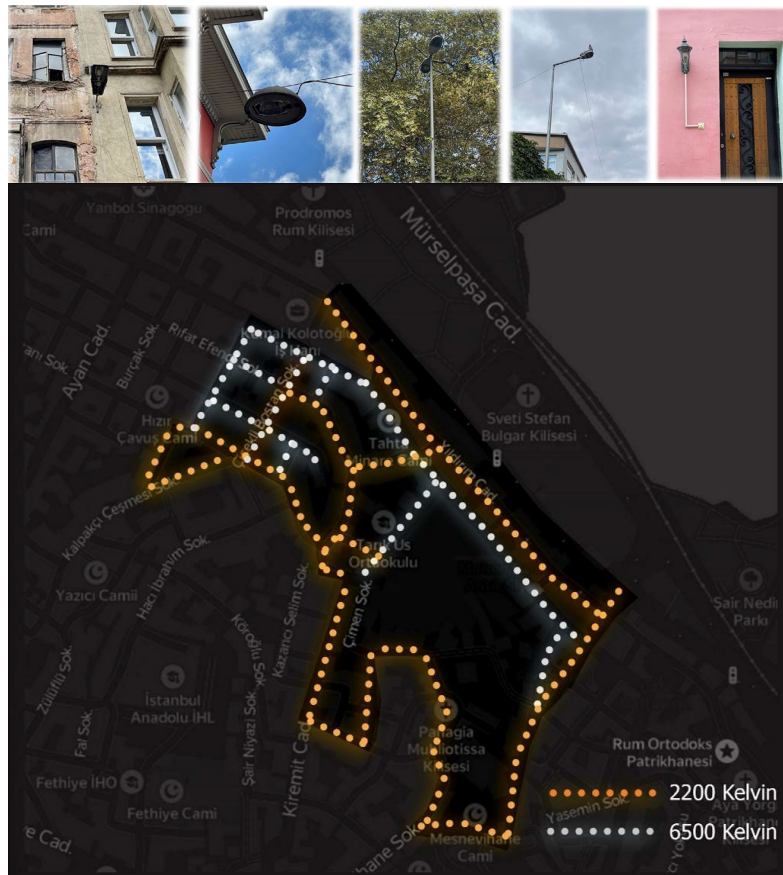


Figure 6. Lighting elements used in Balat district and Sodium vapor lamps color temperature display for working area.

Balat is a neighborhood located on the shores of the Golden Horn and has a solid coastal silhouette. Especially Fener Greek Secondary School, visible from the opposite coast, disappears in night's darkness. There is no lighting system. Such an imposing and powerful building is lost in the dark. There is a facade lighting system for the Stevi Stefan Bulgarian Church. Balat, the living space of many different communities since the past, has taken its current form by bringing traces from the past to the present. This identity needs to be conveyed to the city users and visitors with lighting at night.



Figure 7. - Entrance to Balat from Mürselpaşa Street and Sancaktar Slope. Yıldırım Street daytime and night view.

Entry point to Balat from Mürselpaşa Street (At the entrance point to Balat): Excessive light and dark spots are observed. In addition to the wrong luminaire selection and positioning, different color temperatures were used, confusing the area (Figure 7).

Sancaktar Slope: The street is dazzlingly overlit. At the end of the street is the Fener Greek Secondary School, which is marked on the hill. Lost in the darkness, this castle-like structure is further obscured by the luminaire in the viewpoint, which does not illuminate the right direction.

Yıldırım Street: There was no lighting design on Yıldırım Street, which is located in the Residential + Commercial zone. The street is illuminated with a catenary system. There are pretty dark areas. Catenary lighting illuminates the 1st floor quite a lot. There is no color perception (Figure 7).



*Figure 8. -Kiremit Street daytime and night view.
-Stevi Stefan Bulgarian Church daytime and night view.
-Private Fener Greek Middle School daytime and night view.*

Kiremit Street: There are only two lighting elements on this Street, one of the points visitors prefer due to its facade colors and architectural features. Very dark spots give a sense of anxiety and danger. The position and orientation of the luminaire are wrong. The direction of the light and the illumination level should be appropriate by using a system suitable for the historical urban texture (Figure 8).

Stevi Stefan Bulgarian Church: There is an existing lighting design. There is no lighting in the green area where it is located. The entire building is illuminated remotely, and only the main entrance door and side doors are emphasized with different-temperature lights. In addition, this study proposes highlighting the rose windows, roof parapet, tower, and dome, essential architectural features with lighting design (Figure 8).

Private Fener Greek Middle School;

- There is no existing lighting design.
- It is very effective on the silhouette of the Golden Horn.
- Since the building is located in a residential area and on narrow streets where the buildings are close, the lighting design should be done carefully. A wrong lighting design can leave the people living in the neighborhood very uncomfortable.
- In this study, it is suggested that it should be included in the lighting design as a color, and its dome and eaves should be emphasized in the lighting design in terms of architectural value (Figure 8).

A LIGHTING DESIGN PROPOSAL FOR THE BALAT DISTRICT

Lighting design within the scope of the walkway should be applied differently according to the functions. The lighting design of the area with commercial function and the area with residential function should not be the same. As analyzed above, both designs that will disrupt visual comfort and applications that use more energy should be made more appropriate in residential areas. LEDs, which are both long-lasting and energy-efficient, should be encouraged as a light source (Figure 9).



Figure 9. Balat District Lighting Master Plan Proposal.



*Figure 10. -Sveti Stefan Bulgarian Church
-Private Fener Greek Middle School
-Buildings On The Stairs*

Sveti Stefan Bulgarian Church

The current situation analysis states that the Church has an existing facade lighting. However, considering the architectural features, it is suggested that the doors with different color temperatures and the rose windows should be included in this highlighting. In addition, the detailed roof parapet on the eaves molding and the tower and dome that give the building its identity should be included in the lighting design (Figure 10).

Private Fener Greek Middle School

The lighting design of this building should not disturb the people living in the neighborhood. Illuminating the entire structure or emphasizing all the details is unhealthy for the adjacent order and the immediate surroundings. Lighting that emphasizes the tower and the eaves molding, which stand out as architectural elements, is recommended (Figure 10).

Buildings On The Stairs

The eaves are illuminated with stripping without causing light to scatter around. In this way, the architectural feature is emphasized. In addition, the bottom of the bay windows are stressed with a linear light source. To prevent the stairs from being unsafe in the dark, the steps are illuminated to provide both safety and an aesthetic effect. The luminaires used at the door entrances are intended to give a sense of security as they will create brightness at approximately eye level (Figure 10).

CONCLUSION

This study builds on prior master theses that investigated the integration of urban identity within lighting projects, culminating in a comprehensive lighting master plan for the Balat region, an area renowned for its rich urban identity. The selection of Balat as a model area underscores its potential to exemplify how lighting design can both highlight and reinforce the unique urban characteristics of a neighborhood. By systematically analyzing various scenarios and methodologies documented in existing research, this study identifies and evaluates the key elements that define Balat's urban identity. The proposed lighting strategies are meticulously designed to align with and enhance the historical and cultural significance of the area, ensuring that the plan not only provides effective illumination but also preserves and accentuates Balat's distinctive urban fabric.

When applied within a well-conceived framework, urban lighting transcends its basic functional role to become an art form with considerable social benefits. It enhances public safety, fosters a sense of community cohesion, and contributes to a vibrant urban environment. Strategically illuminated historical sites play a crucial role in reinforcing the city's character, attracting both residents and tourists, and positioning the city as a desirable destination.

The lighting master plan proposed for Balat exemplifies these benefits by reinforcing the neighborhood's historical identity, improving safety during nighttime hours, and fostering a vibrant community atmosphere, thereby enhancing its appeal to both residents and visitors.

This study, titled "Lighting Master Plan Proposal for the Balat Neighborhood," addresses critical considerations such as urban identity, public safety, energy efficiency, and the smart city concept within a comprehensive planning framework. The proposed lighting designs are carefully tailored to respect and enhance Balat's architectural character and urban identity.

In conclusion, this study highlights the essential need for a comprehensive Lighting Master Plan that encompasses the entire city, integrating the city skyline and all urban values into a cohesive whole. The data and analyses presented provide a robust foundation for the development of such a plan, ensuring that Balat's unique identity is both preserved and celebrated through informed and effective urban lighting strategies.

NOTES

- ¹ “Lighting Master Plans” Professional Lighting Design Turkey, accessed January 25, 2022, <https://issuu.com/pldturkiye/docs/sayi-41>
- ² “Lyon, France, City of Light: 1989-1999” Light Zoom Lumière, accessed March 25, 2023, <https://www.lightzoomlumiere.fr/english/lyon-france-city-light-1989-1999/>
- ³ “Lighting Masterplan” Susanna Antico Lighting Design Studio, accessed April 1, 2023, <https://wp.anticos.eu/light-ting-masterplan/>
- ⁴ “The modern face of Kemeraltı” Izmir Metropolitan Municipality, accessed April 1, 2023, <https://www.izmir.bel.tr/tr/News/50035/156>
- ⁵ “Kemeraltı Lighting Master Plan” Professional Lighting Design Turkey, accessed April 4, 2023, <https://pldturkiye.com/kemeralti-aydinlatma-master-plani-izmir/>
- ⁶ Ok Hanife, “A Lighting Design Proposal for the Balat District.” (MSc diss., Istanbul Kultur University, 2022), YökThesis (730172)
- ⁷ “Districts Of Istanbul” Great Istanbul History, accessed March 20, 2023, <https://istanbultarihi.ist/85-istanbulun-ilceleri?q=balat>
- ⁸ “Neighborhoods of Istanbul: Balat with its Colorful Streets” Governorship Of Istanbul, accessed March 22, 2023, <http://istanbul.gov.tr/istanbulun-semtleri-rengrenk-sokaklariyla-balat>
- ⁹ Dogan Kuban, “Historical Structure of Istanbul,” *Mimarlik Dergisi*, May, 1970, accessed June 05, 2021, <https://www.nytimes.com/2023/12/13/well/eat/flax-seeds-benefits.html>
- ¹⁰ Lütfi Kavalcı, “Balat's Spatial Development Process.” (MSc diss., Istanbul University, 2010), YökThesis (262837)

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THE IMPACT OF TRANSFORMING STREETS INTO BOULEVARDS WITH THE INTENTION OF EMBODYING THE ESSENCE OF PUBLIC SPACE

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INTRODUCTION

In urban development, streets are increasingly viewed not only as conduits for movement but as vibrant public spaces integral to the social fabric of cities. Across the world, cities have transformed streets into boulevards, aiming to enhance pedestrian accessibility, encourage social interaction, and improve environmental sustainability. This approach aligns with principles of urban livability, advocating for spaces that prioritize people over vehicles.¹ Jordan has also attempted to shift toward pedestrian-friendly designs, notably in Amman, where streets such as Al Wakalat, Rainbow, and the third street, Al Sharea'a, remains a vehicular street but is under consideration for future pedestrianization. Al Wakalat Street, though originally designed as a pedestrian zone, has struggled to attract consistent usage, while Rainbow Street has shown relatively better success as a public space.²

This paper presents a comparative analysis of these three streets and the aim is to provide more comprehensive recommendations for the design and development of Al Sharea'a Street as a pedestrian-friendly space. Employing both quantitative and qualitative methods, we will use isovist, wind, and shadow analyses, supported by 3D modeling with Grasshopper, to examine environmental factors affecting the street's usability. Grasshopper allows for the construction of detailed 3D models of Al Wakalat Street, simulating factors such as pedestrian flow, visibility, sunlight exposure, and spatial layout. Through these simulations, we aim to identify elements contributing to the street's underuse, such as limited accessibility, insufficient shading, and lack of visual appeal. By analyzing these variables, this study seeks to provide insights into improving pedestrian-friendly zones in Amman especially Al Sharea'a Street, which is currently under consideration and inform future urban design strategies that prioritize the public realm.

RESEARCH SETTING

Al Wakalat Street

In 2007, following Jan Gehl's master plan to improve public spaces across Amman, a proposal was introduced to transform Wakalat Street into a fully pedestrianized zone. Rami Al-Daher was assigned the task of refining and implementing the design details. Known as the "Street of the Brands," Wakalat Street is situated in an upper-middle-class neighborhood, featuring branches of high-end retail franchises accessible only to a limited portion of the city's population.³ Before its

pedestrianization, Wakalat Street experienced significant traffic issues but remained active due to limited alternative shopping centers, as malls were not yet prominent in Amman.⁴

Following pedestrianization, shop owners raised concerns over decreased patronage, reporting that the street was now attracting primarily young people who used it as a social and recreational space rather than for shopping. This shift, coupled with limited nearby parking, led many shoppers to frequent malls, which were becoming more popular in Amman.⁵ At the time, Amman's mayor, Omar Ma'ani, explained that these young visitors gravitated to Wakalat Street because the city lacked other recreational areas, predicting that additional pedestrian projects might distribute the crowds more evenly.⁶

In 2011, Amman elected a new mayor, and by 2014, a vehicle lane was reinstated on Wakalat Street to address retailers' concerns. However, as Qatanani,⁷ the street remained relatively inactive, with shoppers opting for malls and outlets that provided easier access. Additionally, economic challenges contributed to a reduced interest in branded goods, affecting the street's overall commercial activity.

Rainbow Street

The pedestrianization of Rainbow Street was a key element of Amman's 2008 masterplan, which sought to enhance pedestrian accessibility throughout the city. Since the 1980s, Rainbow Street had been a lively, mixed-use area. To implement the project, the Greater Amman Municipality (GAM) commissioned Turath Architects, who opted for minimal changes to preserve the street's character. In 2008, a 1.5-kilometer section was fully pedestrianized and opened to the public.⁸

However, this pedestrianization led to increased traffic congestion on adjacent streets, creating challenges for local residents and visitors. Consequently, in 2011, a vehicle lane was reintroduced, similar to the adjustment made on Wakalat Street. Despite this, the initiative significantly benefited Rainbow Street and the surrounding Jabal Amman neighborhood, with increased tourism, economic growth, and new recreational activities. This success was bolstered by a neighborhood committee, which organized summer markets, concerts, and other community events to maintain the area's vibrancy.⁹

Although the street's popularity has caused occasional traffic issues due to the abundance of cafés and restaurants,¹⁰ future pedestrianization projects could mitigate such problems through strategic regulations and land-use restrictions.

Al-Shari'a Street

Al-Shari'a Street is located in the historic Jabal Al-Lweibdeh neighborhood, a hilltop area to the north of Amman's Downtown. Developed in the early 20th century, this neighborhood became home to some of Amman's oldest families and notable intellectuals. Known for its cultural vibrancy, Jabal Al-Lweibdeh hosts various art galleries, schools, cinemas, language centers, and associations for literature, arts, and politics (Jabal-luweibdeh, n.d). It is also one of Amman's densest neighborhoods in terms of cultural heritage sites, with many historic buildings concentrated on Al-Shari'a Street. The area's narrow streets and shaded sidewalks contribute to its social atmosphere, where residents are often seen enjoying coffee and conversation outdoors.¹¹

In recent years, the Greater Amman Municipality (GAM) introduced a regulation allowing ground-floor spaces on Al-Shari'a Street to be used for commercial purposes. Initially, this change was well-received, as it led to the opening of new cafes and restaurants that catered to locals and encouraged visitors to linger. However, the street's popularity as a recreational destination brought challenges. Increased demand led some residents to rent their properties, resulting in a surge of small food businesses and cafes.

Currently, pedestrian traffic on Al-Shari'a Street exceeds the sidewalk capacity, forcing people onto the streets and creating conflicts with vehicular traffic. Rising car traffic has caused noise and congestion, prompting some residents and business owners to leave the area. In 2018, Al-Shari'a Street, along with Al-Ba'onieh Street, was selected by GAM as part of the Ideal Streets project. The design task was once again given to Rami Al-Daher of Turath Architects, though the project has yet to begin.¹²

LITERATURE REVIEW

The transformation of streets into boulevards has been increasingly advocated by urbanists to revitalize public space, promote walkability, and enhance social cohesion. Boulevards are considered dynamic public spaces due to their potential to accommodate pedestrians, cyclists, and vehicles while fostering a vibrant community life. Key studies have examined how such transformations impact accessibility, social interaction, and the aesthetic quality of urban environments, contributing to a more cohesive urban fabric.

Streets as Public Spaces

Historically, streets have served as the primary arena for public life, hosting a range of social activities beyond transportation. William H. Whyte's studies on public spaces underscore streets as vital stages for human interaction and the spontaneous gatherings that shape urban culture. Whyte argued that well-designed streets could promote community life, acting as social "mixing chambers" where people interact across demographics. This idea was further popularized by Jane Jacobs, who championed streets as places for "eyes on the street," creating safer and more engaging urban environments through community interaction and natural surveillance.¹³

Modern urban planning often seeks to revive the public aspects of streets, integrating principles from the New Urbanism and Sustainable Urbanism movements. These approaches emphasize streets as pedestrian-friendly, multifunctional spaces that prioritize human experience.¹⁴ For instance, Jan Gehl's work highlights the role of "human-scaled" street design in encouraging walking, lingering, and socializing, thus enhancing streets as inclusive, lively public domains. His research points out that the comfort of streets, achieved through wide sidewalks, shading, seating, and low-speed vehicular traffic, promotes an inviting space that fosters interaction.

When streets are designed or transformed to prioritize pedestrians, they often generate economic and social benefits. Studies indicate that streets supporting public life—through the provision of seating, outdoor cafes, and art installations—enhance local commerce and real estate values by increasing foot traffic.¹⁵ By supporting local businesses and attracting diverse visitors, streets function as economic engines, drawing residents and tourists alike to engage with the area, thus fostering both community identity and economic vitality.

The "Complete Streets" movement has furthered the notion of streets as public spaces by advocating for infrastructure that accommodates all users, from pedestrians and cyclists to drivers.¹⁶ This approach encourages a balance in street design, prioritizing safety and accessibility while encouraging social and environmental benefits. Southworth¹⁷ and other urbanists argue that streets designed in this way can improve public health and reduce congestion, enhancing the street's function as a civic space. Complete Streets offer a holistic model for reimagining urban roads as spaces that support diverse activities, including recreational use, commuting, and social gathering.

Key elements in transforming streets into effective public spaces include ample seating areas, greenery, pedestrian walkways, and public art installations. These design features encourage people to linger, relax, and interact, enhancing the streets' social function. Research indicates that such elements not only improve the aesthetic appeal of streets but also contribute to mental well-being by providing

accessible spaces for relaxation and socialization.¹⁸ Incorporating greenery, for example, is shown to reduce stress and promote physical activity, further reinforcing the street as an inviting public space.

Environmental and Climatic Benefits

The environmental impact of boulevard transformations is another focal point in urban studies. By integrating green infrastructure such as trees, vegetation, and water features, boulevards contribute to urban cooling and improved air quality, which makes streets more comfortable and inviting for users¹⁹ demonstrates that shading from trees along boulevards reduces the urban heat island effect, creating a microclimate that encourages year-round pedestrian use, especially in warmer climates.

Case Studies of Boulevard Transformations

Transformative projects like the Champs-Élysées in Paris and Avenida Paulista in São Paulo demonstrate the potential of boulevards to redefine urban life. These case studies showcase how pedestrianization and boulevard-style design can improve both aesthetic appeal and social functionality, becoming not just routes but destinations.²⁰ Furthermore, highlights that such transformations often increase property values and local economic activity by making areas more desirable for businesses and residents alike.²¹

In addition, Istiklal Street, one of Istanbul's most famous avenues, it stretches through the historic Beyoğlu district and has been a prominent cultural and commercial center since the Ottoman era. Initially a roadway for vehicles, Istiklal was gradually pedestrianized in the 1990s to reduce congestion, noise, and pollution, ultimately transforming it into a pedestrian boulevard. This transformation aimed to accommodate the high foot traffic of shoppers, tourists, and locals while enhancing the street's accessibility and appeal.

The literature indicates that transforming streets into boulevards embodies the essence of public space by integrating social, environmental, and aesthetic dimensions. This approach aligns with broader goals of sustainable urbanism, enhancing connectivity, and providing safe, accessible, and engaging spaces for the public. As such, boulevard transformations are not merely aesthetic upgrades but essential steps toward fostering inclusive, walkable, and vibrant urban environments.

METHODOLOGY

This study employs a mixed-methods approach, integrating quantitative analyses of environmental factors with qualitative observations to evaluate and enhance pedestrian-friendly design. The research is conducted on three streets in Amman: Al Wakalat Street, Rainbow Street, and Al Sharea'a Street. Al Wakalat and Rainbow Streets have undergone pedestrian-friendly transformations, while Al Sharea'a Street has yet to be developed for such use. This comparative analysis aims to derive actionable recommendations for making Al Sharea'a Street a more inviting and walkable public space.

Quantitative Components

Isovist Analysis:

Objective: To assess visibility in seating and gathering areas, providing measurable insights into sightlines and spatial openness on each street.

Process: Isovist analysis is performed using Grasshopper software to generate visibility polygons from various points along the streets. The isovist calculations measure the percentage of visible areas from key pedestrian viewpoints.

Data Collection: Numerical data is collected for each isovist polygon, including the visible area percentage. These values are compared across the three streets to identify areas of limited visibility and potential design improvements.

Shadow Analysis:

Objective: To quantify the degree of shadow coverage on seating areas, which impacts thermal comfort and usability of spaces during different times of day.

Process: Shadow simulations are carried out using Rhino and Grasshopper, taking into account seasonal variations. Data is gathered on the duration and extent of shadow cover for each location, indicating which areas provide adequate shading for user comfort.

Data Analysis: The shadow coverage results are compared quantitatively across all three streets to assess current levels of comfort and inform design recommendations for Al Sharea'a Street.

Wind Analysis:

Objective: To evaluate wind speeds and directions, which affect pedestrian comfort, particularly in seating areas and along pedestrian pathways.

Process: Wind simulations are conducted using computational fluid dynamics (CFD) models in Grasshopper. Wind speed data is collected at human height (1.5m) along pedestrian zones and seating areas.

Data Interpretation: Average wind speeds and gust frequency are analyzed to identify areas with optimal comfort conditions. Comparative analysis across the streets informs recommendations for mitigating uncomfortable wind exposure on Al Sharea'a Street.

Qualitative Components

Photographic Documentation:

Objective: To visually document the spatial context, user behaviors, and environmental conditions that complement and validate quantitative findings.

Process: Photographs are taken at key points to capture seating area usage, visibility, and shadow coverage, showing real-time user engagement and environmental context.

Data Analysis: The images are reviewed in conjunction with isovist and shadow data to provide a comprehensive view of how spatial factors influence user behavior. Photographs also serve as a visual record of user interactions, further supporting qualitative insights.

Data Synthesis and Comparative Analysis

The study's mixed-methods approach allows for a comprehensive comparison of all three streets. Quantitative findings on visibility, shadow coverage, and wind speed are analyzed statistically to predict and compare user experiences. Meanwhile, qualitative insights from observations and photographic documentation provide a human-centered perspective on street usability, comfort, and engagement. Together, these data inform design recommendations for Al Sharea'a Street, aimed at enhancing its functionality and appeal as a pedestrian-friendly boulevard.

DISCUSSION

Isovist Analysis

Objective: Evaluate the visibility and visual access from different points on the streets.

Process:

Use Grasshopper to generate isovist fields from various key locations along each street.

Analyze the extent and shape of isovists to understand visibility and potential hidden spots.

Data Collection: Record the visual coverage, identify areas with poor visibility, and compare the results among the three streets.



Figure 1. The Isovist analysis for AlWakalat Street.

Rainbow Street



Figure 2. The Isovist analysis for Rainbow Street.

An isovist analysis represents the visible area from a particular vantage point and is often used in urban design to assess sightlines, accessibility, and perceived openness of a space.

Comparing Visibility and Accessibility:

In the images, areas highlighted in yellow represent the visible spaces from various vantage points along the streets, with red outlines boundaries of visibility or points where the view is restricted.

Rainbow Street shows a more continuous visibility with several open nodes (wider areas) along the street, indicating good sightlines and visual accessibility in these spots. This could contribute to a feeling of openness and security for pedestrians, as people can see and be seen from multiple points.

Wakalat Street (see figure 1), in contrast, has fewer visible nodes and a more linear flow. This limited visibility might contribute to a less engaging pedestrian experience, as the restricted sightlines can create a sense of enclosure or reduce the feeling of safety, potentially discouraging pedestrian activity.

Spatial Configuration

Rainbow Street appears to have a spatial configuration with larger (see figure 2), open public spaces distributed along the street, as seen in the wider yellow areas. These spaces could serve as gathering points or areas for social activities, enhancing its function as a public space.

The lack of such open nodes along Wakalat Street suggests it may feel more like a transit route than a destination. This spatial layout could be a factor in its limited success as a pedestrian-friendly area, as it does not encourage people to linger.

Impact on Pedestrian Flow and Use:

The open areas along Rainbow Street facilitate smoother pedestrian flow, as people can comfortably navigate these spaces and visually connect with different parts of the street. This layout likely contributes to its relative success as a pedestrian-friendly area.

Wakalat Street’s restricted visibility and narrow spaces likely hinder pedestrian movement and limit gathering spots, affecting how people use and experience the space. The linear flow and lack of visual interest may contribute to its underutilization.

Environmental and Social Factors:

The isovist analysis shows that Rainbow Street has environmental and social qualities that make it more appealing, such as spaces that can support shading, seating, and social interactions. These attributes align with successful boulevard characteristics, enhancing pedestrian comfort.

For Wakalat Street, addressing the identified issues could involve introducing more open nodes or public spaces along the street and improving sightlines. This could involve restructuring certain areas to make it more visually accessible and socially engaging.

Al-Shari’a Street



Figure 3. The Isovist analysis for Al-Shari’a Street.

Similar to Rainbow Street, Al-Shari’a Street (see figure 3) also exhibits key features in the isovist analysis that make it conducive to pedestrian use and social engagement. Both streets have multiple open nodes and visually accessible areas, creating a sense of openness that enhances the pedestrian experience. This configuration supports visibility and wayfinding, allowing pedestrians to see and access various parts of the street easily. The presence of wider spaces along the street encourages social interaction and provides potential spots for gathering or rest, reinforcing its function as a public

space. These visual characteristics make Al-Shari'a Street comparable to Rainbow Street in fostering an environment that invites people to linger, socialize, and engage with space.

This comparison emphasizes how the isovist analysis reveals spatial qualities that contribute to the success of both streets as pedestrian-friendly areas, highlighting their design as functional public spaces.

Visual Analysis

- Objective: Examine the aesthetic and perceptual quality of the streets.
- Process: Conduct visual comfort and attractiveness analysis using both field observations and digital simulations. Utilize street view imagery and Grasshopper to assess elements like vegetation, building facades, and urban furniture.
- Data Collection: Gather qualitative and quantitative data on visual appeal and pedestrian comfort.

Al Wakalat Street

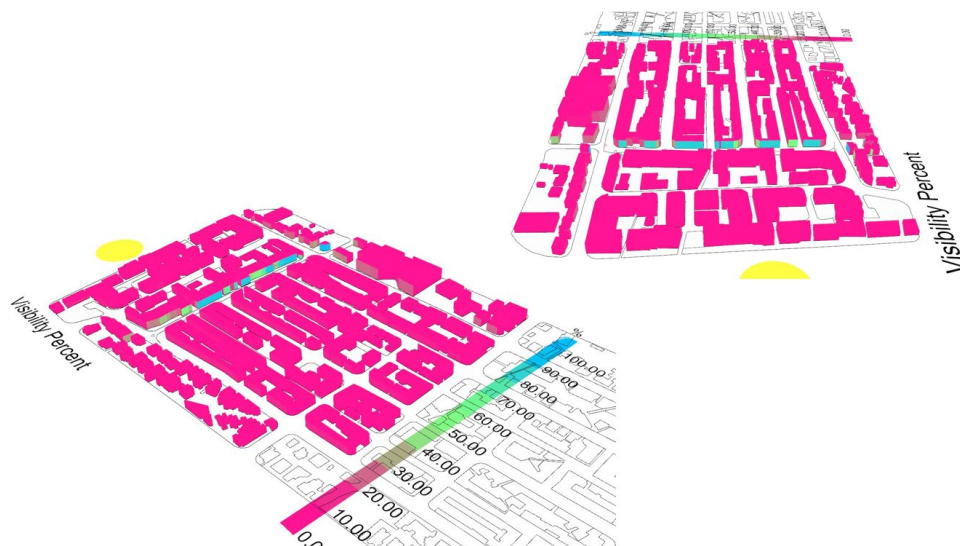


Figure 4. The Visibility analysis for Al Wakalat Street.

Rainbow Street

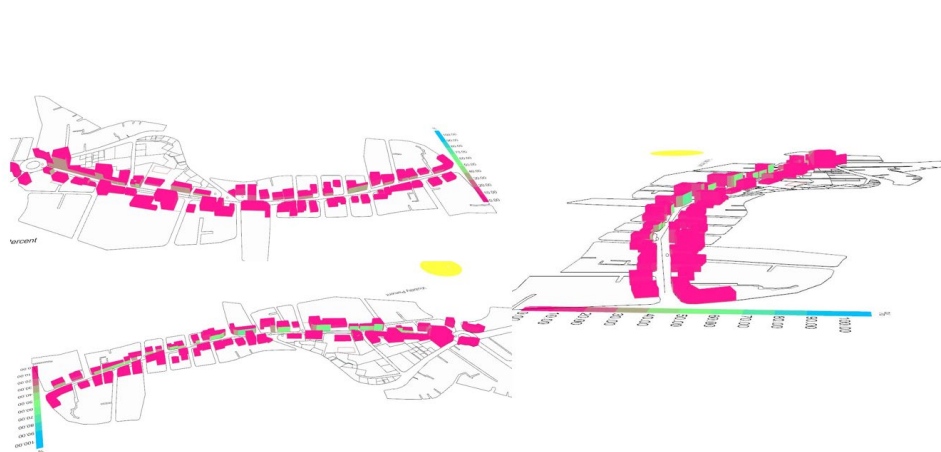


Figure 5. The Visibility analysis for Rainbow Street.

In the visibility analysis of Al Wakalat Street, it is evident that the elevations of buildings along the street are highly visible from entrances and intersections, with visibility ranging between 60% and 100% (see figure 4). However, despite this high visibility, the large scale of these buildings in relation to human scale creates a sense of enclosure and an overwhelming spatial experience for pedestrians. The continuous attachment of these buildings along the street also contributes to a more rigid and less inviting environment, as it limits the sense of openness and variation that can make a street feel more engaging for pedestrians.

In contrast, Rainbow Street demonstrates a different spatial character due to its lower building scale, where most buildings do not exceed one floor. With visibility levels around 50% (see figure 5), the buildings on Rainbow Street are closer to human scale, making the environment feel more intimate and approachable. This lower visibility percentage is balanced by the more human-friendly building heights, which enhance the pedestrian experience and support social interaction. The smaller scale and varied design elements of the buildings make Rainbow Street a more comfortable space for pedestrians, allowing for better connection and engagement with the surrounding environment. This contrast highlights how the relationship between building scale and visibility can influence the effectiveness of streets as pedestrian-friendly, socially active spaces.

Al-Shari'a Street

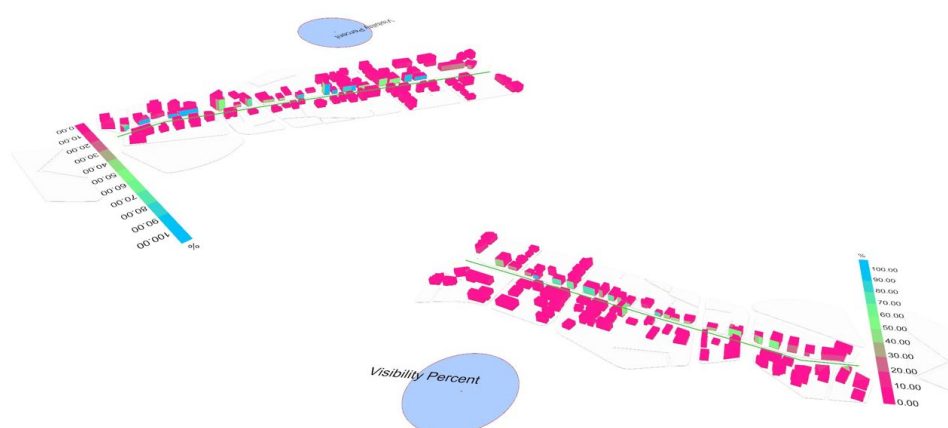


Figure 6. The Visibility analysis for Al-Shari'a Street.

Al-Shari'a Street shares similarities with Rainbow Street in its pedestrian-oriented design (see figure 6), featuring buildings that are generally close to human scale and therefore create a more approachable, comfortable environment for pedestrians. The visibility analysis reveals that most building elevations on Al-Shari'a Street have a visibility percentage between 60% and 100%, allowing them to be easily seen from various points along the street and from intersections. Additionally, the street layout includes multiple intersections, enhancing the sense of openness and providing varied perspectives that enrich the pedestrian experience. These elements collectively support the street's potential as a lively, socially engaging public space.

Shadow Analysis

- Objective: Assess the impact of shadows on pedestrian comfort and usability.
- Process:

Use Grasshopper with Ladybug tools to simulate shadow patterns at different times of the day and year. Focus on key areas such as entrances, intersections, and seating areas.

- Data Collection: Measure the duration and intensity of shadows and identify areas that remain in shade or sun for extended periods.

Al Wakalat Street

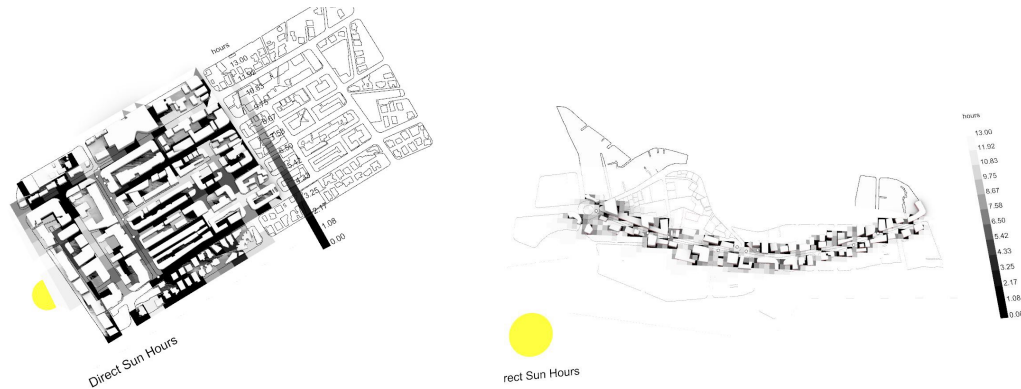


Figure 7. right: The Shadow analysis for Al Wakalat Street. Left: The Shadow analysis for Rainbow Street.

The shadow analysis for Al Wakalat Street (see figure 7) shows direct sun exposure ranging from 5.42 to 8.67 hours along the street, indicating that the street is predominantly shaded due to the surrounding tall buildings. In contrast, Rainbow Street (see figure 7) experiences direct sun exposure between 8.67 to 13 hours, with sun exposure in seating areas averaging around 8.67 hours, providing a more balanced mix of sunlight and shade for pedestrians.

Al-Shari'a Street



Figure 8. The Shadow analysis for Al-Shari'a Street.

The shadow analysis for Al-Shari'a Street shows similar characteristics to Rainbow Street. Both streets receive comparable levels of direct sunlight, creating a balance between shaded and sunlit areas throughout the day. This similarity suggests that both streets benefit from a comfortable level of shading due to their surrounding buildings, which are close to human scale. This balance of sunlight and shade helps create a pedestrian-friendly environment, enhancing the streets' usability and appeal as public spaces (see figure 8).

Wind Analysis

- Objective: Understand the wind environment and its effects on pedestrian comfort and street usability.

- Process:

Use Grasshopper with Butterfly (CFD plugin) to simulate wind flow patterns. Analyze wind speed and direction at key pedestrian zones, focusing on entrances, intersections, and seating areas.

- Data Collection: Identify areas prone to high wind speeds and assess their impact on pedestrian experience.

Al Wakalat Street

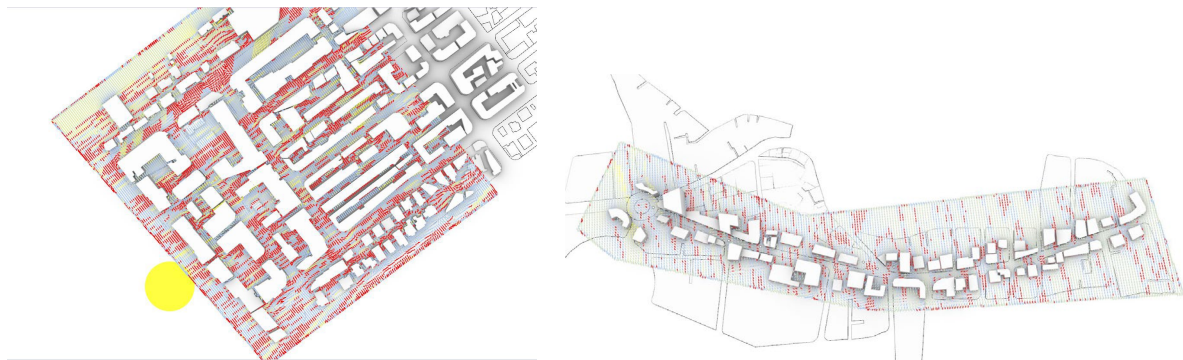


Figure 9. right: The Wind analysis for Al Wakalat Street. Left: The Wind analysis for Rainbow Street.

Al-Shari'a Street

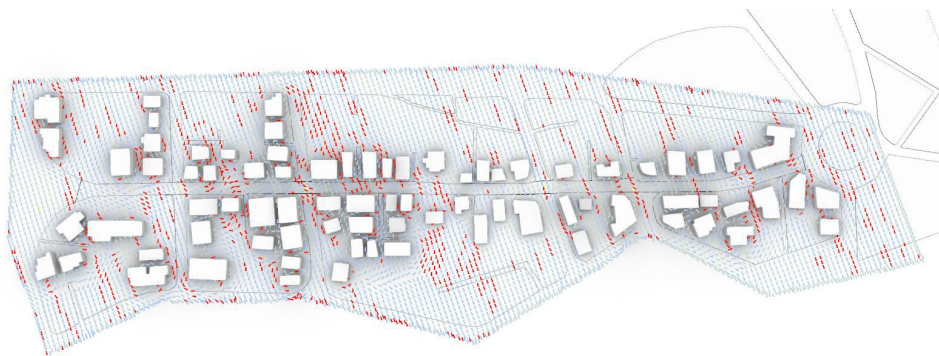


Figure 10. The Wind analysis for Al Shari'a Street.

These images show the results of a Computational Fluid Dynamics (CFD) wind analysis conducted on three streets -Al Wakalat Street, Rainbow Street, and Al-Shari'a Street- using Grasshopper software. Each analysis illustrates the wind flow and pressure patterns along these streets, highlighting areas of wind exposure and protection influenced by the surrounding buildings.

For Al Wakalat Street (see figure 9), the wind patterns indicate limited flow in certain areas due to tall buildings on either side, which can block the wind and create areas of low ventilation. This structure may reduce the comfort level in hot weather by trapping heat and limiting natural cooling.

In contrast, Rainbow Street (see figure 9) shows more dispersed wind flow, with a more open layout that allows for improved air circulation. The relatively lower building heights along Rainbow Street

contribute to a balance between exposure to wind and sheltered zones, which can enhance pedestrian comfort by promoting ventilation without creating strong wind tunnels.

Lastly, Al-Shari'a Street (see figure 10) demonstrates characteristics similar to Rainbow Street, where the wind flow is generally distributed along the street, benefiting from multiple intersections and lower buildings that allow wind to pass through. This design likely helps moderate the temperature and air quality, making it a more comfortable environment for pedestrians.

Parking Lots

- Objective: is to determine whether car users can effectively utilize parking lots in the areas surrounding Al Wakalat Street, Rainbow Street, and AlShari'a Street.

- Process:

extensive field observations to gather data on the current parking lot infrastructure in each of the three streets. Observations included noting the number, location, and capacity of parking lots, as well as the ease of access and usage patterns by car users.

- Data Collection: The analysis focused on several key aspects:

Availability of Parking Lots: Identifying the number and distribution of parking lots in each street.

Accessibility: Assessing how easily car users can access these parking lots from the main street. Then, utilization: Observing the usage patterns to determine if the existing parking infrastructure meets the demand. Impact on Walkability: Evaluating how the presence or absence of parking lots influences the walkability and pedestrian experience of each street.

Observation of parking facilities reveals a notable difference between Al Wakalat Street and Rainbow Street. Al Wakalat Street has only one designated public parking area, while the majority of parking options are paid. This limited availability of public parking may discourage visitors, especially those who are not inclined to pay for parking, thus impacting the street's accessibility and attractiveness as a pedestrian destination. The reliance on paid parking could contribute to lower foot traffic and deter community engagement.

In contrast, Rainbow Street has two public parking areas strategically placed—one at the entrance and another in the middle of the street. These convenient parking options make it easier for visitors to access various sections of the street, which could contribute to its popularity. Additionally, Rainbow Street hosts numerous community-oriented activities, such as Souk Jara (Jara Market), which supports local vendors and invites community involvement. This combination of accessible public parking and community-focused events is one of the key factors behind Rainbow Street's success as a vibrant, pedestrian-friendly space.

Al-Shari'a Street

Al-Shari'a Street offers convenient parking options similar to Rainbow Street, with three public parking areas available for visitors, one located at the entrance and two positioned in the middle of the street. This arrangement allows easier access to different parts of the street and supports pedestrian flow, potentially enhancing the appeal of the street for both locals and visitors. The availability of multiple parking areas makes it more accessible and encourages foot traffic, contributing to its functionality as a pedestrian-friendly space.

CONCLUSION

Al Wakalat Street provides high visibility and ample shading but may feel imposing and less ventilated due to the larger buildings and limited airflow. Rainbow Street offers a more human-scale environment with balanced sunlight and effective ventilation, making it more inviting and socially active. Al-Shari'a Street, closely resembling Rainbow Street, also provides a pedestrian-friendly scale,

balanced sun exposure, and good air circulation, making it a comfortable and appealing street for the local community.

This comparative analysis highlights that Rainbow Street and Al-Shari'a Street's design choices, with attention to human scale, visibility, and environmental comfort, contribute to their success as vibrant pedestrian spaces.

To enhance Al-Shari'a Street's pedestrian experience, the design should incorporate more public amenities and seating areas along the street. Adding shaded seating and benches at regular intervals can make the space more inviting, encouraging people to linger and engage with the surroundings. Additionally, accessible and well-located public parking near the entrance or mid-section would make it easier for visitors to access the street without congesting pedestrian pathways. This approach could help Al-Shari'a Street emulate some of the community-friendly aspects of Rainbow Street.

The buildings along Al-Shari'a Street are currently normal in scale, creating a good environment for pedestrians. In addition, to make it better for human-scale design features should be added to make the street feel more comfortable. Reducing building heights in new developments or adding visual elements such as awnings, planters, and decorative facades at street level could soften the overall scale. Additionally, optimizing sunlight and shading through strategic landscaping—such as planting trees and adding pergolas—can provide a balance of shaded and sunny areas, making the street more comfortable for pedestrians.

Finally, Al-Shari'a Street would benefit from community-focused activities and improved pedestrian flow. Designating areas for local markets or community events, similar to Rainbow Street's Souk Jara, could attract more foot traffic and promote local businesses. Intersections should be made more pedestrian-friendly, potentially with widened sidewalks or decorative paving, to create safe crossings and focal points for social interactions. Adjustments to building placements, open spaces, or courtyards could enhance wind flow, making the street more ventilated and comfortable. These changes would help transform Al-Shari'a Street into a vibrant, community-oriented space.

NOTES

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- ⁴ Kamila Ashour and Wael Al-Shamali, "Pedestrianization as a Strategy for Placemaking," *The Journal of Public Space*, (2020).
- ⁵ Ne'ama Qatanani, "Pedestrianizing Streets in Amman, Jordan: Contextualized Criteria for Optimum Street Selection," (2018).
- ⁶ Qatanani, "Pedestrianizing Streets in Amman, Jordan."
- ⁷ Firas Rabadi, "Cultural Heritage Buildings in Amman," (2018): Director of the Department of Urban Heritage at the Greater Amman Municipality, 16.
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- ¹³ Jacobs, *The Death and Life of Great*
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- ¹⁷ William Whyte, *The Social Life of Small Urban Spaces* (New York: Project for Public Spaces, 1980).
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MATERIAL CULTURE AND HERITAGE IDENTITY: RELATIONSHIP BETWEEN TERRACOTTA PLAQUES OF THE WORLD HERITAGE SITE OF SOMAPURA MAHAVIHARA AND LOCAL POTTERS OF NORTH-WEST BANGLADESH

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INTRODUCTION

Bangladesh a small independent nation of fifty-six thousand square miles is situated in the foothills of the mighty Himalayas. The Bay of Bengal is bordering this country's southern boundary. The alluvial soil of the mighty Ganges and Brahmaputra made the Bengal Delta one of the largest in the world. Situated in the center of the Bengal Delta, Bangladesh conveys a history of more than seven thousand years of human settlement.¹

From the middle of the Neolithic period, small agricultural societies started to form in the alluvial land of Bengal. By the 3rd century BC, powerful kingdoms were established in the Ganges plateau, as testified by Alexander the Great in 327 BC.²

A raft of challenges face new housing design, at the forefront of which is a triumvirate of interrelated needs – to make dwellings more spacious, more affordable and less damaging to the environment. Each of these is important in their own right, but are they reconcilable? Conventional thinking suggests larger dwellings cost more, as does increasing their environmental sustainability, so consequently they become less affordable.

This paper explores these apparently conflicting priorities. It draws on a broad church of research and argues that by thinking creatively it is possible to make advances in each separate area to mutual advantage. In so doing, housing can be created which is more spacious, sustainable, and affordable. These small settlements eventually produced large city centers from the foothills of the Himalayas to the Bay of Bengal. As the civilization developed art and architecture took shape as well as literature and music.

Stone or metal was always a rare material among the artisans of Bengal due to the climate and topography of Bengal. The use of wood was also not supported by the hot, humid monsoon climate of Bengal, where most of the region stays underwater for half of the year. This particular climatic and topological condition promoted the great Bengali terracotta art. The excellence in the workmanship of Bengal terracotta has reached a level that inspires scholars to study and analyze Bengali terracotta art from a global perspective.

The art and architecture of Bengal have followed the more structured form of religion. Bengal has observed at least three world religions to grow and spread in its terrain. Buddhism is one of the earliest world religions dynamically exercised in Bengal. Apart from the mainstream of Buddhism, a robust and unique school was erected in Bengal sometime in the first millennium, most probably in the fifth century or before. Its mature form is known as Vajrayana Buddhism which was officially practiced in Bengal from at least the 7th century.³ The four hundred years of Pala kingdom was the major patron for this school of Buddhism which was based on tantra. Several monasteries were built in different parts of Bengal under the rule of the Pala, Karagh, and Rata dynasty from the 8th century to the 12th century. Somapura Mahavihara is one of the largest Buddhist monasteries in the south of the Himalayas that was built in the 8th century in the northwestern part of present Bangladesh. This monastery has excelled in art and architecture and represents its period's socio-cultural and religious philosophy. After almost twelve hundred years this monastery still strongly represents its religious philosophy along with its architectural excellence. The entire wall of this monastery is clad in terracotta plaques of different symbolic representations of religious texts of Vajrayana Buddhism.

The religion has been completely abolished in Bangladesh. The beautiful terracotta art of this monastery inspired the experts of UNESCO World Heritage and other global organizations to come forward in order to conserve the technology and art. Selected local potters were trained in reproduction of terracotta and was encouraged in different way to promote this art by the potters. However, the project was not a success. The intention of this study was to look at the fact and discover the reason of this failure and the relationship of terracotta art and the local potters near the world heritage site of Somapura mahavihara.

To address the issue this research has focused on three factors related to Bengali terracotta art, Somapura mahavihara, and the local potters neighboring Somapura mahavihara. they are-

- The evolution of terracotta art in Bangladesh.
- Somapura Mahavihara- its art and architecture
- The socio-cultural context of rural Bangladesh and the life of Bangladeshi potters.

BENGAL-HISTORY AND CULTURE:

The history of this region can be divided into four large periods. The Prehistoric period (until 4th century BC.), Ancient period (4th century BC. To 12th century AD.), Medieval period (12th century AD. To 18th century AD), and Colonial and Modern period which includes colonial and modern developments (after 18th century AD). The prehistoric period stretched back almost one hundred thousand to ten thousand years BC. Many archaeological discoveries hold a high probability of permanent human settlements of the Mesolithic period.⁴ The unavailability of stone and alluvial soil in this Bengal delta diverted the prehistoric settlement towards a more agriculture-based development which was evident in later period of settlement history.

Bengal became a habitat of small agricultural societies from the middle of the Neolithic period. By the 3rd century BC, powerful kingdoms were established in the Ganges plateau, as testified by Alexander the Great in 327 BC.⁵ States of Bengal consisted of a large area widening from the Himalayan foothills to the Bay of Bengal- from north to south. In Bengali history, this period bears remarkable significance. Historic scholarship refers to extensive sociocultural movements in the ancient period of Bengal. The development of Brahminic Hindu religion, Buddhism, Jainism, and other local religions are the fruit of this timeline in Bengal.⁶

The medieval period saw the introduction of Islam in Bengal and the complete abolition of Buddhism. art, architecture, and literature have continued to evolve according to the social, and religious transformation of Bengal. However, the primary elements were not changed, their way of use has

changed along with time. Today Bangladesh, the central part of Bengal is a sovereign nation with a Muslim-majority population. The introduction of Western modernism has had a remarkable effect on the art and architecture of this country. The thousand-year-old terracotta art has taken the position on the shelf as a high art and heritage material.

THE EVOLUTION OF TERRACOTTA ART IN BANGLADESH:

The word terracotta means baked earth. Clay is a dense, viscous substance which consists of silica, generally mixed together with iron, lime, magnesia, and other coloring oxides. Clay has the capacity to turn into a smooth elastic form with the mixture of water and to mold into any shape. This particular characteristic was strongly found in Bengal clay. As a result, clay was used in all sorts of creative work starting from pots and pans, art to homes and buildings.

Terracotta as a form of excellent artwork prevailed in Bengal for a long time. The earliest established connection of terracotta in India as in Bengal can be dated back to the Indus Valley Civilization. However, the direct historical link of that connection is lost. The Bengal terracotta art has evolved itself as a high folk art over a long period. From the architectural references of ancient monasteries, medieval temples, mosques, modern mosques, the use of terracotta was found in abundance. This form of art is considered as a folk art of Bengal since the material and technology used to make terracotta are entirely indigenous and local. Not only material, but the motifs and modules of terracotta art are also created based on local themes of various categories. Traditionally two types of terracotta art are found in Bangladesh.

The first type is decorated clay pots, dolls, lamps, etc used for more miscellaneous and secular purposes. The second is the decorated plates that were used as cladding bricks on the walls of buildings, especially temples, monasteries, and mosques. This research is focused on the second type of terracotta art that was dedicatedly to use in religious structures.



Figure 1. Terracotta plaques on the wall of Somapura Mahavihara, Bangladesh.

Enamul Haq, in 2007 observed the continuous development of terracotta art in the religious field patronized by the rulers for more than six centuries.⁷ The art was rooted in folk tradition and was nourished by the incorporation of Islamic art. The practice of using terracotta started to decline in the 19th century. The modern movement, and use of cement mortar, plaster, tiles, and other modern and cheaper materials overtook the walls of temples and mosques of Bengal in the modern era. The time-consuming and boutique art of terracotta was replaced by the mass production of cement molds thus it lost patronization. Since terracotta was mostly popular on the walls of religious structures in Bengal, the art was not practiced by the artisans once it lost its need. However, clay as a building material and the raw material for art still prevails in rural Bengal even though it is continuously struggling with the newly discovered plastics, aluminum, and other newer inventions of globalization. Almost every district of Bangladesh has at least one village that is lived by the potters. These potters do not make terracotta plaque any longer, they continue to make pots, pans, pitchers, and other necessary domestic items that they sell in the villages of Bangladesh. An insignificant number of potters still make some of the artistic pieces to sell in the urban markets in large cities of Bangladesh as decoration pieces and ornaments. The art of terracotta is not lost but it is not a popular means of living among the potters.

SOMAPURA MAHAVIHARA-ITS ART AND ARCHITECTURE:

Somapura mahavihara is an 8th-century Buddhist monastery situated in a remote village in the north-western part of Bangladesh. While surveying eastern India under the jurisdiction of the British East India Company, Francis Hamilton Buchanan,⁸ a renowned geographer and Botanist of Indian history, noticed the unusual mound and recorded it in the survey map sometime between 1907 and 1912.⁹ In 1919, this site was enlisted as an archaeologically significant site in India. However, the excavation began in 1934 and continued through the British, Pakistan, and Bangladesh periods.¹⁰ The architectural type of this monastery is believed to be unique and the mother form of Buddhist temples afterward.¹¹



Figure 2. Somapura Mahavihara, Bangladesh.

The architectural layout of Somapura Mahavihara is nearly square, measuring 900 feet from north to south and 898 feet from east to west.¹² This monastery features 170 monastic cells encircling an

extensive quadrangular central courtyard. It can be accessed from both the eastern and the northern sides. It is reasonable to believe that the northern entrance served as the Vihara complex's primary entrance based on its size, decoration, and other characteristics. In addition to the monks' housing quarters, Somapura Mahavihara's enclosed facilities include eating halls, kitchens, wells, lavatories, granaries, and prayer halls.¹³ The most researched part of this 22-hectare monastery is its central cruciform shrine. This shrine is placed in the center of the quadrangular courtyard within the enclosed boundary of the monastery. This shrine is almost seventy-six feet tall in its present dilapidated situation. Three gradually ascending and diminishing terraces from the ground level reached the height. Each terrace has a circumambulatory path and four projected antechambers on all four sides, called mandapa¹⁴ which helped to develop this ascending cruciform structure. This cruciform central shrine evolved and developed in Bengal.¹⁵ Until today, it is one of the most effective forms in Buddhist architecture, described as one of the outstanding universal values (OUV in criterion-ii) of Somapura Mahavihara. The other two criteria of OUV include its excellent architectural detail, ornamentation of terracotta and stone sculpture, and the fact that this monastery represents a world religion.

Terracotta ornamentation is one of the greatest characteristics of Somapura Mahavihara. almost all the interior walls of this monastery were cladded with decorated terracotta plaques with motifs of symbolic meanings, pictures of Hindu and Buddhist gods and goddesses, pictures depicting mythological stories, and many more. Most of these plaques were lost in the womb of time. In a recent survey in the Department of Archaeology, Bangladesh, around two thousands of these plaques were found in preservation.



Figure 3. courtyard of a potter house near Somapura Mahavihara, Bangladesh



Figure 4. a potter selling his product in the local market, Naogaon, Bangladesh.

HERITAGE PRESERVATION AND PROMOTION INITIATIVES:

Like many other places in Bangladesh, two potter villages were identified near Somapura mahavihara in a pilot field survey in 2016 by the ICOMOS Bangladesh under the fund provided by the UNESCO-Republic of Korea Fund in Trust project. Under that fund, a workshop was conducted to train the local potters near Somapura Mahavihara in terracotta in the hope of sustainable heritage management and reviving the lost art. The primary intention of that workshop was the capacity building and marketing of Local Community Involvement in the Sustainable Development of the Ruins of the Buddhist Vihara at Paharpur World Heritage Site, Bangladesh. The other stakeholders of this workshop were the Department of Archaeology, Bangladesh, the World Heritage Convention, and the National Craft Council of Bangladesh (NCCB).¹⁶ The first step of the project was divided into two segments. First to collect information about the terracotta plaque of Somapura Mahavihara and second is an anthropological survey of the life of local potters. In the second step of the project, selected local potters were trained in terracotta art under the capacity-building program. The potters were trained to make replicas of historic terracotta and also were trained to make modern art in the form of terracotta. The third step of this project was to market the skills and products of the potters. For marketing the program initiated different craft fairs in Paharpur and Dhaka, Bangladesh, and also was willing to support the artisans to enhance and promote their art. Until today this attempt did not bring much benefit in the life of the artisans or in preserving and spreading the heritage identity of Somapura Mahavihara in the form of terracotta.

ANALYSIS:

This research has looked at the fundamental cause of this apparent unsuccessful try at heritage management and tried to find out the relationship between heritage and humans through the lens of heritage management.

To understand the fact this research has looked at the life and living style of the potters of the nearby villages of Somapura Mahavihara and the meaning of the terracotta art of Somapura Mahavihara.

The potters of the nearby villages live on the trade of pottery. They are a marginal population living from hand to mouth by producing earthen pots and selling them in the local market. The primary buyers of these potters are the farmers and villagers who depend on these earthen items for farming

and household purposes like feeding bowl for the domestic animals, pitchers to keep water, plates, and pots to put food on, and many more. The place of aesthetics in their struggling life is very limited.

On the other hand, the high art of terracotta in Somapura mahavihara was created dedicatedly for religious purposes. The encrypted texts displayed on the terracotta plaques in the walls of the monastery could never be revealed and published until now. The monastery was constructed in the concept of mandala, a fundamental principle of tantra. From its plan layout to its terracotta cladding represents different aspects of tantric Buddhism which is completely evaporated from the surface of earth in Bangladesh. Therefore the beautiful terracotta ornamentation remained only as art pieces of an ancient period without a meaningful connection to the potters and artisans who are capable of reproducing such art in today's world.

From this observation, this research has come to some points that identify the reason for the failed attempt.

research has discovered a few fundamental gaps in the context.

- The first and foremost one is the market. Even though the primary target was to create a wider market for the local potters, one important aspect was under-considered. Pottery for the local artisans are profession, not a hobby. The time and labor each decorated pottery costs are not enough profitable for them to invest. From several interviews, I came to the opinion that the potters are enthusiastic about this new art form but are not interested in making them as they do not sell.
- It is strange that no potters even out of curiosity tried to learn the art of casting terracotta in the two pottery villages even though there have been the greatest examples of terracotta moulding art lay in front of their eyes for generations.
- This is the second gap-the gap of context. Somapura mahavihara is a Buddhist religious sight that local people regard with respect. The overwhelming monumentality of the monastery and numerous stories and myths circulate around the locality to create a respectable, (to some extent fearful) distance between the monastery and the community. even though this dimension of the relationship is not a visible one, but it is strong.
- Somapura mahavihara was a monastery of mystic Buddhism of Vajrayana. The terracotta plaques are depictions of different symbols of that religion. It is not sure if those plaques were places according to a narration of in any cardinal order, but it is sure those plaques served religious purposes and each of them had some metaphorical meaning. While trying for the revival of Somapura terracotta, it was impossible to update the present artisans with that knowledge as this religion was completely abolished in Bangladesh. As a result, even though the artisans learned the technology, they could not relate themselves to the high art of Somapura.
- Lastly, until today the discovery of terracotta plaques has always been related to a respectable and important building like mosques, temples, monasteries, etc. which indicates high patronization, large flow of resources, and also have a deeper and profound meaning. Also, this indicates that this is a highly customized art that needs conceptual development and a reason. There is no such evidence of random terracotta plates selling in the market in historical references.

CONCLUSION

Hence, this research came to the decision that, Somapura mahavihara is a heritage site, its extent, its integrity are so vast that it impact on a macro level to the nation. The micro-level impacts of this monastery are quite different than its macro-level impacts. The way the potters rejected to practice the art of terracotta is a learning opportunity for the heritage workers to look at and address heritage sites and communities according to the needs of time, context, and culture. Only then sustainable heritage management can be ensured.

NOTES

- ¹ Shahnaj Husne Jahan, *Stages of State Formation in State & Culture*; Cultural Survey of Bangladesh, Vol-2, (Asiatic Society of Bangladesh, 2007) p-7.
- ² Pushpita Eshika. *Local Manifestation of Global Heritage Role of Local Communities in the Management of Somapura Mahavihara, A World Heritage Site of Buddhist Origin in Bangladesh*. PhD Dissertation, Arkansas State University, 2023.
- ³ Eshika. *Local Manifestation of Global Heritage*.
- ⁴ Sufi Mostafizur Rahman, ed. Archaeological Heritage in *Cultural Survey of Bangladesh*, Series-1, (Asiatic Society of Bangladesh, 2007) 1-4, 28-36.
- ⁵ Shahnaj Husne Jahan, *Stages of State Formation in State & Culture; Cultural Survey of Bangladesh*, Vol-2, (Asiatic Society of Bangladesh, 2007) p-7.
- ⁶ Eshika, 2023.
- ⁷ Enamul Haq, *The Art Heritage of Bangladesh*, International Center for the Study of Bengal Art, Dhaka, Dhaka Center for the Study of Bengal Art, 2007.
- ⁸ *Buchanan-Hamilton*, Francis (1762-1829) on JSTOR,” accessed April 19, 2023, <https://plants.jstor.org/stable/10.5555/al.ap.person.bm000324521>.
- ⁹ *Paharpur*, Banglapedia, (Last Edited on 18 June 2021); <https://en.banglapedia.org/index.php/Paharpur>.
- ¹⁰ Swadhin Sen, Syed Mohammad Kamrul Ahsan, and A.K.M Saifur Rahman, Crossing the Boundaries of The Archaeology of Somapura Mahavihara: Alternative Approaches and Propositions, *Pratnatattva: Journal of the Dept. of Archaeology Jahangirnagar University* 20 (June 2014): pp. 49-79.
- ¹¹ R. C. Majumdar and Jadunath Sarkar, *The History of Bengal* (B.R. Publishing Corporation, 2017), 506., Eshika, 2023. pp-79.
- ¹² Rahman Shah Sufi Mostafizur, *Archaeological Heritage* (Dhaka: Asiatic Soc. of Bangladesh, 2007), 294.
- ¹³ Eshika, 2023. pp-79
- ¹⁴ a roofed or otherwise covered terrace or place usu. with four sides open; a pavilion. Reference- Biswas, Sailendra. “Samsad Bengali-English Dictionary.” The Digital South Asia Library. Kalikata : Sahitya Samsad, January 1, 1970. https://dsal.uchicago.edu/cgi-bin/app/biswas-bengali_query. 831.
- ¹⁵ M. H. Reza, *Early Buddhist Architecture of Bengal: Morphological Study on the vihāra of c. 3rd to 8th Centuries* (dissertation, n.d.), 142-158.
- ¹⁶ *Local community involvement in the sustainable development of the Ruins of the Buddhist Vihara at Paharpur World Heritage Site, Bangladesh: capacity building training on traditional terracotta making for local artisan at Paharpur World Heritage Site*, Available <https://unesdoc.unesco.org/ark:/48223/pf0000373082?posInSet=1&queryId=4c4c937e-dc4d-41cc-8fb5-85a20697927f>.

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SANSALVADOR VILLA: LIFE IN THE DARK SIDE OF PARK GÜELL

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INTRODUCTION

The uniqueness of the Sansalvador villa, the first work designed exclusively by Josep Maria Jujol in Barcelona, awakens in the visitor a series of unknowns about its origin and its conception. The fact that it is not finished, the scarce existing planimetric documentation and the unique combination of modernist and organic elements, make this residential complex an exceptional and personal work of the famous architect. Here we offer a detailed study of its history and conceptualization based on the analysis of the original documents and the detailed photogrammetric survey of the built architectural complex as it is today.

One of the singularities of this villa lies in the impossibility of seeing it and understanding it in its entirety, in one go. In itself, Jujol's *modus operandi* was fragmentary. On the Sansalvador villa, both the topography of the plot and the erratic course of his commission and the architect's way of operating favored a fragmented composition but with a certain harmony, within an apparent unity.

Buildings go beyond the historical time of people, and also dialogue with vegetation, stones and fauna. Each representation emerges part of these dialogues. The superposition of the new planimetry, generated from a points cloud resulting from the fieldwork, with the original plans, allows to identify certain singularities, discrepancies and changes not initially foreseen, which represents an advance in the study of the creative process of this personality of Catalan architecture.

Analyzing Josep Maria Jujol's work presents challenges due to its ambiguous classification within Catalan architecture, often debated as Art Nouveau, Catalan Modernism,¹ or even antimodernist.² Jujol's association with Antoni Gaudí, under whom he worked from 1905 to 1913, further complicates this, with some arguing that Jujol influenced Gaudí.³ As a result, Jujol's work has been overshadowed, poorly preserved, and scattered across various archives, as seen with the Sansalvador villa, his first independent project in Barcelona. Additionally, Jujol's collaborative, in-situ decision-making approach led to discrepancies between his drawings and the final buildings.⁴ To analyze the Sansalvador villa, we compiled all related documents, conducted thorough bibliographic research, visited the site for photogrammetry-based surveys, and georeferenced key plans to compare the initial designs with the constructed project.

HISTORICAL ANALYSIS

The origin of this villa is rooted in Jujol's relationship with the Sansalvador family.⁵ In 1909, the Sansalvadors commissioned Jujol to design a second residence in the El Coll area of Gracia, Barcelona.⁶ The initial plans, submitted in 1909, depicted a simple square-shaped house at the top of a steep, narrow plot, facing southeast. The house was positioned at the back, near Pineda Street, with lateral access, leaving the lower part of the plot near Passeig de la Mare de Déu del Coll undeveloped. The lower section later became the site for a guard's pavilion and a perimeter fence.

Initially, the official plans (figure 1) presented a straightforward structure, seemingly ignoring the complexities of the terrain.⁷ This simplicity allowed Jujol to explore more creative designs during construction. Although the façade appeared symmetrical, a side gate added an element of asymmetry, reflecting Jujol's nuanced design approach.⁸ Jujol envisioned three levels, with a basement for utilities, the first floor for bedrooms and an office, and the second floor for additional bedrooms with rooftop access.

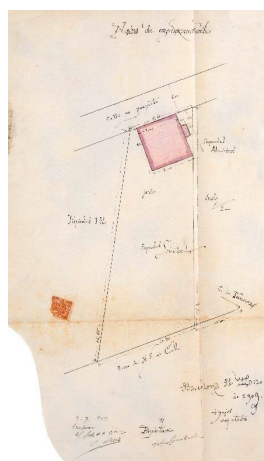


Figure 1. Location plan presented to the town hall, 1909. Source: Arxiu Municipal Contemporani de Barcelona.

Between 1910 and 1911, Jujol developed various designs for the house, incorporating elements like a central staircase and common areas on the lower floor with bedrooms above. By 1915, the design had evolved into a more intricate structure, as seen in detailed drawings of the west elevation (figure 2-left). These drawings highlighted changes in window placement, slab heights, and a staircase with varying angles, indicating a shift from the initial simplicity to a more complex composition.

The south elevation (figure 2-right), which features a cantilevered gallery on the first floor, includes details like a sloping shield, crosses, and arabesques on the façade. The design emphasized verticality, with pointed lintel windows and a hipped roof adorned with elements like a five-pointed cross and a parapet formed by twelve stone points. External stairs led directly to the upper entrance. The west elevation provided a more detailed view, showing the positions of windows, slab heights, and the staircase's complex design. The initial square-shaped house was clearly becoming more elaborate.

The cross-outs and double lines in these elevations reflect the project's ongoing development. In the south elevation, Jujol attempted to extend the cantilevered volume, tilt the upper parapets, and adjust the building's right limit behind a lattice, suggesting that he was considering rotating the second floor.

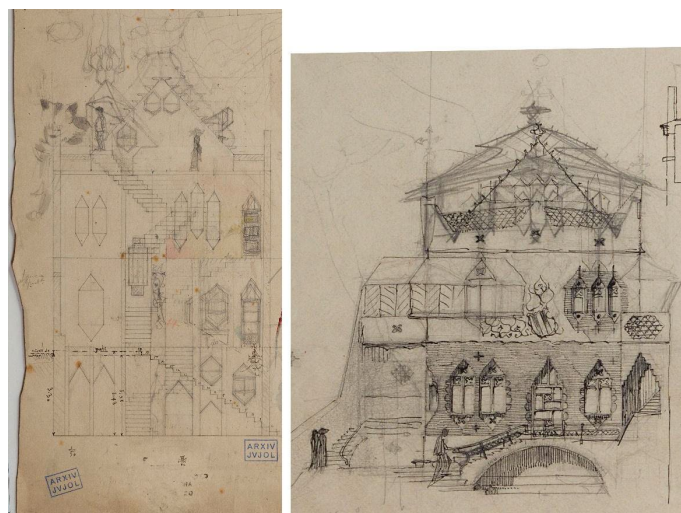


Figure 2. West elevation (left) and South elevation (right), circa 1910-1915. Source: Arxiu Històric del Col·legi d'Arquitectes de Catalunya.

In 1915, the discovery of radium in a newly drilled well at the site transformed the project from a residential building into a commercial enterprise.⁹ The owners founded the company *Aigua Radial SL* to market the water,¹⁰ converting the site into a bathing establishment with underground grottoes for water extraction and public use.

A sketch from 1915 (figure 3) shows the main façade of the villa facing *Passeig de la Mare de Déu del Coll* for the first time. This sketch includes two façades: the street-facing façade and the grottoes' façade. While the street façade was already built, the rear grottoes' façade was still in the planning stage. The sketch suggests an idea of how to harmonize the design of the grottoes' façade with that of the main building.

The street-facing façade, representing the bourgeois aspect, is characterized by straight and triangular alignments, while the grottoes' façade, meant for the bathing establishment, features curved lines and shadows. Elements like the pavilion's initially hipped roof (later changed to flat) and the misalignment between the main gate and the grotto's gate suggest that these features may not have been completed by 1915.

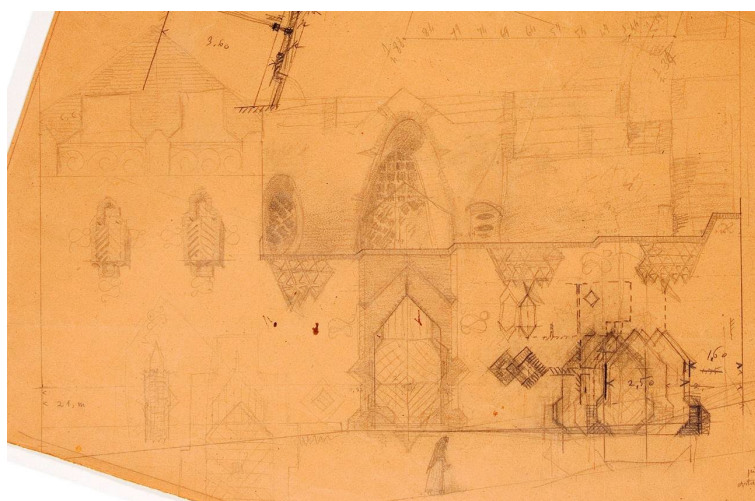


Figure 3. Elevation of the *Aigua Radial* project, 1915. Source: Arxiu Històric del Col·legi d'Arquitectes de Catalunya.

By March 10, 1916, the terrace, main access staircase, and guard pavilion had been constructed at a height of 4.30 meters, while the grottoes were still in progress. The plan titled "Works of Extension of the Spring-Grottoes Under the Mountain" (figure 4) indicates three different colors.¹¹ According to architectural conventions, grey represents constructions outside the scope of the project, black indicates the consolidated parts (the portion of the grotto already built), and red represents new work (the grotto projected by Jujol).

The old grotto, depicted in black, served as a functional tunnel providing direct access to the spring for water extraction. Along the tunnel, a "sink" and "tool deposit" are marked, leading to a staircase that connects with the lower floor. A metal gate halfway along the old grotto marks its transition into a wider space supported by pillars, culminating in the water well. Although this grotto was functional, it served as a prelude to the spring, an architectural space meant to convey the importance of the company to the public.

The new grotto, designed by Jujol, connected to the terrace and the old gallery through four points. The narrow old gallery was expanded into multiple routes, while the new gallery featured two openings to the terrace: an oval oculus and a catenary-shaped door. These openings, composed of a series of arches, invite visitors into the curvilinear forms of the grotto.¹²

Inside, the grotto's contours, formed by polygonal and curvilinear lines, guide visitors on an infinite-shaped path, with the stone supported at two points to highlight this movement. The first support, polyhedral in shape, echoes both the straight lines of the old gallery and the curvilinear forms of the new gallery. The second support conceals the "new spring," to which it provides access.

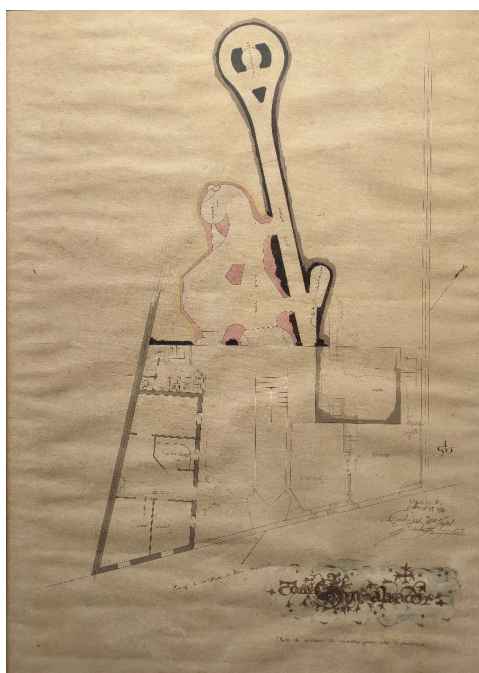


Figure 4. Plan of the grottoes, 1916. Source: *Fundación Oscar Tusquets Blanca*.

Since the guard pavilion of the Sansalvador villa had already been constructed, the Sansalvador family asked Jujol to transform it into their home. As Ignasi de Solà-Morales noted, citing Carlos Flores, Jujol's creativity and inventiveness were most evident in the transformation of existing buildings.¹³ In 1921,¹⁴ Jujol began modifying his original project (figure 5). He added two gallery volumes to the parallelepiped structure: one in the central part, serving as a portico, and another in the corner, functioning as a bathroom. He also added a two-story volume with a wardrobe on the lower floor and a room upstairs.

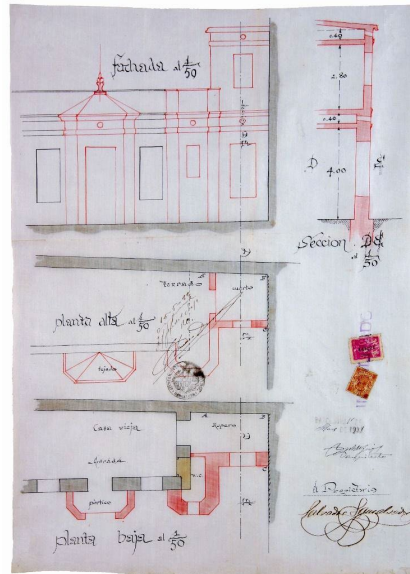


Figure 5. Plan and section of the guard's pavilion rehabilitation, 1921. Source: Arxiu Municipal Contemporani de Barcelona.

Over time, the radium-enriched water source depleted, leading to the dissolution of the company. After the owner's death in 1932, the property changed hands and was eventually sold to a neighboring quarry. The villa's incomplete state reflects the evolving nature of the commission and Jujol's extended personal involvement.

In 1987, an architectural survey by Francesc Guartmoner documented the villa's original state, becoming a crucial reference for its eventual restoration two decades later.¹⁵

DIGITAL SURVEY

The limited preservation of original plans for the Sansalvador villa necessitated a new survey to better understand the project. The site's complexity and steep terrain made traditional hand-drawn surveys impractical, so a point cloud survey was conducted to capture intricate details efficiently. Digital surveying,¹⁶ employs techniques such as terrestrial laser scanning (TLS),¹⁷ photogrammetry, and unmanned aerial vehicles (UAVs) to facilitate understanding and virtual reconstruction of heritage sites.¹⁸

UAV photogrammetry is a simpler, more cost-effective alternative to traditional airborne methods, allowing for faster data capture with less field planning. Though TLS is known for its precision, it is time-consuming and less suited for large-scale coverage, making it less practical for projects like the Sansalvador villa, which required surveying building roofs and extensive areas. Consequently, the survey relied exclusively on Structure from Motion (SfM) and Multi View Stereo (MVS) techniques, using high-quality photographs and automated frame extraction from UAV video to create three-dimensional models.

Photogrammetry (figure 6),¹⁹ excels in capturing detailed features such as edges and cracks. While integrating TLS could enhance precision, the site's challenging terrain and intricate details made photogrammetry the preferred method. The survey aimed to compare the historical archival plans with the geometric reality of the site, ensuring metric accuracy through a georeferenced raster layer extracted from the model. Integrating geographical information systems (GIS) with photogrammetry,²⁰ the survey demonstrated the effectiveness of UAVs in generating context meshes with accurate geographical coordinates, vital for analyzing and preserving the architectural heritage of the villa.²¹

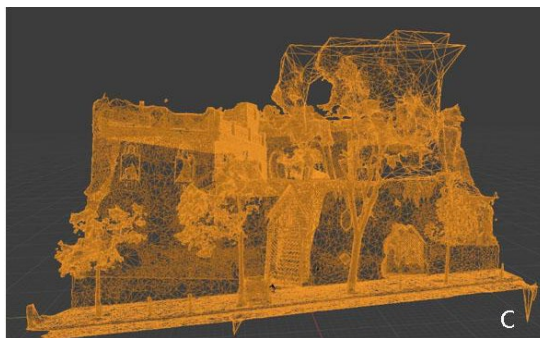


Figure 6. Façade point cloud, polygonal mesh. Source: authors.

PLANS OBSERVATIONS

The Sansalvador villa's history is marked by significant changes due to its various owners, leading to a fragmented understanding of its design. By analyzing key plans on a georeferenced scale, we can trace the evolution of the architect's intent and the impact of these changes.

The 1909 plan offers a schematic outline, allowing the architect creative freedom to finalize details on-site. By 1916, the placement of a well became central, influencing the excavation, grottoes, and surrounding pavilions. The 1921 plan reflects how these elements affected the overall site layout. A 1987 survey shows the fluid relationship between the grottoes, terrace, and pavilion spaces, while the 2005 plan documents the demolition of two gallery volumes due to poor conservation and the villa's conversion into a museum. The 2023 survey provides a more precise definition of curvilinear and irregular surfaces, refining earlier plans.

Superimposing Jujol's original grottoes plan with the 1987 and 2023 surveys (figure 7) reveals misalignments and interpretative differences. Although the well's position is consistent across all plans, the tunnel's shape varies: the original is straight, the 1987 survey is curvilinear, and the 2023 survey is a bulgy polyline. The central grottoes in the original plan represent Jujol's conceptual vision, while the later surveys show the actual in-situ execution, with the 1987 survey simplifying the curves and the 2023 survey offering a more accurate representation, despite difficulties in interpreting the ceiling projection.

The exterior volumes, such as the guard pavilion and terrace parapet, also show discrepancies. The original plan features a wider angle, while the 1987 survey aligns more closely with the façade but inaccurately depicts the wall thickness and terrace parapet. The 2023 survey corrects these issues, showing the exact alignment and setback of the parapet terrace.

Analytically, the original plan clearly outlines the project's main ideas, allowing for on-site adjustments during construction. The 1987 survey, though simplified, effectively conveys the relationship between different levels and heights. The 2023 survey, conducted by the authors, offers the most precise definition of the villa's elements.

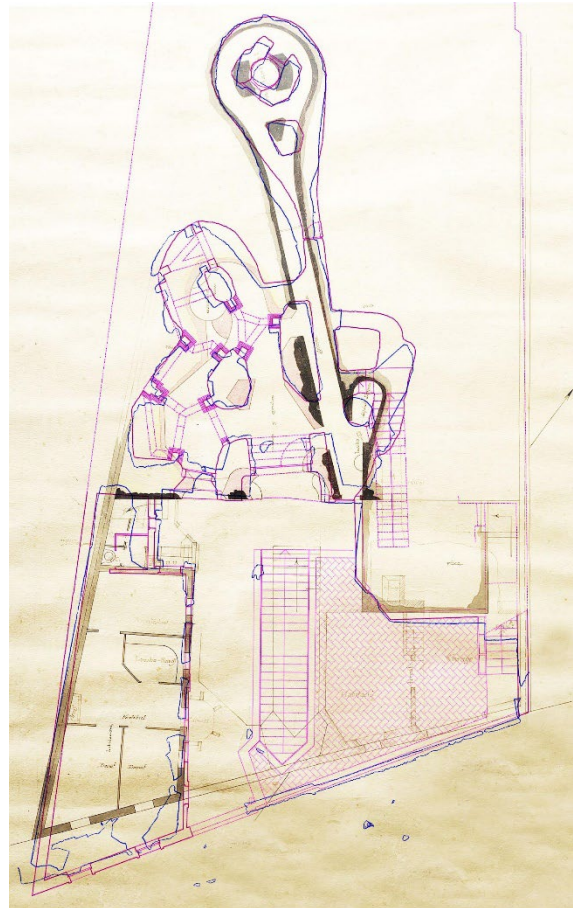


Figure 7. Superposition of the grottoes plan from the 1987's survey in magenta. Source: authors.

In summary, comparing these plans highlights the evolution and varying interpretations of the villa's design, reflecting both Jujol's original vision and the subsequent modifications by different owners and architects.

TRANSITIONS

The Sansalvador villa, designed by Josep Maria Jujol, exemplifies his ability to unify disparate architectural elements, creating new meanings through their juxtaposition. The villa's street façade is particularly noteworthy, despite the challenges posed by its steep terrain and narrow plot. The façade is designed to convey unity, with overhanging windows and a distinctive vertical strip of exposed brick that cuts into the white stucco, enhancing the sense of depth and shadow. The use of sgraffito²² (figure 8), adds intricate details that contribute to the villa's character.

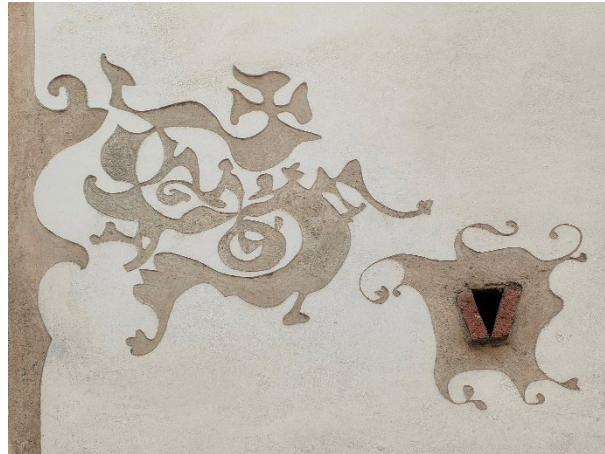


Figure 8. Details of the façade: sgraffito emblem. Source: authors.

A striking feature of the façade is the lattice balustrade, made of exposed brick forming equilateral triangles and hexagons with mosaic details reminiscent of Alhambra motifs. This design element,²³ emphasizes the villa's blend of architectural styles. Additionally, the use of prefabricated elements in the balustrade highlights the combination of traditional craftsmanship with modern construction techniques.

Jujol's approach to the villa's design is further exemplified in the use of catenary arches and oval shapes. The catenary, a direct influence from Gaudí, is used for the door arch and is paired with the oval, a geometry common in Renaissance pavilion architecture. Together, these shapes define the façade of the caves, creating a sense of compositional unity while hinting at the complex, interconnected spaces within the villa.

The interior of the villa continues this theme of transition and unity. The catenary arch and oval window on the façade have smaller, displaced replicas on the interior, creating a gradual transition between the exterior and the dark grotto. This architectural technique, involving multiple brick archivolts, extends the transition space and enhances the visitor's experience as they move from the bright exterior to the enclosed grotto.

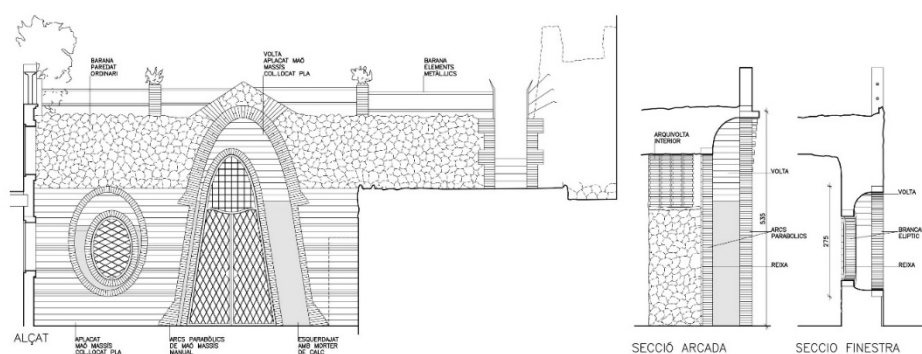


Figure 9. Elevation and section of the caves. Source: F. Gruartmoner.

The caves themselves are a significant aspect of the villa's design, reflecting Jujol's use of the letter "S" as a recurring motif. This motif is integrated into the design of the caves, where off-center arches and an S-shaped plan create a labyrinthine space. The caves connect the interior and exterior spaces, demonstrating Jujol's ability to merge graphic design concepts with architectural form, creating a cohesive and dynamic environment.

CONCLUSION

The Sansalvador villa, designed by Josep Maria Jujol, exemplifies his unique approach to architecture, where fragmentation and harmony coexist in a delicate balance. The villa's design, influenced by its challenging topography and the evolving nature of its commission, requires visitors to experience it piece by piece, each fragment contributing to a cohesive whole. This approach reflects Jujol's ability to craft unity from apparent disjointedness, blending modernist elements with organic forms in a way that defies simple classification within Catalan architecture.

Jujol's work on the villa was marked by a fluid, in-situ decision-making process. He adapted his designs during construction, allowing them to evolve organically. This is evident in the villa's shifting elevations and modified structural elements, which reflect a dynamic interplay between vision and execution. A significant turning point in the villa's history was the discovery of radium in 1915, which transformed the project from a private residence into a commercial enterprise. Jujol seamlessly integrated functional elements, such as subterranean grottoes for water extraction, with aesthetic considerations, creating spaces that were both utilitarian and artistically resonant.

Modern digital surveying techniques, such as photogrammetry and Structure from Motion (SfM), have been essential in documenting and preserving the villa's intricate details. These methods have revealed the evolving interpretations of Jujol's vision over time, as seen in comparative surveys from 1987 and 2023. The concept of collage, traditionally associated with visual arts, plays a significant role in Jujol's architectural practice. He skillfully combined diverse materials, motifs, and styles, as seen in the villa's lattice balustrades, sgraffito embellishments, and geometric forms, creating a rich architectural tapestry.

Transitions within the villa are meticulously designed, with recurring architectural elements like catenary arches and oval windows creating a seamless spatial journey. The caves, with their labyrinthine designs and symbolic motifs, further enhance this flow between distinct yet interconnected spaces. Jujol's sensitivity to the villa's rugged terrain is also evident, as he allowed the natural landscape to inform and shape the architectural narrative.

In summary, the Sansalvador villa is a testament to Jujol's visionary architecture, blending fragmentation with unity, functionality with artistry, and tradition with innovation. It remains an inspiring and intriguing masterpiece, reflecting Jujol's mastery of adaptive design and environmental synergy.

NOTES

- ¹ Oriol Bohigas, “Fragmento de Un Diario de Memorias,” in *Quaderns d'arquitectura i Urbanisme. Josep Maria Jujol Arquitecto, 1879-1949 [Catálogo Razonado]*, COAC, 179–180: 28–31 (Barcelona, 1989), <https://www.raco.cat/index.php/QuadernsArquitecturaUrbanisme/article/view/233924/336970>.
- ² Ignasi Solà-Morales, “La Arquitectura de Josep Ma Jujol,” in *Quaderns d'arquitectura i Urbanisme. Josep Maria Jujol Arquitecto, 1879-1949 [Catálogo Razonado]*, COAC, 179–180: 10–19 (Barcelona: COAC, 1989).
- ³ Carlos Flores, “Josep M. Jujol: Disseny i Ambient Interior,” in *Direcció General de La Vivienda, La Arquitectura y El Urbanismo; Col·legi d'Arquitectes de Catalunya, L'univers de Jujol* (Barcelona: COAC, 1998), 8–19.
- ⁴ Josep Maria Jujol Jr., “La Arquitectura de JM Jujol,” in *La Arquitectura de JM Jujol*, edited by Josep Francesc Rafols, Salvador Tarragó, and Carlos Flores (Barcelona: La Gaya Ciencia, 1974).
- ⁵ They were neighbors and schoolmates.
- ⁶ Ramon Alberch i Fugueras, *Els Barris de Barcelona. Gràcia, Horta-Guinardó, Nou Barris*, vol. 3 (Barcelona: Gran Enciclopèdia Catalana, 1999).
- ⁷ Dell Upton, “Architectural History or Landscape History?” *Journal of Architectural Education* 44, no. 4 (1991): 195–99, <https://doi.org/10.1080/10464883.1991.11102694>.
- ⁸ The initial design, which included two floors and a sloping roof, served as a flexible guide rather than a rigid blueprint.
- ⁹ Josep Maria Jujol Jr., *Jujol En Barcelona* (Tarragona: Drudis i Virgili, 2017).
- ¹⁰ Inspired by the radium's purported healing properties, discovered by Marie Curie in 1911.
- ¹¹ Grey, black, and red.
- ¹² Josep Lluís i Ginovart, Agustí Costa-Jover, Sergio Coll-Pla, and Mónica López Piquer, “Layout of Catenary Arches in the Spanish Enlightenment and Modernism,” *Nexus Network Journal* 19, no. 1 (2017): 85–99, <https://doi.org/10.1007/s00004-016-0313-9>.
- ¹³ Ignasi Solà-Morales and Melba Levick, *Jujol* (Barcelona: Polígrafa, 1990).
- ¹⁴ Twelve years after its initial conception.
- ¹⁵ The villa had suffered years of neglect and vandalism, and the survey provided essential details for understanding the original construction.
- ¹⁶ Essential for heritage documentation and conservation.
- ¹⁷ Yahya Alshwabkeh, “Linear Feature Extraction from Point Cloud Using Color Information,” *Heritage Science* 8, no. 1 (2020): 28, <https://doi.org/10.1186/s40494-020-00371-6>.
- ¹⁸ Yahya Alshwabkeh, Ahmad Baik, and Yehia Miky, “Integration of Laser Scanner and Photogrammetry for Heritage BIM Enhancement,” *ISPRS International Journal of Geo-Information* 10, no. 5 (2021): 316, <https://doi.org/10.3390/ijgi10050316>.
- ¹⁹ Driven by algorithms like Feature Matching, Fundamental Matrix Estimation, and Structure Fitting.
- ²⁰ Anna Sanseverino, Barbara Messina, Marco Limongiello, and Caterina Gabriella Guida, “An HBIM Methodology for the Accurate and Georeferenced Reconstruction of Urban Contexts Surveyed by UAV: The Case of the Castle of Charles V,” *Remote Sensing* 14, no. 15 (2022): 3688, <https://doi.org/10.3390/rs14153688>.
- ²¹ Cevdet Coskun Aydin, “Designing Building Façades for the Urban Rebuilt Environment with Integration of Digital Close-Range Photogrammetry and Geographical Information Systems,” *Automation in Construction* 43 (July 2014): 38–48, <https://doi.org/10.1016/j.autcon.2014.03.005>.
- ²² Including the Sansalvador family emblem designed by Jujol.
- ²³ Influenced by Gaudí but uniquely integrated by Jujol.

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MODERNISM IN THE FACE OF TRADITIONAL HOUSING: ANALYSIS OF THE URBAN PLANS OF SÃO LUÍS AND THEIR INFLUENCE ON TRADITIONAL HOUSING IN THE MIDST OF THE MODERNIZATION PROCESS OF THE HISTORIC CENTER

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INTRODUCTION

The Historic Center is a remarkable place where the past and the present seamlessly coexist. This intriguing juxtaposition isn't merely a matter of chronological order but extends to the very essence of decision-making within this space.

What makes this place truly extraordinary is its ability to transcend physical boundaries. It becomes even more powerful when it transforms into a versatile, shared space catering to a myriad of uses, making it a central aspect of the broader Historic Center's identity.

When we delve into the context of São Luís, we uncover the profound impact of the city's growth on the functions of the historic center. Modernization has led to a reconfiguration, with a strong focus on tourism and economic viability.

This article aims to explore the complexity of the values associated with cultural heritage, encompassing historical, economic, and cultural significance. It delves into how culture is often commodified, particularly in the realm of tourism, sometimes sidelining genuine cultural practices in daily life.

Hence, our reflection is centered on understanding the multifaceted value of this heritage, extending beyond historical contexts and intertwining with the present. It underscores the importance of acknowledging that heritage transcends mere physicality, embracing cultural diversity and individual expressions. Preserving and cherishing São Luís' historic center should involve not only seasonal tourism but also continuous community engagement, the promotion of the creative economy, and, above all, safeguarding what sets us apart from the rest of the world - our traditional and local culture.

METHODOLOGY

The methodology consisted of analyzing articles, dissertations, and urban plans for the historic center of São Luís, from the 1970s to this moment aiming to understand how modern ideals and concerns about heritage preservation coexisted in these plans and how this duality of thought resulted in plans with equally ambivalent outcomes.

SÃO LUÍS: HISTORICAL CONTEXT

São Luís, established around 1615 after Portuguese conquest, was Brazil's first city designed with an orthogonal urban grid aligned to cardinal points. The city's layout, created by crown engineer Francisco Frias da Mesquita, featured straight, parallel streets forming right angles. This design followed Spanish colonial methodology due to the Iberian Union (1580-1640), when Portugal was under Spanish rule.

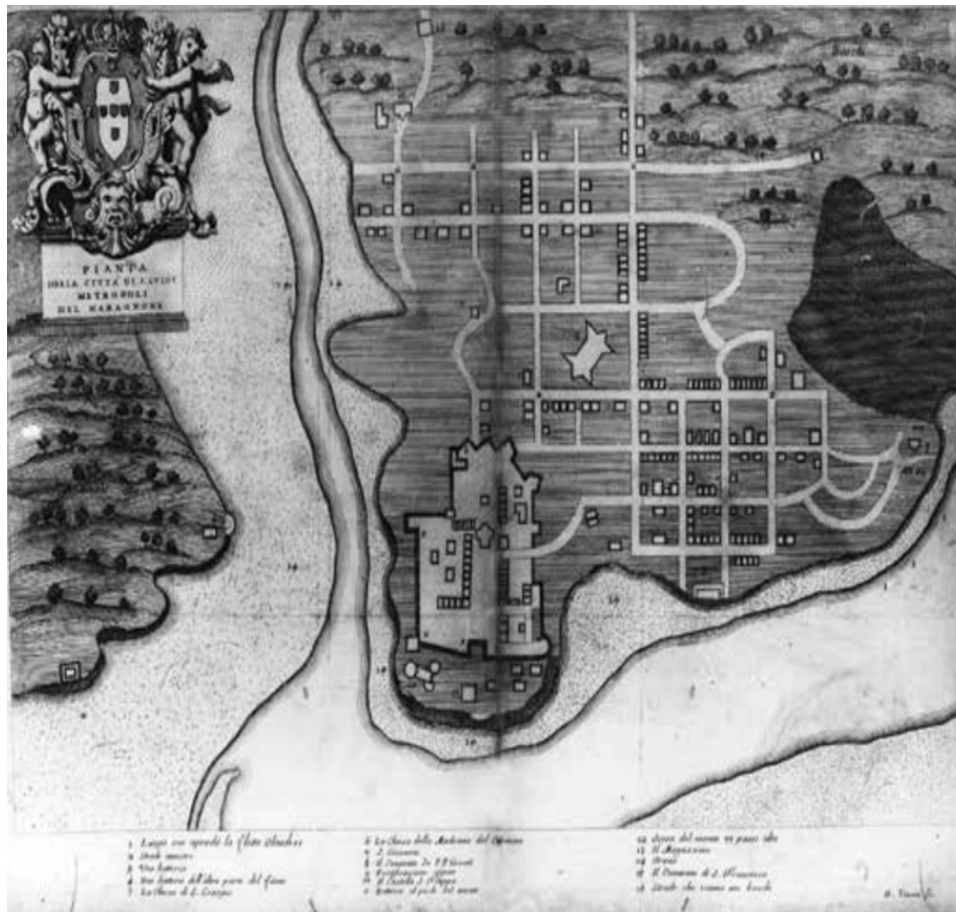


Figure 1. Plan of the city of São Luís by Andrea Antonio Orazi (1698). Legend: (1) Anil River, (2) Bacanga River Source: Pereira, 2017



Figure 2. Maps with topography and urban evolution of São Luís Source: Andres, 2006

In the mid-20th century, Brazil's modernization, symbolized by the construction of Brasília in 1956, influenced São Luís's development. The City Expansion Plan of 1958, created by Rui de Mesquita,

shared several points with CIAM recommendations, such as decentralization, functional zoning, prioritization of automobile routes, and the creation of parks.¹

The city's first master plan in 1974 marked a pivotal moment, balancing modernization desires with heritage preservation and tourism potential. This plan represented a significant shift in managing São Luís's traditional urban areas.

MODERNIST NOTIONS AND THEIR IMPACTS

Master Plan - 1974

Since its introduction the plan states that the city at that time was no longer suitable to accommodate all the planning anticipated with the imminent industrial development and modernization of expanding areas. It should be clarified that the city referred to at this time was what we now call the central area.

In 1974, the area, which did not meet the expected standards for the proposed planning, was listed by the Union. This listing represented progress but still caused some stir because it did not encompass the entire central territory that was developed and also architecturally significant, but only the region developed up until the 17th century.

The plan understood that there were two zones in the historic city: the Listed Zone and the Protection Zone for the Listed Zone. The Listed Zone comprises about 55 blocks with more than 800 properties and, according to the plan itself, had an architectural heritage of the highest interest and containing examples of great significance in civil architecture.² The Protection Zone, covering a total of 160 blocks and 3,200 properties, represents the rest of the center and included a significant number of areas that varied in the complexity of their uses. These areas ranged between Residential Zone and Special Zone.

This division led to a series of developments that generated an important discussion about what truly defines the heritage value of a location. Is it solely the date of its construction, or are there a set of factors to be considered, such as its historical development and unique characteristics?

The 1974 Master Plan focused on classical modernist principles regarding the vision of historic areas: on one side, there would be the development and expansion of the city, and on the other, the historic city would receive different treatment so that modern urbanization concepts frame the untouched respectability of this historic city.³ The old city as an untouchable piece of art, with the "protection" from urban expansion, reveals a classical notion of conservation.

The framing refers to the proposal of modernization around, beyond, and alongside the historic city, an image favored by special geographical circumstances. (...) Modernizing urbanization, therefore, is considered essential also for the enhancement of the historic city. Without it, the historic city itself would go unnoticed and remain abandoned. São Luís, as a historic city, is integrated into the process of urban space production through modernization.⁴

The historic city becomes fragmented, gaining contours shaped by the duality between the focus on heritage and developmental expansion. This becomes evident from the analysis that the Master Plan incorporated heritage experts in its development. It delegated, as was and is customary, to heritage conservation bodies at the federal level, IPHAN, and at the state level, the Department of Historical, Artistic, and Landscape Heritage (DPHAP-MA), newly created in 1973, the responsibility of overseeing interventions and developing specific plans and projects. It proposed integrating the historic city into the economic development process with a well-defined role: tourism.⁵

The issue of tourism, an imminent new use within the historic city, would enter the "dispute" scenario as it acknowledged the existing institutional, residential, and commercial uses. Even though the risks were understood, commercial use was considered a priority, explained by the strong and powerful economic sector's interest in remaining intact in the region.

Thus, since not all residences are exactly suitable for commerce, either due to their location or physical characteristics, a significant portion is left with only the burden of devaluation. This adds a new dimension to the concept of an abandoned center, or the notion that those who remain are those who could not leave, or the saying that those who stay are those accustomed to abandonment representations that are more common regarding the central area.⁶

In light of this first plan, which embodied both the desire to develop and the responsibility to conserve, modern issues regarding the traditional space that had persisted over the centuries become evident. This begins with the differentiation of the Central space itself through zoning to determine different functions within that space, something well established in the early CIAMs.

Additionally, alongside the economic value of the space, there are passages that highlight the inadequacy of housing, stemming from a desire to develop other areas of the city that enthusiastically embraced new living proposals.

The new possibility of profiting from the region comes with the desire to turn it into a tourist destination through its architecture, and all this consolidates not only in plans but also in the public's imagination, revealing the consolidation of modernist ideology.

Preservation and Revitalization Program for the Historic Center of São Luís (PPRCHSL)

The PPRCHSL follows as a continuation of the initial steps taken in the 1970s and reaffirmed with the 1974 Master Plan (PD/74). Under the framework of Integrated Conservation (CI), the PPRCHSL began to take shape from 1979 with frequent meetings to develop the plan. Initially, preservation policies were defined, which then became the ideological and conceptual framework guiding the implementation of the recovery plan (...).⁷

It is worth mentioning that the implementation of the PPRCHSL was carried out over nearly three decades (1979 to 2006). Throughout this period, the modern ideals and the enhancement of the space for cultural and tourist enjoyment were increasingly consolidated.

The first stage (1979 - 1983) initially delineated a pilot area, the Praia Grande neighborhood, very aligned with the PD/74's decision to fragment the center not only into zones but also to encourage the relocation of the economic center from the port area to the higher part of the historic center, in accordance with modernist principles that aimed to maintain the center as a commercial and administrative space.

The main projects included the revitalization of the Feira da Praia Grande, with the active participation of merchants. In terms of urbanization, vacant lots were transformed into a square with green spaces and facilities, creating a more pleasant environment and replacing the space occupied by cars with one dedicated to people.



Figure 3. Vacant lot transformed into Praça da Praia Grande. Source: Andres, 2006

The third stage, 1987 to 1991 popularly known as the “Reviver Project,” was a pivotal phase in consolidating what we now know as the Historic Center. This stage brought about a definitive change in the landscape of the area. Public spaces that were destroyed or deteriorated, such as Largo do Comércio, were rebuilt. New squares were created on former vacant lots that had been turned into garbage dumps. New public lighting, including underground installations, was installed, allowing for the replacement of poles and the removal of tangled wires. The stone sidewalks were restored to their original dimensions. Staircases were repaired and new ones were constructed. Parking areas were built or expanded along the ring road. The Praia Grande area was designated exclusively for pedestrians.



Figure 4. Drawing used to highlight the urgency of the situation to decision-makers. Source: Andres, 2006



*Figure 5. Drawing used to show, with the same purpose as the previous one, the benefits of recovery.
Source: Andres, 2006*

This new scenario revealed an advancement in the modern idea of preparing the space for consumption. An architectural space previously deteriorated and inaccessible, was restored and opened to the community, becoming both a tourist attraction and a source of employment and income. The fourth stage, 1991 to 1995, is noteworthy because, it included the Pilot Housing Project in the Historic Center. Although the idea might suggest a set of buildings focused on social housing, only the reconstruction of one ruin of a townhouse was carried out to accommodate 10 families.



*Figure 6. The property, which had become completely ruined after a fire followed by a collapse, was transformed into the first ten residential units of the program, with two shops on the ground floor.
Source: Andres, 2006*

The fifth stage, from 1995 to 2002, was marked by the processes that led São Luís to be included on the UNESCO World Heritage List in 1997. With various projects developed and a global title, this stage introduced an element that was not new but arrived precisely at the right time to be explored: tourism. In 1998, the Program for the Development of Tourism in the Northeast (PRODETUR) was implemented with funding from the IDB and the Banco do Nordeste. Regarding this, investments

amounting to approximately 90 million reais were made in the recovery of urban infrastructure in the neighborhoods of Desterro and Portinho, as well as in the revitalization of port activities related to passenger traffic, cargo, and artisanal fishing, which had a significant impact on the Historic Center specifically the area that, as of December 1997, was recognized as part of the UNESCO World Heritage List.⁸

During this period, a series of buildings were restored to house museums and cultural centers, reinforcing the focus on cultural tourism. In 2002, a valuable townhouse belonging to the state was ceded to the Casa do Maranhão, which would become a reference in the appreciation of popular culture.

Therefore, on one side, we have cultural tourism driven by the recovery of various spaces transformed into cultural centers and museums. Although aimed at tourism, these spaces also housed and provided a place for the manifestation of local popular cultural activities and became symbols of the city.

Program “Nosso Centro”

In 2019, the Maranhão government created the "Nosso Centro" Program.

The strategies adopted vary across different sectors, but, as demonstrated by other programs, priorities are set differently and with targeted implementations:

- a) Identifying and linking vocational hubs in the central region;
- b) Reducing urban voids by utilizing idle infrastructure, spaces, and buildings, both public and private;
- c) Enhancing the attractiveness of hubs through incentives for housing, commerce, and cultural activities, as pillars for the area's sustainability;
- d) Securing investments from various sectors for the recovery and use of both built and intangible cultural heritage, coordinating federal, state, municipal, national, or foreign resources, as well as private sector contributions;
- e) Formalizing partnerships with public entities, private sector, and civil society⁹

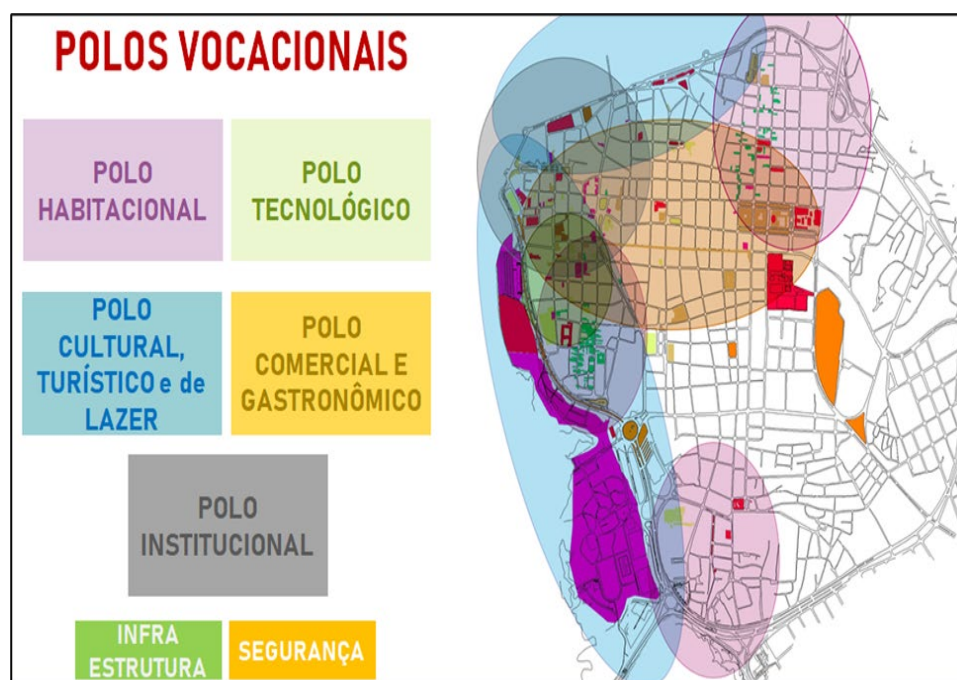


Figure 7. Vocational hubs. Source: Portfolio of the 'Nosso Centro' Program (2019)

To achieve this goal, the "Habitar no Centro" Program was established (Article 2, sole paragraph of Decree No. 34959/19). One of the program's milestones was the revitalization of the Governador Archer Building, formerly occupied by a state agency, was abandoned and later repurposed as part of the program. It accommodated approximately 14 low-income families identified as being in vulnerable situations in the central region of São Luís, highlighting the program's social role.

In the current scenario, revealing the ongoing impact of modernity and an updated perspective, the new master plan promotes renovations. However, there is an underlying conflict. Although there is an announced intention to implement social housing, in practice, the opposite occurs, with the space increasingly being dedicated and limited to tourism. This approach is being questioned due to its tendency to marginalize residents in favor of tourism development.

CONCLUSION

All these actions over the past 50 years, although partially aimed at the Historic Center, have actually shaped it increasingly to focus solely on tourism. This explains the current configuration of the Historic Center, with policies driven by tourism and economic growth, impacting the city's cultural identity.

On one hand, the state fails to meet its responsibilities and insists on a logic of dismantling, prioritizing criteria such as economy and tourism. The modernist logic, which views the center primarily as a space for business, pushes local residents to specific residential areas, discouraging the traditional community from staying in the heart of the city. On the other hand, there is evidence that people are capable of keeping culture alive even after decades of state dismantling driven by modernist thinking. With over 400 years of history, the Historic Center remains a space of resistance between the modern and the traditional. It embraces both, serving as a stage and witness to significant acts of local popular culture.

The resilient locals of the Historic Center maintain our origin and tradition, even without state support, being disrespected and marginalized in so-called cultural agendas that now feature national attractions with little focus on valuing what is traditionally ours.

Understanding the multifaceted value of this heritage, extending beyond historical contexts and intertwining with the present, underscores the importance of recognizing it as a space that transcends mere physicality, encompassing cultural diversity and individual expressions. Preserving and valuing the Historic Center of São Luís should involve not only seasonal tourism but also community support, the promotion of housing, creative economy, and, above all, the safeguarding of what distinguishes us from the rest of the world—our traditional and local culture.

NOTES

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- ² *São Luís: Yesterday, Today, and Tomorrow* (São Luís: Municipal Government of São Luís, 1975), 29.
- ³ Municipal Government of São Luís, 32.
- ⁴ Marluce Wall, *Urbanization in São Luís: Tensions between Expansion and the Center* (PhD diss., Federal University of Rio de Janeiro, 2011), 84.
- ⁵ Wall, 114.
- ⁶ Wall, 116.
- ⁷ Luiz Phelipe Andrés, *Rehabilitation of the Historic Center of São Luís*, 101.
- ⁸ Andrés, *Rehabilitation of the Historic Center of São Luís*, 156
- ⁹ Maranhão, Decree No. 34,959. Establishes the Nosso Centro Program. São Luís. Official State Gazette, 2019b. Available at: www.stc.ma.gov.br. Accessed August 23, 2024.

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EMPOWERING CULTURAL HERITAGE: A DESIGN-DRIVEN APPROACH FOR OPEN AND SHARED CATALOGING SYSTEMS

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INTRODUCTION

In the contemporary digital era, characterized by an abundance of information, cultural heritage faces the challenge of preserving and sharing the memories of places in a way that is accessible and engaging for both institutions and the public. The preservation of cultural heritage has transcended traditional methods, evolving to incorporate digital technologies and design processes that enhance accessibility, understanding, and usability.¹ This paper presents a design-driven approach to cultural heritage, focusing on the development of open and shared cataloging systems that facilitate the collective memory of communities. Through the application of innovative design methodologies, this approach addresses the complexity and richness of cultural data, promoting an inclusive and community-oriented view of cultural heritage.² In this context, design emerges as a mediator and facilitator. Design disciplines, with their ability to generate knowledge, unite different forms of know-how, mediate between material and immaterial dimensions, and interact with users, prove to be indispensable tools for creating new scenarios. Designers can play a fundamental role in enabling processes of stratification of collective memory, an innate component of a territory's identity.

Through the use of digital and non-digital artefacts, it is possible to shape the way in which data, increasingly central and permeating people's shared lives, is presented and stored, thus influencing the persistence of shared memories in an era in which we are constantly exposed to an overabundance of information. In the realm of cultural heritage enhancement, the adoption of open and shared cataloging systems is a crucial step towards democratizing access to cultural resources. These systems not only allow for broader access to content by diverse communities but also encourage active user participation in building and expanding shared knowledge. Through a design-driven approach, it is possible to develop cataloging platforms that are not only accessible but also flexible and adaptable, capable of evolving over time in response to social and cultural changes. This integrated approach facilitates the creation of systems that not only preserve cultural memory but also make it interactive and living, fostering a continuous dialogue between the past, present, and future.

The Role of Design in Cultural Heritage

Design plays a crucial role in mediating between diverse knowledge systems, enabling the connection of cultural, social, and economic values within territorial communities.³ By framing research within design processes, this paper explores how design can enhance the accessibility and legibility of cultural heritage. The methodology presented here integrates three emergent design approaches—generative, aggregative, and narrative—that serve as expressions of a new design-driven sensibility. These approaches aim to activate the collective memories of places, traversing the past, present, and future.⁴

Generative Design

Generative design in cultural heritage emphasizes the development of dynamic systems that adapt and evolve over time, reflecting the fluid nature of cultural artifacts and their surrounding contexts. This methodology prioritizes the creation of open-ended frameworks that facilitate continuous input, modification, and adaptation, ensuring that cultural heritage remains both relevant and accessible across various temporal and spatial dimensions. The generative approach integrates user interactions and contributions into the design process, fostering platforms that act as living archives, where cultural memories are actively curated and expanded upon. By maintaining the adaptability of these systems, generative design supports the preservation and enhancement of cultural narratives in a manner that aligns with the ever-changing demands of society.

Aggregative Design

Aggregative design focuses on the synthesis of diverse cultural assets into unified systems that enhance their overall accessibility and usability. This approach is particularly vital in contexts where certain cultural heritages may not be traditionally recognized or have been excluded from conventional cataloging efforts. Aggregative design principles enable the consolidation of varied cultural elements—ranging from private collections to digital assets such as 3D models and audio-visual records—into a cohesive framework that not only preserves these materials but also increases their visibility to a wider audience. By creating integrated platforms, aggregative design ensures that lesser-known cultural assets are brought into the public domain, thereby broadening the scope of cultural heritage and its appreciation.⁵

Narrative Design

Narrative design in cultural heritage focuses on the creation of compelling and immersive stories that connect historical artifacts with contemporary audiences. Through the use of advanced digital tools and techniques, this approach aims to craft experiences that are both engaging and educational, making cultural heritage more relatable and meaningful. Narrative design involves the development of digital frameworks that can support the construction of intricate stories around cultural artifacts, enhancing public understanding and appreciation of these assets. By integrating elements such as digital twins and advanced data visualizations, narrative design transforms static historical collections into dynamic, interactive experiences that resonate with a broad range of users, ensuring that the stories embedded within cultural heritage continue to inspire and educate.

DIGITAL HUMANITIES AND DATA-DRIVEN CULTURAL HERITAGE

In the evolving field of Digital Humanities, data has become a cultural artifact in its own right, valued for its ability to represent and analyze complex cultural phenomena.⁶ The concept of Data Digital Humanities expands on this by recognizing the intrinsic cultural value of data in various forms—be it as a text, a processable piece of information, or an object of study and analysis. This paper explores

how Data Digital Humanities methodologies can be applied to cultural heritage, with a particular focus on designing systems that facilitate the interoperability and collaboration of data across different cultural institutions – as illustrated in Figure 1.

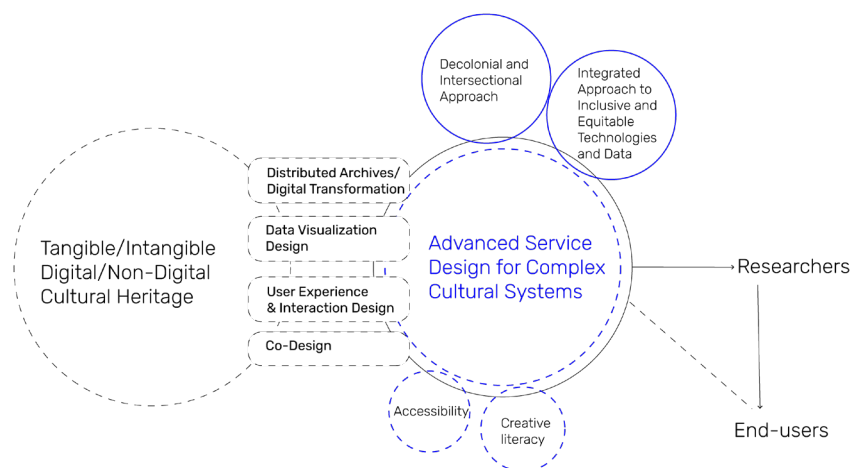


Figure 1. A framework for "Advanced Service Design for complex cultural systems. Diagram by the author."

Methodological Framework

The methodological framework proposed in this paper centers on the design of a system that enables collaboration among various actors and ensures data interoperability within a shared and accessible cataloging system for cultural heritage. This framework is informed by the principles of co-design, where stakeholders, including researchers, end-users, and cultural institutions, collaborate in the development of the system. The framework also incorporates decolonial and intersectional perspectives, ensuring that the system is inclusive and reflective of diverse cultural narratives.⁷

Case studies

The practical application of this framework is illustrated through two case studies: the CHANGES and RADICI projects, each supported by distinct funding initiatives. The CHANGES project is backed by the National Recovery and Resilience Plan (PNRR), a national initiative. A significant aspect of these projects is the collaboration between the Advanced Design Unit, the Department of Digital Humanities, and museum managers, all part of the University of Bologna. This collaboration focuses on leveraging design-driven strategies to enhance the accessibility, understanding, and preservation of cultural heritage. By combining the expertise of these diverse fields, the projects address both the technical and creative challenges involved in managing cultural assets in the digital age. While the RADICI project is financed through the Emilia-Romagna ERDF Regional Programme (ERDF RP) co-financed by the European Regional Development Fund. These projects underscore the effectiveness of design-driven approaches to cultural heritage, particularly in the areas of digital cataloging, interoperability, and...data visualization.

Case Study 1: CHANGES Project

The CHANGES project, Cultural Heritage Active Innovation for Sustainable Society, is an exemplary case of Established Heritage, which refers to cultural assets that are long recognized, typically affiliated with historical public institutions, and well-documented within academic and institutional frameworks. This project focuses on the digital preservation and enhancement of established cultural heritage through innovative digital tools. A significant component of CHANGES is the "Aldrovandi Digital Exhibition" at the Palazzo Poggi Museum in Bologna, which involves the digitization and creation of a digital twin of historical exhibitions.

The main objective of the CHANGES project is to enhance the accessibility and understanding of cultural heritage through advanced data visualization and the development of compelling narratives based on collected data. By creating digital twins of exhibitions, the project aims to offer new, interactive, and engaging experiences for users, both enhancing the preservation of cultural memory and expanding public access to these resources. For example, the digital library being developed for the Geological Collection of the Cappellini Museum includes guidelines that could serve as a model for other institutions looking to digitize their collections. These digital tools and methodologies not only preserve established heritage but also ensure its relevance and accessibility for future generations.

Case Study 2: RADICI Project

The Implementation of a Heritage Aggregation and Digitization infrastructure to foster Interaction with the Cultural and Creative Industries sector addresses *Non-Established Heritage*, which includes cultural assets that are emerging, less recognized, and often found in private collections or non-traditional archives. These assets face challenges in cataloging and preservation due to their unconventional nature, but they also offer significant opportunities for innovation and discovery.

RADICI is a regional initiative in Emilia-Romagna aimed at developing an aggregative platform that enhances the accessibility and visibility of diverse cultural heritage. The project seeks to bring together various forms of non-established heritage, such as private collections in the field of architecture, design, music, photography, and publishing, 3D models, high-fidelity audio tracks, into a unified digital system. The expected outcomes of the RADICI project include the creation of innovative practices that introduce new ways of exploring cultural heritage, advanced data visualizations that make cultural data more accessible, and data-driven storytelling that deepens the public's understanding of these assets. Additionally, the project focuses on improving the accessibility of digitized heritage, ensuring that these valuable resources are available to a broader audience, for example to be re-used by cultural and creative industries. Both case studies underscore the critical role of design in the digitization and preservation of cultural heritage. Whether dealing with well-established historical collections or emerging and less-recognized cultural assets, the integration of design methodologies enhances the usability, accessibility, and sustainability of these projects, ensuring that cultural heritage continues to thrive in the digital age.

ADVANCED DESIGN TOOLS AND DATA VISUALIZATION

Advanced design tools and data visualization techniques play a critical role in the success of the CHANGES and RADICI projects. These tools enable the creation of compelling narratives and immersive digital experiences that engage users and enhance their understanding of cultural heritage. The paper explores the use of thematic and overview data visualizations in these projects, demonstrating how these techniques can be used to represent the complexity and richness of cultural data.⁸

Thematic Data Visualization

Thematic data visualizations are used to highlight specific aspects of cultural heritage, offering a detailed and contextualized understanding of individual artifacts within a broader collection. This approach is exemplified in the Van Gogh Virtual Gallery, where thematic visualizations are used to explore different aspects of Van Gogh's work, providing users with a deeper understanding of the artist's life and creative process⁹ – as illustrated in Figure 2.

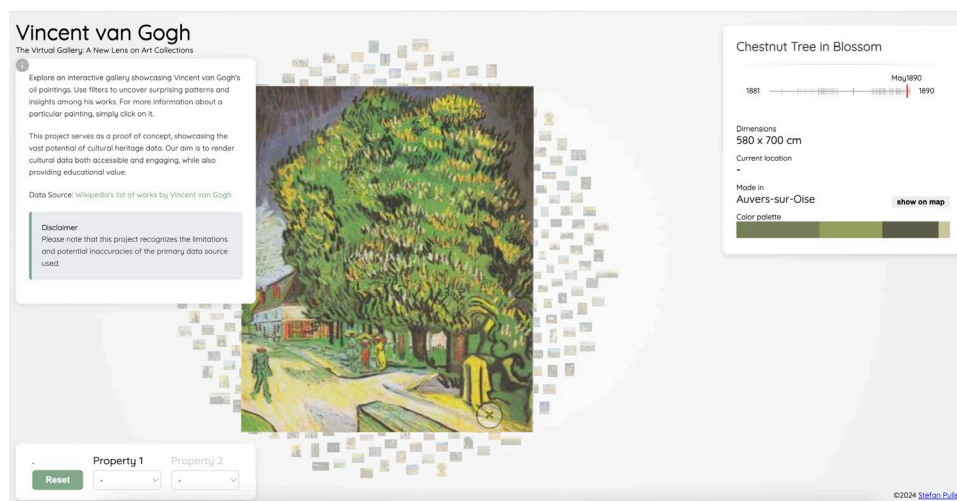


Figure 2. “Thematic data visualization by Stefan Pullen, based on the Van Gogh collection. Source: <https://van-gogh-collection.stefanpullen.com/>”

Overview Data Visualization

Overview data visualizations, on the other hand, provide a broader perspective on cultural heritage, guiding users through the various layers of complexity within a collection. As we can see in the Figure 3, The Calvin Atlas project, for instance, employs overview visualizations to create a creative and data-driven storytelling experience that helps users navigate the intricate relationships between different cultural artifacts.¹⁰

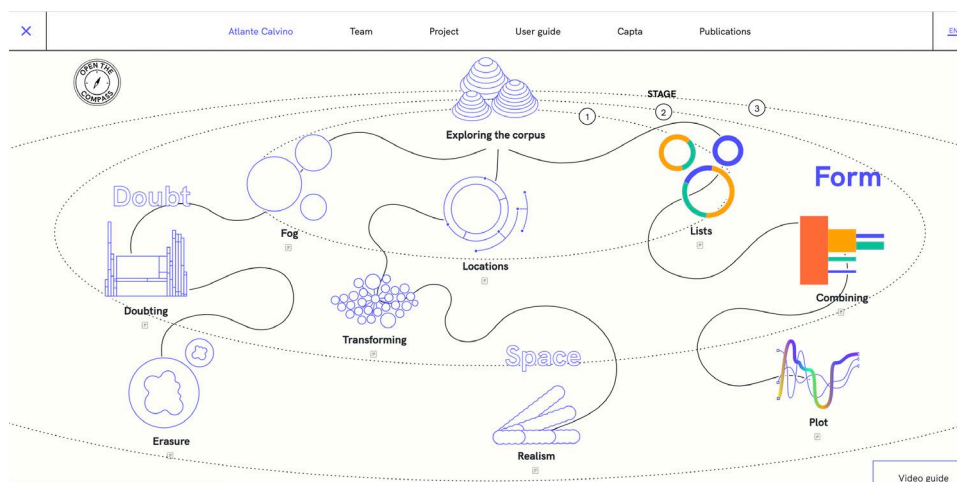


Figure 3. “Overview data visualization inspired by the Calvin atlas, powered by the University of Genoa and DensityDesign Lab of Politecnico di Milano. Source: <https://atlantecalvino.unige.ch/>”

Challenges and Opportunities in Digital Cultural Heritage

The digitization of cultural heritage presents both challenges and opportunities. One of the primary challenges is the management of missing data, which can undermine the integrity of digital collections. The projects discussed offer an opportunity for exploring the environmental implications of large-scale digitization projects, emphasizing the need for sustainable practices that minimize the environmental impact of digital cultural heritage initiatives. Additionally, strategies for managing missing data, including the use of advanced design tools to recognize and address gaps in data during the digitization process, are also considered.¹¹

Missing Data Management

The management of missing data is crucial in ensuring the robustness and accuracy of digital cultural heritage collections. The paper presents strategies for recognizing and addressing missing data during the digitization process, including the use of advanced design tools that enhance the environmental consciousness of these projects. By incorporating missing data management into the design process, digital cultural heritage initiatives can maintain the integrity of their narratives while ensuring their long-term sustainability.

Sustainable Digitization Practices

Sustainable digitization practices are essential in minimizing the environmental impact of digital cultural heritage projects. The paper discusses strategies for reducing the carbon footprint of digitization initiatives, including the use of energy-efficient technologies and the adoption of environmentally responsible practices throughout the digitization process. These practices not only contribute to the sustainability of cultural heritage but also ensure that digital collections remain accessible and usable for future generations.¹²

CONCLUSION

This paper has explored the potential of design-driven approaches to cultural heritage, focusing on the development of open and shared cataloging systems that facilitate the collective memory of communities. Through the application of generative, aggregative, and narrative design methodologies in the ongoing projects presented, the paper has demonstrated how design can enhance the accessibility, understanding, and usability of cultural heritage. The case studies of the CHANGES and RADICI projects have provided practical examples of how these methodologies can be applied in real-world contexts, highlighting the potential of digital tools and data visualization techniques in preserving and sharing cultural memories.

The design-driven approach in creating open and shared cataloging systems has proven to be a key element in empowering cultural heritage. These systems not only enhance the accessibility and usability of cultural resources but also promote greater inclusivity and collective participation. Particularly important is their ability to address both *Established* and *Non-Established Heritage*. Established Heritage refers to cultural assets that are long-recognized, typically affiliated with historical public institutions, and well-documented within academic and institutional frameworks. Instead *Non-Established Heritage* includes emerging, less recognized, and often privately held cultural assets that are not traditionally cataloged or preserved.

The flexibility of open and shared cataloging systems allows for the integration of both types of heritage into a unified digital framework. This integration broadens the scope of cultural preservation, ensuring that lesser-known cultural elements are not only preserved but also made accessible to the public. By facilitating the inclusion of *Non-Established Heritage*, these systems democratize cultural knowledge, giving voice to previously underrepresented or overlooked narratives. Ultimately, the

implementation of open and shared cataloging systems, supported by a design-driven approach, is a fundamental strategy to ensure the vitality and sustainability of cultural heritage in the digital age, making it a living and shared resource for present and future generations.

In conclusion, the design-driven approach to cultural heritage presented in this paper offers innovative solutions to the challenges posed by the digitization of cultural assets. By promoting inclusive and community-oriented practices, this approach ensures that cultural heritage remains relevant and accessible in the digital age, fostering a deeper understanding, appreciation and exploitation of our shared cultural heritage.

NOTES

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TO THE RESCUE: ADDRESSING MODERN HERITAGE IN SHARJAH

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INTRODUCTION

The rapid urbanization of cities in the Gulf region has undeniably catalyzed economic growth, significantly accelerating the development of the built environment. This urban expansion, particularly in countries that gained independence in the 1960s and 1970s, led to dramatic population increases and profound transformations in urban and social structures, which were crucial to the formation of modern nation-states. Modernist architecture, as noted by Fabbri and Al Qassemi,¹ became the language through which Gulf cities expressed their modern aspirations in the twentieth century. However, as these cities continue to develop at a rapid pace, the modernist architectural heritage from the post-1960s era is increasingly at risk. The ongoing drive for urban growth and the pursuit of contemporary design often overshadow these structures, leading to their neglect and, in some cases, demolition. This trend raises critical concerns regarding the preservation and repurposing of these buildings, which are frequently overlooked despite their historical and cultural significance. Insufficient attention is given to their adaptability and restoration—strategies that are essential not only for preserving the architectural legacy but also for addressing contemporary urban challenges and the unsustainable practices currently shaping city planning.

Challenges in Preserving Post-1960s Heritage

This issue is particularly pressing in the context of the rapid development seen in the United Arab Emirates, where cities like Sharjah have undergone significant transformation over the last few decades. The modern architectural heritage of the post-1960s era, often overshadowed by traditional forms or the allure of contemporary design, faces distinct preservation challenges. These include the adaptability of these buildings to new uses, the deterioration of structural integrity due to prolonged periods of abandonment, and the general lack of appreciation for their historical value. In 2023, the UAE Ministry of Culture and Youth launched the "Modern Architectural Heritage of the UAE" project, which focuses on researching, documenting, and preserving significant examples of post-1960s architecture across the country.² Despite the commendable intentions of this initiative, a critical question remains: how can these efforts be effectively aligned to raise public awareness and create meaningful opportunities for the preservation and adaptive reuse of these architectural assets?

CULTURAL INITIATIVES AS TOOLS FOR PRESERVATION

Patrik Schumacher's critique on the potential self-annihilation of the discipline of architecture, stemming from the absence of architectural representation at the Venice Biennale, raises profound questions regarding the relevance of architecture biennales and triennials. Articles like "What is the Point of Architecture Biennials?", an edited transcript of a debate among curators from the Sharjah Triennial, Oslo Triennial, Chicago Biennale, and Seoul Biennale;³ and Aaron Betsky's "The Value of Architecture and Design Biennales"⁴ explore the purpose, meaning, and legacy of these events. These discussions underscore divergent perspectives: while some perceive these platforms as branding circuits and vehicles for career advancement, others regard them as crucial arenas for showcasing underrepresented geographies and emerging architectural practices. However, architecture biennales and triennials can play a crucial role in the protection of modern architectural heritage by actively incorporating these structures as venues or focal points for exhibitions and events, renewing attention to their historical and cultural significance.

Sharjah Art Biennial and Sharjah Architecture Triennial

This research underscores the significant role of the Sharjah Art Biennial and the Sharjah Architecture Triennial in elevating awareness of the relevance of modern architecture in Sharjah. The Sharjah Art Foundation's acquisition of various endangered exhibition venues for public installations and collaborative projects such as the Al-Qasimiyah Primary School for Boys, the Old Al Jubail Vegetable Market, the Flying Saucer, the Kalba Ice Factory, the Kalba Kindergarten, and the Khorfakkan Cinema,⁵ as illustrated in Figure 1, have effectively engaged the public and promoted practical alternatives to the impermanence of these structures. Through these initiatives, the foundation has established a preservation model for others to emulate, ensuring that Sharjah's modern architectural heritage is not only recognized but also actively preserved for future generations.

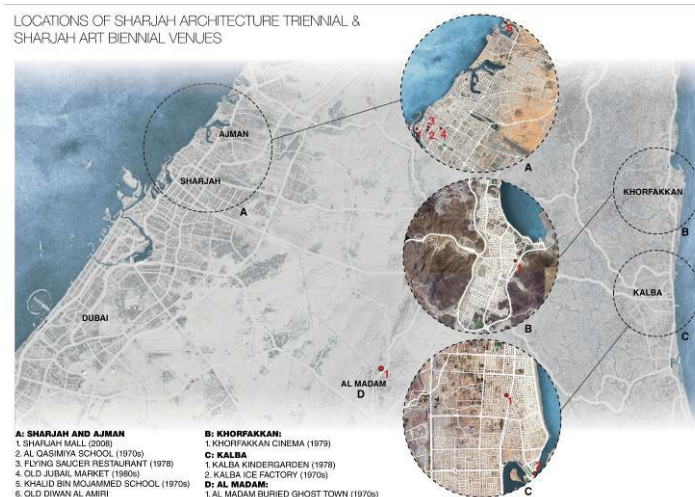


Figure 1. Venues of Sharjah Art Biennial and Sharjah Architecture Triennial

SHARJAH'S URBAN AND ARCHITECTURAL EVOLUTION

Sharjah's transformation into a modern and prosperous city was deeply rooted in the strategic development of its harbor and urban infrastructure in comparison to Dubai. Although perceived as a "sleepy town of two to three thousand inhabitants",⁶ developments like the 1930s Sharjah Air Station, laid the ground for the city's modernization through its first hotel, meteorological center, cinema, telegraph, postal service, and control tower, which significantly boosted Sharjah's prominence,

enhancing its strategic importance on both, a regional and international scale. However, Sharjah's financial landscape presented a stark contrast in comparison to Dubai. Sharjah's finances were perceived as opaque and untraceable, contributing to an unfavorable assessment by British officials. Its scarcity was interpreted as a sign of deficiency which manifested in the lack of work for its residents, barren environs, a deteriorated harbor, no electricity, and no systems of sanitation, waste disposal, and drainage.⁷

The reports concluded that if Sharjah were to become an oil state, it would need to be prepared for rapid expansion; if not, it would require a strategy to strengthen its economy.⁸ Sir William Halcrow and Partners town plan proposal of 1963 found Sharjah to be a more advantageous location than Dubai for developing a modern city. The plan proposed an organizing grid of wide 'primary distributors' with a series of roundabouts connecting designated zones, including civic sectors, an education center, and residential neighborhoods. This strategic layout aimed to facilitate efficient transportation and promote balanced urban growth, ensuring Sharjah's readiness for future economic and demographic changes.⁹ Parallel to this zoning proposals, modern concrete structures emerged as a testament to the new wealth generated from oil. Designed before and after the consolidation of the UAE in 1971 by local and foreign architects, these new structures addressed education, tourism, banking, health, and basic infrastructure. The designs demonstrated innovation and engineering ingenuity despite the constraints posed by local building industries, labor, and available materials.

Modern Concrete Structures and Preservation

These local productions, as Sibel Bozdogan notes in her text "Global Legacies of Modern Architecture: View from Turkey,"¹⁰ represented "de-centered modernisms." They did not merely replicate metropolitan architectural concepts but transformed them, resulting in a distinct formal approach that allowed these regions to become co-producers of modern architecture, rather than passive importers of Western discourses and practices. This dynamic interplay of old and modern architecture shaped Sharjah's unique urban landscape, reflecting its rich history and rapid development. The potential demolition of the Bank Street buildings, as seen in Figure 2, completed in 1979 by the Spanish firm *Tecnica y Proyectos*, highlights the ongoing tension between preserving modern architectural heritage and prioritizing pre-modern structures that align with Sharjah's status as a UNESCO Cultural Capital of the Arab World and Capital of Islamic Culture. The unique design and historical significance of these buildings are emblematic of a pivotal era in Sharjah's urban development, and their potential loss has sparked a broader debate about the values guiding the city's preservation efforts.



*Figure 2. Bank Street buildings, completed in 1979 by the Spanish firm *Tecnica y Proyectos**

Case studies in preservation and adaptive reuse

In discussions with architect Mona El Mousfy, founder of SpaceContinuum and Architecture Consultant for the Sharjah Art Foundation, the challenges facing modern architectural heritage are attributed not only to poor maintenance and years of neglect but also to the modest scale of these structures, which often results in their undervaluation.¹¹ Yasser Elsheshtawy further elaborates on this issue, noting that the monotony and simplicity of modern architectural forms have been associated with a sense of alienation among urban residents. He argues that the replacement of walkable streets and communal spaces with efficient highways has been linked to a range of urban issues, including increased crime rates.¹²

This research examines four buildings acquired by the Sharjah Art Foundation, focusing on understanding how changes in the built environment, the obsolescence of their original functions, and the evolution of technological advancements, such as air conditioning, contributed to their abandonment and decommissioning. The buildings under investigation in Figure 3, include the Al Qasimiyah School and the Old Jubail Vegetable Market, both of which serve as venues for the Sharjah Architecture Triennial, and the Flying Saucer and the Kalba Ice Factory, which are featured in the Sharjah Art Biennial. By analyzing these case studies, the research aims to shed light on the factors that have rendered these structures vulnerable, while also exploring the potential for their adaptation and reuse within contemporary contexts.

				
Type	School	Fruit and Vegetable Market	Various	Ice Factory
Urban Context	Dense urban context	Site surrounded by parking and bus terminal	Site at intersection of high speed roads	Site between mangroves and high-speed road
Reason for Abandonment	Schools no longer naturally ventilated Damaged structure	Construction of AC modern market	Location and disconnection with urban context	Ice Factory no longer needed
Type Transformation	Sharjah Architecture Triennial Headquarters and exhibition space	Sharjah Architecture Triennial Exhibition Space	Sharjah Art Biennial Exhibition Space	Sharjah Art Biennial Exhibition Space

Figure 3. Buildings under investigation

The transition from naturally ventilated spaces, such as the Al Qasimiyah Schools and the Old Jubail Market to air-conditioned buildings played a significant role in their abandonment. This shift not only reflects changing architectural preferences but also the broader trend of urban modernization that prioritized new technologies over traditional design approaches. The Flying Saucer's original location, once central to Sharjah's urban fabric, became increasingly disconnected as the city expanded and evolved, diminishing its accessibility and relevance. The Kalba Ice Factory's obsolescence further underscores the impact of technological advancements, as its function was rendered outdated. Together, these examples illustrate how changes in environmental control, urban growth, and technological progress have influenced the use and preservation of these modernist structures.

Al Qasimiyah Schools (1970s)

The renovation of a mid-1970s federal commission for an elementary boys' school prototype demonstrates the potential of modern adaptive reuse strategies. This building's transformation into the headquarters of the Sharjah Architecture Triennial exemplifies how architectural integrity can be preserved while creating a dynamic space for cultural activities. The Al-Qasimiyah School, designed by the engineering consultancy Khatib and Alami, was one of twenty-six schools based on a courtyard prototype that played a crucial role in the development of educational infrastructure during a significant period of nation-building in the UAE.

In 2018, the Sharjah Architecture Triennial headquarters relocated to the Al-Qasimiyah School building, embracing the challenge of renovating the abandoned school and converting it into a cultural institution. The renovation retained key elements of the original structure, preserving its architectural integrity and historical significance. The building, with its courtyard typology, reflects the design principles common to many educational facilities across Sharjah during that period, which emphasized open, airy spaces conducive to learning, with the courtyard serving as a central communal area.

This project represents the first instance of adaptive reuse for this particular UAE typology. By retaining significant architectural elements such as the repetitive flat vaulted bays, perforated screens, covered walkways, modular classroom units interspersed with open spaces, iconic water towers, and earth-toned concrete surfaces, the renovation underscores the viability of modern adaptive reuse strategies in preserving historical buildings. The building, as seen in Figure 4, now serves as a dynamic cultural venue, housing exhibition galleries, a lecture hall, a library, offices, a café, and other spaces, while maintaining a dialogue between the past and present.

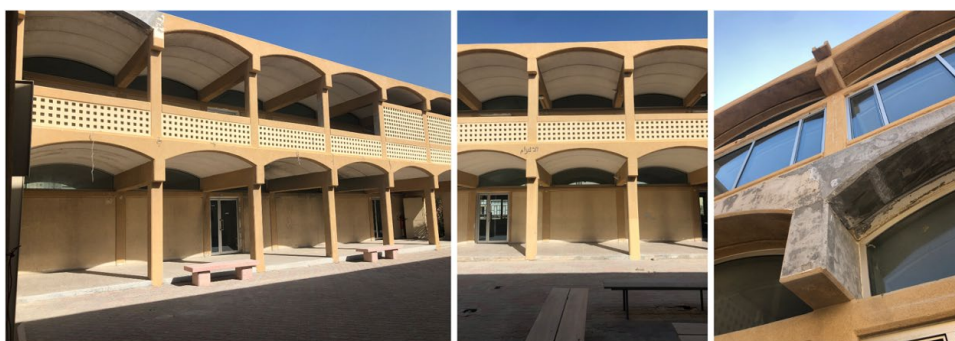


Figure 4. Al-Qasimiyah School

Mona El Mousfy, the Architecture Consultant for the Sharjah Art Foundation, articulated the approach: "We consciously opted to work with the possibilities of existing structures in the city rather than start with a blank slate. Not only is this approach environmentally sustainable, but it also creates a layered architecture in continuous dialogue, building upon the city's history and memories while responding to contemporary uses and evolving aspirations. We believe that thoughtful adaptive reuse of culturally valuable buildings supports the re-evaluation and transformation of architecture."¹³

The Sharjah Al Jubail Old Vegetable market, 1980s

The transformation of this market into a cultural hub through the 2023 Sharjah Architecture Triennial installations illustrates the potential for reintegrating marginalized structures into the urban landscape. Originally designed by the British engineering firm Halcrow Group, the building occupies a 4,000-square-meter footprint and stands as an architectural landmark in Sharjah. The structure, as seen in Figure 5, is notable for its long-curved form, terrazzo tiling, arched windows, vintage signage, and its

strategic location within the Al Jubail Souq district along the waterfront.¹⁴ Beyond its role as a commercial space, the market also incorporated essential urban components, such as parking facilities and a bus terminal, which facilitated access and commerce.



Figure 5. The Sharjah Al Jubail Old Vegetable market, 1980s

The shift from naturally ventilated structures to modern, air-conditioned facilities marked a significant transformation in the city's urban fabric. This change led to the construction of a new air-conditioned market opposite the original one, rendering the Al Jubail market obsolete and eventually abandoned by 2015. As the market became increasingly isolated amidst the surrounding proliferation of parking facilities and car-oriented functions, its marginalized position within Sharjah's rapidly evolving urban context became evident. This marginalization underscored the disconnect between the market and the broader urban fabric of the city.

In response to this urban challenge, the 2023 Sharjah Architecture Triennial installations included a critical intervention by Dyvik Kahlen Architects, who proposed an exterior plaza aimed at reintegrating the market into the urban landscape. The design envisioned a welcoming public space that would encourage pedestrian activity and social interaction, effectively bridging the gap between the market and its surrounding environment. This plaza was intended to foster a renewed sense of community and belonging, serving as a multifunctional space for outdoor markets, cultural events, and social gatherings.

The Flying Saucer, 1978

The restoration and repurposing of this iconic building into a dynamic cultural center underscore the challenges of pedestrian accessibility and the importance of integrating historical structures into the urban fabric. A local landmark since its construction, the Flying Saucer was originally built to house French chef Gérard Reymond's first restaurant in Sharjah. Defined by its circular floor plan, central dome, and V-shaped angled pillars supporting a star-shaped canopy, the structure originally marked the entrance of a former British camp. Its futuristic design, reminiscent of the Western space-age pop culture of the 1960s and 70s, quickly made it an iconic part of Sharjah's architectural landscape.

After the restaurant closed in 1980, the building was repurposed as a grocery store and later as a fast-food restaurant.¹⁵ Despite its distinctive design, the Flying Saucer, like the Old Jubail Vegetable Market, remained an isolated structure, positioned at the corner of Sheikh Zayed Street and Al Wahda Street—two busy multi-lane roads that further emphasized its separation from the surrounding developments. Over the years, this isolation highlighted the building's unique architecture but also posed significant challenges for its accessibility and integration into the broader urban context.

Recognizing its architectural and historical significance, concerted efforts were undertaken to restore and repurpose the structure for contemporary use. However, given the building's complex siting, enhancing pedestrian accessibility became a critical challenge. The Sharjah Art Foundation, in

collaboration with the Sharjah Roads and Transport Authority and with intervention by SpaceContinuum, worked to improve pedestrian-friendly conditions. These collaborative efforts aimed to better integrate the building into the urban fabric, ensuring both its accessibility and its utility for contemporary users. The project, as seen in Figure 6, involved rethinking the surrounding infrastructure to prioritize pedestrian pathways, thereby improving connectivity between the building and its surroundings. SpaceContinuum's intervention included the design of pedestrian-friendly walkways, and the creation of public spaces that encourage foot traffic and social interaction.



Figure 6. View of the The Flying Saucer

By addressing the issue of pedestrian accessibility, this intervention not only preserved the historical and architectural integrity of the building but also revitalized its functionality for contemporary use. The improved accessibility made the building a more integral part of the community, promoting greater engagement and appreciation of its historical value. This transformation revitalized the building into a vibrant cultural center, featuring an underground space that houses a public art library, a film-screening room, workspace, and social areas.

The interior redesign included the removal of a false ceiling to accentuate the high dome-shaped space, enhancing the exhibition and performance experience and facilitating the display of large-scale artworks.

The Kalba Ice Factory, 1970

The adaptive reuse of this industrial space into a venue for art exhibitions and cultural events exemplifies the potential for preserving historical structures while fostering a dialogue between culture and nature. The 20,000-square-meter building, acquired by the Sharjah Art Foundation in 2015, has since served as a central site for the organization's activities. The renovation, undertaken by the Peruvian firm 51-1 Arquitectos, focused on preserving the original industrial space with minimal alterations.¹⁶ This project is one of the major conservation initiatives launched by the Sharjah Art Foundation in recent years, aiming to preserve the rich natural heritage of Sharjah, while creating spaces conducive to the display of contemporary art and serving as a community hub, as seen in Figure 7.



Figure 7. The Kalba Ice Factory, image provided by 51-1 Arquitectos

The renovation included large exhibition spaces, living quarters for visiting artists and guests, a shaded walkway along the shoreline, a garden, and a restaurant on an elevated deck with views of the mangrove. A new adjoining structure was added to house residences for artists and visitors. This architectural addition harmonizes with the factory's aesthetic while providing functional contemporary uses.¹⁷

By transforming the factory into a venue for art exhibitions and cultural events, the project fosters a dialogue between culture and nature. This adaptive reuse not only preserves the historical and architectural significance of the factory but also integrates it into the ecological context of the region.

CONCLUSION

In conclusion, the rapid urbanization of cities has undeniably fostered economic prosperity and accelerated development, reshaping urban and social landscapes worldwide. However, this progress has often overlooked the architectural heritage of the recent past, leading to challenges in preserving these valuable historical assets amidst modernization efforts. Despite these efforts, the journey towards effective preservation requires navigating complex challenges, including public awareness and sustainable urban planning. Highlighting the role of cultural events such as the Sharjah Art Biennial and the Sharjah Architecture Triennial, which actively engage the community in celebrating and repurposing modern architectural heritage, offers a promising model for fostering sustainable solutions amidst urban growth.

NOTES

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¹² Yasser Elsheshtawy We Need to Talk about the Modernism Fetish in the Gulf, <https://dubaization.com/post/168964409563/we-need-to-talk-about-the-modernism-fetish-in-the>

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¹⁵ Grinstead. 14

¹⁶ Nour Fakharany, "Renovated by 51-1 Arquitectos, the Kalba Ice Factory in Sharjah Reopens for the Sharjah Biennial 15," *ArchDaily*, accessed June 13, 2024, <https://www.archdaily.com/996910/renovated-by-51-1-arquitectos-the-kalba-ice-factory-in-sharjah-reopens-for-the-sharjah-biennial-15>.

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CRAFTING CHANGE: A COMPREHENSIVE EXAMINATION OF CHANNAPATNA TOY-MAKING TRADITION AND ITS SOCIETAL IMPACT

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INTRODUCTION

A toyless civilization probably does not exist. Any object or a thing which is playable can be considered as a toy.¹ A toy can be divided in two categories: Improvised and designed. Improvised toys are the toys which are not crafted with purpose but are used as a toy by the player. Designed toys are created purposely, in industry or handmade. Channapatna, a town in Karnataka, is renowned for its handcrafted wooden toys made from local materials, representing the region's cultural heritage and craftsmanship.²

The Indian government has initiated initiatives to support the Channapatna toy sector. The purpose of this study is to analyze Channapatna people's awareness and understanding of government policies and grants aimed at supporting the toy-making business. Furthermore, the study aims to assess the effectiveness and actual implementation of these policies at the ground level. Assessing the knowledge and effectiveness of government policies in Channapatna is critical for identifying opportunities and barriers to the toy industry's long-term growth. This study will provide significant insights to policymakers, industry stakeholders, and the local population, thereby helping to improve the industry and the region's economy.

LITERATURE REVIEW

The toy industry significantly influences India's economy, generating employment opportunities and contributing to GDP expansion. We should leverage this foundation for economic development while safeguarding India's diversified cultural heritage, which includes traditional production methods, to benefit future generations.³

The Indian government has recognized the importance of the toy industry and has implemented a variety of initiatives to promote its expansion.⁴ Research indicates that micro, small, and medium enterprises are responsible for 97% of industrial employment, which has led to an increase in job opportunities in both rural and urban areas, including the toy manufacturing sector. Additionally, MSMEs are a significant contributor to the Indian economy, second only to the agricultural sector.⁵ Toy commerce experienced a significant increase in exports between 2018-19 and 2021-22, while imports decreased to \$177 million.⁶

Global market transformations have significantly impacted the operations of micro, small, and medium enterprises. The objective of these policy reforms, which have been implemented in India

since 1991, was to incorporate the national economy into global transactions.⁷ The necessity for inclusive growth strategies to address the diverse challenges faced by rural communities has been underscored by the widening of income disparities and the impact on social structures and traditional livelihoods in rural India as a result of the liberalization policies implemented since 1991.⁸

Raju emphasizes the critical role of SMEs in India's economy, but he also observes that manufacturing SMEs, including toy manufacturers, are unable to make a significant contribution due to inefficient policy support and capital supply.⁹ In Rajasthan, artisans who engage in traditional crafts such as leather manufacturing encounter a variety of obstacles, such as inadequate wages, inadequate working conditions, and a lack of government support.¹⁰ In the same vein, a literature review of Indian MSMEs underscored the necessity of a more effective policy environment and increased technological advancement to improve their competitiveness in the global market.¹¹ Furthermore, an additional study emphasizes that rural entrepreneurs encounter obstacles, including inadequate infrastructure, technology, and training, in addition to competing in both domestic and national markets. It is imperative to overcome these challenges in order to improve the sustainability and competitiveness of agrarian enterprises.¹² Government policies significantly affect small enterprises, including those in the toy industry.¹³ The necessity of targeted support and effective policy implementation to promote the development of rural entrepreneurship and traditional crafts in India is emphasized by existing research.¹⁴ The survey should focus on Channapatna toy industry and the impact of government policies on this distinctive handmade wooden toy sector. By analyzing the Channapatna case, the researchers can gain valuable insights into the effectiveness of government policies and their impact on small enterprises.

METHODOLOGY

The study will employ both quantitative and qualitative approaches. The quantitative method collects information on artists' awareness of government policy and how to benefit from it, whereas in-depth interviews with primary stakeholders such as entrepreneurs, industry experts, and government officials aim to provide a better understanding of the challenges they face.

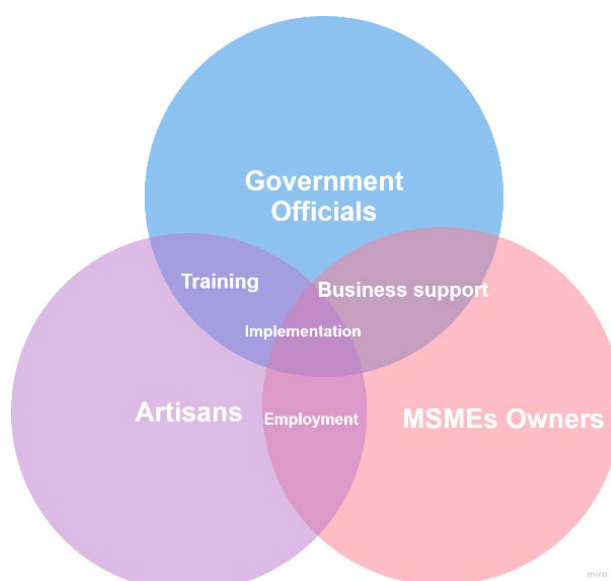


Figure 1. Stakeholder mapping

By incorporating key stakeholders' perspectives, the research can identify misalignments between policy formulation and on-the-ground implementation, enabling the proposal of tailored solutions to reconcile this gap.¹⁵ In order to guarantee the relevance and efficacy of policy interventions, it is essential for policymakers to engage with a variety of stakeholders. This enables them to align their initiatives with the unique requirements and realities of the local community.¹⁶ This multi-stakeholder approach has the potential to offer valuable insights into the socio-economic, cultural, and operational challenges encountered by the traditional artisans, who are essential stakeholders in the Channapatna toy industry.¹⁷

RESEARCH LOCATION: CHANNAPATNA

Channapatna is located in the Karnataka district of southern India and is known for its extremely traditional craft of wooden toy making. People also regard it as India's cultural heritage, illustrating the country's rich history, mythology, tales, folklore, and plant and animal life.¹⁸

As a result, Channapatna is an excellent location for studying the relationship between government intervention and small business development. Channapatna has been manufacturing wooden toys and lacquerware for more than two centuries. People also call it "toy town."¹⁹ Persian artisans encouraged the local population to master these particular techniques, resulting in the city's artisanal tradition. Although the industry has developed to cover a wide range of different wood kinds, such as rubber, cedar, teak, and rosewood, the original technique is lacquering doodhi ki lakadi (ivory wood). The Channapatna toy industry has a GI tag to its unique traditional craft.²⁰ Geographical indications are a type of intellectual property that identifies the origin of items as a specific geographic region, capturing the unique attributes and characteristics associated with that location. The GI designation serves to protect and promote the distinctiveness and authenticity of these products.²¹

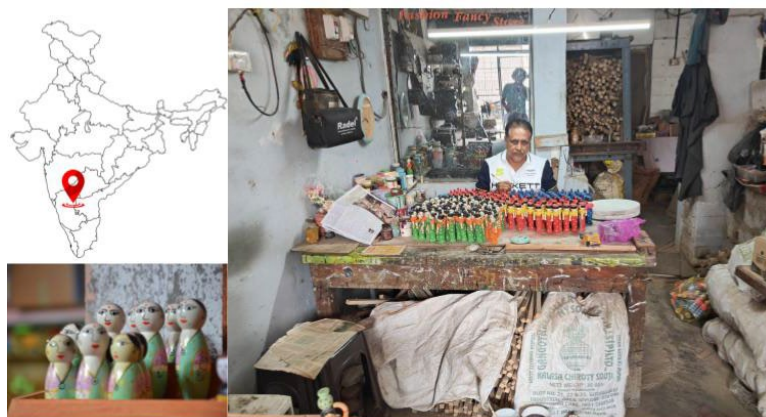


Figure 2. Map, toys & Artisan working in the factory

THE CRAFT TOY PRODUCTION

The toy production process involves three main stages: raw material preparation, manufacturing, and finishing. The first stage involves sourcing and preparing primary materials on-site, followed by wood seasoning, lac stick creation, and shaping the wooden block using hand tools and lath machinery. The wooden block is then polished with screw pine dry leaf for a shiny finish. The components are assembled in line with design and quality control measures to align with market standards.²²

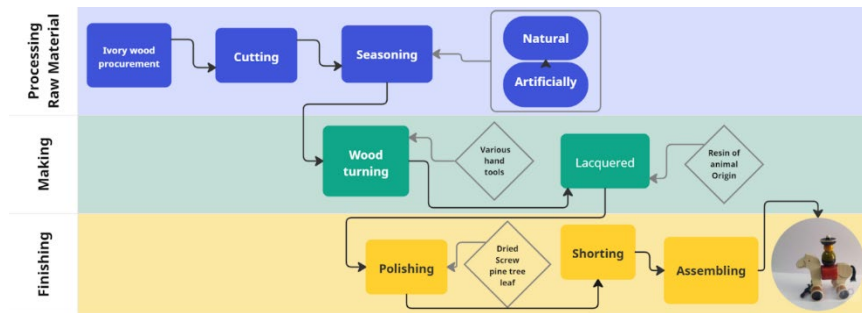


Figure 3. Toy making Process

MSMES INDUSTRY: GOVERNMENT POLICIES

The Indian government has proposed numerous programs to assist MSMEs. Small and medium-sized businesses need these programs because they help them get money, learn new skills, get tax breaks, and get into more markets. This is important for India's economic growth, long-term development, and keeping native knowledge and culture alive. These policies help the sector grow by providing businesses with the financial and operational tools they need, as well as by solving the cultural problems artists face.²³ One of these projects is the Aatmanirbhar Bharat Campaign. It spreads the word about Indian goods and shows how important "make in India" products are. Figure 4 showed different government programs, which are further broken down into four areas based on their support: finance, marketing, technology and manufacturing, and employment.²⁴

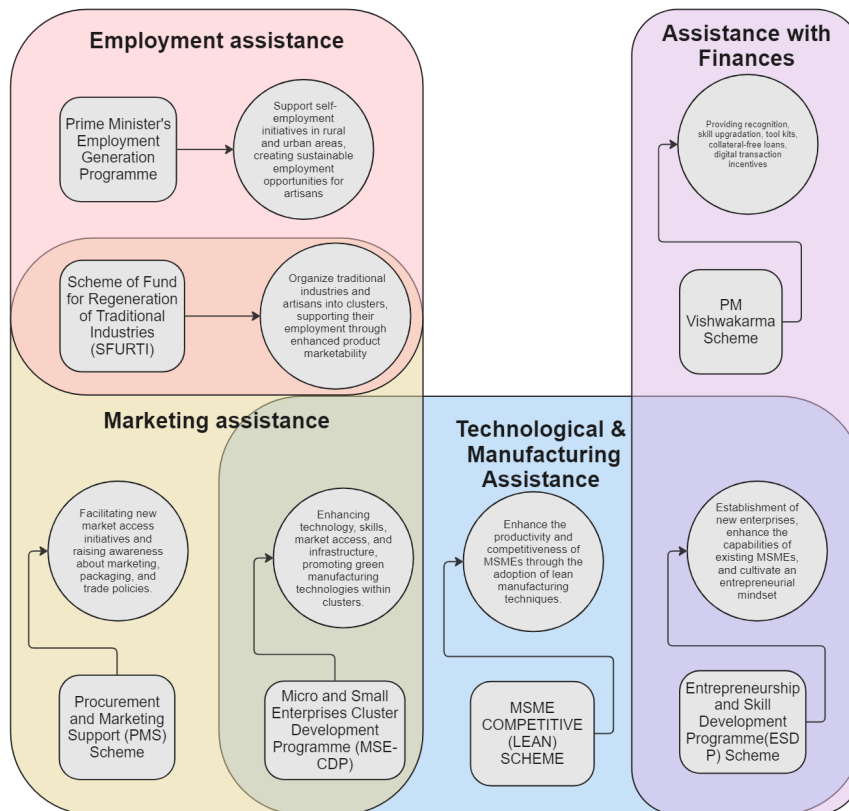


Figure 4. Government Schemes and their descriptions

DATA ANALYSIS

The study involved 15 artisans aged 20-60, with 40% acquiring their skills through government-provided training programs, as illustrated in figure 5, 33.3% through intergenerational knowledge transmission within families, and 13.3% through NGOs-organized seminars, emphasizing the crucial role of NGOs in skill development.

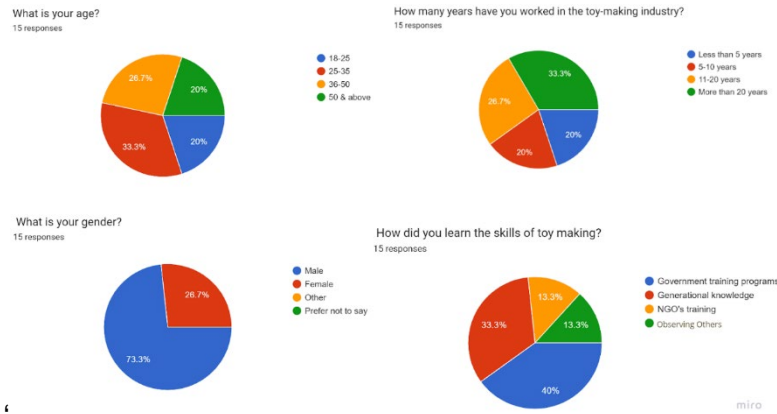


Figure 5. Responders General Information

The data, as illustrated in Figure 6, shows that 66.7% of Channapatna artisans earn less than 15,000 rupees per month, with 46.7% working more than eight hours daily. Only 33.3% have moderate digital literacy, while the majority lack digital literacy or basic skills, such as operating digital devices.

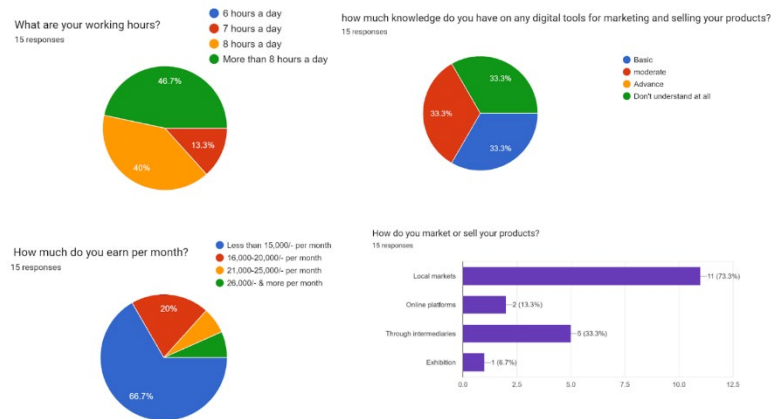


Figure 6. Responder's working hours, wages & knowledge on digital tools

The data shows that only 13.3% of respondents sell their products online, with 73.3% relying on local markets. Despite being second or third-generation artisans, 92.3% do not wish to pass on their skills to the next generation, as illustrated in Figure 7.

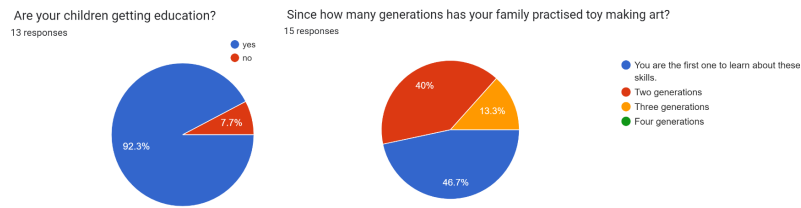


Figure 7. Intergenerational knowledge transfer

Figure 8 shows that 53.3% of artisans support government programs incorporating skills development initiatives, 40% prioritize marketing training, and 33.3% desire design-related programs in training sessions. Furthermore, 53.3% of the respondents believe that improved government policies would substantially enhance the growth of their craft, while 40% believe that effective market strategies would also contribute to this growth.

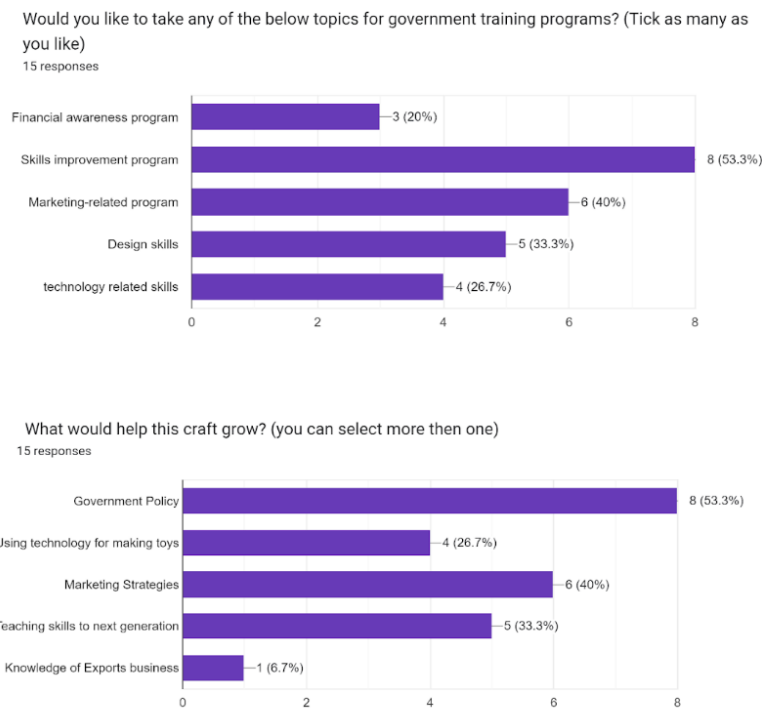


Figure 8. Factors to improve craft growth and government training programs

Challenges and opportunities for channapatna toy artisans: insights from stakeholder interviews

We conducted in-depth interviews with a wide range of stakeholders, including craftsmen, company owners, and government officials, and discovered that the majority feel government programs and schemes have had an impact on the Channapatna toy industry. However, the craft has not been completely damaged, as there have been identified gaps in policy decisions. Traditional craft workers frequently encounter difficulties in getting government programs due to stringent documentation requirements such as income tax reports, Udyam certificates, and bank accounts, resulting in higher financing rates from private institutions. This created a difficult cycle in which they faced growing interest payments while repaying both the interest and principal on their loans. The government tends

to tailor its laws more specifically to address the special demands and challenges of industry entrepreneurs than to the artists who are the backbone of this traditional craft.

The stakeholders pointed out the importance of establishing a dedicated government agency or department to meet the different demands and difficulties confronting the Channapatna toy industry. Unfortunately, the majority of the relevant government departments are located a long distance from the town, forcing the artisans to travel substantially for any government-related duties. This logistical problem, combined with the inherent complexities of the governmental maze, frequently results in lost employment hours for the artisans and a lack of confidence that their task would be completed. Ultimately, this situation leads to the failure of well-intended government programs at the grassroots level, as artisans struggle to navigate the system to receive the assistance they sorely require.

The government can target younger artisans who are more open to digital literacy skills, since they may be more driven to acquire new technologies than elderly artisans, who are frequently reluctant due to their unwavering focus on traditional art forms. Furthermore, the interviews found that plastic toys account for a sizable share of the overall Indian toy market, while wooden toys from the Channapatna region remain a niche category. Furthermore, the Channapatna toy cluster confronts a substantial difficulty due to a lack of investment in adaptable product designs, demanding a focus on innovation and design refinements to remain competitive and match changing consumer preferences.

Interviews with non-native business owners and designers revealed that language difficulties are one of the most significant challenges they confront. As many artisans only know the local language, Kannada, and are unable to converse successfully in other commonly spoken languages in India, such as English and Hindi. This language barrier frequently causes communication delays and dependency on middlemen who serve as interpreters between artisans and non-local business owners and designers. To succeed in the competitive market, artisans must not only have strong communication abilities but also a variety of soft skills. The interview findings indicate an urgent need for focused training programs that can improve artisans' communication skills as well as their business acumen, allowing them to communicate directly with non-local customers and clients without the use of middlemen.²⁵ Furthermore, the interviews revealed that the craftsmen frequently lack professionalism and time management skills, which limit their capacity to complete the work on time.

Interviews with government officials have revealed details about the government's efforts to promote the Channapatna skill in various parts of India. The government has funded training programs for local artisans, supervised by expert instructors. However, these training initiatives have faced challenges due to the influence of caste-based reservations in India. The remaining trainees may have pursued alternate jobs or enrolled to receive a stipend during training sessions, but only half of them were able to become fully practiced artisans due to the craft's limited earnings.

Furthermore, artisans have expressed concerns about their worsening health as a result of their profession, which requires continuous exposure to wooden dust during the woodturning process. Many artisans are hesitant to compromise their health and well-being because their livelihoods rely greatly on their physical ability. To maintain the long-term viability and well-being of Channapatna toy artisans, the government must address their health issues by providing better safety equipment and regular health check-ups. While business owners claim they have provided safety equipment to the artisans, the artisans have expressed reluctance to use it due to issues of discomfort and difficulty in working with the equipment.²⁶

It has been advocated that artisans be encouraged to become entrepreneurs rather than simply working as service providers under the direction of an entrepreneur. Exposure to the demand for innovative products prompted the artists to incorporate product innovation into their craft. This transformation not only gives artisans a sense of ownership, but it also encourages them to create unique designs that are in line with broader market trends. As a result, it improves their living conditions while also

preserving the region's traditional craft legacy. By becoming entrepreneurs, artisans may oversee the whole production process, from conceptualization to marketing, and make decisions that are consistent with their artistic vision and financial demands. This entrepreneurial approach enables artisans to capitalize on emerging market opportunities, diversify their product offerings, and establish direct customer connections, thereby increasing their earning potential and ensuring the long-term viability of the Channapatna toy industry. Furthermore, the transition to entrepreneurship can inspire artisans to experiment with new techniques, collaborate with designers, and incorporate modern elements into their traditional crafts, ensuring that Channapatna toys remain relevant and appealing to a larger consumer base both domestically and globally.²⁷



Figure 9. data collection process

DISCUSSION

The investigation's findings reveal that the Channapatna toy industry faces numerous obstacles similar to those faced by other Asian communities in India. These challenges include a lack of digital literacy, limited access to the international market and digital markets, limited implementation of government policies at the grassroots level, and a lack of interest from the younger generation in learning and participating in traditional crafts. Additionally, cheap Chinese products flood the market.²⁸

The survey has revealed that artisans are unable to sell their products directly to customers due to their limited understanding of digital platforms. This discovery is in accordance with prior research that has underscored the digital divide in the Indian arts and crafts sector.²⁹ Consequently, the monopoly of middlemen forces them to compete, resulting in artisans earning less than the middlemen. The government should strive to ensure that artisans receive an equitable share of their products, which in turn motivates them to continue practicing their craft and pursuing this profession. Additionally, the government should organize national and international exhibitions on a regular basis, as these crafts are not well-known to the urban population. These exhibitions can serve as a platform for promoting these crafts in urban areas.

The dwindling workforce is a result of the limited economic opportunities and the declining number of young artisans, which is a concern that necessitates the collaboration of the government and community to preserve the traditional heritage for the next generation.

Furthermore, partnerships among artisans, educational institutions, and technology providers can help to create a supportive ecosystem that encourages skill development and the implementation of modern marketing strategies. This, in turn, will improve the ability of artisans to overcome obstacles and maintain the Channapatna craft tradition.

The research underscores the necessity for the government to establish more precise policies for artisans in all art and craft sectors, as opposed to a single-size-fits-all approach. Policymakers should identify the distinctive obstacles that artisans encounter, such as the extensive paperwork required, the fact that makers are minimally literate, and the need for supportive infrastructure and access to resources.

The government should provide the artisans with enhanced financial and social support, including improved access to health insurance, education, and skills training.

CONCLUSION

This study investigated the Channapatna toy industry, a traditional craft cluster in India with a rich history and cultural value. The study looked into the issues that the artisans encountered, such as production limits, restricted working capital, and marketing difficulties. It also looked into the function of government initiatives and their effects on the industry.

The study's findings underscore the importance of a collaborative approach between the artisans' community, the government, and the commercial sector in addressing the identified difficulties and implementing more effective solutions. The Channapatna toy industry has developed throughout time, incorporating new technologies and marketing tactics to preserve the art form. However, the efforts are not fully in the right direction, as even the government is somewhat failing to understand the bigger picture.

The major interventions required are skill enhancement for artisans, increased market access, promotion of digital literacy, and brand awareness. These steps are critical for empowering artisans and allowing them to adapt to changing market conditions while preserving the vitality of their traditional trade.

The significance of this study lies in its capacity to provide insights and recommendations that may be applied to similar traditional craft clusters throughout India. Artisans in these clusters frequently face similar issues in adapting to changing market conditions while preserving the cultural history of their unique skills. Policymakers and stakeholders may harness the potential of these traditional sectors by eliminating structural hurdles and offering comprehensive assistance, contributing to their preservation of cultural heritage and the economic well-being of the artisan communities.

In conclusion, the findings of this study underscore the urgent need for a collaborative and multifaceted approach to support the Channapatna toy industry and similar traditional craft clusters in India. By addressing the identified challenges and implementing targeted interventions, the study aims to pave the way for the sustained growth and development of these invaluable cultural assets.

NOTES

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HERITAGE, WELLNESS & RESILIENCE: EXPLORING NEW POSSIBILITIES OF PARTICIPATING BUILT HERITAGE FOR THERAPEUTIC SOCIAL RESILIENCE -- A CASE STUDY OF THE BARBICAN

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INTRODUCTION

The post-war 20th-century brutalist Barbican (Barbican Centre and Barbican Estate) see Figure 1., a Grade II listed building complex in the City of London, has been studied for its social sustainability, resilience, and well-being in relation to the research question ‘How interactions with the Built Heritage shape peoples’ subjective well-being?’ This study explores the benefits and drawbacks of historic location exposure and participation for well-being, exploring new Built Heritage Participation therapeutic, social prescribing, and heritage resilience possibilities. This study examined heritage resilience and social impact to understand local perceptions of the built heritage, subjective and social well-being, perceived social benefits, place attachment, and community identity. This research opens new ways to interpret people's emotions and mental health while visiting historical sites. This study summarises its varied findings to suggest an innovative strategy for sustainable heritage involvement and a more human-centred conservation approach to heritage management. To sum up, the study entails engaging with individuals' cultural recognition, sense of belonging, emotional attachment, spirituality, and subjective well-being to enhance cultural significance, sustainable development, and social cohesion for the ongoing preservation of cultural heritage for future generations.



Figure 1. Entrance and the inner courtyard of the Barbican Centre

METHODOLOGY

This study integrates qualitative and quantitative data with research methodologies, which have traditionally been employed in social studies.¹ It is suitable for ‘analyzing concrete cases in their temporal and local particularity’.² It is seen as a case-specific methodology capable of addressing the richness and complexity of non-quantifiable data such as values associated with the Barbican. It presents the importance of context and greater flexibility in the data collection process and the research design.³

Literature review

Prior to conducting the survey, preparatory work must be undertaken to develop a comprehensive grasp of the subject and formulate viable theories.⁴ The literature review was conducted initially to understand the importance of the Barbican, subsequently to ascertain values associated with it, and finally to delineate its heritage sustainability. The examination of architecture and well-being, heritage, and subjective well-being was subsequently presented to elucidate the impact of historical structures on individual well-being, and the social sustainability of the Barbican as a living heritage, and to assist in the design and execution of forthcoming surveys.

Semi-structured interviews

This research employs a qualitative approach to examine individuals' life experiences and perceived subjective well-being while living or working in the Barbican. From a data quality perspective, face-to-face interviews and questionnaire collecting were conducted in a clear, standard, and concise way to facilitate accurate response recording in the survey.⁵ Therefore, five residents living in the Barbican Estate and five staff working in the Barbican Centre were selected to participate in the semi-structured interviews face to face. Interviews were conducted over two weeks in July 2019. Semi-structured interviews facilitate democratic expression for participants regarding their narratives and provide researchers with the flexibility to pursue emergent issues and interests, as well as to explore unforeseen avenues during the interview process.⁶

Questionnaire

The questionnaire was administered to 25 residents of the Barbican Estate and 25 staff members of the Barbican Centre over two weeks in July 2019. Experience with evaluation tools demonstrates that linguistic labels denoting absolute concepts, such as complete satisfaction or complete discontent, can be anchored using a 0–10 scoring scale.⁷ To examine and assess how individuals utilize and engage with the space, as well as the relationship between their connection to heritage and subjective well-being, these factors will be measured using various indicators. During data processing, relevant information was selected as it facilitates the establishment of sequences, trends, patterns, and organization in the deconstruction and interpretation phases.⁸

HERITAGE PARTICIPATION & SUBJECTIVE WELLBEING

There are different forms of engagement with heritage that are influencing and embedded in people's lives.⁹ The Barbican has its unique way of involving people; this consists of half the living heritage that accommodates residents in the Barbican Estate and half the heritage recreation that attracts people to experience and explore cultural events and has different kinds of activities in the Barbican Center. To fully understand the definition and use of subjective well-being and explore its relationship that connects with heritage participation, previous research, and articles have been reviewed to lay the groundwork for this study.

Fujiwara, Cornwall, and Dolan¹⁰ explored the correlation between heritage visits and well-being, looking at the impact of visiting different types of heritage sites on different social groups in a statistical way. The study focused on the primary benefits of heritage¹¹ that directly influence an individual's quality of life or well-being from visiting or participating in heritage so that they receive a better understanding of the barriers to heritage participation. Their results indicate that visiting heritage sites is strongly related to people's life satisfaction, and the impact of heritage activities is slightly higher than that in arts and sports participation. Bickerton and Wheatly¹² examined culture, heritage, and sports, where they found that visiting historical places had a significant impact on people's well-being, which had even more impact compared to visiting museums. In other forms of participating in heritage studies, Thompson et al.¹³ and Paddon et al.¹⁴ have found the positive effects and significant benefits of handling heritage objects for hospital patients. More studies such as Grossi et al.,¹⁵ have concluded that aesthetic experience is likely to have a significant effect on an individual's physical and mental health. The degree of cultural participation was markedly associated with the response, and they emphasized the potential of arts and culture as a novel platform for public health initiatives and welfare policy formulation.¹⁶

In assessing the effect of participating in cultural activities on life satisfaction, Brown, et al.,¹⁷ explored whether people who participate in cultural and leisure activities perceive higher life satisfaction than those who do not and whether different types of leisure activities have the same impact on life satisfaction depending on the frequency of participation or the number of activities. The results showed that the increase in life satisfaction reflects that social interactions are commonly involved in sports, heritage, and active-creative activities.¹⁸ Sports and active-creative activities are significantly associated with intense physical movements, whereas heritage-involved activity as a mild intensity physical activity that sometimes improves mental health can also benefit people's life satisfaction, but in an indirect way.¹⁹ This is because certain sedentary hobbies, including performing music, painting, and attending museums, cinemas, and theaters, can be performed in isolation and do not inherently require social interaction; hence, the effect on individuals' reported well-being has been constrained by the absence of social engagement.

Previous research has demonstrated that social interaction is a significant determinant of happiness and well-being,²⁰ highlighting the necessity of fostering social interaction within the heritage sector to enhance its contribution to individuals' subjective well-being. A significant association between life satisfaction and frequency of participation in leisure activities is often reported in previous research. Lloyd and Auld²¹ studied the importance of location-centered and people-centered leisure attributes to predict the quality of life (QOL). The frequency of engaging in social leisure activities is associated with greater psychological benefits and a stronger correlation to individuals' subjective well-being than location-based factors, such as the utilization of leisure resources.²² Research indicates that utilizing amenities at the Barbican Centre may exert less influence on individuals' well-being compared to participation in social interactions or socially focused activities.

THE BARBICAN AND WELLBEING

As Jane Jacobs²³ described the thriving neighbourhoods as 'well-connected, dense, and walkable places characterized by buildings of different ages', the Barbican itself as a micro-city can be found with some similar characteristics embedded in its architectural and spatial designs that are linked to the contribution of well-being. For instance, the overall lifted open space in the Barbican provides great opportunities for people to walk and to have activities, those spaces are totally pedestrian friendly without vehicles or traffic, which is very rare to find in busy Central London. Venerandi, et al.²⁴ also demonstrated that a dense and well-connected street network may inspire more people to walk and drive less, which in turn will have a positive impact on happiness in two ways: more

physical activity and less air and noise pollution. Moreover, the green-blue infrastructure such as the gardens, green space, and lakeside in the Barbican have created a safe, peaceful, and enjoyable sense for people to relax and have social interactions. This has also been corroborated by Bonaccorsi, et al.²⁵ indicating that when it expands to an urban context, such built environments can cultivate a sense of belonging and security, hence positively influencing mental health and well-being. Consequently, the architectural significance and design of the Barbican are intrinsically linked to the well-being of its personnel and inhabitants who predominantly utilize and interact with the space in their daily routines.

Unravelling the Community Perceptions

This study employs a research methodology that includes administering questionnaires and conducting interviews to gather insights from residents and staff regarding their living heritage. The collected data will be presented through graphs and charts, highlighting key findings and analyses related to well-being indicators and socio-cultural benefits.

It would be intriguing to ascertain whether inhabitants and staff in the Barbican recognize that their residence or workplace is now a Grade-II-listed building complex. Consequently, only one resident among the 25 participants responded 'No' to this question (see Figure 2). In the questionnaire responses from personnel, six individuals were unaware of the Barbican's heritage identity and said that they perceive the Barbican just as a workplace, thus preferring not to focus on things beyond their professional responsibilities.

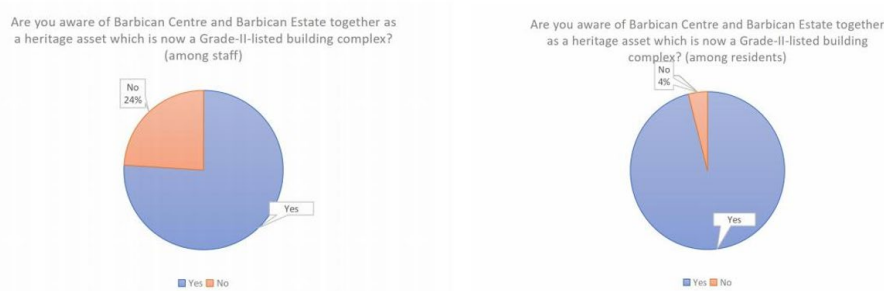


Figure 2. Frequency variables in place of the “yes/no” participation questions.

As Brajša-Žganec, et al.²⁶ found that the frequency of participating in social leisure activities can bring more psychological benefits and relate more to people’s subjective well-being, the frequency of going to events and exhibitions held in the Barbican Centre has also been collected in the questionnaire (Figure 3). As a result, ‘Once in a month’ has been chosen as the most voted frequency indicator among residents and staff. In special cases such as some staff working at the exhibition halls so that they go to the exhibitions every day. Other choices in terms of ‘once in a week’ and ‘1-2 times a week’ only have a few people among residents and staff selected. Surprisingly, there are 5 residents and 2 staff said that they never go to the events held in the Barbican, some saying that the exhibitions are too expensive, others are either too busy in life or ‘don’t want to go’. This has revealed that there is a lack of social participation events that can engage residents from the estate, and some exhibitions may be overpriced for their potential audience and exclusively for those people who are extremely interested in the arts and willing to pay for the tickets.



Figure 3. Frequency of going to the events and exhibitions held in the Barbican Centre.

To show the overall level of the data and a clear central tendency of the rating question distribution, the mode value has been chosen from each of the aspects to show the results in Figure 4. From residents' views, the inclusiveness of the public space, the building's contribution to a sense of local well-being, the impact of the Barbican on their sense of mood and well-being, and the contribution of the architectural design of the Barbican to their views of aesthetics and art have been most frequently rated as a score of 10, which was considered as 'excellent'. In addition, many people commented that the buildings and the interior designs have had a positive impact on their aesthetics, people have a sense of pride living in the famous architecture in the Barbican. Hence, the architecture of the Barbican has a significant impact on people's subjective well-being, residents are generally happy with the design and functionalities of their flats and buildings.

However, the social interaction among residents, the social interaction among staff, and the social interaction between residents and staff have shown a mode rating of 5, which means 'neither good nor bad'. From the original data collected, some people rated these three aspects on a scale of 0-5, which means 'poor'. When asked why they rated these three aspects negatively, some problems with the social interaction in the Barbicans had been revealed:

1. There is no community centre in the Barbican Estate or a dedicated space where residents can meet.
2. Some old people feel excluded because of a lack of interaction with other people, even though it is good to keep their lives private.
3. People living in the four different blocks don't interact with each other, they only use the space or gardens inside their blocks.

Therefore, it indicates a deficiency in social connection and communication among those residing within the Barbican. This phenomenon may be attributed to its tower block architecture, its uniform apartments, or the respect individuals have for one another's privacy. As a residence for approximately 4,000 individuals, the Barbican ought to provide social places for inhabitants seeking social interaction.

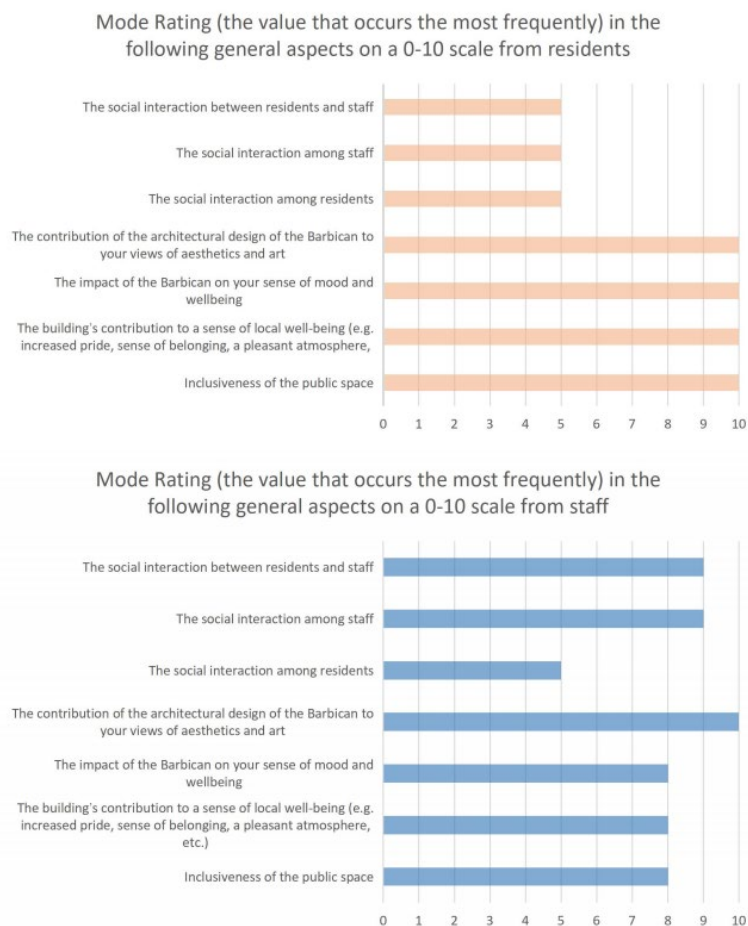


Figure 4. Mode rating illustration of the 7 aspects from residents and staff

The coding analysis of Tables 1 and 2 reveals a highly favourable outcome for participants' participation in the Barbican. Research indicates that residents of the Barbican Estate lack access to a designated facility, such as a community centre, for social engagement. Some elderly individuals articulated their experiences of solitary living with minimal social engagement with the community, although valuing their seclusion in the Barbican. A notable phenomenon observed is that residents of the four distinct blocks do not engage with one another, only utilizing the spaces or gardens inside their respective blocks. Therefore, it is advised that the Barbican establish a dedicated community centre for inhabitants in need, to foster social interaction and strengthen the sense of community, so promoting the social sustainability of the Barbican as a living heritage.

Staff's comments on: Are there any perceived benefits of working in the Barbican Centre? If so, please list some of the primary benefits here:	Code
'Free tickets to exhibitions/museums, priorities; 20% discount for bus.' 'Discounts and free tickets to museums and shows around London.'	Privilege/ Priorities
'Yes, feels like being part of the community, good pay annually, having access to cultural events in town' 'Sense of community, paying rent, exploring different arts.'	Sense of community
'Socially inclusive atmosphere, access to cultural events.'	Social inclusiveness
'Entry to gallery exhibitions and other perks of being the City of London employee.'	Employment satisfaction
'Flexibility (schedule), modern staff, cosy environment.' 'I love Brutalist architecture and feel privileged that I get to work in the building full-time.'	Working environment
'Can benefit from all the cultural events, activities and amenities. Great relationship with staff and customers, good location.'	Cultural activity involvement
'Cinema, exposure to ARTS, etc.'	Arts, cultural impact
'Good pay, good surroundings, generally good art.'	Payment, Working conditions
'Social interaction between staff, artistic community.'	Social interaction
'Cultural elevation and self-reception improvement are the benefits I receive most in and from the Barbican Centre.' 'Excellent community spirit, a wonderful chance to get an art education.'	Cultural elevation/self-improvement
'Great environment, very suited to my personality. Also, great to be informed about and able to see a range of performances/shows.'	Personality conformance
'Flexibility, freedom and trust from managers.'	Flexibility; A trusting employee-employer relations

Table 1. The coding analysis of the example comments on the question: “Are there any perceived benefits of working in the Barbican Centre? If so, please list some of the primary benefits here.” from staff.

Residents' responses: Are there any perceived benefits of living in the Barbican? If so, please list some of the primary benefits here:	Code
'Access to private gardens, safe walks along walkways'	Priorities / privileged experience
'Mail & rubbish service and various everyday life aspects that make one's living more pleasant.'	Good services
'Safety, quietness, nice people and perfect location' 'Quiet area, residential garden, safe place, beautiful architecture, clean, no cans, wildlife like ducks in the lake, warmer micro-climate'	Environment
'Design, outdoor communal spaces'	Design & functionality
'Events like soccer, I really enjoy it.'	Social event engagement
'it's a beautiful place to live and it's great for feeling calm in times of stress'	Stress relief, mental benefits
'Sense of community, friendship between residents. Like a wonderful care home'	Sense of community
'Central, transport links to access almost everywhere. Quiet at night and at weekends'	Location & Transport
'The private gardens are an amazing asset, but there is no community centre or other dedicated space where residents can meet, hold events, or work together, and build civic assets and community spirits. This is rare for a community that almost 4000 people live in.'	No community centre

Table 2. The coding analysis of the example comments on the question: “Are there any perceived benefits of working in the Barbican Centre? If so, please list some of the primary benefits here.” from residents.

How the Barbican is influencing the local wellbeing

Based on the NEF's ²⁷ (Figure 5) Well-being Indicator Framework, two tree maps have been made to measure the well-being performance by coding the comments from the interviews and questionnaires. The framework divides well-being indicators into personal and social well-being, which are adapted to the latest maps.



Figure 5. NEF's ²⁸ Well-being Indicator structure was adapted from their national account's framework.

As depicted in Figures 6 and 7, coding analysis has been linked to four aspects of personal well-being, including emotional well-being, positive functioning, resilience and self-esteem, and a satisfying life. This has shown that the benefits derived from the participants' comments have been related to their well-being, which took four aspects out of the five indicators from the well-being framework. The coding analysis also found the two aspects of social well-being that were important. This shows that the Barbican has maintained its social sustainability as an organization that runs the Barbican Center, but there is still room for improvement in how residents of the Barbican Estate interact with each other. This needs to be implemented by establishing a community centre where people can interact and engage with their community, involve more strategies for its social-cultural inclusion, and be a socially thriving living heritage that can support and benefit its residents' well-being.



Figure 6. Personal well-being outcomes derived from the coding analysis mapped onto NEF's well-being indicators.

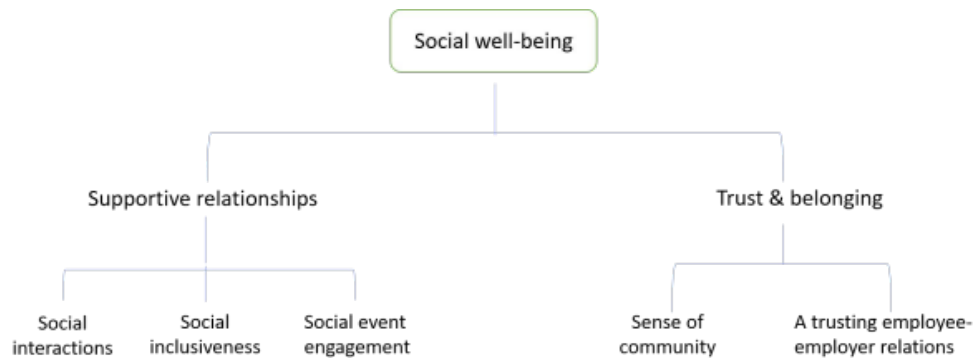


Figure 7. Social well-being outcomes derived from the coding analysis mapped onto NEF's well-being indicators.

CONCLUSION

The findings indicate a beneficial effect of architecture on respondents' well-being. Research on social performance among residents indicates a deficiency of a designated space, such as a community centre, in the Barbican Estate. Some elderly individuals reported feelings of isolation due to living alone with minimal social interaction, despite valuing their privacy in the Barbican. A notable phenomenon observed is that individuals residing in the four distinct blocks do not engage with one another, only utilizing the spaces or gardens within their respective blocks. Therefore, it is advised that the Barbican establish a dedicated community centre for those requiring it, to foster social contact and strengthen the sense of community, so promoting the social sustainability of the Barbican as a living heritage. To achieve future social sustainability, it is advised that a more people-centred community be fostered inside the estate to preserve the positive atmosphere of the Barbican and to offer older generations a greater opportunity to participate with and benefit from history. Therefore, the heritage involvement we addressed encompasses not just individuals engaging with and benefiting from the architecture but also those actively involved in the vibrant community within the living heritage, aiming to foster a socially sustainable setting that enhances individuals' quality of life and overall well-being.

NOTES

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- ¹¹ Eirini Gallou, “Heritage and pathways to wellbeing: From personal to social benefits, between experience identity and capability shaping.” *Wellbeing, Space and Society*, Volume 3, (2022) 100084, ISSN 2666-5581, <https://doi.org/10.1016/j.wss.2022.100084>.
- ¹² Daniel Wheatley and Craig Bickerton, “Subjective well-being and engagement in arts, culture and sport.” *Journal of Cultural Economics*, 41, no.1 (2017). doi:10.1007/s10824-016-9270-0.
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- ¹⁵ Enzo Grossi et al., “Magic Moments: Determinants of Stress Relief and Subjective Wellbeing from Visiting a Cultural Heritage Site.” *Culture, Medicine, and Psychiatry*, 43, no.1, (2019): 4–24. doi: 10.1007/s11013-018-9593-8.
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- ¹⁷ Jennifer L. Brown et al., “Are People Who Participate in Cultural Activities More Satisfied with Life?” *Social Indicators Research*, 122, no.1, (2015): 135-146. <https://doi.org/10.1007/s11205-014-0678-7>.
- ¹⁸ Christopher J. Auld and Alan J. Case “Social exchange processes in leisure and non-leisure settings: A review and exploratory investigation.” *Journal of Leisure Research*, 29, no.2, (1997):183–200.
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THE NORDIC PAST IN THE CITY SCAPE OF COPENHAGEN

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INTRODUCTION

In Denmark pre- and protohistory became important in building a national identity during the 18th and 19th Century. During this period the country went from being a conglomerate regional power with several nationalities to become a tiny democratic nation state at the beginning of the 20th Century, thus creating a need to focus on the deep past to (re)build the nation.

This process was begun in the arts, literature and painting in the elite in the middle of the 18th Century, and followed up in the citizenry around the turn of the 18th and 19th Century. During the 19th Century, after compulsory schooling became law in 1814, the ideas and tales of a glorious past were disseminated through the public school system creating the space for several important public monuments around the turn of the 20th Century.

This process founded myths about the past that persist to this day in the school system as well as the tourist industry, and even in the logos of notable Danish industries. This article studies the underlying social structure of the use of the past in Danish society in this period while focusing on how this was used in the cityscape of Copenhagen. To illustrate the development three monuments in Copenhagen will be analysed and discussed, and finally the use of the lurs and the myth of the horned helmets of the Vikings as commercial brands will be included.

The monuments are the tumulus of the fallen seamen at the Battle of Copenhagen April 2nd 1801 (1801-1804), the Gefion fountain on Langelinie (1897-1899) and the pillar monument “Lurblæserne” on City Hall Square (1911-1914). The commercial brands are Lurpak (butter, the lurs) and Stryhn's (paté), Gøl (sausages) and Cimber Air (airline).

The working hypothesis is that the 'Nordic' past was idolized first in the elite, then in the citizenry and finally in the population at large, and that the 'Nordic' elements are associated with power, strength and uniqueness, both real and imagined.

THE BACKGROUND

During the 17th and 18th Century history, and especially the mythic past, became an important part of the ideology of the Danish royals and nobility in their cultural and political competition with Sweden, to be the preeminent kingdom of northern Europe.¹

This was expressed in several monuments and garden landscapes in the 18th Century. Thus the gardens of Fredensborg (1721-28) has elements of old heathen barrows in the gardenscape, especially “Den Mærkværdige Fortid” (“The Strange Past”) by Johannes Wiedewelt (1731-1802), a cross between a barrow and a classicist monument, which allegedly came to be after a dream of king Frederik V. Another monumental garden was laid out in 1752-60 by count Holstein on Ledreborg by

Roskilde. The so-called *Academia Peripatetica* was a theme park with statues commemorating the kings and queens of Scandinavia, England and the Saxons as it was known from Saxo Grammaticus' *Gesta Danorum* ('The Deeds of the Danes') from circa 1204. Since it was isolated from the rest of the castle grounds and close to an inn and the royal road the intention was clearly to have a very early public theme park.

A third example is the memorial grove at Jægerspris Castle in Hornsherred, clearly inspired by the Ledreborg example.² The context of this memorial grove was the years 1772-1784 when Ove Høegh-Guldberg ruled the country with the support of the Dowager Queen, Juliane Marie, after the coup against Struensee in January 1772. Ove Høegh-Guldberg was the chief architect of 'helstatsideologien', the ideology seeing Denmark, Norway and Holsten as one country united under God and the king. During this *interregnum* the conservative reaction to the reforms of Struensee was strong and led to 'indfødsretsloven' (1776), whose main purpose was to define who were Danish and who were not, not least to weed out the importance of German as an administrative language in Denmark.

The reason for choosing Jægerspris was that it was the residence of prince Frederik, younger half-brother of the insane Christian VII, who was part of the privy council, a sort of heir apparent 1772-1784. At Jægerspris in 1744 Frederik V as crown prince had excavated a bronze age (?) barrow in the grounds, and had a plaque set up. Then in 1776 Væverhøj/Monses Høj nearby was excavated, and some bones and pottery fragments were found. These finds were used by Høegh-Guldberg to argue that the area had been inhabited by Danish royals since time immemorial, and this led to a unique ideological and artistic project. Monseshøj was renamed Julianehøj after the Dowager Queen, and redesigned as a royal garden monument probably inspired by Mausoleo a Circondati Cipressi at Villa Medici in Rome (now lost). On the top of the barrow a runic stone found in 1781 at Stenstad in Norway was found and around it 7 steles in Norwegian marble commemorating half-mythical Danish and Norwegian kings (fig.1). This royal monument was coupled with a memorial grove in the gardens of Jægerspris with 55 steles and sculptures commemorating 83 notable Danes and Norwegians, mainly of the citizenry. The memorial tumulus and grove was designed by Wiedewelt, and the layout today is considered a major artistic breakthrough whose ideas were recreated by many Danish artists, including Per Kirkeby, in the 1980es.³



Figure 1. Julianehøj by Jægerspris. Wikimedia Commons.

A final example leading up to the monument of the fallen seamen are the two fake barrows in Frederiksberg Have, whose baroque garden from the early 18th Century was redesigned 1798-1804 in romantic fashion. One on the main axis stretching through the gardens and right down Frederiksberg Allé towards the city of Copenhagen, the other a bit tucked away below the grand 'Apis temple'. The first carries a classicistic vase monument, the second a fake 'dysse', the three freestanding stones emblematic of the remains of Neolithic barrows in the Danish landscape at the time. Yet again a garden laid out by the elite but visited by the public.

All these garden monuments are inspired by contemporary British examples, most importantly Stowe Gardens, Buckinghamshire (c. 1735) with a 'Temple of British Worthies' with representations of, among others, Elizabeth I, Shakespeare and Newton. But the public character and the implicit idea of nation building of the Danish examples sets them apart from the British, and indeed from the rest of the European examples at the time, such as Gustav III's sculptural park of copies of Roman marbles at Drottningholm, which was more inspired by the somewhat earlier sculptural gardens in Rome around Villa Farnese and Villa Borghese.⁴

THE MONUMENT TO THE FALLEN SEAMEN

The Battle of Copenhagen, April 2nd, 1801 between the English and Danish fleets was in effect a draw. The Danes fought against the British from decommissioned ships that had been towed into position in early March to defend the main navy yard and avoid bombardment of Copenhagen. The battle took place in full view of the populace of Copenhagen and made a great impression. This, along with the spread of interest in the national past built up in elite and citizen circles the previous fifty years, led to the idea of a national monument to commemorate the fallen heroes of the battle.

Soon there was an engraving of the battle with accompanying eulogy circulating. The proceeds from the sale of this were meant to finance the memorial. It was approved in December 1801 and was to be placed on Holmens Kirkegård (Navy Church Yard) where the fallen had already been interred in spring and summer 1801 facing Kongedybet, where the battle had taken place. The monument was built 1802-04 (fig.2).



Figure 2. Monument to the fallen seamen. 1802-1804. Photo by author.

The original design by Johannes Wiedewelt called for a 7 metre tall tumulus 18 metres in diameter with a pebbled, winding track to the top in order to gain a view of the site of the battle. In the end, due to financial concerns, it ended up being 4 metres high with an elliptical form 19 metres wide on the east-west axis and 13 metres on the north-south axis. On the east face was an obelisk of grey Norwegian marble placed above an arch of granite stones around a white marble plate.

On the obelisk the inscription: "De faldt for Fædrelandet D: 2. april 1801- Medborgernes Erkendtlighed reiste dem dette Minde" ("They fell for the fatherland April 2nd 1801 – the grace of the citizens gave them this memorial").

On the arch the inscription on a white marble plate: "Den Krands/som Fædrelandet gav/den visner ei/paa faldne Krigeres Grav" ("The wreath/given by the Fatherland/shall not falter/on fallen warriors' grave").⁵

Memorials for the 11 fallen officers were placed around the arch on local field stones, i.e. yet another way of incorporating geography in the monument. Stones from both Denmark and Norway thus decorated the monument symbolizing the union of the two countries in the mold seen in Jægerspris at the memorial grove and Julianehøj.

In true classical style, inspired by Italian garden monuments, the tumulus was to be dominated by trees. Oak trees, because 'the citizen wreath' was made from oak leaves, 11 poplars, referring to the poplar as Hercules'/Herakles' chosen tree,⁶ weeping willows, aspen and even hawthorn, which was to

create a thicket around the hill when the fence fell in disarray. The inspiration seems to have been the same as at Julianehøj, i.e. the now lost *Mausoleo a Circondati Cipressi*. The botanical inspiration was never carried out in its entirety due to lack of space, and the poplars became yews which still dominate the tumulus today. The original idea may be gleaned from Wiedewelt's conceptual drawing, the actual result from an 1887 drawing (fig. 3-4).⁷ In many ways this tumulus thus serves as an endnote of how the 18th Century dealt with the past in the Danish landscape and history.



Figure 3. Monument to the fallen seamen. 1802-1804. Conceptual drawing. Johannes Wiedewelt.
From Kryger 1988, fig.11.



Figure 4. Monument to the fallen seamen. 1802-1804. Drawing. Unknown artist. 1887. From Wessel-Toksvig 2001, 50.

THE GEFION FOUNTAIN

The Gefion fountain (fig. 5) was commissioned by Carlsberg as a gift to the city of Copenhagen to celebrate the 50th jubilee of the brewery in 1897.



Figure 5. The Gefion fountain. 1897-1906. Photo by author.

Originally the idea was to juxtapose the new fountain to the recently built Ny Carlsberg Glyptotek on Vestre Boulevard (today H. C. Andersens Boulevard) but soon this idea was abandoned because it was thought to imply that the gift to the city was more a gift to Carlsberg itself and the newly built museum. The next idea was to couple the fountain with a double pillar monument of the 'Lur Blowers' in front of the new city hall at the end of Vesterbrogade. This idea was abandoned due to the incompleteness of City Hall Square at the time, during which the new town hall was being built, and partly due to influence from the donator who was against this placement, and finally because the winner of the competition, Anders Bundgaard, had chosen Gefion.

Gefion (Gefjyn) was a Nordic goddess who made a deal with the Swedish king Gylfe, who did not realize she was a goddess, to acquire the land she could plow in a day. She therefore turned her four sons, whom she had had with a giant into oxen and plowed out a considerable amount of land that was taken out of Sweden and towed into the water to the west, becoming Sealand, realm of Gefjyn, who then married Skjold, son of Odin, the founder of the mythical Danish dynasty, Skjoldungerne, in Lejre. The ensuing hole in Sweden became Mälaren in the middle of which Stockholm today stands, and Odin took up his abode in Jutland. Thus the myth reflects the internal competition among the gods, and was later used by Denmark and Sweden in their ideological competition.⁸

The myth led to the idea that the fountain should be placed close to Øresund, and as the modern harbour of Copenhagen (Frihavnen) had recently severed the direct access to Langelinie, the preferred promenade of the citizenry, it was chosen to place the new fountain at the northern end of Amaliegade due north of Amalienborg Palace and just before entering Langelinie and Kastellet as sort of a bridge between Frederiksstad, the poshest part of Copenhagen, and the preferred promenade of its inhabitants.

The construction of the monument took almost ten years, partly due to financial troubles because it became much more expensive than the actual gift from Carlsberg, so the municipality had to supply extra funds. There seem, however, not to have been any serious political trouble even if the city of Copenhagen became dominated by the Social Democratic party in this period. Thus the project received broad political support, strongly indicating that the nationalistic historical monument had broad popular support as an important national symbol.⁹

"LURBLÆSERNE" (THE LURBLOWERS)

The 'Lur Blowers' was forgotten for some time but resuscitated again by Carlsberg, this time commemorating the 100th birthday of the founder I.C.Jacobsen in 1911. Until very late in the process the idea of two columns was maintained, but in the end only one column was erected, and the sculpture appears a little bit strained as a result (fig.6).



Figure 6. The Lur Blowers. 1911-1914. Photo by author

While the column with Ionic capital and the bronze statue itself is in the Classical mould the objects illustrated are interesting. The lurs are modelled on the Brudevælde lurs found in 1797, and the shields they carry on their backs are inspired by finds of bronze age ceremonial shields of the Herzfeld type. Both the lurs and the shields are from around 1000 BC, while the swords are based on Hajdusamson type swords of the early Bronze Age, c. 1600 BC. The clothing is modelled on the finds from Borum Eshøj in Jutland, i.e. 1400-1350 BC and finally the helmets are Viking age, i.e. 800-1000 AD

(fig.7).¹⁰ This clash of objects is typical of the historical educational wall charts in use in the school system of the time in north western Europe, and here expressed in statuesque form. The column itself, in brickwork with geometric decoration is a geographical reference to Denmark in choice of material, but at a still later age, namely the medieval period.



Figure 7. The Lur Blowers. 1911-1914. Photo by author.

For the Lur Blowers as well as the Gefion fountain their complex iconography, and the bandying about of ideas about their placement in Copenhagen shows how important the real or imagined Nordic past was in Denmark at the turn of the 20th Century, and the pervasiveness of the 'lurs' as a symbol is seen through the fact that the famous Lurpak logo, showing two intertwined lurs, are from 1901, 10 years before the monument was made (fig.8).



Figure 8. The Lurpak logo. 1901.

And while the grand plans for a city hall square framed by Classical columns with lur blowers and a large fountain as its centerpiece never came to be, both monuments were still allocated central positions in the Copenhagen city scape.

THE MYTH OF THE HORNED HELMETS

There are no horns on the helmets of 'Lurblæserne' although they are clearly modelled on Viking helmets from archaeological finds known at the time. So how come the horned Viking helmets has become an omnipresent tourist souvenir and popular in commercial branding.

The horned helmets of Viking lore seems to stem from a combination of several factors. The 'Celtic craze' begun by MacPherson's 'Ossian' from 1762 introduced the winged helmet to the ancient heroes of the north, and a clearly horned Viking is presented on the frontispiece of the English edition of Tegnér's 'Saga of Frithjof' in 1839. In a frieze from Neues Museum, Berlin by G. Richter from 1850 Tyr is shown with a horned helmet, and in contemporary French illustrations Regnar Lodbrog is shown with a horned helmet, while the Valkyries are shown with wings on their helmets. Horns are, however, nowhere to be seen in Danish and Norwegian paintings from the same period, but appears in Danish illustrations from 1877 onwards, and indeed it appears that the use of horns and feathers on helmets in the operas of Wagner from the 1870es onwards helped the spread of the idea.¹¹ Its use is not omnipresent before after the 2nd World War. Even posters harking back to the Viking Age in their attempts to attract Danes to fight on the Eastern Front are without the horns.

Vikings with horned helmets are today seen everywhere in souvenir shops in Scandinavia or as equipment for sports fans, but is also omnipresent in industrial logos such as those of Stryhn's, Gøl and Cimber Air (fig.9) clearly symbolizing quality, strength and/or power, and in the case of Stryhn's even Danish 'hygge'.



Figure 9. Various Danish industrial logos with horned helmets.

CONCLUSION

The monuments from the turn of the 20th Century in Copenhagen hark back to the Nordic past using often Classical architectural elements, and they reflect the architectural character of much of the city centre. They continue in the 19th Century, an 18th Century elite tradition expressed at Ledreborg, Fredensborg and Julianeøj thus transferring the idea of the Nordic past from the elite to the citizenry and then on to the commoners through the school system.

Around the turn of the 20th Century the monuments are used by the commercial and industrial giant of the day, Carlsberg Breweries, to impose 'culture' and 'grandeur' on the capital, much like the contemporary Ny Carlsberg Glyptotek was thought of as a place to educate the bourgeoisie of Copenhagen.

Today the monuments, especially the Gefion Fountain, are central to the tourist experience of Copenhagen and the surrounding countryside, and the horned helmets and other symbols of the past, real and imagined, are central to the Danish tourism industry and identity.

Postscriptum

I would like to thank my place of work, Atheneskolen, for providing financial support to participate in this conference. I would also like to thank David Lykke Ivens to help with the filming of the lecture, my students who were actually genuinely interested in the subject (!) and my dear wife who is my best critic and patiently listens to my many discourses and is there for me every day.

NOTES

- ¹ Alain Schnapp. *The Discovery of the Past*. British Museum Press, 1996.
- ² Håkon Lund. *Mindelunden ved Jægerspris*. Kong Frederiks den Syvendes Stiftelse på Jægerspris, 1976, 28-32.
- ³ Lund Mindelunden ved Jægerspris 14-16, 28-32. Else Marie Bukdahl. *Johannes Wiedewelt: from Winckelmann's vision of antiquity to sculptural concepts of the 1980s, Format 10, 1993*.
- ⁴ Karin Kryger. "Julianehøj and the memorial grove at Jægerspris". In *The Rediscovery of Antiquity – The Role of the Artist*. - Acta Hyperborea 10, edited by Jane Fejfer, Tobias Fischer-Hansen & Annette Rathje. Museum Tusulanum Press. 2003, 246. Miranda Marvin. *The Language of the Muses – The Dialogue between Greek and Roman Sculpture*. Getty Publications, 2008.
- ⁵ Per Wessel-Toksvig. *Mindehøjen for 2. april 1801*. Søværnets Centrale Reproduktionsvirksomhed. Korsør. 2000, 34-38, 56-57.
- ⁶ Phaedrus 3,17: Olim quas vellent esse in tutela sua divi legerunt arbores...populus celsa Hercules, i.e.: Once upon a time the gods chose trees under their tutelage...the poplar was deemed Hercules'.
- ⁷ Kryger 1988, 172-174.
- ⁸ Karen Bek-Pedersen. *Guder og gudinder i nordisk mytologi*. Forlaget Turbine, 2021, 137-40.
- ⁹ "Gefionspringvandet". Københavns Kommune, accessed 3rd July 2024. Meetings of the city council 20th December 1897, 21st March 1898, 6th April 1898 and 24th May 1898.
https://kk.sites.itera.dk/apps/kk_monuments/pdf/159_1378__106_samlefil1.pdf.
- ¹⁰ Jørgen Jensen. *Danmarks Oldtid – Bronzealder*. Gyldendal. 2002, 73-75, 89, 169-172, 422-429, 456-462
- ¹¹ Johnni Langer. "Horned, barbarian, hero: the visual invention of the Viking through European art (1824-1851)," *Scandia Journal of Medieval Norse Studies*, vol. 4, 2021, 164.171

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A CITY ≠ A SCENE: OBSERVING THE LIMITATIONS OF SAN FRANCISCO'S SIGNIFICANCE AS MUSIC SIGNIFIER

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INTRODUCTION

In 1993, dance music journalists gestured towards “the San Francisco sound”: grouping together West Coast-based electronic acts such as Young American Primitive, Tranquility Bass, Dubtribe Sound System, Single Cell Orchestra and Freaky Chakra alongside the various producers then releasing music on San Francisco’s Hardkiss label.

This geographical/musical configuration resulted in press articles that aimed to distil a collective approach: one that paradoxically was noted by, UK-based writer, Kris Needs as steering “clear of any current dance categories [and] sounding like nothing else”.¹ A notable further attempt at classification in the same year was *California Dreaming*: an album released by major label affiliated FFRR imprint.² This compilation’s artwork clustered its series of tracks as an “experience” while boasting its “acid drenched hits of California sunshine”.³ One review of the UK-released version dutifully expanded on its press release/liner notes to remark on the collection as being from “an affiliation of kaleidoscopic wild riders and psyberdelic (sic) outlaws ... pooling together the digi-funk hippy vibes from the psychedelic state”.⁴

While the positioning and categorisation of *California Dreaming* recounts Straw’s discussion of authorship where he asserts that such processes help music companies “to plan the future, to see this future as a sequence of new releases that will build upon (and draw their intelligibility from) the activity of the past”, the marketing campaign for this particular release developed a narrative that was emphasised via reviews: one that explicitly drew less generally from the state of California and more specifically from 1960s San Francisco.⁵ To quote Hesmondhalgh, the opportunities to fully capitalise on an emerging culture requires “a style, a look, a sound”⁶, and this collective approach to imagineering and “commodity status”⁷ borrowed signifiers from (and aimed to draw parallels with) a hippie culture that was similarly located: albeit some decades earlier. As Matthew notes of the time, “to someone from the Midwest who could only read about it, San Francisco appeared to be the locus of a dreamy, idealistic, neo-psychedelic renaissance”.⁸

Coincidentally, Leyshon et al. state that 1993 was also the year that a “specific disciplinary engagement between geography and music” was instigated as the result of an ad hoc meeting at an Institute of British Geographers annual conference.⁹ Following Attali, an interrogation of the various ways in which music is interlinked with the social conditions of where it is both made and consumed was undertaken through the connecting of academics from a range of fields.¹⁰ Particularly, this wide-ranging research opened-up discussion regarding the implications of place on music. For Leyshon et

al., music is defined as inherently spatial: influencing and mirroring the landscapes and social environments from which it emerges. Music subsequently serves as a means of constructing, rather than just reflecting, place. Thus, establishing a basis to be built upon by other researchers, this construction of identity through localization and sound, can be broadly interpreted.¹¹ It may then apply to geographically located scenes, cultural heritage and ethnicity, the creation of temporary shared spaces (for example, in the case of music festivals), the urban vs the rural or, as particularly pertinent to the 1990s San Francisco-based music producers cited as inheritors of the city's 1960s counterculture, how locations can be viewed as deeply intertwined with their musical legacies.

COUNTERCULTURAL SAN FRANCISCO AND THE EMERGENCE OF HARDKISS

Described as “a mythical event”,¹² San Francisco's Summer of Love dates back to 1967 where 100,000 people congregated around the city's Haight-Ashbury neighbourhood.¹³ Typified for combining anti-war politics with psychedelic music, sexual freedom and drug experimentation, a non-conformist (and often anti-consumerist) community became an internationally identifiable group that would impact on late-'60s fashion and music.¹⁴ However, before the year was over, many of its original participants—*hippies* a group that had first been observed in 1964¹⁵—had abandoned the scene.¹⁶ Russell cites “disillusionment” as the movement shifted away from its underground status but, more generally, the realities of a scene in disarray had collided with its own myth-making.¹⁷ In October of that year, the city's Buena Vista Park played host to a mock funeral event to mark the death of “Hippie, devoted son of Mass Media”.¹⁸ The commodification of this movement had been swift: making the Summer of Love a definitive moment where post-war youth culture is reconfigured as a marketing device rather than “rebellion or revolt”.¹⁹

Connell and Gibson note how Haight-Ashbury has since become a “key tourist site”: now known for cafes and souvenir shops that reward visitors with a visual and aural reenactment of the city circa 1967.²⁰ Artwork associated with bands such as The Grateful Dead is prominent, as are the tie-dye garments, crystals, jewellery and other globally identified ‘hippie’ ephemera. This is the version of San Francisco also experienced by Gavin Bieber, Robbie Cameron and Scott Friedel when the three college friends relocated to the city at the beginning of the 1990s. Setting up the record label Hardkiss (while collectively utilising The Hardkiss Brothers moniker), the trio first gained attention via a 1992 four-track 12-inch single titled “San Francisco: The Magick Sounds of the Underground”. Over subsequent releases—and particularly through the label's own compilation album *Delusions of Grandeur*—the name would come to represent the output of its founding fraternity plus their closest associates. Yet, as with that first release's title, the Hardkiss name would also become intrinsically linked with their adopted hometown of San Francisco.

When Scott Friedel died of a cerebral aneurysm in 2013, one tribute came from KCRW Music Director Jason Bentley – who, earlier in his career, had contributed the liner notes for the *California Dreaming* compilation. His words regarding Friedel's legacy traced the narrative that followed his cohort throughout their history: stating that “the San Fran based collective was a continuation of the hippie idealism of the late '60s and '70s”.²¹ However, in contrast, Gavin Bieber (the only Hardkiss founder still making music) refutes this suggestion of an obvious closeness to his adopted hometown's hippy community – insisting that when the trio set up the label, Hardkiss was marginalised in San Francisco because its founders *weren't* hippies: “Our success was more outside of San Francisco,” he says. “We played in different cities every weekend. If you ask people in San Francisco what the influence of Hardkiss was, they might just discount it because we were exporting our sound”.²² In accordance with this visibility elsewhere and the indifference closer to home, much of the press interest in Hardkiss largely came from outside of the city. Yet this geographical disparity appears to have strengthened supported the connections to the Summer of Love: creating a disconnect

between the realities of a nascent US scene as experienced and how it might it was imagined elsewhere. Particularly, this oft-repeated, hippy-inflected version of events appears to have stemmed from the music press in the UK. And, as Bieber notes, this proved influential in terms of shaping the perception of their own music globally:

In the 1990s, the biggest megaphone for music culture was pretty much coming from London [...] like obviously *NME* and *Melody Maker* made their way over here—but then there was like everything from *The Face* ... and then there were the electronic mags: *DJ* magazine and *Muzik* and other stuff. And everyone's got their way of stringing the past into the present. But there was this kind of thing that they picked up on, which was the hippy culture connection to what we were doing. And because they were publications that were distributed worldwide and pre-Internet, they became almost like a bible for [our] culture.²³

In reviewing press cuttings from the 1990s, there is a stark contrast between those from non-San Franciscan outlets and the smaller number of articles from publications based in closer proximity to the label. Essentially, the latter refrains from locating any specifically hippy/psychedelic components within the music. For example, a review of *Delusions of Grandeur* in the *SF Weekly* instead refers to the album's "seamless techno-tinted compositions" while it addresses the compilation's more ambient soundscape-like inclusions without invoking a single reference to hallucinogens or their immediate effects.²⁴ By comparison, consideration of Hardkiss' music from further afield instead refers to the "tripped out, drugged out",²⁵ the "hallucinogenic delights"²⁶ and "majestic psychedelic surrealism and spirit-lifting catharsis".²⁷ Perhaps to commentators more familiar with the San Francisco parties that Hardkiss participated in, the label and its DJs represented the vanguard: a more future-looking prospect far removed from the nostalgic hippy tourism that was evident in the city.²⁸

U.S.A. VIA LONDON

In London, there had already been an explicit visual connection between San Francisco's Summer of Love and the emergence of its dance music-propelled 'acid house' scene in the late-1980s. Paul Oakenfold advertised his pivotal club night, Spectrum using a flyer with a design adapted from a Grateful Dead poster featuring "a garish eyeball splashed with primary colours and bordered by psychedelic typefaces".²⁹ The designer of the flyer, Dave Little, estimates that only three out of 10,000 people would have got the reference yet many would have understood the aesthetic as "trippy". What are then described as "coded" references to the Grateful Dead would also be re-used by the designer on record sleeves for Jibaro's 'Electra' and, compilation album, *Balearic Beats Vol 1*.³⁰ This wasn't to be a rare example of the British acid house movement borrowing directly from San Francisco 1967 either. Melechi more widely recognised "hippy revival, consistently refracted through a subcultural mythology which it was seen to appropriate"³¹ while Rietveld identifies how the formalist aspects of the club experience then appeared to be "derived from the Acid Test parties in California".³² Club settings were almost redefined as psychedelic spaces from yesteryear—with "ultraviolet and strobe lights, projected liquid and still patterns"³³—while Brewster and Broughton observe the multiple ways that these influences quickly played out within British club culture when writing:

1988 became the second 'Summer of Love' – acid house was happy to compare itself with the hippie idealism of 1967, pleased to be renewing the sixties' mission of rebellion and personal discovery. Flyers copied Grateful Dead posters or used computer-generated fractal patterns to suggest a new psychedelia; loose, colourful, unisex hippie fashions were creeping back. Timothy Leary rekindled his acid evangelism, seeing a psychedelic drug movement emerging on a scale that dwarfed his LSD generation.³⁴

Yet broadening out from San Francisco and California, a mythology around other American music legacies had permeated UK club culture. Despite having been described as “post-geographical”³⁵, acid house’s own roots were often defined as Chicago house and Detroit techno with tastemakers often still presenting a preference for American releases: a penchant that may be described as “trans-Atlantic empathy”.³⁶ Reynolds observes that the UK’s acid house scene had formed as “a subculture based almost entirely around import records” and that, around 1988/1989, there was already “several years’ backlog” of American house records for DJs to build their sets around.³⁷ Russell may have claimed that early UK dance music scenes had “rejected established club culture based on snobby exclusivity”³⁸, but the early 1990s British scene had given rise to an influential number of “purists who still swooned over their U.S. imports” that was able to promote such discernment through a growing specialist dance press.³⁹ Reflecting such tastes, Justin Berkman and James Palumbo’s high profile opening of London’s Ministry of Sound venue in 1991 was driven by the desire for a space devoted to the sounds of New York, Chicago and Detroit. Decorated with oversized logos of the most beloved of the American record labels, Ministry of Sound’s first night featured Larry Levan, David Morales, Tony Humphries and Roger Sanchez – an all-American line-up that confirmed a commitment to dance music from across the Atlantic. In 1993, club night Hard Times launched in Leeds with an approach that was similarly evangelical about imported house records and, in turn, operated a booking policy built around U.S. guest DJs like Sanchez plus Todd Terry and Masters At Work. (Hard Times later launched a British-based record label that licensed or sourced new material from those same American names.) That same year, Liverpool’s Cream club marked its first anniversary with sets from, U.S. DJs, Frankie Knuckles and David Morales that was revealed to have been at a cost of “£5,000 plus flights from New York and expenses”. However, while this was considered to represent significant expenditure at the time, the high-profile event was observed as having “elevated the club to a new level”.⁴⁰

UK record label owner Dave Piccioni explains how this reverence for American talent affected the releases that he had poised for his house-oriented Azuli imprint in the 1990s when observing “a real snobbiness at the time about that kind of music if it was made in the UK”.⁴¹ In a move not dissimilar to how “producer Joey Negro pretended to be a black guy from New York, when he was actually Dave Lee from Essex” and labels like Z Records and studio acts including Hustlers Convention similarly “disguised themselves as American”⁴², Piccioni shrink-wrapped his vinyl releases as was common practice with import releases in an attempt to be comprehended and sold as American. Each record notably featured New York contact details even though Azuli’s actual base was, London record shop, Black Market Records. Piccioni explains the lengths that he went to in order to suppress this information:

We had a US telephone mailbox with a Manhattan dial code. So we simply had people call our answer machine there. We sat in London collecting the messages and my ex-wife—who was American—simply returned the calls from our flat in Battersea [...] It was a cheap and effective way of getting noticed. We had no money for marketing and it seemed that American records sold without any PR companies or press, whereas the U.K. releases at the time needed a fair amount of promotion.⁴³

The quest for location-based authenticity—a pursuit of provenance—had also existed in scenes that predated acid house. The U.K. northern soul scene, for example, was built on American releases while additionally sharing a preoccupation for rarities. The (perhaps self-explanatory) ‘rare groove’ scene—still an active area of clubbing as house music infiltrated the U.K.—was similarly based around the highly competitive search for vinyl obscurities. In both cases, the hunger for the most in-demand records would also result in high-priced transactions: where a premium would not just be charged due to being observed as an imported product, but due to a perceived status as a rarity. In the case of rare groove, this collector culture and its ties to obscure American releases had been exploited by, band,

the Brand New Heavies who attracted the attention of scene participants in 1988 with a fake import single that offered a pastiche of vintage U.S. label design.⁴⁴ Then appearing to fit in neatly with tracks from the likes of Maceo & the Macks and Bobby Byrd, this accomplished approach mirrored that of an even more successful record from one year earlier when, mainstream pop producers, Stock, Aitken & Waterman duped many critics who may have written-off the trio's work had it not been circulated as an un-credited white label—an initially assumed American bootleg—titled 'Roadblock'. This latter example perhaps exemplifies the ability to subvert origins in order to contextualise a music release: where value judgements based on what might be categorised as 'scene snobbery' (or, more simply, 'elitism') due to geographical origin have been pre-empted and capitalised on by producers and label owners. Yet this also reveals the wider preoccupation within U.K. dance music scenes to use location as a primary method of categorisation.

CONCLUSION

Leyshon et al. state that considering the role of "place" to music is to "allow a purchase on the rich aesthetic, cultural, economic and political geographies of musical language".⁴⁵ This is certainly tempting and may offer some vital insights. Hardkiss' Gavin Bieber, for example, cites his upbringing in South Africa as a specific influence on his approach to music making. However, considering a label like Hardkiss, we might also want to consider the limitations involved when place has been used to help ground understandings: especially given how San Francisco's particularly potent local history (plus any associated aesthetics, culture, economics and politics) may preclude consideration of other, more significant factors. As noted with the compilation album *California Dreaming*, a curated—if not entirely fabricated—context may have proved useful for marketing purposes. Yet it is perhaps indicative of the sheer weight of such legacies that these comparisons to late 1960s San Francisco persist long after the press releases have been distributed. With much of Hardkiss' output released just ahead of the mass adoption of the internet, it appears to have been a relatively small number of print articles, largely representing the wishful thinking of a dominant foreign music press, that have been copied and gone on to describe the label's music on the world wide web.

Gavin Bieber adds further context to San Francisco and its music that may have contributed to its hippy past proving so enduring within Hardkiss' own story. He says it is "*not* a music city": then highlighting how the Bay Area, while still boasting music talent, hasn't been a base (or even the main focal point) for music executives in recent times.⁴⁶ Those cities that have been 'music cities'—such as Los Angeles or London where the "majors anchor the music business in these nodes, surrounded by a dense institutional matrix of smaller record companies and related businesses"—are routinely reinvented through their vast ranging output. As networks or creative clusters, they repeatedly develop a wide selection of new music through record companies, publishers and other internationally recognised channels.⁴⁷

Other cities, perhaps relegated to more provincial status, continue to be generally understood in relationship to landmark musical eras and/or specific musical genres. Be they Seattle, Liverpool or San Francisco.⁴⁸ While stereotyped using cultural signifiers that so easily lend themselves to commercial exploitation, their framing may be at the expense of more complex, active scenes that will challenge the press officer or tourism manager's manufactured version of events.

NOTES

- ¹ Kris Needs, “The Ultraviolet Catastrophe – The Trip (Remixes) review,” *Echoes*, April 10, 1993, 15.
- ² The *California Dreaming* name is clearly borrowed from the iconic hit song by The Mamas & The Papas that, alongside the collection’s “groovy” typography, openly invites the retro-hippy comparisons.
- ³ Various, *California Dreaming*, 1993, FFRR (CD): 697 124 002-2. Further compilations similarly drew from this cyber-hippy theme - often featuring some of the same artists as *California Dreaming*. Some of these would licence additional tracks from beyond California to present a more global approach yet still suggesting a synthesis of hippy and tech ideas. Examples include *United States of Ambience* (1994) and *Synthetic Pleasures Volume One* (1996).
- ⁴ Des Hill, “California Dreaming | Various (review),” *Generator Magazine*. Issue 9, March, 1994, 55.
- ⁵ Will Straw, “Authorship,” in *Key Terms in Popular Music and Culture*, ed. Bruce Horner and Thom Swiss (Blackwell, 1999), 109-208.
- ⁶ David Hesmondhalgh, *The Cultural Industries (Fourth Edition)* (Sage, 2019), 180.
- ⁷ Will Straw, “Authorship,” in *Key Terms in Popular Music and Culture*, ed. Bruce Horner and Thom Swiss (Blackwell, 1999), 203.
- ⁸ Terry Matthew, “Hardkiss: The Story So Far,” *5Mag*, May 16, 2014. <https://5mag.net/features/hardkiss-the-story-so-far/>.
- ⁹ Andrew Leyshon, David Matless and George Revill, *The Place of Music* (The Guildford Press, 1998), IX.
- ¹⁰ Jacques Attali, *Noise: The Political Economy of Music* (Manchester University Press, 1985).
- ¹¹ See Sheila Whitely, Andy Bennett and Stan Hawkins (2004); John Connell and Chris Gibson (2003).
- ¹² Hillegonda Rietveld, “Living the Dream”, in *Rave Off: Politics and Deviance on Contemporary Youth Culture*, ed. Steve Redhead (Ashgate, 1993), 54.
- ¹³ Russell states that there were 15,000 hippies living in the Haight-Ashbury area in 1966 with numbers ranging between 100,000 and 200,000 the following year. Irvine notes that by the mid-’60s, the area already had a mix of “long-term residents, nearby university students, and an amalgam of outsiders such as artists and bohemians from North Beach, sexual minorities and the surge of young drop-outs”.
- ¹⁴ The intense cultural focus on 1967’s ‘Summer of Love’ perhaps betrays other significant events that year including more than 150 race riots that flared up as part of the fight for social justice.
- ¹⁵ Janice M Irvine, *Marginal People in Deviant Places: Ethnography, Difference and the Challenge to Scientific Racism* (University of Michigan Press, 2022), <https://www.jstor.org/stable/10.3998/mpub.11519906>.
- ¹⁶ Irvine sees the term ‘hippy’ as having “loosely conflated a number of disparate groups, such as student activists, weekend hippies, dropouts, drug addicts and individuals seeking unconventional ways of living”, 209.
- ¹⁷ Kristian Russell, “Lysergia Suburbia,” in *Rave Off: Politics and Deviance on Contemporary Youth Culture*, ed. Steve Redhead (Ashgate, 1993), 113.
- ¹⁸ Peter Berg, “Funeral Notice,” in *Henry W. and Albert A. Berg Collection of English and American Literature, The New York Public Library*. (New York Public Library Digital Collections, 1967), <https://digitalcollections.nypl.org/items/03088b80-6a7a-0135-173b-0ed1cba3c19b>.
- ¹⁹ Steve Redhead (ed.), *Rave Off: Politics and Deviance on Contemporary Youth Culture* (Ashgate: 1993), 1.
- ²⁰ John Connell and Chris Gibson, *Soundtracks: Popular Music, Identity and Place* (Routledge, 2003), 228-229
- ²¹ Jason Bentley, “Scott Hardkiss: Remembering His Music,” *NBC Bay Area*, April 3, 2013, <https://www.nbcbayarea.com/local/scott-hardkiss-remember-his-music/2050473/>.
- ²² Gavin Bieber, interview with the author, *Microsoft Teams*, February 10, 2022.
- ²³ Gavin Bieber, interview with the author, *Microsoft Teams*, February 10, 2022.
- ²⁴ Aidin Vazari, “Recordings,” *SF Weekly*, July 19, 1995, <https://archives.sfweekly.com/sanfrancisco/recordings/Content?oid=2132256>.
- ²⁵ Lily Moayeri, *Hardkiss.org*, 1995, <https://www.hardkiss.org/quotes>.
- ²⁶ Reiss Bruin, “Hardkiss – 1991,” *Data Transmission*, March 25, 2014, <https://datatransmission.co/blog/hardkiss-1991/>.
- ²⁷ Kris Need, “Hardkiss: Delusions of Grandeur | Various Artists,” *Record Collector*, September 9, 2015, <https://recordcollectormag.com/reviews/album/hardkiss-delusions-grandeur>.
- ²⁸ Janice M Irvine, *Marginal People in Deviant Places: Ethnography, Difference and the Challenge to Scientific Racism* (University of Michigan Press, 2022), 251, <https://www.jstor.org/stable/10.3998/mpub.11519906>.
- ²⁹ Matthew Collin, *Altered State: The Story of Ecstasy Culture and Acid House (Updated Second Edition)* (Serpents Tail, 1998), 67.

- ³⁰ Alex Marshall, "In 1988, Acid House Swept Britain. These Fliers Tell the Story," *NYTimes.com*, 2018, <https://www.nytimes.com/2018/09/10/arts/music/1988-acid-house-summer-of-love-oakenfold.html>.
- ³¹ Antonio Melechi, "The Ecstasy of Disappearance," in *Rave Off: Politics and Deviance on Contemporary Youth Culture*, ed. Steve Redhead (Ashgate, 1993), 29-30.
- ³² Hillegonda Rietveld, "Living the Dream", in *Rave Off: Politics and Deviance on Contemporary Youth Culture*, ed. Steve Redhead (Ashgate, 1993), 42.
- ³³ Thomas Lyttle and Michael Montagne, "Drugs, Music and Ideology: A Social Pharmacological Interpretation of the Acid House Movement," *The International Journal of the Addictions*, 27(10), 1992, 1173.
- ³⁴ Ben Brewster and Frank Broughton, *Last Night a DJ Saved My Life*, (Headline, 2000), 500. Notably, the drug dimension can't be ignored if addressing the assumed kinship between these two supposed 'Summer of Love' movements. Russell (1993) writes extensively on this connection, although Bieber seemingly finds this focus less compelling. As he says: "most music culture, if not all, has a drug component ... whether it's alcohol, weed, ecstasy, ketamine".
- ³⁵ Simon Reynolds, *Generation Ecstasy: Into the World of Techno and Rave Culture* (Little, Brown and Company, 1998), 30.
- ³⁶ Nicola Smith, *Performing Fandom on the British Northern Soul Scene: Competition, Identity and the Post-Subcultural Self*, PhD thesis, (University of Salford, 2009), 141.
- ³⁷ Simon Reynolds, "The 20 Best Bleep Records Ever Made," *FACT Magazine*, 2008, 65-68.
- ³⁸ Kristian Russell, "Lysergia Suburbia," in *Rave Off: Politics and Deviance on Contemporary Youth Culture*, ed. Steve Redhead (Ashgate, 1993), 35.
- ³⁹ Ben Brewster and Frank Broughton, *Last Night a DJ Saved My Life* (Headline, 2000), 469.
- ⁴⁰ Ben Turner, *Cream x 10* (Carlton, 2002), 32.
- ⁴¹ Daniel Cookney, *Masked: Depictions of Anonymity in Electronic Dance Music*, PhD Thesis. (University of Salford, 2015), 146.
- ⁴² Dom Phillips, *Superstar DJs Here We Go!* (Ebury, 2009), 123.
- ⁴³ Daniel Cookney, *Masked: Depictions of Anonymity in Electronic Dance Music*, PhD Thesis. (University of Salford, 2015), 147.
- ⁴⁴ Cynthia Rose, *Design After Dark: The Story of Dancefloor Style* (Thames & Hudson, 1991), 37.
- ⁴⁵ Andrew Leyshon, David Matless and George Revill, "The Place of Music: [Introduction]," in *Transactions of the Institute of British Geographers*, Vol. 20, No. 4, 1995, 435.
- ⁴⁶ Gavin Bieber, interview with the author, *Microsoft Teams*, February 10, 2022.
- ⁴⁷ Andrew Leyshon, David Matless and George Revill, "The Place of Music: [Introduction]," in *Transactions of the Institute of British Geographers*, Vol. 20, No. 4, 1995, 428.
- ⁴⁸ 1995's Annual Billboard Dance Music Summit was a rare occasion where national and international industry figures converged in San Francisco.

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STRUCTURING THE PAST: LEVERAGING HBIM AND DECISION-MAKING FOR HERITAGE CONSERVATION

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INTRODUCTION

The conservation of architectural heritage is a process that encompasses the protection and maintenance of structures of cultural and historical significance. This task presents several challenges, including balancing historical accuracy with contemporary requirements, addressing structural degradation, and meeting modern standards. In response to these challenges, heritage conservation has increasingly turned to advanced technological solutions, particularly Heritage Building Information Management (HBIM).¹ While “BIM” traditionally stands for Building Information Modeling, reflecting its origins in digital modeling, “Management” is being recognized as more accurate in capturing the broader scope of BIM’s application, particularly in managing the extensive data associated with building projects.² HBIM is a specialized subset of Building Information Management (BIM) tailored to the unique requirements of historic buildings. It provides a comprehensive repository that collects semantic and geometric data and facilitates the efficient storage and management of information essential for heritage conservation.³

Decision-making in heritage conservation must consider a wide variety of often conflicting criteria.⁴ Multi-Criteria Decision-Making (MCDM) techniques have proven effective in providing a systematic approach to evaluating and prioritizing these various criteria. By integrating MCDM with HBIM, stakeholders can achieve a more balanced and informed decision-making process that respects the historic significance and sustainability of heritage structures.

The paper’s primary objective is to examine the integration of MCDM techniques for the definition, weighting, and management of criteria by different stakeholders within HBIM. The goal of this exploration is to demonstrate the potential of HBIM and MCDM to transform heritage conservation by facilitating a structured, collaborative, and transparent decision-making process. This approach not only enhances the efficiency and effectiveness of conservation efforts but also guarantees that the diverse perspectives and expertise of all stakeholders are integrated into the decision-making process.

Background and key concepts

To comprehend the integrated approach of HBIM and MCDM, it is first necessary to define some key concepts.

Heritage conservation

Heritage conservation is a multifaceted discipline focused on the preservation of buildings, sites, and structures of historical and cultural significance. The objective is to maintain the architectural integrity and historical authenticity of heritage sites while adapting them to contemporary needs and use, building codes, and safety and accessibility standards.⁵ This process is a collaborative effort that requires the input of various stakeholders,⁶ including conservationists, architects, historians, and local communities.⁷

Conservation initiatives must address concerns such as physical deterioration due to environmental factors, material deterioration, and human activities to prevent further damage.⁸ This is coupled with challenges in the requirements for documentation of existing conditions, detailed restoration and maintenance planning, and informed decision-making processes.

Heritage Building Information Management

HBIM represents a specialized subset of BIM developed to address the unique requirements of heritage conservation. While BIM is widely applied in both new construction and the refurbishment of existing buildings, HBIM specifically focuses on the conservation, documentation, and management of buildings with historical significance. By building on the methodologies of BIM used in managing existing buildings, HBIM adapts and extends these practices to meet the challenges associated with preserving heritage structures.

Creating HBIM models follows a reverse engineering process (Figure 1). It begins with the physical structure, capturing its dimensions and details through techniques such as consulting archival plans, on-site measurement, laser scanning, or photogrammetry.⁹ This enables the creation of a 3D model. The alphanumeric data is then processed and organized into a hierarchical data structure and finally implemented into the 3D model to create an HBIM model.

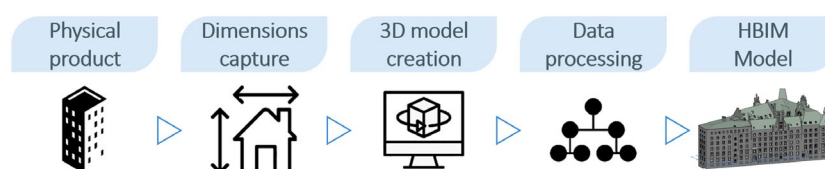


Figure 5. HBIM Reverse Engineering Process. Source: BIMLab@HCU, Project 0-CO2-WSHH

As a result, the HBIM model functions as a digital representation that encompasses both geometric and semantic data. This repository offers an accurate and detailed data repository of the current status of the available information on the historic structure.¹⁰

HBIM enhances stakeholder collaboration, ensuring all parties have access to the same up-to-date information.¹¹ The repository allows queries and data manipulation as needed. Furthermore, the use of HBIM models could facilitate virtual inspections and analysis, enabling planning with a reduced necessity for heritage site visits and associated disruptions.

Multi-Criteria Decision-Making

MCDM is a methodology that encompasses a set of techniques and methods designed to evaluate and prioritize multiple conflicting criteria in decision-making processes.¹² In the context of heritage conservation, MCDM provides a structured framework for the consideration of the various factors that influence conservation decisions, including historical significance, structural stability, economic impact, and social relevance.¹³ The involvement of stakeholders in the process of identifying and weighting criteria ensures that the diverse perspectives and knowledge of all parties are considered.¹⁴

This is accomplished through a systematic evaluation of criteria, rendering the decision-making process more transparent and objective.

Despite the variety of techniques, some steps of the MCDM process remain consistent across all of them (Figure 2):

1. Objective definition: To clearly define the precise objective of the decision to be made.
2. Criteria identification and weighting: To determine the relevant criteria for decision-making related to the objective defined and to weight them according to their importance related to the objective.
3. Development and ranking of alternatives: The development and evaluation of alternative strategies must be based on the identified criteria, with the ranking of these strategies conducted through the use of scoring methods.
4. Decision-making: The results should be analyzed and the best alternative selected based on the ranking. The process may entail iterative refinements to the criteria and weightings in response to feedback from relevant stakeholders.



Figure 6. MCDM process

In the existing literature, the most commonly used methods for the identification and weighting of the criteria applied to decision-making in historic building conservation are Delphi and Analytic Hierarchy Process (AHP).¹⁵ Delphi method consists of experts or stakeholders assessing the importance of each criterion through several rounds of questionnaires until a consensus is reached. AHP uses pairwise comparisons of criteria to calculate weighting vectors and ensure consistency. It is also common to find in the literature a combination of both methods.¹⁶

INTEGRATED HBIM-MCDM APPROACH

The integration of HBIM with MCDM techniques establishes a structured and collaborative workflow to enhance the decision-making process in heritage conservation. This integrated workflow guarantees a systematic consideration and storage of diverse perspectives and criteria, resulting in informed and balanced decisions.

The HBIM-MCDM workflow comprises a series of steps, beginning with the identification and weighting of criteria for a specific objective through the involvement of stakeholders from various disciplines. Afterward, data is collected from various sources and integrated into the HBIM model, updating the information of the comprehensive repository. This repository supports the ulterior development, evaluation, and selection of alternative conservation strategies. This approach underscores the importance of stakeholder involvement at each stage, thereby fostering a transparent and inclusive conservation process.

Stakeholder and their roles

Effective heritage conservation requires the collaboration of several stakeholders, each of whom contributes a distinct set of knowledge and perspectives to the process (Figure 3).¹⁷

Conservationists and restorers have the role of preserving the historic integrity and authenticity of the heritage structure. Their responsibilities include providing expertise in conservation techniques, materials, and practices, participating in the determination and weighting of criteria, and ensuring that conservation strategies conform to historic preservation standards.

In the context of conservation interventions, architects assume their role in the design and planning phases. Engineers offer expertise in structural assessments, HVAC systems, and other interventions.

Together they oversee, maintain, and update the geometry and the technical aspects of the HBIM model, ensuring accurate data and criteria integration. They also develop and evaluate alternative conservation strategies, and validate that interventions comply with current building codes and standards.

Historians and archaeologists provide the historical context and significance, contributing to the identification of criteria especially those related to historic value and authenticity. They ensure that conservation strategies respect and highlight the historical narrative of the structure.

Urban planners integrate heritage conservation into broader urban development plans, ensuring that conservation efforts are aligned with urban planning objectives and standards. They participate in selecting and evaluating criteria, especially those related to social impact and community integration.

Governmental and regulatory agencies oversee and ensure the regulation and financing of conservation projects under legal and regulatory requirements. They provide input on criteria related to regulatory compliance and the public interest and facilitate stakeholder participation and funding allocation.

Local communities and residents represent the interests and perspectives of individuals interacting with the heritage structure in question. They engage in identifying and prioritizing criteria, offer insights on conservation strategies, and guarantee that conservation endeavors are congruent with community values and necessities.

Economists and financial experts assess the economic viability and impact of conservation projects, analyzing the costs and benefits of conservation strategies. They participate in selecting and evaluating criteria and ensure the financial sustainability of conservation efforts.

Tourism experts evaluate the potential of the heritage site as a tourist attraction, thereby contributing to the assessment of criteria related to tourism development.

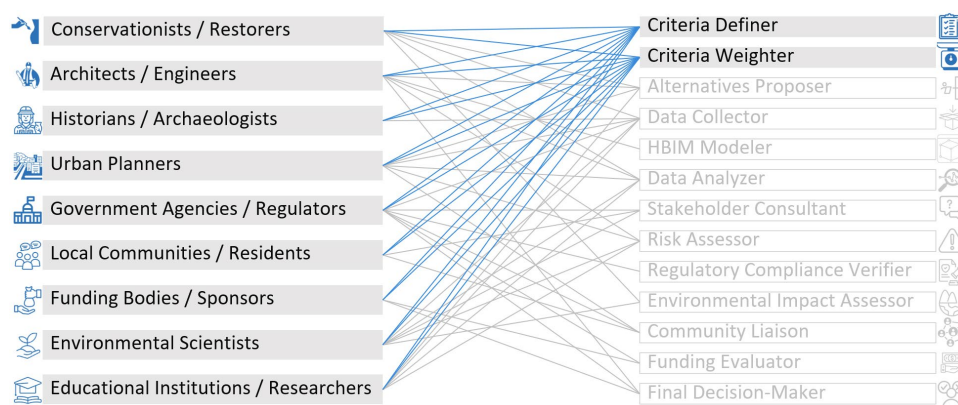


Figure 7. Examples of connections between stakeholders and their roles

The aforementioned examples represent a fraction of the multitude of stakeholder groups that can be taken into consideration in the criteria selection and weighting process. Each stakeholder group plays an indispensable role in the integrated HBIM-MCDM approach, contributing their expertise and perspectives to guarantee that conservation efforts are balanced and reflective of diverse interests. The HBIM-MCDM approach fosters collaboration and transparency, ensuring heritage conservation is a comprehensive and inclusive process.

Criteria identification and weighting

The process of identification and weighting of criteria (Figure 4) serves to evaluate and prioritize strategies. Once the conservation objective that requires a decision is precisely defined, it is recommended to involve a diverse group of stakeholders in identifying relevant criteria. Techniques such as workshops, interviews, and stakeholder surveys are employed to guarantee the consideration of all pertinent viewpoints and factors.¹⁸

The Delphi method can be used to identify the relevant criteria through multiple iterative rounds of questionnaires, reaching stakeholders' consensus.¹⁹ In the AHP method, a criteria comparison matrix is constructed in which each criterion is evaluated in comparison with all the others.²⁰ The stakeholders assign a relative importance rating on a scale of 1 to 9, with 1 indicating equal importance and 9 indicating extreme importance relative to the other criterion. The resulting matrix is normalized, and eigenvectors representing the weights of each criterion are calculated. To ensure the reliability of the comparisons, a consistency check is performed. A Consistency Ratio (CR) value of less than 0.1 indicates acceptable coherence. In the event of a CR greater than 0.1, the values of the matrix would be reviewed again in consultation with the stakeholders. The identified criteria and their weightings are documented and reviewed with the stakeholders to ensure their accuracy and completeness.

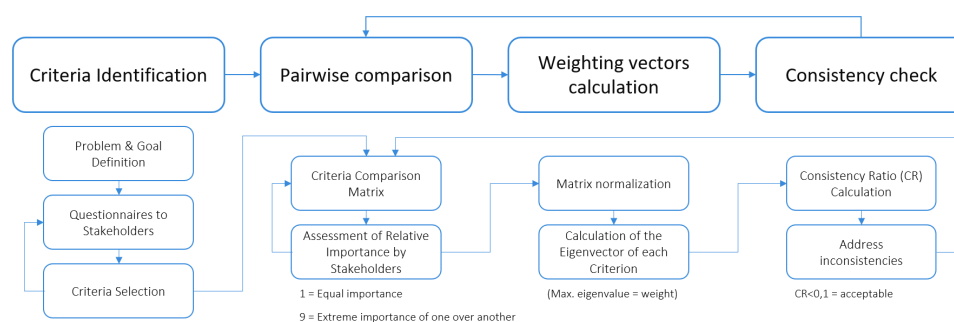


Figure 8. Criteria identification and weighting process

Criteria integration with HBIM

The integration of criteria in the HBIM model entails the storage and management of data to facilitate informed decision-making and to provide insight into the processes that led to a decision in the past. IFC (Industry Foundation Classes) is a vendor-neutral schema defined by buildingSMART International that provides a standardized data structure for representing building information, which includes entities of different types (Figure 5), such as project (IfcProject), location (IfcSite), building (IfcBuilding), and building elements (IfcWall, IfcDoor, etc.).²¹ All entities serve as information containers, capable of storing alphanumeric data of any type related to them in the form of properties and attributes. Consequently, criteria can also be stored as sets of properties associated with entities within the IFC schema, thereby ensuring organization and accessibility.

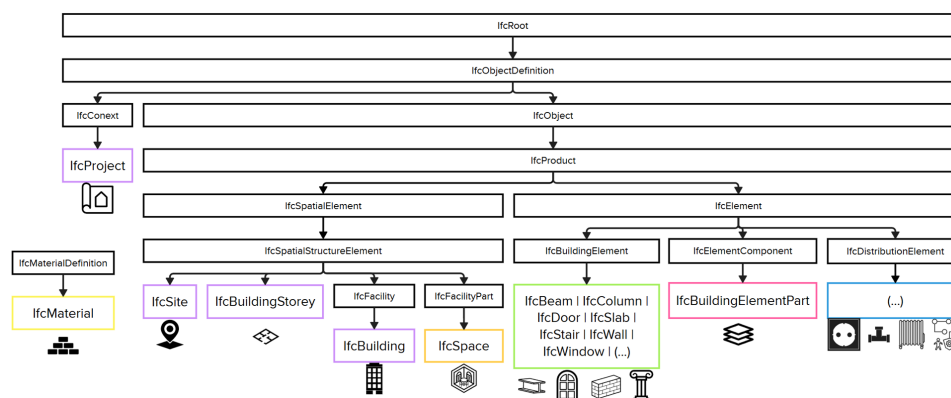


Figure 9. Extract from the hierarchy between entities according to the IFC schema

It is possible to create property sets for each group of criteria, such as structural or social criteria. The Structural Criteria property set may include sub-criteria as properties, such as DataAvailability, StructuralIntegrity, and GeneralCondition. Similarly, the Social Criteria property set could include properties such as PublicInvolvement, IdentityPride, and TourismDevelopment. The weights for each criterion are stored as single, bounded, enumerated, or list values, as appropriate, with the corresponding data type, such as IfcLogical, IfcPositiveRatioMeasure, or IfcLabel, and stored within the respective property sets, thus integrating it into the HBIM model.

The effective management of criteria within the HBIM model acting as a central repository guarantees the currency, accessibility, and usability of information for decision-making processes. This centralization ensures that all stakeholders have access to the same information, and allows querying and manipulation, facilitating collaborative decision-making. Regular updates to the HBIM model, including changes to the physical condition of the building, criteria weighting, and new data from ongoing preservation efforts, ensure that information is kept current. This approach guarantees that all decisions are based on complete and up-to-date information, optimizing the use of resources.

DISCUSSION

The joint application of HBIM and MCDM methodologies reinforces the collaborative nature of heritage conservation by uniting various stakeholders, and their perspectives and expertise at each stage of the process. The centralization of data using HBIM models as repositories of geometric and semantic data facilitates the efficient storage, management, and retrieval of up-to-date information related to heritage conservation. By employing a systematic approach to weighting and analyzing various criteria, MCDM provides a framework for informed and balanced decision-making, allowing for streamlined management of competing demands inherent to heritage conservation. This combined approach also minimizes redundant tasks, improving the overall effectiveness of conservation efforts.

Limitations and outlook

The implementation of the integrated HBIM-MCDM approach is associated with several advantages; however, it also has limitations, such as the requirement of significant resources, including time, technical expertise, and financial investment. The process of creating appropriate HBIM models, which are tailored to the specific requirements of the conservation project, conducting extensive stakeholder consultations, and applying MCDM techniques can be complicated and resource-intensive. This poses significant challenges, particularly for projects with limited budgets and tight timelines. Therefore, minimum viable requirements must be considered within the processes according to the use cases to optimize resources.

A further limitation is the necessity for accurate and comprehensive data. Incomplete or erroneous data due to inadequate historical documentation or areas of restricted access can result in inaccurate analyses and suboptimal conservation strategies. To address these challenges, incorporating approaches such as fuzzy logic processes, designed to account for and manage uncertainty in data collection and interpretation, should be integrated into the process. Additionally, the establishment of standardized criteria would also facilitate consistency and comparability across heritage sites.

The integration of HBIM with MCDM necessitates the utilization of sophisticated software. The current limitations of software pose a significant challenge, particularly regarding interoperability between diverse platforms and tools. To address these limitations, the development and adoption of interoperability standards becomes imperative. The IFC schema serves as the foundation for these standards; however, it requires refinement and expansion to achieve comprehensive compatibility with the distinctive requirements of heritage conservation. To this end, collaboration between software developers, standards organizations, and heritage conservation professionals would ensure the creation of robust interoperability standards, thereby facilitating seamless data exchange and integration between systems.

Additionally, coordination between various stakeholders can also be a challenge. Managing input from diverse stakeholders with different perspectives and interests can be complicated and time-consuming. Achieving consensus on the weighting of conservation criteria and strategies often requires iterative consultation and compromise, which can delay the decision-making process.

Furthermore, the implementation of HBIM and MCDM methodologies necessitates the involvement of stakeholders, including not only technical experts but also non-specialists who may lack comprehensive knowledge of BIM or MCDM techniques. To guarantee the effective utilization of the tools by stakeholders, user-oriented processes must be developed, accompanied by training and capacity-building initiatives.

Effective version control of HBIM models is needed to ensure the accurate recording and documentation of all changes and updates. While change control processes for BIM models do exist, there is variability in their adoption and implementation across different projects and software, which can lead to inconsistencies. Version control systems provide a systematic approach to revision management, maintaining a historical record of changes and facilitating collaboration between stakeholders.

In light of the sensitive nature of heritage conservation data, data security must be ensured. To this end, access control systems must be implemented to regulate stakeholder access to HBIM model data and protect sensitive information. These access control systems should be designed to provide different levels of access depending on the roles and responsibilities of the stakeholders. This ensures that only authorized personnel can modify data in HBIM models, while others can have read-only access.

Ultimately, to validate the feasibility and effectiveness of the integrated HBIM-MCDM approach, real case studies are necessary. These case studies will provide a practical view of the application of the approach, highlighting both its strengths and areas for improvement.

CONCLUSION

The integration of MCDM with HBIM enables stakeholders to implement a more structured, collaborative, balanced, and informed decision-making process. This integration entails the involvement of stakeholders at all stages, from the initial identification and weighting of criteria to the subsequent development and selection of conservation strategies.

The identification and weighting of criteria within the MCDM process serve as the foundation for the evaluation and prioritization of conservation strategies. The involvement of a diverse group of

stakeholders, including conservationists, architects, historians, urban planners, and local communities, ensures that all relevant perspectives and factors are considered. To this end, methods such as Delphi and AHP are employed, using techniques such as workshops, interviews, and surveys to gather comprehensive input and to assign relative importance to each criterion systematically.

The implementation of these criteria within the HBIM model guarantees the transparency of the decision-making process. The HBIM model functions as a centralized repository, integrating all pertinent data and criteria, thereby enabling stakeholders to efficiently access, query, and manipulate structured data. This integration enhances conservation efforts by establishing a foundation for informed decision-making.

NOTES

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BRITISH COLONIAL RAILWAYS IN CYPRUS AND THEIR IMPACTS ON ARCHITECTURAL DEVELOPMENTS

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INTRODUCTION

Railways have historically played a major role as they shaped a nation's development. This is especially true when taking colonial expansion into account since transport hubs were critical in determining the growth of cities. The Cyprus Government Railways (CGR), which operated from 1905 to 1951, serves as a case study in this paper's investigation of the historical significance of the subject and discuss views regarding its potential influence on the evolution of the island's architecture. The scope of the study is more general, beginning with the basics of colonialism and the importance of railways, later focuses on British Colonialism and Cyprus with its historic background especially during the British Rule (1878-1960) and its railways.

Colonialism

The term colonialism can be explained and defined in many possible variations. According to the Cambridge Dictionary, it is the system in which powerful countries control other countries. It occurs when a power forces another population to change their language, traditions, and cultural values. Kohn and Reddy define it as a practice of domination where one people or country subjugate another.¹

Colonialism is not a contemporary concept; it has been a phenomenon that has been ongoing for centuries. Throughout the history, some countries expanded their territories and colonise others by assimilating the population and gaining the political control. There is no specific time period or geographical territory to define colonialism, but it has been evolved after 16th century with developed technology and transportation systems.

Harris describes the problems and difficulties arose by the enlargement of the country's boundaries. The time and cost needed for transportation and communication facilities with the existing situation was too high and suggested that a better system will solve these problems and speed up the growth by reaching every end of the boundaries by marking the territories.²

Focus on British Colonialism

At the peak period of British colonialism, they controlled around a quarter of the World's land and the same ratio of the population.³ Many people from the British land, migrated to the colonised countries to seize the opportunity of discovering and growing their wealth. New colonised regions, offered new job opportunities, access to more natural resources, discovering new tastes, and expanding one's

horizon. This migration helped to spread their culture to the new colonies, and get benefit also learn from the cultures of colonies.

Another crucial function of the cities was to provide transportation facilities. Port cities came into prominence in the colonial period, as they were the main channels of the transportation. Together with the transportation facilities much attention was given to develop governmental or administrative centres that leads to a denser urban life.⁴

Railways as a Common Feature of British Colonies

British Empire is accepted as one of the greatest colonisers in the World. A vital feature, that promotes to their development is their knowledge and success in transportation. In early 20th century the rush and competition of colonising powers accelerate the development in the transportation industry. For maintaining and improving the empires, an effective transportation system was necessary to circulate extracted goods, people, military equipment, food products, etc. Transportation of goods in the colonies, between the colonies, and between the mainland and colonies was very important. For this importance, the planning of railways was a privileged issue that needs much concern. In many colonies the lion's share of the investment was done to construct railways after detailed surveys for an optimum transportation hub. Commercial and military reasons were the main concerns when constructing the railways for easier communication and transportation.

Expression Through Architecture

Under the British rule, the colonial offices usually, Public Work Department (PWD) designed and constructed many buildings in the colonized lands. As well as using their own architectural styles, the designs were modified according to the environmental conditions, local solutions, and technologies. Colonial architecture can be defined as the architectural style, originally used by the coloniser, and implementing this style to the colonised regions by combining them with the local design approaches. The political power could be represented to the people by using architecture. In terms of sociohistorical perception, colonial architecture frequently denotes the presence of colonial control and power in the public structure and serves as a declaration and a symbol of oppression and control.⁵

CYPRUS UNDER BRITISH RULE

Cyprus is an island in the Mediterranean Sea that is situated at a junction of significant axes. Due to its strategic location many civilisations took control of the island in the history and many left important remaining's as a part of the heritage of the island.

Cyprus was a part of the Ottoman Empire till the end of the nineteenth century and was governed under Ottoman rule. With the power loss of the Ottoman Empire, Britain saw Cyprus as a chance to advance its military and economic goals in the Middle East and as a wonderful naval base, for the protection of the Suez Canal in addition to broadening its markets. Transporting goods between the heart of the empire and India, one of England's most valuable colonies, was crucial. The British Empire depended on the route. British officials were frequently indicating the strategic importance of Cyprus as a port in the Mediterranean. With the increasing pressure on Ottoman Empire and their weakening economy, in 1878 an agreement was signed with Britain. In accordance with the terms of the agreement, although the Ottoman Empire transferred the administration of the island to the British, it did not give the right of ownership. Cyprus was occupied and administered by the British in 1878, annexed in 1914, and then became a British Crown Colony from 1925 until receiving independence in 1960.

Establishment of the Railways in Cyprus

Likely to many other colonies, detailed investigation for the railways were started in Cyprus. Several proposals were presented to the colonial office about the route of the railroads. The main aim was to connect a major amount of the population and the land as much as possible through a route that will be constructed with the lowest budget. Famagusta as the port city was decided to be the starting location of the route connecting it with the capital Nicosia. The proposed branch of the route connecting other port city of Larnaca was rejected as it was increasing the total construction cost of the project due to a need of tunnel to pass from the slopy regions. In 1905 the CGR was officially established completing its first journey from Famagusta to Nicosia. The complete route was constructed in 3 stages connecting Famagusta to Nicosia as the first stage, Nicosia to Morphou as the second and Morphou to Evrychou as the third stage.

Use Areas of the Railways

Railways offered variety of services to the inhabitants of Cyprus, different governmental sectors, and private companies. Considering the size of the railways and the population, some of these services were taking place together in the same journey and some were running at separate rounds. As well as human transport, transportation of mine and agricultural products to the ports and imported goods to the inland areas was the main functions of the railway.

Mines and Mineral Transport

Cyprus has a lengthy history of resource exploitation and human settlement and is made up of several geologically unique rock formations, such as the Troodos Ophiolite, which is home to several copper deposits found in Cyprus. In addition to its agricultural importance, the island had significant mineral richness in the past. Lang proposed before the British Rule started on the island that, although there were no mining operations on that time, it is extremely probable that further scientific research will uncover significant mineral richness.⁶ The Cyprus Mines Corporation (CMC) was established in March 1916 to expand the mining facilities and making more profit. A private railway connected the mines to the government railway and the newly constructed dock. CMC was running their own rails for extraction of ore and its transportation. The CGR and CMC was in collaboration to transport the extracted products to Famagusta Harbour to be carried to the necessary locations.

Military Purposes

Before, after, and during the wars, transportation of military personnel and equipment to strategic locations was crucial in order to gain advantage against the opponent side. One of the fastest and most convenient mode was using the railways for this purpose. As expected, the railways in Cyprus were used heavily in certain periods for military transportation.

Transportation of People

The income of the Government railways was only 10-11% from passenger transportation and almost 90% from carriage of goods, materials, and other products. Passenger use of the trains was provoked by making special offers to people especially in special occasions like holidays and festivals. These initiatives included both economical offers that reduces the prices and extra trips when it was thought that there will be extra interest to one specific area. In addition to public, also distinguished officials like Winston Churchill, who travelled to Cyprus in 1907 as the undersecretary of the Ministry of Colonies, were also transported by train.⁷ The wagons included first class sections for officials and people that look for more comfortable journey.

Postal Services

Postal service was another area that CGR collaborated with during its history starting shortly after its opening. Postal and telegraph services were offered by CGR and were carried along the track by scheduled or special fares. Especially to small settlements that has limited connections with the cities, as well as passenger transportation, CGR was also providing postal service. Stations and halts usually had mailboxes place on a wall or a visible place for easier post collection. Also, some of the CGR staff was receiving a small allowance for their postal duties. For a more effective and convenient service, railway post offices were set up at some of the rail stations also issued with their own cancellation stamps and act as sub-post offices.⁸

Archaeological Use

Cyprus is a rich island in regard to antiquarian purposes. The past civilisations left many tangible heritages that some still needs to be discovered from underground. Archaeological works were always an important aspect of the governments in power of Cyprus for bringing these heritages out including the British rule.⁹ The studied sources indicates that the CGR was not directly used for archaeological purposes during its service. But it is known that the Department of Antiquities, under the British Administration used independent rail structures for archaeological studies.

ARCHITECTURE OF CGR

The first thing that comes to mind when railway architecture is addressed is passenger buildings. It must be specified that, for the system to operate effectively, all of the buildings that make up the individual elements of the total are at least as valuable as the passenger buildings in terms of railway architecture and legacy. In the case of Cyprus in addition to the station buildings, there were workshop buildings, locomotive sheds, offices, water tanks, windmills, shelter for halts, and bridges.¹⁰ These structures were making up the system for a functioning CGR. According to the size, population, and strategic importance of the settlements the needs for railway were different. So, for CGR the classification was done accordingly, and the stations were categorized as main, 2nd class, and 3rd class. In addition to stations in much smaller villages there were halts with small, sheltered areas. Main stations at Famagusta and Nicosia, class 2 stations at Morphou and Evrychou, class 3 stations at six locations, and 28 halts on the route was forming the railway line.¹¹

Taking Cyprus's size and population into account, the railway investments made are substantial in comparison to those made in other British colonies. The structures were designed by engineers and architects from England and were adapted to the island's conditions. Table 1 is representing the summary of the architectural features of CGR station buildings, highlighting the similarities in the design decisions.

	Famagusta Station	Nicosia Station	2 nd Class Stations		3 rd Class Stations
			Evrychou	Morphou	
Form of the plan	rectangle	rectangle	rectangle		Rectangle
Width to length ratio	0.28	0.20	0.30		0.45
Orientation of front facade	South-West	South	North-East	South-East	N.A.
No. of storey	2	1	2		2
Ceiling height	3.45 – 5.23	3.18 - 4.95	3.05 – 3.20		2.76 – 3.05
Wall Thickness	Exterior	0.46	0.3	0.38	0.38
	Interior	0.3	0.23	0.3	0.3
External Material	Sandstone	Sandstone	Sandstone and volcanic rock	Sandstone	Sandstone
Central Corridor	No	No	No		No
Round Arches	Yes	Yes	No		Yes
Openings	Rectangular windows and doors	Rectangular windows and doors	Rectangular windows and doors		Rectangular windows and doors
Roof Type	Pitched, tiled	Pitched, tiled	Pitched, tiled	Flat roof	Flat roof
Wooden Shutter	Yes	Yes	Yes		Yes
Key Stones	Yes	Yes	-		Yes
Fireplace	Yes	Yes	Yes		No
Porch	Yes	Yes	No		Yes
Cross Ventilation	Yes	Yes	Yes		Yes

Table 1. Architectural Features of Station Buildings of CGR, Produced by the Author

Station Buildings

British Colonial architecture combined the architectural features of their homeland and the local architecture of the colonised region to show their control and power in the region as well as to cope with the climatic conditions in an optimum way. Buildings and infrastructures that built Under British Rule, creates a remarkable number of islands colonial legacy. Like in many British colonies, PWD was responsible for the design and construction of majority of public structures in Cyprus. Studying the projects of PWD, it is possible to understand the architecture in the colonial period, as the works were distributed through the island.

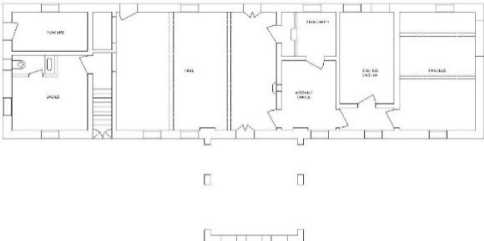
<p>Front Façade of Famagusta Railway Station in 2023</p>	
<p>Front Elevation of Famagusta Railway Station</p>	
<p>Side Elevation of Famagusta Railway Station</p>	
<p>Ground Floor Plan of Famagusta Railway Station</p>	
<p>First Floor Plan of Famagusta Railway Station</p>	

Table 2. Architectural Drawings of Famagusta Station Building Produced by the Author

Famagusta railway station was the headquarters of the Cyprus Government Railways and the starting point of the first train journey in Cyprus. The station building itself was a simple but impressive 2 storey building, built in sandstone brought from the northern quarries of the island, including the passenger and traffic offices on the ground floor and headquarter offices on the first floor. The building was approached from back façade, through the driveway by reaching the gate under the arches that also included a clock. The architectural drawings that have been produced by the author according to the existing data can be seen in Table 2. For Famagusta Station the first proposals had very few changes during the construction process. The proposed arches to cover the entrance gate, that can be observed on the end elevation drawing have been modified and built as a single arch to allow wider vehicles to approach the gate.

Until 1903 there was no electricity in Cyprus. According to the Electricity Authority of Cyprus (EAC), in 1903, the British colonial government brought electricity to Cyprus.¹² Considering the

absence of electricity in the designing stage of railway buildings of Cyprus, the passive heating and cooling strategies had been adapted to create temperate spaces in undesirable environmental conditions. Considering, that Cyprus has hot and humid climate and long warm seasons, cooling was the primary consideration. The width of all station buildings is covering a single room area and provided with openings that they assure cross ventilation for temperature and humidity control in hot and humid climate of Cyprus. The wooden louvred shutters that are covering most of the windows were another passive climate control for the buildings. The louvres were allowing the wind inside the rooms while blocking the direct sunlight to enter the inner spaces. For heating, the fireplaces were used, and their chimneys that are extended to the roof is one feature that defines the character of the buildings.


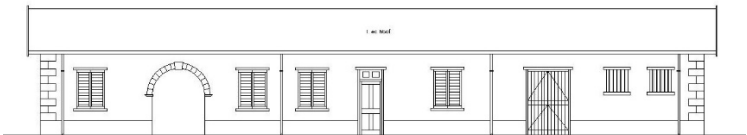
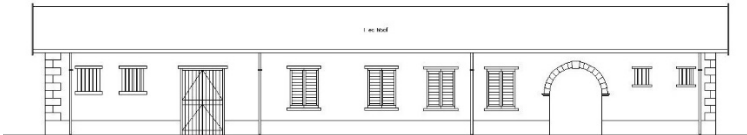
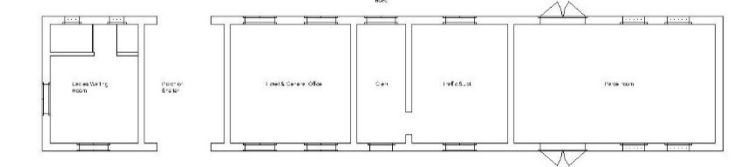
<p>Photograph of Nicosia Railway Station</p>	
<p>Front Elevation of Nicosia Railway Station</p>	
<p>Back Elevation of Nicosia Railway Station</p>	
<p>Ground Floor Plan of Nicosia Railway Station</p>	

Table 3. Architectural Drawings of Nicosia Station Building Produced by the Author

Nicosia as the capital of Cyprus was another important premises for CGR. One of the two main station buildings on the island took place in Nicosia. Central location of the station within the island, make it an important drop off point for the imported goods from the ports. Across the platform the locomotive shed, fuel area, and the water tank took place. On the East side of the station the workshop building, coach shed, goods shed, and customs building was located. Also, there was a separate loading platform used to load and unload the goods other than the platform that has been used by the passengers.

The passenger terminal was constructed in 3 states including a single storey part along the platform as the first stage, two storey block as the second, and another single storey as the third stage completing the symmetric shape of the building.¹³ All three parts were constructed using local sandstone for the walls and red clay tiles on the roof. Very much like the other station buildings, the openings were protected by wooden louvred shutters to control sunlight and wind. On the platform side of the

building, a large canopy with a pitched roof and covered with corrugated iron was another significant feature.

CONCLUSION

This study aimed to increase the awareness of Cypriot and international academics on the topic of Cyprus Government Railways and its cultural heritage value. There is a vital need to investigate, document, study, and produce preservation strategies for the remaining of CGR. In this focus, the architectural language of the main station buildings of Famagusta and Nicosia have been studied, and the drawings of the buildings have been produced. The common features of the buildings have been discussed for a better understanding of the architectural approach of PWD at the time. The combination of motherlands architecture with the local environmental conditions to provide an optimum climate for the users was the main strategy observed.

In addition to this study, further historical documentation and archival research should be done using a wider range of sources and data collecting methods to learn more about the CGR, its development, operation, and effects on nearby towns, explore further into historical archives and original sources. Examining official records, documents from the railway firm, periodicals, and first-hand recollections from people connected to the railway could all be part of this. More interdisciplinary studies are needed combining the perspectives from different fields to understand and produce theories about CGR and plan heritage assessment and preservation strategies by conducting detailed heritage assessments to determine the importance and condition of CGR sites.

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- ¹³ Costas Georghiou, *British colonial architecture in Cyprus: The architecture of the British colonial administration, 1878-1960* (En Tipis Publications, 2013).

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ON GARDENS AND WAX BRAINS: WHERE IDEAS TOUCH

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INTRODUCTION

There is a box in the museum store that is listed as containing the following: “WAX MODELS OF BRAINS: Sea lamprey, Dogfish, Salmon, Frog, Alligator? Pigeon”.

Elsewhere, the Chinese garden, described by Michel Foucault, is designed to expand beyond the boundaries of the physical space. The garden contains representations of the four parts of the world with meaningful intersections. To traverse from one boundary to another is to travel further than across the garden, it is to spiritually engage with different places from across the world. Foucault writes that “the garden is the smallest parcel of the world and then it is the totality of the world”.

This paper is a practice-based investigation into the physical and theoretical organisation of artefacts in museum collections, considering how a collection might include sites of disruption that draw attention to, create, and make legible the sites outside of their boundaries. What does it mean to traverse the museum collection as a garden? And where are the points at which ideas touch?

Considering the spatiality of knowledge through the work of Foucault offers new potential for consideration of the museum. It is possible to *create* spaces through the organisation of ideas and of artefacts, not only through the physical proximity of the objects in a collection, but also the proximity of the idea of the objects. There is a chance to examine the spaces created (and disrupted) through organisation and production of knowledge, including encyclopaedic collections, functional organisations, and boxes of wax brains.

First, the Garden

It is a space intended to be one in which we cannot be fully in control of. The walls are built of trellis, with arches and nooks and covered sections that let in light but not rain nor wind. Plants reach everywhere: ivy mostly, but also roses and passionfruit. The floor, a raised wooden platform with slats painted alternately dark green and red is worn and strewn with dead leaves. The wall next to me is crumbling, leaving a white dusting on the trellis and the floor, hanging heavy in old spiderwebs. On some, but not all, of each of the squares of the trellis is placed a single item: small, coloured glass bottles, stoppers, stones, balls from the pool table (all dusty, all streaked with green). From the roof hangs a ceramic trumpet and various pieces of plastic fruit, tied with white household string. The large orange is directly above my head. Behind me is a maquette for a sculpture that I made, hung on the trellis among the fruit and the stones and the glass, broken and sagging with the weight of the dead leaves (it was broken when I offered it for the garden, and my proposal to fix it was declined). There are many broken things in this space: the metal part of a cafetiere stands in an odd arrangement with a brush and a stone upon a tree trunk pedestal; a mug with no handle is holding a fake apple on the

table, next to a Dundee Marmalade jar with an upturned glass lampshade in it. Everything is here deliberate, and placed in a manner that demands a recognition of its position: this is not a space to browse and to idly touch, but it is also not a space to clean or to use. Its function is to be a site for the things, and a space in which to be. I can sit within it, with the cat and the spiders, but it is not a space that is mine to interfere with: this is not a garden in which vines are carefully woven into the trellis, or the beds weeded or the table wiped before use. Here, the weeds are chaotic interventions from nature (like the spiders, like the leaves) and are left to emerge from the slats of the pallets around the strange porcelain tentacles that have been placed in cut holes. I recognise things from the house: an old whisky bottle, the chair that I made as a child, coat hooks, rings from metal latches, another lampshade (behind the bamboo), stacks of curtain rings. This table is made from the marble worktop from the kitchen of the house in which I was born and grew up. Things have been selected and placed here, but denied function, inverted, dismantled and rearranged. There are jokes here, although uneasy due to the obscurity and the lack of invitation.

Like the Chinese garden, this is also a collision of different sites. The whole space is composed of grids and rows (trellis; pallet; floorboard). Order is suggested everywhere: the stacks of stones, the arrangement of small items; the choices of light and shade and reflection and scale. This site was designed and built and nurtured, but always in balance with the creeping arm of nature that has responded (and created and enhanced and destroyed) in erratic and unpredictable ways. This garden is full of things that *should not be here* or do not play the role of which you expect of them. The garden chair, in this space, is an ornament, placed on a platform in front of a totem pole of salvaged wheels and other items, placed to be looked at as it relates to the steel frame of the mirror and the high curve of the arch above. Instead, one is invited to sit on another chair: a thin wooden chair whose splintered seat does not encourage confident support (yet another uninvitation to the garden).

This garden is at once the museum, the exhibition space and the refuge. It is unmoving, and time is evident in every space, although not in the way in we are normally encouraged to think about it. Here, it is hard to look forward in time: it is a space in which history accumulates (like in Foucault's heterotopian museums) and one that resists the anticipation of change and progression. Even the seasonal changes of the garden feel insignificant in this space.

It is similar to my recollections of Derek Jarman's garden, in which the piles of pebbles and driftwood arrangements had more to do with the vast stretches of grey sky above and grey sea beyond than with the blossoming of flowers and a shifting calendar of growth. That was a garden with a similar feeling of reluctant invitation that did not feel like it was made for visitors, but instead as an intervention to the flatness of the Dungeness landscape and as an act of endurance against the endless shifting of the tides and the light. Jarman wrote of his garden, "There are no walls or fences. My garden's boundaries are the horizon. In this desolate landscape the silence is only broken by the wind, and gulls squabbling round the fishermen bringing in the afternoon catch."¹

This space is important in considering how things act and how perceptions behave. How spaces are designed and how they rebel. How physical spaces are sites for thought, ideas and contestations. How the expectations of things can be disrupted and can be several things at once.



Figure 1. The Garden

Michel Foucault writes that all gardens are heterotopias, descended from the highly organised and considered Chinese and Persian gardens in which several incompatible sites are juxtaposed. The Chinese Garden, he writes, is designed to expand beyond the boundaries of the physical space. The garden contains representations of the four parts of the world, with meaningful intersections. To traverse from one boundary to another is to travel further than across the garden, it is to spiritually engage with different places across the world. Foucault writes that “the garden is the smallest parcel of the world and then it is the totality of the world”.²

In *Here and There in Yuan Ye*, Stanislaus Fung discusses this further. Using Heidegger’s distinction between the ambient world (*Umwelt*) and “space” (*der Raum*),³ he describes the process of ‘borrowing views’ as one in which experienced or felt distance is conflated with measurable distance in geometric space. A ‘borrowed view’ not just frames or mirrors a distant vista (bringing it into the garden through composition and acknowledgement) but allows one to bring “something apparently remote and unrelated... near to the arena of thinking. ... Two bodies of thinking have a momentary touching or contact, without one subsuming the other, or both joining in unanimity”.⁴ A ‘borrowed view’ is not merely a spatial alignment but exists through the “mutual regard”⁵ between person and landscape. It is an “encounter of landscape and person, conceived of as the reciprocal relationship between sentiment and scenery, *qing* and *jing*”.⁶

Second, The Wax Brains

There is a box in the store at Perth Museum in Scotland that is listed as containing the following:

WAX MODELS OF BRAINS

Sea lamprey
Dogfish
Salmon
Frog
Alligator?
Pigeon

This list of brains is an organisation only *of sorts*, falling into the vague gap between practical subjectivity (these things are placed together in the same box to be efficient in storage: if all the brains fit in a single box then it *makes sense* to store them that way) and conceptual significance of the museum (these are the brains of the collection, the ones used to represent others of type – whether other brains, other wax models, other biological representations: this isn’t just the brain of a pigeon, it

is the brain of *all pigeons*). And how does this list relate to spatial knowledge? It refers to a physical space (that of the box interior), but the space that refers to knowledge production is to do with how the ideas of each of these brains sit next to each other. The question mark is important too, as a marker of uncertainty: the alligator is only half-there.

Regarding the above as a list of significant items, completely unrelated to the museum, I am pleased to see the Sea Lamprey as the top of the list. This large, eel-like parasite was also, somewhat surprisingly, the name of my local fish and chip shop as I was growing up (although apparently, sea lampreys did used to be widely eaten. Henry I is said to have died from ‘a surfeit of lampreys’).⁷ Any list that starts with Sea Lamprey and ends with Pigeon will automatically begin to map itself onto a London landscape (however, deserving of its question mark, the alligator is anomalous).

Heterotopias, described by Foucault in his essay *Of Other Spaces*, are sites that simultaneously represent, contest and invert utopic sites. They are real, and yet they exist “outside of all places”.⁸ Foucault describes them as spaces of reflection and abstraction, holding enough of reality to be relatable, to be accessed (perhaps even be entered), but to hold an element of dislocation: these are also sites of temporal or spatial extension, or are regulated or impermanent or illusory. Of these, Foucault lists examples of graveyards, boats, settlements, museums, and indeed, gardens – but each of these sites hold further sites beyond themselves: echoes of history, landscape, utopia, death and order. Unlike perhaps any site (or every site, even) that holds something beyond itself, heterotopias actively intend to bring embodiment to these displacements: they seek to “draw us out of ourselves”,⁹ and in doing so, heterotopias “suspect, neutralise, or invent the set of relations that they happen to designate, mirror or reflect”.¹⁰ Through contesting, expanding and directing away from the culturally understood space in which we live, they provide a “simultaneously mythic and real contestation”¹¹ of experienced and understood site. The existence and presence of these isolated sites of disruption draw attention to, create, and make legible the sites outside of their boundaries: the everyday, the non-heterotopian.

In his essay, Foucault’s thoughts on heterotopias seem to depend on a physicality, that there must be space – and a space in which we can be situated – in which to create a disruptive echo. There needs to be something in front of the mirror in order for a reflection to be cast. However, as Robert J. Topinka points out in his essay *Foucault, Borges, Heterotopias: Producing Knowledge in Other Spaces*, the only time that Foucault cites a specific example of a heterotopia is in the introduction to *The Order of Things* with his reference to the *Celestial Emporium of Benevolent Knowledge*, a fictional encyclopaedia in Borges’ *The Analytical Language of John Wilkins*.¹²

*These ambiguities, redundancies, and deficiencies recall those attributed by Dr. Fran Kuhn to a certain Chinese encyclopaedia entitled Celestial Emporium of Benevolent Knowledge. On those remote pages, it is written that animals are divided into (a) those that belong to the Emperor, (b) embalmed ones, (c) those that are trained, (d) suckling pigs, (e) mermaids, (f) fabulous ones, (g) stray dogs, (h) those that are included in this classification, (i) those that tremble as if they are mad, (j) innumerable ones, (k) those drawn with a very fine camel’s hair brush, (l) others, (m) those that have just broken a flower vase, (n) those that resemble flies from a distance.*¹³

Unlike his earlier, more general, examples, the heterotopia of this encyclopaedia does not have one foot within a physical space. Where is the point from which it makes its contestations? Topinka suggests that the siting in this instance is the spatial organisation of the ideas. He writes that “Borges’ classification does not contest classification systems by juxtaposing irreconcilably different objects of knowledge; it explodes the possibility of distinguishing between those objects by offering no space for the objects to meet”.¹⁴ It is not just an alternative taxonomy, it is a taxonomy that undermines any notion of taxonomic sense-making. Topinka argues that “Foucault presents *The Order of Things* in part as an attempt to rediscover in ‘what space of order knowledge was constituted’. Foucault posits that order requires a space for constitution; that humans need to place things on particular sites in

order to make sense of them”.¹⁵ Knowledge, or rather, the *organisation* of knowledge - the sense making – is spatial.

He writes that ‘the quality of monstrosity’ in the classification comes not from the strange animals, but because the classification ‘insinuated itself into the empty space, the interstitial blanks separating all these entities from one another’. The problem lies in the lack of space that would create separations between each animal and allow us to make logical links between each animal. As Foucault explains, ‘what transgresses the boundaries of all imagination, of all possible thought, is simply that alphabetical series (a, b, c, d) which links each of those categories to all the others.’ In other words, the problem lies not in the links but in the lack of gaps between these links. Instead of presenting his classification on a firm space that would allow us to make sense of the separations between the animals, Borges ‘does away with the site, the mute ground upon which it is possible for entities to be juxtaposed. It is this site that allows us to locate the gaps between objects of knowledge and thus order knowledge.

Topinka begins to allow us to see the spatial element within the encyclopaedia categorisation. The space is in the categorisation itself, the allusion to a drawing apart of content, a system by which it should be understandable: it is an encyclopaedia (it is educational; instructive; reliable), and it is ordered with the stable, regular, linear structure of the alphabet. It is from this point (this site of order) that the heterotopia is created as the categories themselves defy their spatial positions. These categories are not distinct: they do not sit in order despite being listed and despite being alphabetised. This idea of the spatiality of knowledge offers new potential for consideration of the museum. In the past, I have been distracted by the physical spaces of the museum, the overarching heterotopian space that Foucault describes as “a heterotopia of indefinitely accumulating time... [a space in which] time never stops building up and topping its own summit”.¹⁶ But now there is the potential to consider the other spaces within the museum, those created (and disrupted) through the organisation and production of knowledge.

CONCLUSION

When things are realised to be similar, it creates a relation between the two. In recent talks, when introducing myself as an artist, I have described my practice as forcing connections between things as a means of disrupting taxonomies and creating new structures. I was thinking that by placing text on top of found images – or arranging found materials together within a frame – I was creating a shift in contexts and understandings that was in some way violent or disruptive, much like bringing together a collection on wax brains into a box or discussing these brains in the same breath as a garden.

I realise now, however, that it is not a process of forcing new associations, but actually a much more subtle drawing attention to similitude: nudging others to see how things relate. To force a connection would diminish any uncomfortable or disturbing effect of seeing relation in a context that does not make sense (and really, I am not forcing anything, rather, I am using processes of assemblage, substitution, composition, arrangement).

Heterotopias –the uncomfortable and disturbing realisation of similitude in a context not designed to hold or contain it – expose the manner in which utopian similarities are formed (“they run with the very grain of language and are part of the fundamental dimension of the fabula”):¹⁷ they are disturbing because they deconstruct the mechanisms we use to make sense.

These mechanisms of sense-making are reliant on a spatial understanding of knowledge, with organisations reliant on ordered composition, sequence and crucially, space between ideas.

There is the possibility of the *creation* of spaces through the organisation of ideas and of artefacts. It is important to consider not only the physical proximity of the objects in a collection, but also the proximity of the idea of the objects. This is particularly interesting when considering that, particularly

within a museum due to the way objects are interpreted, every object needs to be explicitly considered as both the artefact and the idea. Every object is what it is, what it once was, a representative of all others of its type, its place of origin and whatever else its position is within the interpretive narrative. There is space for play here.

NOTES

- ¹ Derek Jarman, *Pharmacopoeia: A Dungeness Notebook* (Vintage Publishing, 2022)
- ² Michel Foucault, *Of Other Spaces: Utopias and Heterotopias* (NYC: Routledge, 1997), 335
- ³ Martin Heidegger, *Being and Time* (Albany: State University of New York Press, 1996), 98 – 99
- ⁴ Stanislaus Fung, *Here and There in Yuan Ye* (Design Philosophy Papers, 1:6, 2003), 310
- ⁵ Fung, *Here and There in Yuan Ye*, 311
- ⁶ Fung, *Here and There in Yuan Ye*, 311
- ⁷ Judith Green, *Henry I: King of England and Duke of Normandy* (Cambridge University Press, 2006), 1
- ⁸ Foucault, *Of Other Spaces: Utopias and Heterotopias* 333
- ⁹ Foucault, *Of Other Spaces: Utopias and Heterotopias*, 332
- ¹⁰ Foucault, *Of Other Spaces: Utopias and Heterotopias*, 332
- ¹¹ Foucault, *Of Other Spaces: Utopias and Heterotopias*, 333
- ¹² Jorge Luis Borges, *Other Inquisitions 1937 – 1952* (Austin: University of Texas Press, 1975), 101
- ¹³ Robert Topinka, *Foucault, Borges, heterotopia: producing knowledge in other spaces* (Foucault Studies, 9, Pp54-70, 2010), 61
- ¹⁴ Topinka, *Foucault, Borges, heterotopia: producing knowledge in other spaces*, 61
- ¹⁵ Topinka, *Foucault, Borges, heterotopia: producing knowledge in other spaces* 62
- ¹⁶ Foucault, *Of Other Spaces: Utopias and Heterotopias*, 336
- ¹⁶ Foucault, *The Order of Things*, (London: Routledge, 2002) xix

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ARCHITECTURAL ADVICE TO MAINTAIN A PRIVATE POPULAR HERITAGE: THE CASE OF THE MICHELIN ESTATE HOUSING OF LA PLAINE, CLERMONT-FERRAND, FRANCE

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INTRODUCTION

We're looking at La Plaine housing estate in Clermont-Ferrand, built by the Michelin company for its workers. Like the company's other housing estates, la cité Michelin de la Plaine has a long history of preservation by the public authorities, which has not yet been achieved. This conference is the result of an investigation into the urban rules and the exceptional practice of the consulting architect, who, by reinventing the legislative framework, offers an architectural dimension to these ordinary buildings and to their inhabitants.

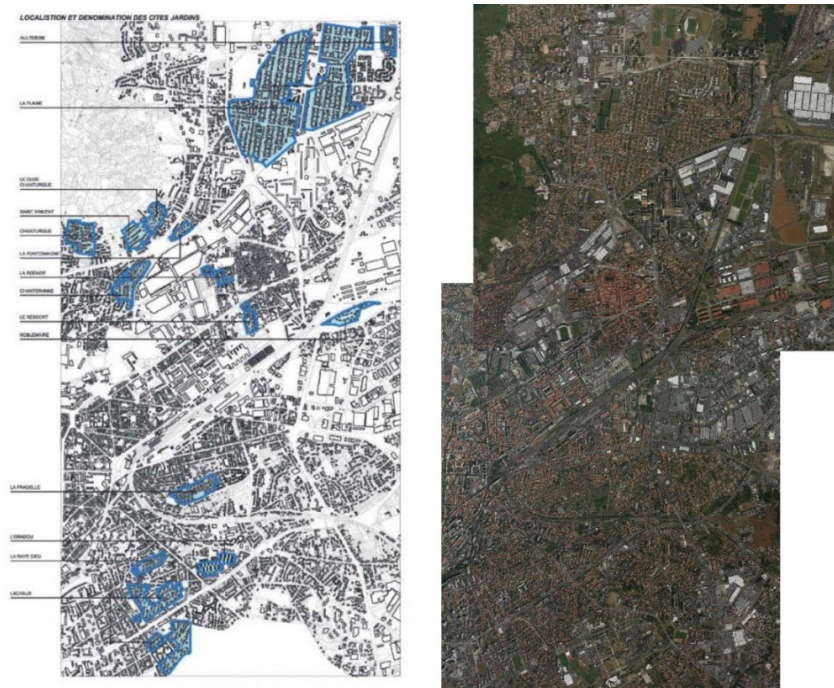


Figure 10. Michelin estates in the city of Clermont-Ferrand © extract from the PLU of the city ; IGN aerial views.

Our multidisciplinary team to understand this popular heritage

Michelin is a tyre factory, well known in France. The company began its activity at the end of the nineteenth century, and given its enormous need for manpower, and the absence of public social structures at the time, it also built the necessary homes, houses with gardens, three thousand for example between the twenties and the forties, and it continued after the Second World War. These dwellings are grouped into neighbourhoods (figure 1). At the end of the nineteen-eighties, the company sold these estates to private individuals or social landlords, without any specifications, with the exception of la cité du Ressort for engineers, which is included in the perimeter of an Historic Monument. We quickly realised the importance of looking at these housing estates, not because of the exceptional nature of their architecture, but because of their importance in today's urban fabric (despite the many demolitions), the fact that they continue to house a variety of populations, and the very different ways in which they have evolved from one estate to another, depending on their status. We are studying them with an interdisciplinary team. We use in situ investigation methods¹ with a landscape designer, an illustrating architect, a botanist, a zoologist and a sound artist. We have opted for a variety of ways of offering the results of our research so as to reach a wide audience (podcasts, exhibition, book). We're looking at several cités Michelin, some in Clermont-Ferrand, others in neighbouring towns; until the second world war, no architect designed these estates, but the company's design office did; after that, they were designed by the architect Daniel Michelin.

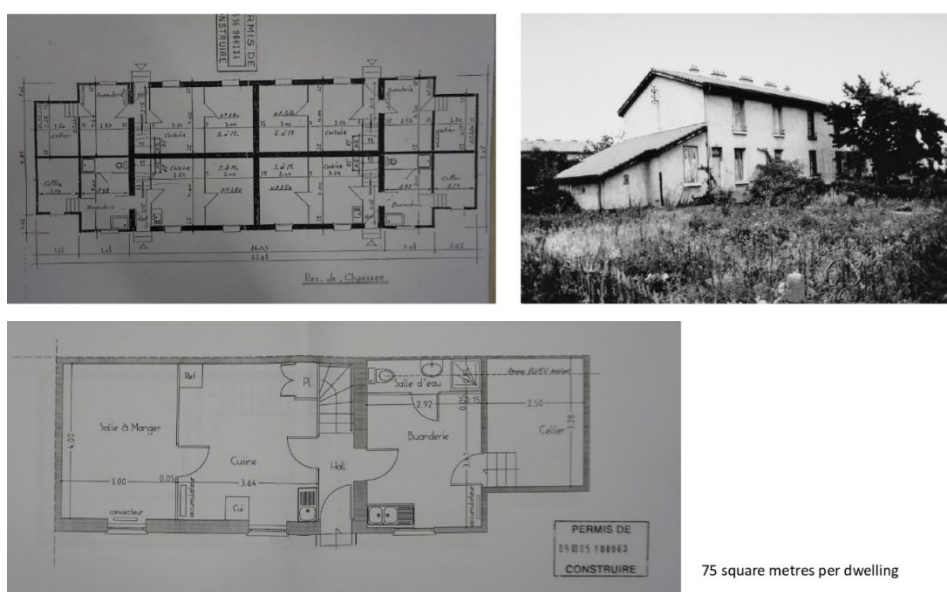


Figure 11. The original type of house with its garden © Clermont-Ferrand municipal archives.

Our point of view

In France, the word "patrimoine/patrimony", which is widely used, refers to conservation policies inherited from the nineteenth century and has very little to do with social housing.² We need to take a step back to think of the Michelin estates as "patrimony", and to do this, we draw on the contributions of anthropology. To the aesthetic aspect, we add a social approach.³ And because these houses have no specific architectural value, reflecting more the constructional banality of their period; their specificity lies more in the types of buildings and mass plans. We think also the notion of 'patrimony' in the Anthropocene,⁴ to propose that it should open up to the living beings, and be more linked to 'safeguarding': that is to say not protecting in order to render it inalterable, but rather keeping alive

something fragile that would otherwise die. So we're looking at the architecture, but also at the residents, their gardening and building maintenance practices.

Plaine housing estate as densely populated area where popular culture is expressed

La Plaine is Michelin's largest neighbourhood, with one thousand two hundred homes built in the mid-twenties. It is located close to the factories. A master plan with housing, schools, church and shops. A sanatorium was built ten years later, which now houses our architecture school. When Michelin sold it, one hundred and fifty houses have been bought by a social landlord, l'OPAC. The original house is a unit made up of four sub-units; small interior areas -seventy-five square metres- (figure 2), but large garden areas (up to four hundred square metres). This neighborhood is still one of the few to house a modest homeowner population, Michelin retirees, young households, families from Portuguese, Turkish and North African communities, and one of the few not to be gentrified;⁵ we can consider that this is a private housing estate but with social dimensions. The extensions show the adaptations required by the evolution of comfort: the inhabitants add a bathroom, a living room, a kitchen, a bedroom for each child, a garage. Houses are getting bigger and gardens are getting smaller... Today, it appears to be a permissive housing district, allowing popular culture to express itself. La Plaine is being transformed by self-build processes. There are very few architects working for individual popular housing because it's not profitable, and not obligatory below a certain surface, and finally it's not part of French culture, the builders have taken the place. Building permit documents reveal here sketchy drawings, decorations and expressions taken from the culture of the inhabitants, sometimes masons. Here we see one of the issues. The original house is narrow, and when the extension is parallel: the more you extend, the worse become the relations with the neighbours (figure 3).



Figure 12. An example of a possible extension © Clermont-Ferrand municipal archives.

The public services' gradual awareness of densification, 2000-2015

Until 2015, there were no specific regulations, but the general urban rules relating to low-density residential areas, with a land-use coefficient of zero point five (figure 4). There are some very big extensions, sometimes two storeys high and running parallel, which obliterate the original house. Sometimes, changing the windows format and shutter accentuates this phenomenon. In the nineteen ninety's, two housing estates belonging to a social landlord were carefully renovated with an overall approach. The Oradou was redesigned by a team of architects working with a landscape architect. The project involved increasing the number of types, extending some, building garages and restoring overall coherence through landscaping work in the public spaces and private gardens. We hypothesise that it is the borderline cases of extension of La Plaine at the same time as the cautious renovation of these other estates that are leading to a gradual awakening of the authorities. For exemple, in 2001, the social landlord OPAC is working with an architect on a solution for building perpendicular to the existing structure, which is repeated on several plots (an interest here for the architect); so not to impact on the neighbour behind and seems fairly rational for the distribution, but takes away twenty-five square metres of garden and obscures the existing façade. The same year, a project of an important densification of the plot with the OPAC and the same architect; this resulted in the construction of a second house with garage (81 rue Verlaine). And it is clearly stated in the report by the public services that "the project completely distorts the Michelin housing estates; it does not fit with the existing context, even though it complies with the Land Use Plan". The city and the State initially issued unfavourable opinions, to accept it later on the grounds that only one family would be living, parents in a house and children as a couple in the other house. This extension has now been built.



Figure 13. Views of several extensions, 2024 © Bénédicte Chaljub.

From "cités Michelin" to "cités-jardins Michelin " (from 2016): a change of status and measures to protect the buildings and urban morphologies

Ten years later, the city began to change its approach, and the urban rules reflected it: the Michelin housing estates were now presented as a characteristic historical heritage". Clermont-Ferrand commissioned a Parisian architectural firm to draw up the new Metropolitan Local Planning Scheme. Yves Bories has already studied workers' housing in the north of France, and has a sociological background; he will then be the city's consultant architect for six years. The aim of these new rules is to take care of heritage and landscapes, and limit land artificialisation. Michelin housing estates now have the status of "garden cities"; they have "characteristic urban forms and constitute breathing spaces in the urban fabric that should be preserved"; and "are the subject of particular attention with regard to their heritage dimension". The new regulations call for garden areas to be maintained and be visible: in fact, "extensions are limited to a floor area of forty square metres per plot". The new rules are conservative and the original morphology of each garden city becomes a "reference model". The regulations are based on heritage criteria, even if the Michelin garden-cities are not protected as Historic Monuments. Urban regulations refer to the original elements at different scales, and not removing them; sometimes it is even a question of reproducing them: this is the case for the urban composition, the character of the buildings, the volumes, the materials and openings, the colours for all the closing elements (shutters, gates, fences); the replacement of windows must be the subject of a special study, etc. And where this is not possible, the aim is to respect what already exists and integrate the new elements into the composition of the façade. This approach is followed by the creation in Clermont-Ferrand of an heritage department focusing on twentieth-century buildings and the Michelin estates are included in the content of the Pays d'art et d'histoire label application. At the same time, the inventory department of the Region began a mapped and informed census of existing Michelin estates, with a dedicated researcher-architect and historian, on which we relied.⁶

In practice: architectural advice to maintain modest heritage, buildings and inhabitants.

Extensions are limited to forty square metres. This size corresponds to a maximum budget for a modest family today. Yves Bories' mission⁷ is to support those families; he takes time for it, and his position is very rare in France, because popular individual housing estates are not subject to architectural contingencies. He says too that he is "trying to minimise the deterioration". Reading his comments, we can confirm that there is no doctrine, but a position that adapts to situations and evolves. The characteristics of the existing buildings are maintained, certain modifications are tolerated, such as the widening of certain windows, in the living room for example, and the installation of roller shutters, while maintaining the original casement shutters. Here, a volume with a roof terrace, the coating is not finished. The architect supports the applicants to formulate an architectural solution which makes it possible to distinguish between new and existing buildings - implicitly in line with the Venice Charter for protected buildings : the aim is to establish a different aesthetic for the additions and to make each visible: differences in the colour of rendering or cladding materials, then in the shape of the roofs and even the volumes. The consulting architect's comments and notes reveal a desire to disseminate both the methods used and the results achieved. The idea is to establish "working habits" with the relay people who draw up the plans for building permits for their neighbours, families, Turkish, Algerian, Moroccan and Portuguese communities. These habits perpetuate the architectural ambition. For example, one of those persons tells us that "Mr Bories forces us to work in a way that reinforces the aesthetics". Another described a "collaborative education phase". His attitude is one of negotiation, case by case, far from an imposed top-down project. He is also seeking to build a "benchmark" of modern architecture because he knows how an

extension can influence on the neighbourhood. We see here the difference between permit document and the reality: the original casement shutters have disappeared (figure 5).



Figure 14. An extension carried out under the supervision of Y. Bories © Clermont-Ferrand municipal archives/ B. Chaljub

CONCLUSION

Negotiations take a very long time; very few cases are successful. Out of almost seventy contacts in six years, only a few applications have received autorisation. The height of the fence is also a subject; it is normally regulated at a maximum of one metre of opacity, but this height is often greater, reflecting changes in society (individualism, cultural differences when the fence acts as a privacy screen). We're quite worried because Yves Bories has completed his assignment. He has been replaced by a landscape architect, reflecting the paradigm shift (the importance of plants in urban design recommendations) and the city no longer wishes to renew these advice meetings for individual housing. Some of the residents who are still linked to Michelin history ask to maintain the identity of these garden cities; in the same time, we are still seeing large-scale undeclared constructions, which are complicating sales and the work of notaries; here, density is being asserted with illegal solutions. In the Tase garden city in Lyon for example, maintaining the heritage requires the involvement of public authorities as well as the participation of residents' associations. Will La Plaine be able to take this step? We hope that our mediation activities can lead the authorities to maintain this link with the communities in one way or another...

NOTES

¹ Interviews with stakeholders, in particular Clermont Métropole's heritage and urban planning departments, and the consultant architect from 2016 to 2024, as well as with residents; architectural surveys, but also gardens photographs, wildlife surveys and field recording.

² We refer to Mérimée, the Ministry of Culture's official website for listing protected buildings:

<https://www.culture.gouv.fr/espace-documentation/Bases-de-donnees/Fiches-bases-de-donnees/Merimee-une-base-de-donnees-du-patrimoine-monumental-francais-de-la-Prehistoire-a-nos-jours>

³ Like, for example, the researchers who worked on working-class housing estates in St Etienne and Lyon in the 2000s : Duchêne F, Langumier J., Morel-Journel C., Cités ouvrières et patrimonialisation: d'un modèle à ses multiples transformations, in *Espaces et sociétés*, 2013, n°152-153.

⁴ Jean-Louis Tornatore, « Patrimoine vivant et contributions citoyennes. Penser le patrimoine « devant » l'Anthropocène », In Situ [En ligne], 33 | 2017.

⁵ Nora Semmoud, « Les mutations socio-spatiales d'une ancienne cité ouvrière Michelin (La Plaine à Clermont-Ferrand) » [en ligne], in « Cahiers de géographie du Québec », Département de géographie de l'Université Laval, 2008, 52 (146).

⁶ <https://patrimoine.auvergnerhonealpes.fr/dossier/IA63002617>

⁷ We had a long meeting with the consultant architect, Yves Bories, in 2023 and have been in contact with him ever since.

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THE HISTORIC DISTRICT OF LIBERIA, COSTA RICA: A COMMUNITY-BASED PROJECT

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INTRODUCTION

Liberia, located in the Guanacaste province of Costa Rica, is a relatively modest city with a population of 69,000, according to 2024 projections.¹ Daniel Oduber International Airport, located in Liberia, receives nearly 40% of all tourists visiting Costa Rica by air.² Between January and June 2024, 537,823 tourists arrived through this airport. While most of these tourists flock to the beaches of Guanacaste, visits to the historic center of Liberia are low. The Costa Rican Institute of Tourism has opened an office in Liberia's heritage building, named "Antigua Gobernación" to promote the city.³

The establishment of Liberia can be attributed to two key elements. Firstly, cattle ranches were established in the region by landholders from Rivas, Nicaragua, in the 18th century. Secondly, the trading activities between Costa Rica's Central Valley, the Nicoya district, and routes towards northern Central America, particularly Nicaragua, resulted in the establishment of El Guanacaste town in 1769.⁴



Figure 1. Map of Costa Rica, 1850

The "Historic Center of Liberia" initiative is a community-driven endeavor led by the Association for Culture that continues to develop. These collaborative actions between the Association, the Municipality and the University highlight the complexities and obstacles inherent in participatory approaches while offering valuable insights into their intricacies. While specific to this case study, these issues are of general interest and relevance, offering broader lessons. This initiative exemplifies how collective efforts can significantly influence shaping and preservation of cultural heritage in historic centers, with implications beyond the immediate context.

This project envisages a re-envisioned urban center that prioritizes collaboration among different stakeholders. It aims to surpass traditional heritage conservation models by including diverse perspectives not only in shaping physical spaces but also cultural narratives within an urban context.

The map of figure 2 was created in 1870 by José María Figuerola,⁵ one of Costa Rica's pioneering cartographers, depicts the city of Liberia. It is the earliest known map of the city. The map illustrates Liberia's historical role as a transit and connection point, known as the "crossroads" at the intersection of Calle Real and Avenida 25 de Julio, from which the city's initial neighborhoods were established.⁶

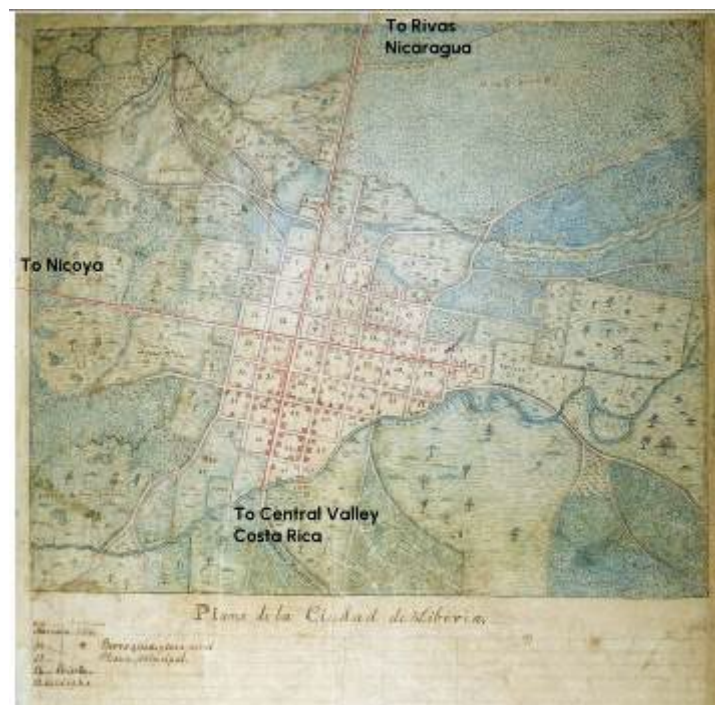


Figure 2. Liberia in 1870

Liberia's urban core, originally an orthogonal pattern typical of its founding era, grew and evolved due to the construction of the Interamerican Highway and the Daniel Oduber Quirós International Airport.⁷ These transformed Liberia into the economic center of the canton.⁸

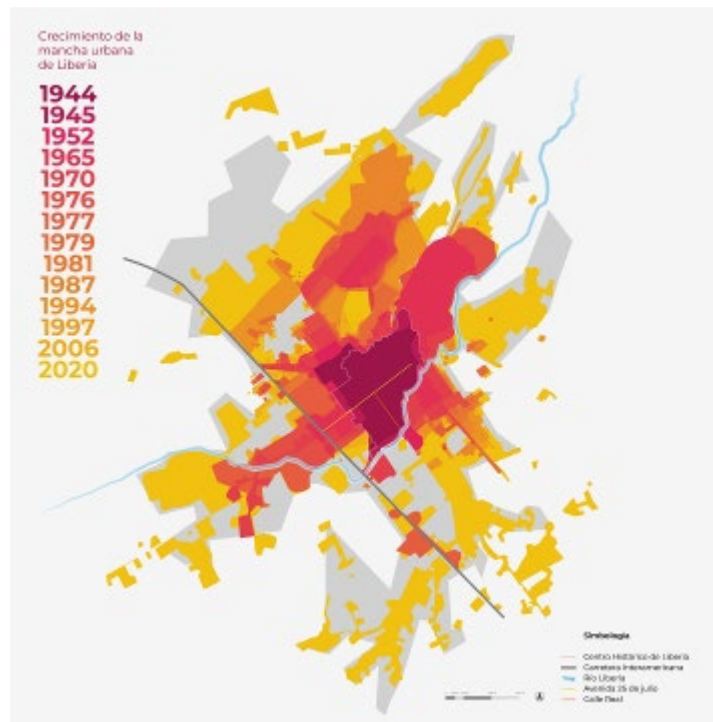


Figure 3. Liberia urban growth

Liberia features earthen architecture utilizing the Adobe and Bahareque techniques. The bahareque technique involves a wooden structure made from round timber and sawn lumber, filled with mud-based plaster mixed with natural fibers for reinforcement and insulation, and finished with a lime-based plaster coat. The adobe uses the same mixture of mud with water and natural fibers, but this system makes bricks of this mud mixture shaped using wooden molds. These bricks are left to dry at room temperature for several days.

In Liberia, adobe and bahareque buildings are restored using these techniques. Mr. José Luis Villarreal, known as Güicho Pizarro because of the knowledge he has inherited, is in charge of extracting the appropriate soil for the construction.⁹ The city has twelve buildings declared as heritage, each showcasing the traditional architectural techniques that have stood the test of time.¹⁰



Figure 3. Bahareque technique

Liberian architecture is distinguished by features that adapt to the region's climatic and cultural conditions. For instance, the front corridor, which extends shade to the house via an eave, serves as a socializing space. Additionally, the houses are notable for their internal courtyards, which provide natural light and ventilation. Traditionally, roofs were constructed with wooden frameworks and covered with clay tiles. In contemporary times, the use of metal sheeting has become prevalent.¹¹

Another distinctive architectural feature is “La Puerta del Sol,” or the Sun Door. This corner door, consisting of two panels, is designed to block sunlight while allowing airflow to refresh the interior. Although not unique to Liberia, it exemplifies the historical relationship between the city of Rivas, Nicaragua, and Liberia.¹² Due to the lime-based plaster and the local soil type, Liberia is also known as the “White City.”¹³



Figure 4. Puerta del sol

The Calle Real is the most significant road in Liberia.¹⁴ It served as the primary access route to the city until the mid-20th century. It is associated with the cultural event of historical significance known as “Tope de Toros,”¹⁵ where bulls from cattle ranches are brought to the city to be ridden at the bullring. Despite the adaptation of the event to modern times, it remains the most significant local tradition, serving as an integral component of Liberia’s intangible cultural heritage.¹⁶



Figure 5. Tope de toros

PROJECT OVERVIEW

The Historic Center of Liberia Initiative is a community-driven project led by the Association for Culture.¹⁷ The initiative began in 1986. It focuses on the preservation of adobe architecture and cultural heritage. In 2007, the community declared the downtown area a Historic District¹⁸ to strengthen Guanacaste's cultural identity. However, the initiative has seen limited decisive action over the years, prompting the Association for Culture to seek methodological support from the University in 2019, leading to the launch of a work path in 2020 that is still evolving.

This academic project involves collaboration among three schools and various professions, including architects, urbanists, anthropologists, geographers, computing engineers, and undergraduate students majoring in architecture, tourism, and computing engineering.

The extension project aims to achieve sustainable management of the historic center of Liberia, aligning with one of our research lines “City, Territory, and Landscape”, and have four phases.

Phase 1: Baseline

This phase, which focused on establishing a baseline, was completed with an in-depth diagnosis of urban, heritage, and tourism aspects, as well as a comprehensive analysis of the legal framework. It provided crucial information about the current state of the historic core, laying the foundation for subsequent stages. Figure 6 illustrates the delineation of the historic center, its neighborhoods, and the record of properties with traditional architecture, both in earth and wood, as part of the outputs of this phase. This phase took place between 2020 and 2022.

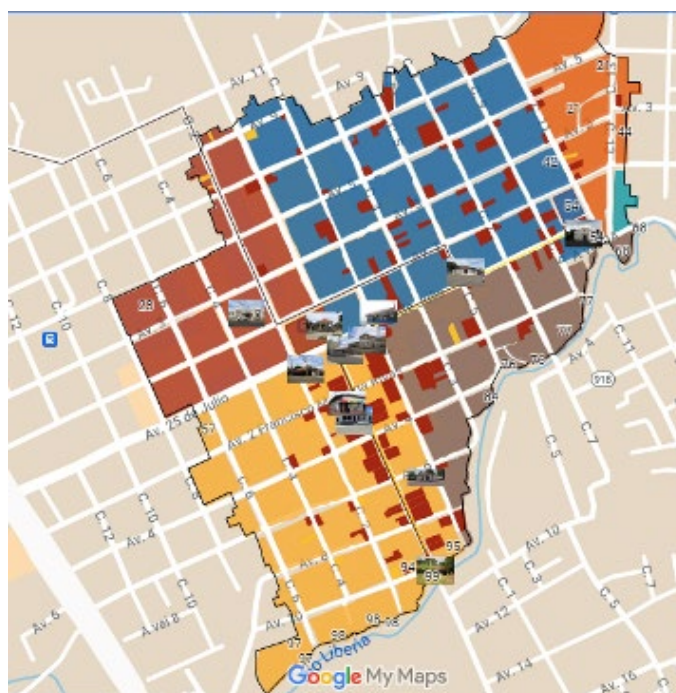


Figure 6. Liberia historic center

Phase 2: Social Construction of the Vision

Currently, in progress, this phase emphasizes full participation from the community in the construction of the future vision for the Historic Center. Activities include participatory digital mapping, the identification of urban landscape units in a GIS update.

In August 2023, workshops were held with children from the Alba Ocampo School, located in downtown Liberia, to collaboratively create maps of the city's spaces that are meaningful to this

population. A video documented this experience.¹⁹ In May 2024, public workshops were held to encourage people to share their memories and hopes for their city using aerial photographs and old maps.²⁰

This phase represents the most crucial stage of the project, as it serves as the base for the subsequent two phases. In this phase, the community engages in a participatory process to determine its aspirations for the future and to envision its own historic center. The participatory approach has been challenging due to the multiplicity of interests and the variety of narratives associated with urban space.

Phase 3: Inventory and Categorization

The project will transition into the inventory and categorization phase, where significant elements within the historic center will be systematically documented and classified.²¹ This process will be instrumental in establishing technical criteria for levels of intervention, thereby informing future preservation and development efforts. Furthermore, providing training for municipal officials underscores the initiative's commitment to building local capacity and ensuring sustained impact beyond the project's duration.

Phase 4: Guidelines Development

The final phase will see the development of comprehensive guidelines across various domains, including urban-architectural considerations, artistic and cultural manifestations, citizen participation and appropriation of public space, environmental considerations, economic-financial aspects, and regulatory proposals.

By addressing these multifaceted aspects, the initiative aims to create a holistic framework that not only preserves the historical and cultural significance of the area but also fosters sustainable socio-economic development.

ENVISIONING THE FUTURE THROUGH SOCIAL CONSTRUCTION

From 2022 to 2024, a participatory methodology was employed to recognize and validate diverse perspectives, fostering a horizontal relationship and collaborative knowledge construction among all participants. This process helped identify stakeholders and the various narratives within the urban context.

But are we all talking about the same thing? What does the idea of a Historic Center represent for everyone involved?

The concept of a “center” implies the delineation of a perimeter, which may exclude valuable spaces outside that center. In the European context, it is common for the historic center to be defined by historical boundaries such as city walls, as seen in cities like Seville,²² Spain, or Bologna,²³ Italy. However, in Latin American cities, where walls did not exist, the idea of a Historic Center transcends physical boundaries. In this process, we consider it a place, an urban space associated with the foundational core of the city, considering aspects such as its historical evolution, but focusing on the socially constructed idea that reflects how inhabitants appropriate that urban space.²⁴

The methodology included workshops, in-depth interviews, participant observation, informal conversations, public exhibitions, and audiovisual recordings. Participants were asked about their attitudes, feelings, memories, and expectations regarding their urban space experiences. Different narratives emerged depending on the social and cultural positions of the respondents. Below is a small sample of the participatory activities carried out.

Expectations workshops

Participants began by answering a series of generating questions individually, writing their responses on sticky notes, and grouping similar answers. In plenary sessions, these answers and groupings were reviewed, allowing participants to clarify and expand their responses, sharing both convergent and divergent points of view. This information was recorded in audiovisual media and field diaries.

The systematization process included photographing flipcharts to capture information, digitizing the text using the MIRO application and transcribing and reviewing audio, photographs, and field notes. This process led to the regrouping, categorization, and systematization of responses based on relevant criteria for the Historic Center of Liberia, such as cultural and landscape characteristics, meanings, perceptions, architectural features, and tangible and intangible elements. A synthesis document was prepared for use in subsequent participatory workshops.



Figure 7. Workshops

In-Depth Interviews

Conducted in October 2022, these interviews followed a semi-structured guide. Each interview was recorded, and participants' responses were noted in field diaries. This information was transcribed for subsequent analysis, systematization, and preparation of base material for future participatory workshops.

Return of Results Workshop

Sessions were held through an open call to the community and disseminated on social networks. Groups were organized and provided with a summary document containing the results of previous workshops and in-depth interviews. Each group discussed various aspects and answered three key questions:

1. What is a historic center to you?
2. Do you want a historic center in Liberia? Should Liberia have a historic center?
3. What do you envision the historic center of Liberia to be like?

During the plenary session, the different responses were presented, recorded in audio, annotated by participants in the provided documents, and noted in a field diary. Subsequently, the extension team systematized all the information. From this systematization and the various contributions from participants in the workshops and via email, a new document was created to incorporate and synthesize all inputs.

Validation Workshop

All participants from previous workshops were invited, and the call was made open to the community via social networks. During the workshop, the systematized results of all previous workshops were thoroughly discussed.



Figure 8. Workshops

Children’s Workshop: Mapping Liberia

In this workshop, school children were invited to map their favorite places, places they liked to visit, important places, as well as places they did not like, and the paths they took from home to school. They were also invited to imagine the future of Liberia.



Figure 9. Children mapping

Public Exhibition: Aerial Photos and Old Maps of Liberia

In three different public spaces, old maps of the early city of Liberia and aerial photographs from various periods were exhibited to encourage people to observe how the city has changed and continues to evolve. This exhibition also provided a space for sharing memories and experiences.



Figure 10. Exhibition of aerial photos and old Maps of Liberia

Systematization, Analysis, and Validation of Information

The results from the workshops, in-depth interviews, participant observation, informal conversations, public exhibitions, and audiovisual recordings were qualitatively analyzed and systematized to understand the meaning of participants assigned to the historic center of Liberia.

RESULTS

So far, there is consensus on three main ideas:

- The historic center is a living place, a social construction, and a network of diverse material, immaterial, and landscape elements where the culture, identities, idiosyncrasies, and history of its people are shared, learned, produced, and transmitted, with positioning at local, regional, national, and global scales.
- The primary purpose is to conserve, protect, safeguard, and promote the city and its landscapes as a central socioeconomic axis, creating a sense of belonging and roots, and generating social benefits and productive economic linkages for the entire population.
- This requires collective and organized work for its management, dissemination, information, and communication, leveraging relationships between key and strategic actors from the public, private, and civil society sectors, as well as improving inter-institutional linkage and coordination.

Participants also agreed on what they did not want:

- Loss of identity and idiosyncrasy
- Gentrification
- Homogenization of the urban landscape
- Becoming a tourist consumption place like others

DISCUSSION

The activities facilitated a knowledge dialogue process, enabling the community to define what a historic center means to them and how they envision its future. This participatory approach allowed us to understand how various identities and narratives have been constructed, situating memories and experiences in space and time that do not always align with dominant narratives but coexist alongside them.

Throughout the participatory activities, we observed that each comment often reflected a broader narrative, revealing much more than what was explicitly stated. Interacting with such a diverse group of individuals confirmed that the concept of a historic center is a genuine social construct that evolves and varies across communities. It should never be a political or academic imposition but rather reflect the complexity of a living urban space where multiple and varied interests converge.

The fundamental starting point is that everyone generally desires a better place to live, with inclusive spaces for civic engagement that create opportunities without sacrificing their identity.

This diversity challenges us to make visible the multiplicity of visions in the proposal as part of the social construction. It is essential to find common ground and encourage diverse perspectives beyond the usual stakeholders to build the social construction of the Historic Center.

We realized that the success of this initiative depends on participatory involvement. However, it is necessary to develop a culture of participation, a culture that motivates people to get involved in decision-making. We also recognized the complexities and obstacles inherent in participatory approaches while gaining valuable insights into their intricacies.

This initiative aims to exemplify how collective efforts can significantly influence the shaping and preservation of cultural heritage in historic centers, with implications beyond the immediate context, including vernacular architecture, institutional heritage, and official and political narratives.

This project envisions a reimagined urban center that prioritizes collaboration among different stakeholders. It aims to transcend traditional heritage conservation models by incorporating diverse perspectives, not only in shaping physical spaces but also in cultural narratives within an urban context.

ACKNOWLEDGMENTS

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¹² Ileana Vives Luque et al., “Centro Histórico de La Ciudad de Liberia, Guanacaste. Propuesta de Conservación e Intervención Del Conjunto Patrimonial.” (San José, Costa Rica, 2014), 22–23.

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¹⁴ Ileana Vives Luque et al., «Centro Histórico de la Ciudad de Liberia, Guanacaste. Propuesta de conservación e intervención del conjunto patrimonial.» (San José, Costa Rica, 2014), 37-38.

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²⁰ Johan Umaña Venegas, «Liberia Centro Histórico: el TEC rescata el patrimonio de la Ciudad Blanca junto a sus habitantes», *Hoy en el TEC*, 24 de julio de 2024, <https://www.tec.ac.cr/hoyeneltec/2024/07/24/liberia-centro-historico-tec-rescata-patrimonio-ciudad-blanca-junto-sus-habitantes>.

²¹ Rosa-Elena Malavassi-Aguilar et al., «Línea base para la gestión sostenible del Centro Histórico de la Ciudad de Liberia: proyecto de extensión fichas de registro e inventario Centro Histórico de Liberia», 2021, <https://repositoriotec.tec.ac.cr/handle/2238/13827>.

²² Claudia Campos López, «De la Giralda a Plaza de España pasando por la Puerta de Jerez y el Real Alcázar: así es el casco antiguo de Sevilla», *20 minutos*, 23 de enero de 2024, <https://www.20minutos.es/noticia/5210663/0/asi-es-casco-antiguo-sevilla-girarda-plaza-espana-puerta-jerez-real-alcazar/>.

²³ Pier Luigi Cervellati y Roberto Scannavini, *Bolonia: política y metodología de la restauración de centros históricos* (Barcelona: Gustavo Gili, 1976).

²⁴ Sam Thomson y Alex Franklin, «Ardagh Community Trust: transgressing boundaries, asserting community.», *Architecture_MPS* 25, n° 1 (2023).

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DIGITAL TECHNOLOGY FOR NAUTICAL HERITAGE

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INTRODUCTION

The nautical heritage is widespread throughout Europe. Historic boats distinguish our coasts and are preserved, restored and enhanced in different ways depending on their national and, even more, local origin. In Italy, the historic boat recovery represents a niche reality; nevertheless, it is essential as it aims to conserve a precious part of the national heritage. The latter is a varied and strongly peculiar heritage that constitutes the foundations of the nautical sector, a driving force for the national economy. Therefore, the protection, conservation and restoration of historical boats have significant consequences for the territory and the social fabric. Nowadays, new technologies and the increasingly widespread digitalization offer new opportunities in this sector. The paper aims to show how digital technologies can positively influence the branch, from a cultural point of view, in the diffusion and valorization of the existing nautical heritage and as a practical tool representing a valid help for designers in every phase of the restoration project.

NAUTICAL HERITAGE IN ITALY

Italian nautical heritage is rich and varied. It is composed of sailing and motorboats, yachts and racing boats. These vessels are generally made of wood but can also be of metal or mixed materials. They conserve historical and cultural knowledge, proving the age from which they came (Figure 1). Traditional boats are part of the Italian nautical heritage too. These generally originate as work boats and constitute a part of the heritage closest to the country's poorest, popular and traditional culture. The former (yachts and racing boats) are precious testimonies of particular technical innovations, style or construction, or their participation in historical events or nautical competitions. On the other hand, traditional boats represent the popular maritime essence of the country. All of them can be considered the spokesperson of maritime customs and the relationship between man and the sea in our territory.

To safeguard and maintain the vessels of nautical heritage that have survived is of vital importance for the preservation of all those values responsible for the birth and definition of our community's maritime culture. Values on which the current know-how of the national nautical and naval sector is based. For example, many traditional boats, although nowadays drastically reduced in number, navigate around Italian coasts, characterising each area through typical peculiarities. Among these, the gozzo (Figure 2) is the boat par excellence for the multiple uses for which it was used (fishing, transport, walking, etc.) throughout the Mediterranean. With its many variations, it has characterised the Spanish, French, Italian, Croatian, Tunisian, Maltese and other coastlines.



Figure 1. Historic Yachts moored in the port of Viareggio, Tuscany (IT) during the Vele Storiche Viareggio event in 2019 (credits: G. Zappia).



Figure 2. Gozzi moored in the port of Genoa, Liguria (IT) during the Ocean Race event in 2023 (credits: G. Zappia).

In the years when the gozzo was widespread, it mirrored the society, economic possibilities, resources, availability of raw materials and geomorphological attributes of a coastline, and from its characteristics, it was possible to distinguish the territory of origin, the shipyard, and even the hand of the shipwright.¹

Since its foundation in 2019, the Federazione Italiana Barche Storiche (FIBaS) has been the body that brings together all the associations involved in preserving and enhancing historic boats, becoming the

Italian reference point for the sector. In the definition of Historical Nautical Heritage contained in its charter, FIBaS emphasises that nautical heritage includes not only all the artefacts that make up the material part (boats and parts of them) but also all the trades and know-how associated with the construction, navigation, use and maintenance of these vessels.² That is commonly referred to as intangible heritage.

CRITICAL ISSUES

A survey conducted between 2017 and 2018 revealed that the number of Italian historic seagoing vessels is between 2900 and 3700³. Only a few of these vessels – less than 200 – are preserved by museums. The others almost all belong to associations and are privately owned.

In Italy around the 1960s, the advent of composite materials, which resulted in a dramatic increase in the construction of fibreglass units, led to a strong cultural detachment from the origins of boating that lasted about twenty years. During this period, many yachts were lost, generally replaced by the more fashionable boats made initially of marine plywood and later of fibreglass. Similarly, work boats, considered old, were replaced by more easily maintained and therefore useful vessels.

In the early 1980s, there was a return of interest in the boats of the past. From there began a slow revival of the traditional values and know-how that enabled owners of historic boats to preserve and maintain them. Therefore, ship-owners played a key role in discovering and preserving hulls that would otherwise have been lost. A role they maintain to these days. However, this characteristic severely limits - when it does not eliminate it - the usability of boats to most people, effectively making them a 'niche' heritage and distancing them from people in both a physical and cultural sense. Although it is nowadays well-known and acknowledged that vessels of the past are to be considered part of our heritage,⁴ scientific research has defined it as invisible or submerged as it is not fully recognisable and usable.⁵ Sure enough, it appears to be taken for granted that when visiting a maritime museum, the objects shown are part of a heritage to be preserved and maintained. Such a judgement most often derives not from the objects themselves but from the place they are. In other words, the place indicates the historical and cultural value. This won't happen when faced with a historical boat moored in a harbour or on a beach. The contextualising element that immediately allows us to categorise the boat as an object of value is missing here.

In conclusion, the current level of awareness of nautical heritage does not allow a broad and widespread recognition of heritage assets. This results in two critical issues, which are the focus of this paper. The first and most obvious is the potential loss of historical boats, and with them, the loss of those intangible assets that we have seen to be fundamental in outlining the cultural values of a territory and a community. The second, directly related to the first, concerns the conservation and maintenance of historic boats. Explaining the latter more in detail, the lack of widespread recognition of the boat as a heritage asset has meant that over time, a common strategy for its conservation has never been developed, as is the case with other types of heritage (art, architecture, etc.). Consequently, the maintenance and restoration of these boats have always been entrusted to individual professionals or nautical construction experts without the aid of a shared guideline at least on a national level. To summarize finally, we have on the one hand the risk of oblivion of tangible and intangible assets related to the nautical heritage, and on the other hand the lack of a shared strategy for its recovery and conservation (Figure 3).

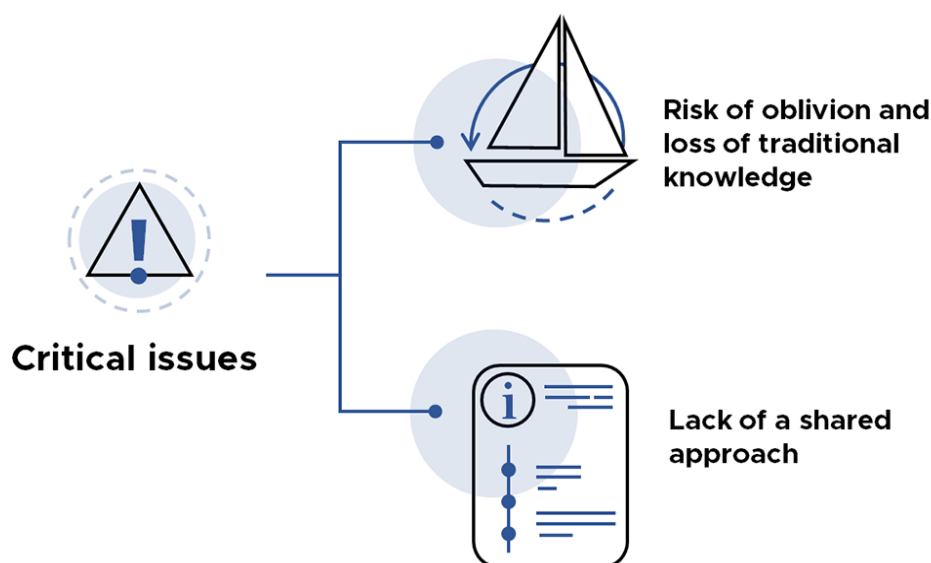


Figure 3. Diagram of the critical issues in the field of nautical heritage (credits: C. Tacchella, G. Zappia).

STRATEGIES FOR NAUTICAL HERITAGE CONSERVATION

For several years, the University of Genoa has been addressing these critical issues. One of the first strategies to prevent the risk of oblivion has been the promotion of greater knowledge of the nautical heritage by the majority of people. To achieve this, several research lines have been activated. First of all, the creation of an online catalogue of the existing nautical heritage.⁶ Another line of research, which responds directly to the second critical issue, concerns conservation and restoration. The latter activity is anything but simple. It is a project for which a special sensitivity to nautical history and culture is required, as well as the ability to research, study, and coordinate many elements that fully define the design of a historic nautical cultural asset. Therefore, nautical restoration projects require a specific professional figure capable of having a holistic vision of every aspect. This vision makes it possible to preserve the historical value of the boat and, at the same time, guarantee its seaworthiness requirements through innovative and sustainable solutions.

During the nautical restoration process, the designer must, first of all, consider the historical and cultural value of the boat, and together with it, analyse the boat's condition; consider the owner's wishes (as we have seen in Italy, a large part of the heritage is held by private owners who are therefore the first promoters of boat preservation); consider future use, as many work boats are converted to pleasure use; and finally, consider the navigability and safety requirements at sea given by current regulations.

Today, nautical designers have two tools, originating from scientific research, at their disposal for maintaining control of a project that is as complex from a methodological and procedural point of view as it is from a more strictly operational point of view. *The guidelines for the nautical restoration process*,⁷ together with the criteria of the *conscious approach to restoration*,⁸ provide the designer with a guide to nautical restoration that follows the entire restoration process: from the research and survey phases to the design phase, up to precise indications regarding the choice of types of intervention. Lastly, another tool that offers a wide range of possibilities and that could assist the designer in multiple stages of the nautical restoration process - from the research to the design phase, from customer engagement to asset enhancement - is digital technology.

DIGITAL TECHNOLOGY IN NAUTICAL RESTORATION: CASE STUDIES

Nowadays, digital technologies have proved their usefulness in the different fields of cultural and historical areas. Museums have diffusely incorporated digital technologies to provide immersive and innovative experiences to the public, engaging visitors in various ways.⁹ Researchers and scholars use technology to improve their studies, present the outcomes, and preserve and spread information and the intangible part of knowledge.¹⁰ It is not only a means of preserving and spreading information. Thanks to new devices and software, digital technologies are used to study different aspects of the past, allowing virtual simulations, three-dimensional models, renderings, and calculations. That could permit a better understanding of finds and historical objects in the so-called virtual cultural heritage, as already proved in the archaeological context.¹¹ The application of digital technology can also help for preserving physical heritage. Indeed, technological and analytic tools can provide digital surveys, acquire information about the subject condition and support to plan the interventions to the point of individuating problems, such as infiltrations or structural failures, ideate and design solutions, and prevent further damages. Considering these and other aspects,¹² it becomes clear how cultural heritage can take advantage of digital technologies, from the preservation and diffusion of documents in digital archives and databases, as well as communications and diffusion of knowledge on modern platforms and devices, to the study of conditions of physical heritage, and their documentation thanks to virtual three-dimensional models.

All these benefits could be valid for nautical restoration. Nevertheless, as seen before, this field is still based on manual and traditional techniques, representing a niche both for restoration and nautical design branches and the risk of oblivion for what concerns both tangible and intangible heritage. However, digital technologies are starting to permeate this world, showing the significant opportunities offered to a nautical designer in charge of a conservation process. In particular, they can be a precious aid in the research and project phases (Figure 4).

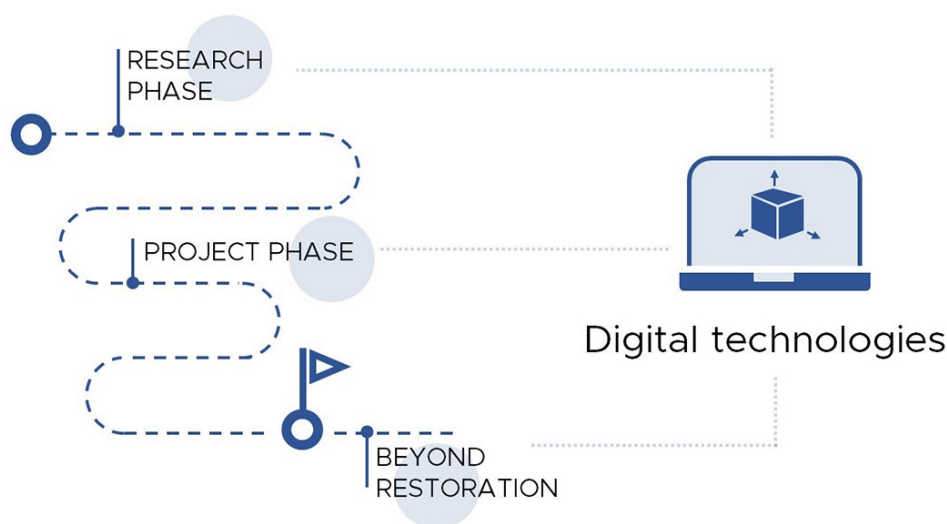


Figure 4. Diagram of the main phases of nautical restoration process in which digital technologies could represent a support (credits: C. Tacchella, G. Zappia).

Research Phase

The first step in nautical restoration is the research phase. That means acquiring as much information as possible about the vessel, regarding her history and conditions. Concerning historical research, technology can help to identify documents, pictures, archives or even persons and associations that

may have played a role in vessel's life. However, it is during the survey that technology represents an innovative solution. In this step, the vessel is carefully analysed, measuring all its parts and recording all details. Nowadays, there are different tools for digital survey, where the result is a virtual copy of the boat. Two methods have been tested through some case studies by the Architecture and Design Department of the University of Genova, photogrammetry and laser scanners. Photogrammetry was applied to the case study of the sloop *Bigrin*, a 17-meter-long ship built in 1960 (Figure 5). The digital scan was made by taking several pictures from different stations all around the ship until all portions were photographed. In this way, the whole hull could be assembled in the virtual space as a puzzle of pictures. The framings have to be partially overlapping, meaning that after taking a picture, the next one should contain a portion already present in the previous snapshot so that the software can place them in the correct position. The outcome was a point cloud, elaborated through the software 3D-Zephyr. The rough result obtained included some geometrical points describing the background; thus, one of the first steps was to “clean” the file, deleting the visual noise. The file contained several blue rectangles placed around the hull; these marks corresponded to each picture, showing the camera position. Thanks to them, it is possible to appreciate the groups of snapshots corresponding to each station and the regular space interval from one station to the other. A 3D model was obtained elaborating on the point cloud.



Figure 5. Digital survey through photogrammetry of *Bigrin* (left), the resulting point cloud and mesh (right). Study conducted during the project “Ricostruzione disegni e modelli imbarcazione *Bigrin* e strategie per la valorizzazione”, Department of Architecture and Design, UNIGE (2019).

In the second case study, the technique tested was the Laser scanner (LiDAR). The subject of the survey was *Ancilla*, a 11-meter-long vessel launched in 1928 and used to transport people on Lake Maggiore (Figure 6). The scanning was conducted by framing the whole boat with a tablet equipped with a camera. Using the LiDAR, the scan consists of a continuous shooting, including every part of the hull. The distance between the hull and the lens should not considerably change, or the camera could not recognize some portions already scanned and overlap the section. Indeed, a laser scanner works by emitting a ray that, after hitting the first object met, comes back; the software calculates the time taken by the ray to go and come back, and, knowing the speed, understands the distance, thus the position of the point hit by the laser. Being a non-stop operation and requiring a certain precision in holding the device, the laser scanner proved to be a good choice for smaller hulls to avoid a too-long operation time. With LiDAR technology, it is possible to use different devices; in this test, the choice

was to use free software, Scaniverse, downloaded to a personal device. That meant not providing expensive equipment, as a total station would have been, and reducing the costs. The results were good enough for the purpose, which was to obtain a point cloud describing the general shape of the hull. Then, it was elaborated on Rhinoceros.

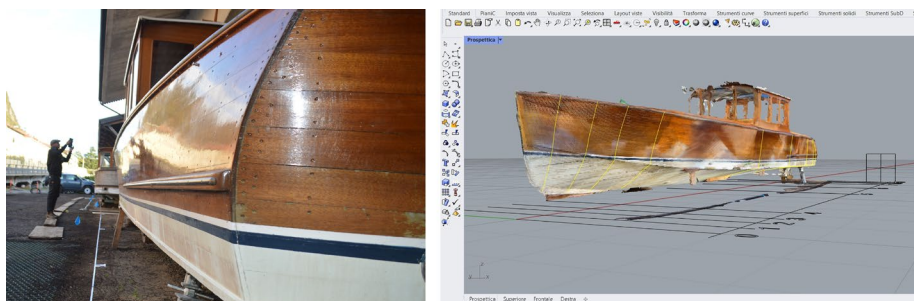


Figure 6. Digital survey through laser scanner of *Ancilla* (left); the resulting point cloud (right) (credits: C. Tacchella).

There are different advantages to choosing a digital survey. Firstly, digital technologies reduce the survey time compared to manual operation, where the designer has to take all the measurements using manual tools, such as meters or plumb lines. Differently, thanks to digital surveys, a digital copy can be obtained instead of a series of numbers to elaborate. Moreover, the digital copy can be analysed in the virtual space wherever and whenever, thanks to a detachment from the real object. Furthermore, it is possible to compare the vessel to the original design, as done in the *Bigrin* case study. By doing this, it was possible to understand the changes that occurred during the time, noticing that the profile of the current state of the bow profile was no longer the same as the original drawing. Moreover, by doing a digital scan of the outside and inside, the result is a copy of the whole vessel. By having it done, the virtual model can be sectioned; the sectioned part can be projected on a virtual layer, obtaining a 2D drawing. This technique provides all the sections needed and, thus, the plans of the current state. Another significant part of the survey is to map damages or missing parts to understand what and where interventions are needed. Once again, having a digital copy makes the operations easier since it allows the use of layers and graphic techniques to represent all the aspects of the physical conditions. In another case study, *Bruma*, a 16,5-meter long sailing ship designed by the Camper&Nicholson Shipyards, was scanned through the laser scanner method, and the model obtained was used to map the hull condition (Figure 7). The profile 2D drawings were elaborated to show the visible damages besides the thickness of the hull; the 3D model was enriched with the inner structures in different colours to show which ones required interventions.

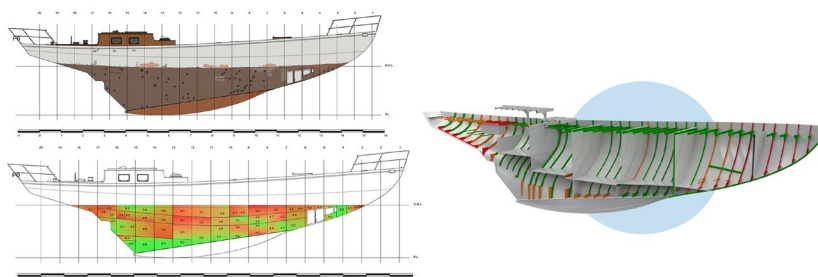


Figure 7. Digital drawings and 3D model mapping the damages and conditions of the vessel. Study conducted during the course *Disegno Industriale 2.2* (2023-24), Master degree in Vessel & Yacht design, Department of Architecture and Design, UNIGE (credits: F. Bellotti, S. Ciuffetti, P. Maccarini, S. Salvai).

Project Phase

The digital copy can be modified, scaled, and easily shared; it also represents the basis for other studies and digital elements. That means that the virtual copy can be useful for the project phase, where it is fundamental for the designer to identify the interventions and to communicate them and the final result to the stakeholders. Having a 3D model helps the designer in the project decisions since it allows to test different solutions and their impact in advance, before operating on the vessel. Moreover, doing virtual simulations and renderings increases the communication effectiveness with the stakeholders. The value of this operation can be clear by looking at the renderings obtained during the work on the case study of *Ancilla* (Figure 8).



Figure 8. Picture of *Ancilla* before the restoration (above) and renderings showing two different projects (below). Study conducted during the course *Disegno Industriale 2.2* (2022-23), Master degree in *Ship and Yacht design*, Department of Architecture and Design, UNIGE (credits: S. Borsi, V. Fioravanti, D. V. Jimenez, P. Marini, S. Turato, O. Giordano, V. Malagnini, S. Navisse, A. Vitali).

There, two projects were aiming to very different solutions: in one the vessel was thought to be placed in a museum, removing a part of the planks to show the traditional and local way of shipbuilding; in the second project, *Ancilla* was made sail again. Comparing the renderings and drawings created makes understandable at first sight the different results of the two restorations, making clear how powerful these elaborations can be.

BEYOND RESTORATION: DOCUMENTATION, PRESERVATION AND DISSEMINATION

Digital technologies can also offer advantages beyond restoration projects. Firstly, the initial virtual model provided by the digital survey becomes a historical reference basis, freezing the asset before the recovery work. That means that at any moment in future, it will be possible to know exactly how the vessel was before the interventions. Moreover, this first scanner added to subsequent modelling becomes a testimony to the recovery process by documenting the project stages, including the final result. This is again an important part of preserving the history of ships.

Secondly, once the restoration is over, digital technology can still be a help in preserving historic vessels. Indeed, by repeating the scan at intervals and comparing the results obtained with the previous ones, it is possible to monitor conditions over time, identifying any structural failure or change, and preventing further damage. This technique is already in use by some naval museums, such as at Vasa Museum in Stockholm; there, the Seventeenth-century *Vasa* is periodically scanned

using laser scanner technology, and the point clouds are compared to the previous ones so to identify any movement of the structure, leading the future operations for her preservation.

Finally, digital technology already proved helpful for preserving nautical heritage in general. Indeed, digital documentation goes beyond the limits of space and time, improving the conservation and dissemination of intangible knowledge. Indeed, data and information inserted in the digital world, being in an archive or database, will be accessible to a wider public, saying everyone who has internet access and a device to surf the net, and ensuring its potentially eternal preservation.¹³

NOTES

- ¹ Giovanni Panella. *Gozzi, pescatori e marinai. Storie del Mediterraneo* (Fano: La Nave di Carta, 2021).
- ² “Statuto FIBaS”, Federazione Italiana Barche Storiche, accessed August 28, 2024, <https://www.fibas.it/wp-content/uploads/2020/01/Statuto-FIBaS.pdf>
- ³ Maria Carola Morozzo della Rocca. *Per un Portale del Nautica Heritage. Ricerca, azioni e proiezioni* (Genova: GUP Genova University Press, 2018).
- ⁴ Legislative Decree No. 42/2004 Codice dei Beni Culturali e del Paesaggio in Italy regulates the maintenance of all assets considered of value for the memory of the national community. In Article 10.4 (i) ‘ships and floating vessels of artistic, historical or ethno-anthropological interest’ are included in the definition of cultural heritage. However, the Code has not proved to be an effective tool for safeguarding this particular heritage. For more details: Guido Rosato. “La tutela e il restauro delle imbarcazioni storiche e l’attività delle soprintendenze per i beni storici artistici e etnoantropologici della Liguria”, in *Yachts Restoration. Stato dell’arte, problematiche e prospettive*, ed. Maria Carola Morozzo della Rocca (Torino: Allemandi & C., 2014), 34–41.
- ⁵ Giovanna Tagliasco and Giulia Zappia. “Hidden heritage. Strategie per la valorizzazione di patrimoni invisibili,” in *100 anni dal Bauhaus. Le prospettive della ricerca in design*, ed. Giuseppe Di Bucchianico et al. (Ascoli Piceno: Società Italiana di Design, 2020), 374–381.
- ⁶ Maria Carola Morozzo della Rocca. *Per un Portale del Nautica Heritage. Ricerca, azioni e proiezioni* (Genova: GUP Genova University Press, 2018).
- ⁷ Giulia Zappia. *Restauro nautico e design. Strumento e metodi per il recupero delle imbarcazioni storiche* (Genova: Genova University Press, 2020).
- ⁸ Leonardo Bortolami. *Imbarcazioni in legno, il restauro consapevole. Progettare e realizzare un intervento efficace* (Verona: Il Frangente, 2018).
- ⁹ Loïc Tallon and K. Walker. *Digital Technologies and the Museum Experience Handheld Guides and Other Media* (Plymouth: AltaMira Press, 2008).
- ¹⁰ Ian Milligan. *The Transformation of Historical Research in the Digital Age* (Cambridge: Cambridge University Press, 2022).
- ¹¹ Donald H. Sanders. *From Photography to 3D Models and Beyond: Visualizations in Archaeology* (Oxford: Archaeopress Publishing Limited, 2023).
- ¹² Alfonso Ippolito and Michela Cigola. *Handbook of Research on Emerging Technologies for Digital Preservation and Information Modeling* (Hershey: Information Science Reference, 2016).
- ¹³ The paper is the result of the common reflection of the authors, but the following are to be attributed: ‘Nautical Heritage In Italy’, ‘Critical Issues’ And ‘Strategies For Nautical Heritage Conservation’ Are To Be Ascribed To G. Zappia, ‘Digital Technology In Nautical Restoration: Case Studies’ And ‘Beyond Restoration: Documentation, Preservation And Dissemination’ Are To Be Ascribed To C. Tacchella. This Publication Was Realised Thanks To Pra 2022 ‘Design For The Territory’ And Pra 2023 ‘Studio Di Metodologie Innovative Per Il Progetto Di Restauro Nautico’ funding from the DAD - Architecture and Design Department of the Polytechnic School of the University of Genoa.

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THE APPROPRIATION OF VERTICALITY: ZAGREB'S HISTORICISTIC VILLAS AND THE SPATIAL FRAME OF A NEW SOCIETY

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INTRODUCTION

Urban historicistic villa appears in Zagreb in the second half of the 19th century, at the time of great social and economic changes. Abolition of serfdom and the subsequent industrialization slowly uplifted the new middle class which assigned builders and architects to envision and design spaces for a new society, spaces that would adequately respond to social criticism of the 19th century urban environment. No other building type better embodied this aspiration than historicistic villas, whose domestic architecture and garden surroundings promoted a new way of urban dwelling which aimed to unite the best qualities of urban and idealized life at a rural estate.¹ The relationship between the villa and its surroundings was a crucial design point and architects were therefore encouraged to experiment with various architectural elements in order to establish, develop and deepen this relationship. Moreover, as historicistic villas did not only incorporate certain functions, but also strived to materialize cultural identity, architects often experimented with various architectural styles to visually distinguish them. One element stood out in particular – the tower. Although they were often simplified as a mere romantic pursuit, towers are potentially bold statements within the spatial context of the late 19th century Zagreb, in a time when verticality was reserved exclusively for clergy, aristocracy or monarchy and were possibly perceived as essential landmarks of the city's cottage neighborhoods. Therefore, in order to fully understand the architecture of Zagreb's historicistic villas and the specific cultural landscape they created, it is necessary to understand why did the members of Zagreb's new middle class undertake the additional expense of erecting towers despite their limited resources, what function did towers play within the domestic space of a villa and lastly, to what degree did it challenge the existing visual expressions of power and announce the importance of vertical composition for the subsequent development of Zagreb's domestic architecture.

CONTEXTUAL BACKGROUND

Zagreb welcomed 19th century as a capital of the Crown Land of Croatia, later Croatia-Slavonia, within the Habsburg Monarchy, later Austro-Hungarian Monarchy. It was a cultural and ethnic center of otherwise fragmented Croatian lands, and its growth and development were influenced both by the complex socio-political context of the Monarchy as well as its specific geographical position.² Modern Zagreb has developed from two medieval towns, "Gradec" - a free royal city and "Kaptol" - the episcopal center, which were situated on neighboring hills of mount Medvednica, on a strategic

position that overlooks the river Sava valley. These settlements, along with the surrounding areas, were merged into one urban administrative unit in 1850, which marked the beginning of slow expansion of the new modern city.³ The city's growth was defined by geography as the flat valley to the south was much more suitable for urban expansion than the steep mountain slopes to the north, thus the valley became the dominant direction of city's expansion. Similarly to many other central European cities that took the imperial capital of Vienna as a role model, Zagreb expanded into the valley via matrix of rectangular city blocks strictly defined by building regulations.⁴ These blocks consisted of many small parcels on which individual residential apartment buildings were erected and slowly formed closed city blocks. This approach proved to be rational and cheap to build. Moreover, it produced many rental apartments which could quickly accommodate the large number of new factory workers needed for the slow but consistent industrialization. However, in only a few decades, negative spatial and sanitary effects became visible.⁵ This initiated the rise of social and professional criticism of the closed city blocks as an exclusive urban residential building type. It also became evident that such architectural and urban residential standard could not fully satisfy the needs of the rising new social class – the middle class, whose wealth and influence had the power to induce a change within the built environment of modern Zagreb.⁶

THE MIDDLE CLASS AND THE CONCEPT OF MODERN URBAN LIVING

At the end of the 19th century, industrialization expanded enough to stimulate significant economic growth in Zagreb. The first generation of particularly successful entrepreneurs accumulated financial means and founded various professional associations and key institutions that aspired to modernize both the economy and civil society.⁷ Members of this upper echelon of the middle social class were increasingly well educated, thus they had acquired refined taste, but most importantly they were in touch with the contemporary trends and standards within the Monarchy through business and cultural connections. Understandably, they were not satisfied with the available housing standards and were particularly eager to fund the development of more appropriate living conditions.⁸

Again, Vienna must have been a particular role model. Vienna's "Wien Cottage Verein", or the "Viennese Cottage Society" had started to transform the neighborhoods of Währing and Döbling into a new kind of city's residential area in 1872.⁹ This private initiative gathered all the members committed to the use of single or semi-detached villas exclusively for residential purposes.¹⁰ Along with the general guidelines, the regulating parameters such as plot size as well as distance from the boundary line, were defined. In effect, the rectangular matrix was kept, but the city blocks were refined with gardens and transformed into rows of detached individual villas. This was arguably the birth of the urban historicist villa in Austro-Hungarian Empire – a building type which offered an alternative to the predominant city-building paradigm by trying to merge the qualities of both urban and rural living.¹¹ Moreover, thoughtful spatial design adapted to the individual needs and desires, along with the aesthetical articulation of all building elements, made this building type particularly attractive to the members of the new urban middle social class who were in the search of a building type smaller and cheaper than the big aristocratic manors, but more luxurious than rental or owned apartments of the lower-class workers.

In modern Zagreb, geography played a vital role in the design of the middle-class residential area because historicist villas could appear almost in the city center, on the hilly slopes north of the medieval towns, in contrast to the Viennese cottage-neighborhoods that were situated far off in the outskirts of the city. A tradition of building summer residences had already existed in Zagreb's wider area since the late 18th century, but they were always seasonally inhabited and closely linked to larger agricultural estates. It was in the late 19th century with Zagreb's first cottage-neighborhood along the Josipovac Street that we see urban villas truly starting to build new residential area of the city.¹²

The authors of the historicist villas were local builders like Janko Jambrišak, but also prominent architects of the Monarchy, like Kuno Waidmann, who came to build in the province, attracted by the economic growth and numerous building opportunities.¹³ Moreover, last decades of the 19th century were marked by the return of the first generation of domestic, academically educated architects, such as Hönigsberg and Deutsch, who completed their education in Vienna and continued their architectural practice in Zagreb.¹⁴ As a result, suburban villas were influenced by Central European historicist architectural trends, but at the same time, they were often refined by the creative re-interpretation of local building heritage. There were also rich in various architectural elements such as balconies, loggias, verandas, porches, oriel windows or towers, which enabled new connections between interior and exterior space.¹⁵ Among those elements the towers were a particularly distinct and potent features of historicistic villas as they produced visual link between the house and its wider surroundings and transformed villas into important spatial and cultural landmarks.

THE ELEVATED PERSPECTIVE – UNDERSTANDING TOWER DESIGNS

Despite their visual distinction, towers of Zagreb's historicistic villas were never systematically identified or thoroughly analyzed. Over the years many towers were demolished or got lost in the subsequent building expansions with only a few surviving examples, most of them not retaining original form or original stylistic ornaments. Therefore, the focus of this research was the examination of surviving historical records with the intention of understanding the phenomenon of towers at the time of their design and erection. This was for the most part done through careful examination of late 19th and early 20th century building permits archived in the State Archives in Zagreb. According to available archival documentation, villa's databank was established containing a list of individual villas and basic information regarding architectural their architectural elements. This allowed for the element of tower to be identified, tracked to its local origins and then compared across time and space – as illustrated in Figure 1.

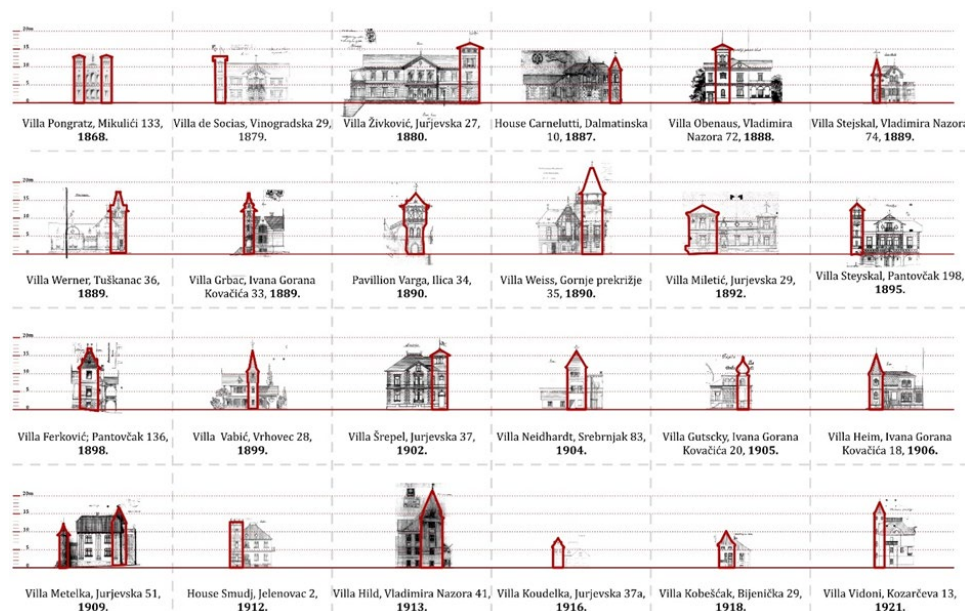


Figure 1. Historicistic villas of Zagreb and their towers.

Such comparison proved that the tower as an architectural element of residential architecture was a common occurrence since the very beginning of Zagreb's historicistic villas and that it remained popular up to 1920s, when it briefly coexisted with the early modern architecture of the interwar

period. Most of the towers are between fifteen to twenty meters high, and few particularly outstanding villas stood taller than twenty meters. These numbers are perhaps not that impressive on their own, but they raise interesting questions when compared and interpreted within their local historical context and contemporary built environment of 19th century Zagreb.

The development of Zagreb's skyline can be tracked reasonably well through historical engravings. One of the earliest graphical depictions of Zagreb originates from the 17th century. It was published in a book named: "Die Ehre dess Hertzogthums Krain", first compiled and printed by Johann Weichard von Valvasor in Nürnberg in 1689.¹⁶ On the 4th page of its 12th tomb, this encyclopedic work also features the engraving of "Agram", the German name for Zagreb, showing two medieval towns of Gradec and Kaptol superimposed. The verticality of church towers and defensive structures visually dominates the image, being even more emphasized by the relatively small area of the towns. All other identifiable objects are small gabled houses within the town walls. Century and a half later, around 1845., another engraving entitled "Ansicht von Agram" is published in local German-language newspapers "Agramer Zeitung", portraying Zagreb as seen from the river Sava valley.¹⁷ Again, among the small gabled houses that had by then started to spread outside the city walls, defensive structures and church towers dominate the scenery. By analyzing Zagreb's skyline illustrated in aforementioned engravings and in respect to the vertical composition, one notices that the verticality was reserved exclusively for the aristocracy/royalty and clergy. The predominance of horizontal composition in residential architecture is also evident in early scientific analyses of Zagreb's housing conditions and domestic architecture which in 1887. noted that more than eighty percent of both rental and owned flats were situated either on ground or on first floor.¹⁸

This paradigm was radically changed in the late 19th century with the appearance of the first historicist villas featuring towers as integral part of domestic architecture and thereby appropriating verticality in their spatial composition. However, when their height is compared to the height of Zagreb's notable landmarks such as defense tower Lotrščak which stands twenty-four meters tall, or Zagreb's first public viewpoint in Park Maksimir which stands around seventeen meters tall, one quickly realizes that the towers of historicist villas did not surpass them physically. However, through thoughtful manipulation of the masses and exploration of composition, existing verticality was introduced into the domestic architecture, whereby with the use of sloping topography and ornamentation, it often appeared taller and more dominant. The playfulness of the use of that verticality is also present. From villas with small towers, villas with large ones, to the transformation of the villa into a tower-pavilion, the architects were obviously free to explore.¹⁹ Consequentially, even though the middle class had significantly lower budgets for their villas in comparison to the nobility, the results were bolder and more varied than the more conservative manors of the aristocracy. Slowly but surely, this private endeavor started to change Zagreb's skyline and generated a new verticality in composition, that of the modern middle social class and belonging to private, domestic architecture.

However, apart from developing verticality in exterior, the towers were also an integral part of villas, and it is important to understand their function and relationship within its spatial composition and its immediate surroundings. Historical records show that for the most part, the towers' basic floorplan shape was a rectangle, along with few notable octagonal examples. In order to emphasize the verticality in relatively low spatial composition of villas, floorplan area of the towers was mostly small, with most identified examples measuring less than eight to ten square meters. In regard to their function, the towers were predominantly associated with stairways or entrances, and they conceptually expressed the force of vertical movement onto the façade. The archival plans furthermore show that the highest levels were often reserved for viewpoints or attic rooms with views. However, to reach this powerful and inspiring viewpoint one had to climb a number of stairs and then

walk through the attic storage space. This was a common occurrence featured in a significant number of villas which all points to the conclusion that tower's attic rooms were not designed to accommodate utilitarian living space integrated into everyday work and life-flows of villa's inhabitants. Rather, they created a semi-isolated space with a contemplative viewpoint to enjoy the panorama. The gesture of erecting towers was also intended to inspire precise conceptual reading of the villa from the exterior.²⁰ The investors were keen on creating a certain image and on standing out among similar or like-minded peers in the cottage area. Building permits also show that a wide variety of middle-class investors with various professional backgrounds commissioned erections of towers. They all unanimously felt the urge for verticality and found it worthy to pay extra to attain a tower within their limited budget. Thus, a new cultural landscape within the city was generated and the towers became its principal landmarks and identifier.

Moreover, the use of towers can also be understood within the theoretical framework of Hegel's conception of architectural evolution, which follows a dialectical pattern within the periods of art history.²¹ In the first, 'Symbolic', period, subject matter dominated ideas, as is exemplified by the massive forms of the medieval city gates. In the second, 'Classical', period the balance was achieved between the subject matter and the idea, as seen in Zagreb's early 19th-century residential palaces integrated into city fortifications. However, the final 'Romantic' period represents the highest stage of architectural progression, where ideas take precedence over subject matter. The towers of Zagreb's historicist villas perfectly embody this concept, as their architects synthesized the ideas of verticality and the fortified, prominent presence of a building as a status symbol with the natural landscape, as well as modern contemplative spaces featuring panoramic vistas with vernacular elements.

Lastly, the relationship between Zagreb's population and this new cultural landscape, as well as their perception of towers ought to be examined in a historical context. Traces of this are found in historical newspapers and popular magazines which illuminate the role of Zagreb's cottage streets and tower-landmarks in public perception of the late 19th and early 20th century. For instance, daily newspapers "Jutarnji list" notes in 1912 that one of the cottage streets named "Tuškanac", with its greenery and its villas is the favorite walking path in Zagreb and the principal route by which mountain Medvednica and old castle Medvedgrad can be reached.²² The garden environment thus obviously transformed Zagreb's cottage streets into public promenades used by all residents of the city, regardless of their social status. In the late 19th and early 20th century, such public places, as well as the culture of strolling were of a vital importance for the urban dwellers, particularly to the middle class. To see and to be seen, to meet, experience and commonly share new urban spaces like parks or boulevards was of crucial importance for social life.²³ In this context historicist villas, with their unique towers, were recognized as landmarks of new, better and modern living in the city. Another magazine, "Napredak", the Croatia's oldest pedagogical magazine, featured an article in 1893. guiding a short educational walk for students and teachers through the city's cottage area.²⁴ The article emphasizes that the houses surrounded by gardens are quite easily recognizable due to their towers. It furthermore states that the occupants of the villas are people who like to live in the fresh air and in a higher place above the old city. Such documents testify how historicist villas and their spatial concept of historicist villas, landmarked by their towers, promoted the cottage design principle to the wider public.

CONCLUSION

The majority of towers featured on Zagreb's historicist villas are nowadays demolished or got absorbed into later building expansions. Still, systematic research is possible through examination of archival records containing building permits and accompanying design plans. Such an approach confirms that towers were a common architectural element during the era of Zagreb's historicist villas. Further research has shown that, although towers did not physically surpass Zagreb's notable

landmarks, they have for the first time appropriated verticality in composition for the residential architecture of the middle social class and architects continued to explore its design in a creative and playful manner. The towers sometimes did accommodate a place to contemplate and enjoy the panorama, but more importantly they always inspired unique conceptual reading of the exterior of the villa. Investors of most diverse professions were therefore all unanimously erecting towers that became landmarks of the new cultural landscape within the city. Due to Zagreb's specific geographic setting, this landscape was situated between the city center and its hilly hinterland making various cottage streets popular walking paths. Along these public promenades, historicist villas, easily recognizable by their diverse towers, promoted cottage design principles and exemplary living conditions to the wider public, thereby setting ground for its subsequent introduction in urban planning for middle and lower social classes.

NOTES

- ¹ James S. Ackerman, *The Villa: Form and Ideology of Country Houses* (Princeton: Princeton University Press, 1990.), 9-34.
- ² Complex cultural and political context of the development of Central European cities is extensively researched in Eve Blau and Monika Platzer, eds. *Shaping the Great City: Modern Architecture in Central Europe, 1890-1937* (München: Prestel, 1999). Also on the influence of Vienna see: Carl E. Schorske, *Fin-De-Siecle Vienna: Politics and Culture* (New York: Vintage Books, 1981)
- ³ Vladimir Bedenko, "Die Gestaltung Einer Hauptstadt: Zagreb von Den Anfängen Bis Zur Gründerzeit," *Werk, Bauen + Wohnen* 88 (2001): 16–23.
- ⁴ Snješka Knežević, "Urbanističke osnove Zagreba u razdoblju modernizacije," *Peristil* 62, no. 1 (2013): 21-39.
- ⁵ Fran Vrbanić, *Stanbene prilike u naših gradovah* (Zagreb: Tisak dioničke tiskare, 1887)
- ⁶ Iskra Iveljić, *Očevi i sinovi: Privredna elita Zagreba u drugoj polovici 19. stoljeća* (Zagreb: Leykam International, 2007), 374-381.
- ⁷ Iskra Iveljić, *Očevi i sinovi: Privredna elita Zagreba u drugoj polovici 19. stoljeća* (Zagreb: Leykam International, 2007), 414-420.
- ⁸ A detailed art historical analysis of individual villas, with the in-depth socio-cultural context of the investors can be found in following books - Dragan Damjanović, *Vila Živković-Adrowski-Lubienski* (Zagreb: Anita and Bruno Bračun, 2016); Nina Gazivoda, *Vila Frangeš* (Zagreb: POP & POP, 2008); Nina Gazivoda, *Vila Vrbanić arhitekta Viktora Kovačića* (Zagreb: UPI-2M PLUS, 2023)
- ⁹ Norbert Philipp, *Das Cottage in Wien* (Wien: Braumüller Verlag, 2022)
- ¹⁰ Marie-Theres Arnbom, *Die Villen vom Wiener Cottage: Wenn Häuser Geschichten erzählen* (Wien: Amalthea Signum, 2024)
- ¹¹ Donald J. Olsen, *The City as a Work of Art: London, Paris, Vienna* (New Haven: Yale University Press, 1986), 172-177.
- ¹² Mirna Meštrović and Mladen Obad Šćitaroci, "Zagrebački ljetnikovci – nastajanje i obilježja," *Prostor* 22, no. 1(47) (2014): 2-15.
- ¹³ Đurđica Cvitanović, *Arhitekt Kuno Waidmann* (Zagreb: Društvo historičara umjetnosti Hrvatske, 1969), 7-15.
- ¹⁴ Lelja Dobronić, *Graditelji i izgradnja Zagreba u doba historijskih stilova*. (Zagreb: Društvo povjesničara umjetnosti SR Hrvatske, 1983), 256-258.
- ¹⁵ We find detailed descriptions of such architectural elements and their use for residential architecture in late 19th century's technical literature such as "Baukunde Des Architekten", or "Handbuch der Architektur". This testifies to the fact that local builders and architects were well acquainted with contemporary construction and design trends which they interpreted in local context - *Baukunde Des Architekten, Zweiter Theil* (Berlin: Kommissions-Verlag Von Ernst Toeche, 1884); Josef Durm et al. *Handbuch der Architektur, Teil 4: Entwerfen, Anlage und Einrichtung der Gebäude, Hbd. 2, H.1.*, (Stuttgart: Arnold Bergsträsser Verlag, 1902)
- ¹⁶ Johann Weichard von Valvasor, *Die Ehre dess Hertzogthums Krain* (Rudolfswerth: J. Druck und Verlag J. Krajec, 1877)
- ¹⁷ "Ansicht von Agram: von der Savestrasse," Digitalne zbirke Nacionalne i svučilišne knjižnice u Zagrebu, accessed August 29, 2024, <https://digitalna.nsk.hr/?pr=i&id=574945>
- ¹⁸ Fran Vrbanić, *Stanbene prilike u naših gradovah* (Zagreb: Tisak dioničke tiskare, 1887), 13.
- ¹⁹ One similar impulse to creatively explore verticality in composition of domestic architecture, albeit with different architectural element was noted by Hermann Muthesius in his extensive research of late 19th early 20th century English houses. He recognizes that, in contrast to German tradition, the architects of English country houses did not erect towers, but they did creatively explore verticality by emphasizing and ornamenting chimneys. - Hermann Muthesius, *Das Englische Haus – Band II: Anlage und Aufbau*. (Berlin: Ernst Wasmuth, 1904), 198
- ²⁰ For understanding experience as a crucial design aspect of 19th century architecture see: Edward Gillin and H.Horacion Joyce, eds. *Experiencing Architecture in the Nineteenth Century – Buildings and Society in the Modern Age* (London: Bloomsbury, 2019), 1-11.
- ²¹ Hanno-Walter Kruft, *A History of Architectural Theory from Vitruvius to the Present* (Princeton: Princeton University Press, 1994), 301-302.
- ²² "Izgledišta u Tuškancu," *Jutarnji list*, November 6, 1912: 4.
- ²³ Keith Tester, ed., *The Flâneur* (New York: Routledge, 2015), 81–110.
- ²⁴ Josip Kirin, "VII. Izgledišta u Tuškancu," *Napredak*, December 1, 1893: 537-539.

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AYODHYA CITY HERITAGE TOURISM: CONSERVATION VS DEVELOPMENT

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INTRODUCTION

India has rich heritage of temples which form valuable resources for the development of the region. Most of the ancient cities had temples as its core focus as their socio-cultural and the political nerve centers. It is highly essential to bring back the lost heritage and cultural values to leverage heritage-based tourism development. The idea is to set an example for conservation of the rich cultural heritage cities like Ayodhya having unique identities. Its sustainable values are evident in its tangible and intangible heritage. Clashes between development and the conservation are bound to occur in the context of cultural economies and concerns over environmental and community sustainability. Cultural heritage values tangible and intangible both need to be preserved and continued in the urban development for maintaining its unique identity.

Aim

This paper aims to restore the oldest yet continuing civilization i.e. Bharat (India) which had lost its glory due to its invasions from Mughals and the British from 1100 AD to 1947 AD. This paper is an attempt to identify the challenges and potentials of Ayodhya heritage city development so that in this process, its historicity of over 10,000 years is not lost.

Objectives

Objectives of the paper would include deriving a cultural conceptual framework for the practices to be adopted for carrying forward its cultural DNA of tangible and intangible heritage values for sustainable development and tourism management. Ayodhya's development, sustainability & socio economic is at the crossroads of development where it can either follow the haphazard growth by its investors or set an example for the world on how religious and ancient cities once developed can lead to sustainable growth. A suitable framework for development has to be drawn through scientific studies for world-class sustainable model that highlights the heritage-based development of this sacred city.

AYODHYA HERITAGE CITY

Ayodhya is primarily an ancient tirtha (riverfront sacred scapes) and salvific place that records settlement continuity since at least CA 800 BCE.¹ Ayodhya is a religious place for Hindus. During the CE 12th century under the Sultanate rule at Delhi and Mughal rulers, Ayodhya was invaded and

destroyed many times by the order of the Mughal invaders and thus was demolished the famous Rama Janmabhoomi temple at the birthplace of Rama and there built a Muslim monument using the debris of the ancient temple. Since its inception, this has been a controversial and sensitive place. On 6th December 1992, a rightist group of Hindus demolished the controversial Muslim monument.² Archeological findings proved in supreme court of India that the temple existed there, hence the temple was allowed to be constructed there by courts verdict.³ Modi government after the verdict constructed the temple and dedicated it to the public in 2024. Since its inauguration the tourism has increased exponentially. A population of 2.47 million started getting 0.5 million tourists per day. Old cities have their own traditional and unique urban system that could comply with natural and cultural environment of ancient times, when the architecture also was a kind of application of nature and culture in matter, i.e. the celestial in the terrestrial.⁴ These cities were built on the base of a Vedic wisdom, which is the cause of a great surprise for contemporary humanities and science when they excavate sites of old civilization. Ayodhya is the example of a living traditional city in time, and is one of the seven most sacred and salvation-endowing cities of the India. It is situated on the right bank of the river Sarayu (Ghaghara) at a distance of 7km East from Faizabad city. Ayodhya is the part of Faizabad Metropolitan city and together is known as Ayodhya- Faizabad twin city.⁵

AYODHYA: LOCATION.

The state’s capital Lucknow lies at a distance of 130km west and another holy city Varanasi at 221 km in the southeast, Gorakhpur at 145km in the east and Allahabad lies at a distance of 167km in the south. The city is assumed to be the birth place of legendary foremother Korean Queen Hō Hwang-ok, or Huh (named Suriratna in Sanskrit), who was the wife of the founder of Korean Karak kingdom, the great king Kim Suro.⁶ These are the main attractions for pilgrims and tourists. It is estimated that every year around 6 million pilgrims will pay visit to Ayodhya; those are conventionally attached with its sacred places, and majority of them walk on the three important pilgrimage routes, i.e. Panchakroshi (5x3.2 km), Chaudahkroshi (14x3.2 km), and Chaurasikroshi (84x3.2 km).-as illustrated in figure 1.⁷

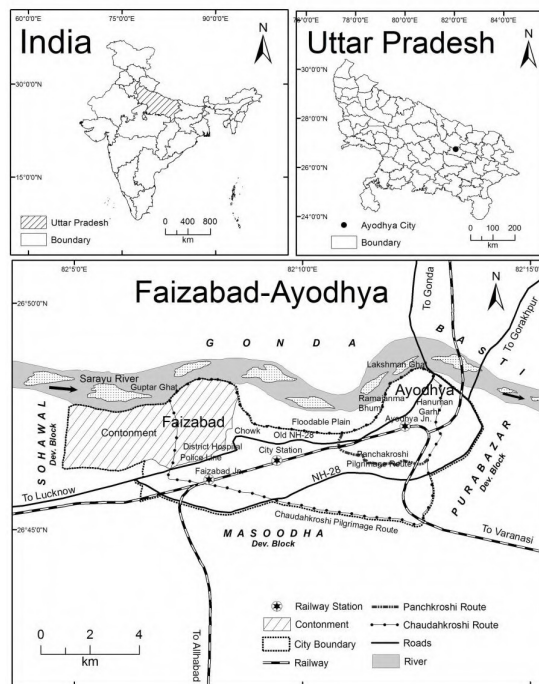


Figure 1. Location of Ayodhya

AFDA, a principal agency of the Government of Uttar Pradesh is responsible for development of Ayodhya and Faizabad and preparation of Master Plan and appropriation of land use for development of new areas that are linked to the city territory. Provision of infrastructure facilities (roads, sewers, water supply) as per the population needs. Provision of bus stands outside the dense city pockets for proper transport infrastructure.

AYODHYA: PLACES OF TOURIST INTEREST

Ayodhya, the ancient city of Lord Ram, is a treasure trove of cultural and religious heritage. The main attractions for pilgrims and tourists are ghats and bold temples related to **Lord Ram's life**. Ghats are the stairways beside the banks of the river where people perform spiritual rituals and take holy baths.

Mokshadayini walk, i.e. 'Heritage walk to feel salvation' in Ayodhya. Exclusively it is based on the concept of revealing Rama's life by the side of the Sarayu River and the attached riverfront *ghats* (stairways). This walking tour introduces the life of this ancient Hindu city, which is not only the birthplace of Lord Rama, but records a vivid histories and religious interpretations that make each temple here unique and it has a story and logic behind each one. This heritage walk in Ayodhya starts from Kanchan Bhavan (golden building) on Rin mochana Ghat, the western *ghat* along the Sarayu River and moving through Jhumki Ghat named after a saint, who was said to be a devout worshiper of Sita (wife of Rama). -as illustrated in Fig. 3. This walk also moves through Lakshman Kila Ghat, Sheshavatara temple, Chandrahari temple in Mukti (salvation) Gali (street) and at the end pay visit to Nageshvarnatha temple, and after passing through the Korean Park closes at the *ghat* to watch and be part of SaryuAarti ('oil lamp festivity').⁸

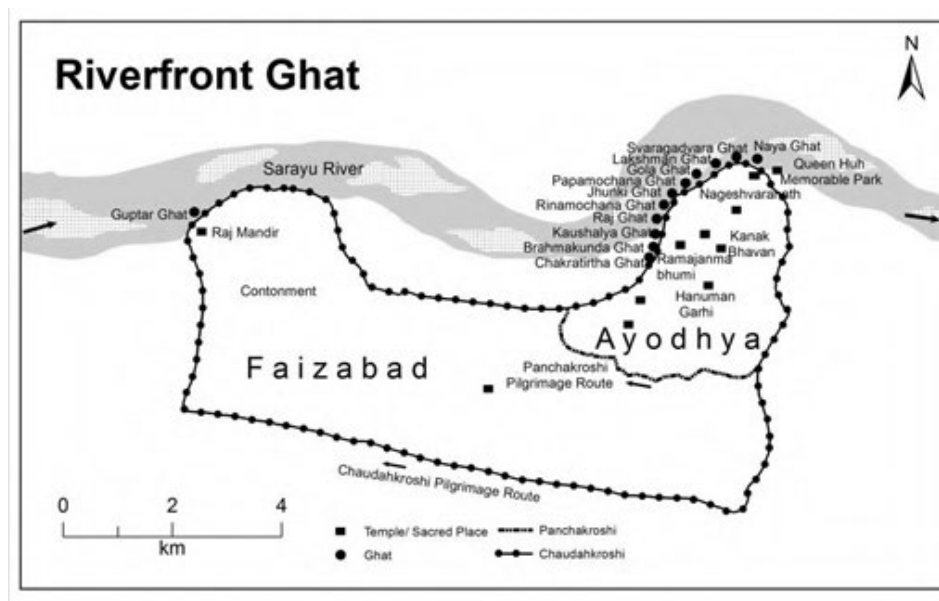


Figure 2. Riverfront Ghat

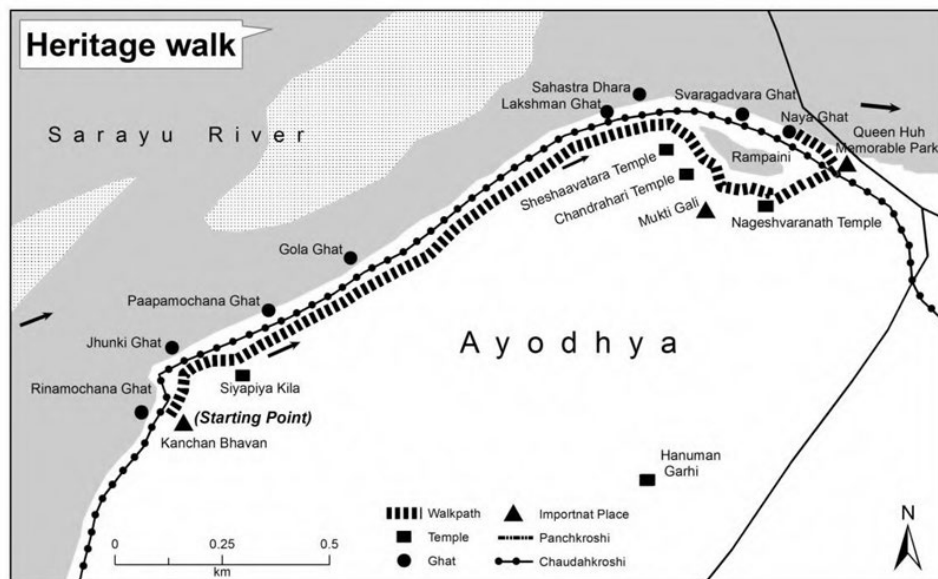


Figure 3. Heritage Walk

AYODHYA – Sites Related To God Ram’s Life

Nandigram is the place where Rama’s brother Bharat lived for 14 years after Rama’s exile from Ayodhya. **Vidya Kunda**, the water pool lying 200m east of the Mani Parvata, where Rama was taught by Rishi Vashishtha in the fourteen basic sciences. **Rama Janmabhoomi** where small Rama shrine existed previously, the place of Rama’s birth. This site was reshaped and expanded in the CE 11th-12th centuries. **Kanak Bhavan** is one of the famous Rama Sita temples built by the Queen of Tikamgarh in 1891. **Hanumangarhi** Dated 10th century, situated in the heart of the city is believed to be the place where monkey god Hanuman lived. **Basudeo Ghat** has been mythologically referred as the site of first incarnation of Vishnu in the form of Fish. **Makhabhumi (Makhauda)**, was recognized as the sacrificial field (yajnabhumi) mentioned in the Ramayana holy book, where Dasharatha (father of Rama) performed the Ashvamedha sacrifice in order to obtain (male) progeny.⁹ **Svaragadvara Ghat**, established by Vishnu before his seventh incarnation as Rama. Archaeologist Alexander Cunningham describes this place as the place where body of Rama had its last rites and was offered to fire element. **Sahastradhara/ Lakshman Ghat** is connected with the story of Lakshmana (younger brother of Rama) and it lies 150m north east of Papamochana Ghat having a series of bathing places. **Rin Mochana Ghat** is the place where bathing will free the devotee from three kind of debts (rina): first Rishis (study of the Vedas), second Devas (sacrifices), third the Pitras (procreation). **Kaikeyi Ghat, Kaushalya Ghat, And Sumitra Ghat**, are the Ghats or stairways on the river bank named after the three Queens of solar Dynasty King Dasharatha, father of Lord Ram, lie 300m from Raj Ghat. **(Goprachar) Guptar Ghat** situated on western side of Svaragadavara ghat, is the place where Rama left his physical body. as illustrated in figure 4 and 5.¹⁰

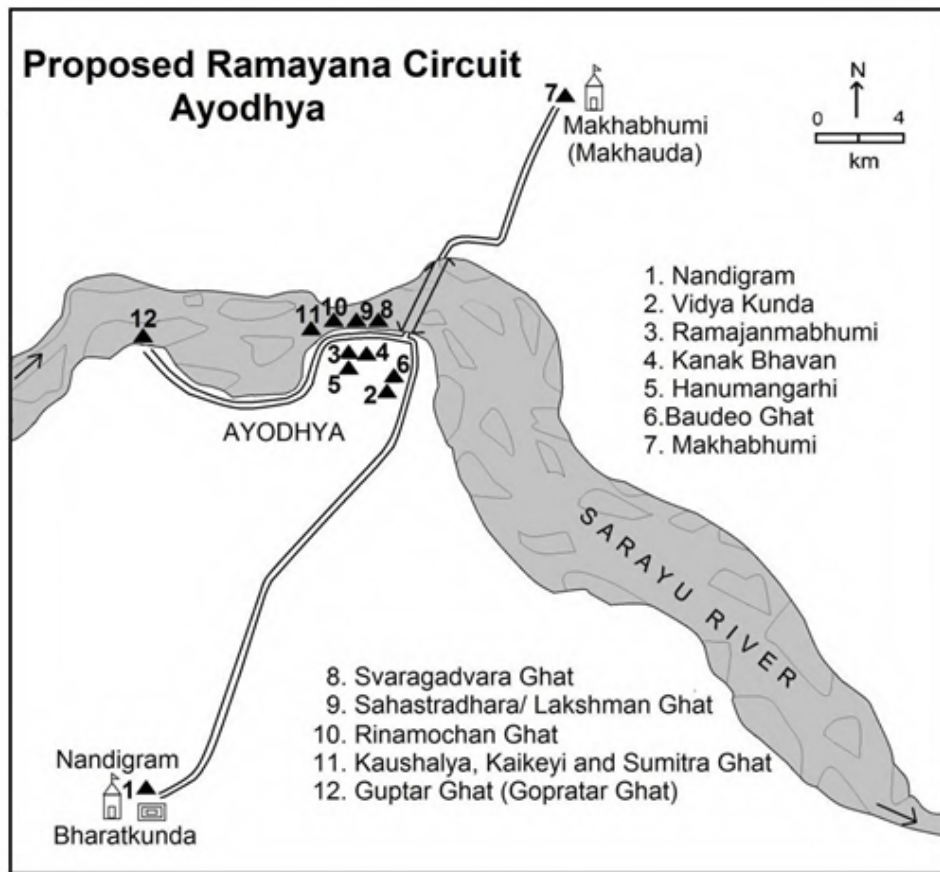


Figure 4. Proposed Ramayana Circuit Ayodhya

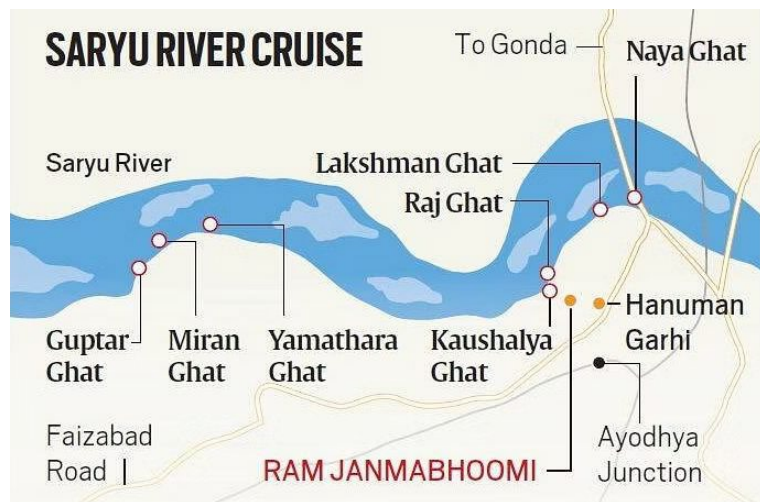


Figure 5. Saryu River Cruise

ISSUES OF INCLUSIVE HERITAGE DEVELOPMENT

A heritage city is “an outstanding example of a traditional human settlement, land-use which is representative of a culture, or human interaction with the environment and is directly or tangibly associated with events of living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance” (UNESCO 2002). The World Bank Inclusive Heritage Development plan for India’s holy and heritage cities emphasizes the following three Issues.¹¹

Social Issues

Heritage is a socially valuable endowment. Historic areas involve the upgrading of basic essential services, such as clean water facility and sanitation; the rehabilitation of traditional low-income housing; and the adaptive, productive reuse of historic properties, with major impacts on the quality of life of the urban poor. Conserving heritage renews a sense of identity and can inspire new, smart, sustainable city and town development patterns, with an emphasis on the valorization of the assets of the poor.

Economic Issues

The use of local skills and purchase of traditional goods during rehabilitation and maintenance, increases local employment and income generation opportunities, resulting into strengthened local economy.

Environmental Issues

Heritage provides essential basic and environmental services to cities, such as water supply, green spaces, and flood control. Building standards and more compact city designs would increase energy efficiency and reduce travel time and thus have direct positive impacts on people's health, as well as cities' vitality and economy.

HRIDAY (Heritage City Development & Augmentation Yojana) and PRASAD (Pilgrimage Rejuvenation & Spirituality Augmentation Drive)

The Ministry of urban development, India, launched the HRIDAY scheme focusing on the holistic development of heritage cities. The Ministry of tourism has introduced a parallel mission of the PRASAD, to work jointly with the HRIDAY program. The schemes aim to preserve and revitalize soul of the heritage city to reflect the city's unique character by encouraging aesthetically appealing, accessible, informative and secured heritage and cultural environments. HRIDAY strategizes its efforts like planning, development, implementation and management for ensuring the sustainable growth of selected heritage cities in partnership with state governments. The government focuses on revitalizing twelve heritage cities, of course excluding Ayodhya, whereas Ayodhya is the stupendous image of tangible and intangible heritage and one of the ancient living cities in India. However, the state authorities are taking initiatives to get it linked with the above programs.¹²

TANGIBLE HERITAGE IN AYODHYA

The stairways (ghats) along the Sarayu river at Ayodhya consists of number of bathing places/spots, and are considered as sacred spots for Hindu adherents. Svaragadvara Ghat is the holy pond, where the pilgrims visit and take holy dip and perform other rituals. – as illustrated in figure 6. Every ghat possesses their own historical, mythological, religious folktales and associated spiritual importance. From the ancient time the kundas (sacred water pools) have played an important role for purification rituals and also the essential source of sacred water for Hindus religious activities. Ayodhya-Faizabad records a number of Kundas (sacred water pools), like Dantadhavan, Vidya, Sita, Brihaspati, Lakshmi, and Girja Kunda.¹³



Figure 6. Ghats

Hindu Temples

Nageshvarnatha Temple: It is situated on the Svaragadvara Ghat, the present temple was built during the period of Nawab Safdar Jung by his Hindu minister Naval Ray in the fifth decade of the 18th Century. The temple contains a Shiva Linga, in front of which stand three images of Nandi an Ox (vehicle of Shiva). According to mythology temple was founded by King Kusha, the son of Lord Rama.

Rama Janmabhoomi: It is the place where Lord Rama was said to have taken birth. During the Gupta period (CE 4th - 6th century) many Vaishnavite temples were built in the environs, including the famous one at this site that was reshaped and expanded in the CE 11th-12th centuries. By the order of the Mughal king Babur the temple was demolished in 1528, and using the debris was built here a mosque like monument.¹⁴



Figure 7. Ram Janam Bhoomi Temple

Hanuman Garhi: It is one of the most important temples of Ayodhya and is situated in the heart of the city. This is an old site of the CE 10th century temple, built in the four-side fort with circular bastions at each corner, and is believed to be the place where monkey god Hanuman used to live in a cave-guard. The temple has golden idol of Hanuman in view of Rajatilak.¹⁵



Figure 8. Hanumangarhi

Kanaka Bhawan: This temple was built by the Queen of Tikamgarh (Madhya Pradesh) in 1891. The main temple is built around an open inner court in which stands a small shrine of Ramapada. The main idols installed inside the inner sanctum (garbhagriha) are the goddess Sita and Lord Rama with his three brothers.¹⁶



Figure 9. Kanaka Bhawan

DEVELOPMENT PRESSURES

Huge investments are being pumped in through government, private and Foreign Investors and hoteliers. Localities are getting richer due to increased land prices, job opportunities and tourism. Ayodhya's development is at a crossroads, poised between haphazard growth by investors or becoming a model for sustainable growth and prosperity, preserving its unique identity. There are Development pressures, due to the increase in floating population (as very few hotels) of pilgrims and tourists such as: Urbanization, Infrastructure projects, Commercialization, Political interests. Hoteliers and builders have haphazardly started buying lands on the eastern banks of Saryu river approachable from the two roads over bridge across Saryu river.

Tourism Carrying Capacity

Population-2.47 million, Tourists – 6.0 million per year. The city's infrastructure tourism ecosystem is still playing catch up with the increased tourism. Tourist infrastructure is missing here. Few hotels, no information center no facility for sudden growth of tourism. Basic amenities like restaurants are missing. The attractions lack adequate or appropriate presentation and communication in respect to the significance of heritage values to both visitors and members of the local host community.

Conservation Challenges

Architectural heritage needs to be conserved and continued in urban development for maintaining its unique identity. New hotel buildings do not match the heritage of Ayodhya. Façade control needs to be implemented to match up with the vernacular architecture. New lanes are designed the heritage of the architectural language of Ayodhya. However, conservation challenges threaten the very existence of Ayodhya's heritage, including Neglect and decay, Unregulated development and Over-tourism.

TDR- Endorsement And Financial Statement

The streets leading to Ram Janam Bhumi were narrow hence government used the TDR policy to acquiring land and widen roads. This brought discontent among people over the loss of property. Environmental depletion due to various development works. The land is being acquired for planning housing colonies.

CONSERVATION EFFORTS

Conservation efforts are underway, including Restoration projects, Heritage walks and tours and Community engagement. Balancing initiatives are needed to tackle clashes between development and conservation in the context of cultural economies and concerns over environmental & community sustainability for developing the city while maintaining its unique heritage. This includes historical monuments, arte facts, Ghats, water ponds, traditional performances, mythology and faiths, custom, folklore, festivities, pilgrimages. As Ram was suryavanshi i.e. coming from lineage of solar dynasty. Some suggestions put forward are to manage the whole city on **solar electricity (suryavanshi) -as illustrated in figure 10.**



Figure 10. Suryavanshi Ram-Coming from lineage of sun

Sustainable Tourism Practices

Based on UN-SDGs the viable measures for heritage city sustainable development to be taken into account are Sustainable tourism practices that can help balance conservation and development, including Eco-tourism, Responsible travel, Community-led tourism and low-impact development. Heritage protection be continuously monitored and assessed and strategies be changed according to appropriateness, priority and in need of the time. Information and cultural programmers like Ramlila on heritage issues to be disseminated for awareness building among citizens.

Collaborative Approach

This research highlights the need for a sustainable and community-led approach to heritage tourism prioritizing conservation and community benefit. A collaborative approach is crucial, involving-Government agencies, Local communities, NGOs, Tour operators and Visitors. Carrying forward its tangible and intangible heritage through participation of stakeholders like public and private can lead to sustainable tourism. They could be named as the “Hanumans of Ayodhya” for eg. Auto drivers, taxi drivers, tourist guides, Priests, investors, people from the government, hoteliers and restaurant owners.

HERITAGE-BASED CITY DEVELOPMENT

The Department of Economic Affairs, Ministry of Finance, Government of India, requested the World Bank’s assistance in the design and implementation of a Demonstration Program on Inclusive Heritage-based City Development in India fully suitable for Ayodhya because it fulfills the criteria of heritage-based city development and need to good and strong policies while planning for city development on the basis of the variety of distinctive cultural heritages (tangible and intangible, cultural landscape) in Ayodhya.

Introducing Boat Cruise On Saryu

Ayodhya City's heritage tourism can thrive while preserving its cultural and religious significance, with a balanced approach to conservation and sustainable development. A cruise experience while describing the different Ghats would be highly appreciated as it goes well with the intangible heritage preservation. It also links to the story of Rama with the boat man Kevat who helped him cross the river and instead of charging him his fare, he bargained it with his liberation, Moksha from this river of birth and death.

CONCLUDING REMARKS

The research recommends strategies for responsible tourism practices, heritage-sensitive development and community engagement ensuring long-term preservation of Ayodhya's cultural and religious heritage. Ayodhya-Faizabad represents an aesthetic and unique type of cultural landscape and heritage scape that includes historical monuments, artefacts, ghats, water pools, traditional performances, mythology and faiths, customs, folklore, festivities, pilgrimages, and other tangible and intangible cultural heritages. Architectural language of that period should be encouraged and independent body like urban arts commission should be made responsible for this and approval from this body should be mandatory. The government should plan a sustainable strategy and guide visions for the conservation and protection of heritage monuments and sites for future generations while taking care of people's involvement and provision for required infrastructure.

NOTES

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FLOATING NAUTICAL HERITAGE FOR TERRITORIAL ENHANCEMENT

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INTRODUCTION

The research concerning the European state of the art on Floating Nautical Heritage¹ shows that historic vessels are too often less appreciated by the community and therefore insufficiently recognised as Cultural Heritage.²

The same investigation fortunately shows that the different European realities are not completely silent but are attempting - according to their own cultural sensibilities and cultural background - to generate and encourage interest in Floating Nautical Heritage.

France³ and England,⁴ for example, include a tradition that has never been lost and state support for the preservation of the nautical-naval heritage that is continuing, established and organised, while Italy and Spain - although focused on the issue - have a less consolidated situation and are still in the process of being affirmed.⁵

The two latter establish their activities to promote and disseminate maritime culture through Sea Museums on one side and associations on the other. The former are concerned with public heritage while the latter with private heritage.

All over Europe, a number of associations are taking on the task of developing the Floating Nautical Heritage, including almost all types of historic sailing vessels from classic and vintage sailing, across motor yachts to Latin sails and traditional 'wood ships'.

For sailing boats, moreover, the CIM⁶ is active in the Mediterranean, which, in addition to organising category sailing regattas, is an important factor for aggregation and dissemination.

The associations are supported by institutional boards such as the sea museums, which should not be considered as punctual or isolated realities because they can build on each other's strengths and form a proactive network through the AMMM,⁷ whose mission is exactly that of promoting, disseminating and safeguarding the culture of the sea and maritime heritage in the Mediterranean region.

SOME GOOD MUSEUM PRACTICES

Looking only at the comparison between Italy and Cataluña, we note that in both cases there are organisations dedicated to private collections and Sea Museums working on public heritage such as the Museu Maritim de Barcelona, the Galata Museo del Mare in Genoa and the Museo della Marineria in Cesenatico.

Three museum realities with a synergetic and collaborative approach that have been able to share a common vision focused on the concepts of eco-museum and seascape community.

These realities can embrace research in Design for Cultural Heritage in general and for Floating Nautical Heritage in particular, since the Maritime Museum in Cesenatico already has a section of traditional public and private sailing vessels moored in the canal port of Cesenatico, the Genoese Galata has an Open-Air Museum and the O-banchina while the Museu Maritim de Barcelona - which has its historical seat in the Cantieri Navali Reali (Royal Shipyards) - is extending beyond the confines of its walls with a series of activities such as the refitting of the schooner Sant'Eulalia.



Figure 1. Museo della Marineria in Cesenatico: Porto Canale and the traditional Trabaccolo (Courtesy of: Museo della Marineria in Cesenatico).



Figure 2. Schooner Santa Eulalia of the Museu Maritim de Barcellona (Courtesy of: Museu Maritim de Barcellona).



*Figure 3. Historic boats at the Galata Museo del Mare, Genova
(Courtesy of: Galata Museo del Mare).*

The latter, launched in 1918, has been revitalised with the objective of making it usable as a tourist transport and at the same time as museum of itself.

Three realities and as many good practices exemplifying a much wider scenario that - with the right tools and approach - can take on a primary role in the cultural promotion of the nautical heritage and in territorial enhancement.

INTERDISCIPLINARITY AND DESIGN APPROACH

Interdisciplinarity, design and anthropological vision are the core elements to define an integrated and congruent strategy useful for the valorisation of the Nautical Heritage and the strengthening of the role of Maritime Museums as territorial and social connectivity.

The role of design

Design, as a discipline, reveals its ability to support territorial identity and culture by being a process, service and product innovator, anticipating new scenarios for the use, sharing and dissemination of Cultural Heritage.⁸

By interpreting, extending and declining to maritime culture the scientific thinking that recognises Design as a driving force for revitalisation in the cultural sector, DAD's⁹ Naval and Nautical Design research group has for several years been promoting research actions dedicated to the Historical Nautical Heritage.¹⁰

By sharing Fulvio Irace's thought that «there can be no conservation that is not also a valorisation of the asset», historical boats preserved in museums, moored at harbour docks or sailing the seas become 'products' around which a Design Thinking process can and must be activated.

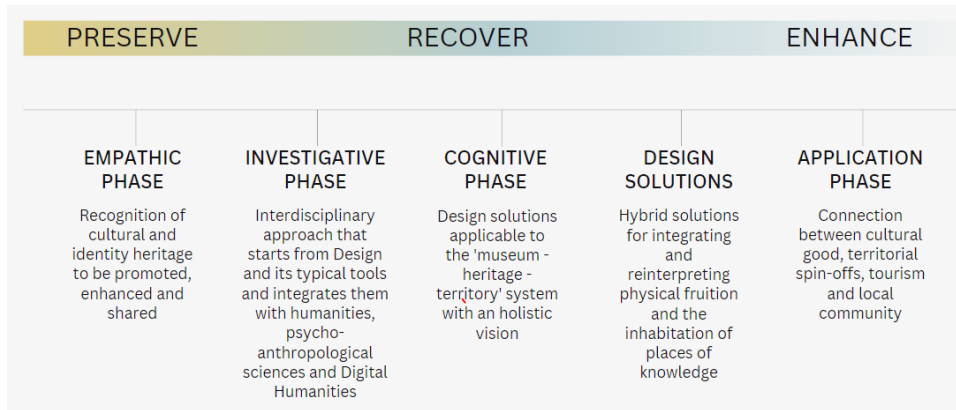


Figure 4. The Design Thinking approach (credits: M.C. Morozzo, A. Bertirotti, L. Inga).

From the initial empathic investigative and cognitive phase, we seek to arrive at design solutions applicable to the ‘museum - heritage - territory’ system with a holistic vision that is not limited to the mere enjoyment of the Cultural Heritage, but also focuses on the connective function of museums and the territorial spin-offs that this can produce in tourism as well as in the community of residents. Hybrid solutions approached with a phygital view useful to integrate and to reinterpret the physical fruition and the inhabitation of knowledge places also thanks to the digital interface through which it’s possible to anticipate the experience, favour and implement the experience and, finally, to extend the experience.

This confirms what Irace says: «Today, the first access to the museum takes place on the web and digital portals open unprecedented possibilities to remote visitors of the global society».



Figure 5. Museums could be able to connect and share a common vision of seascape community (credits: M.C. Morozzo, A. Bertirotti, L. Inga).

This statement anticipates a viable valorisation scenario even for that tangible and intangible nautical heritage consisting of boats whose physical characteristics and natural ambition to sail for as long as possible constitute obvious obstacles to any traditional form of conservation and invite a re-interpretation in a delocalising and de-temporalizing approach to the use of the asset. Accordingly, Celaschi sees this approach as one of the contemporary ways of engaging with the ‘designed’ process of valorisation¹¹ and as a strength rather than a limitation of both the artefact and the design process itself.

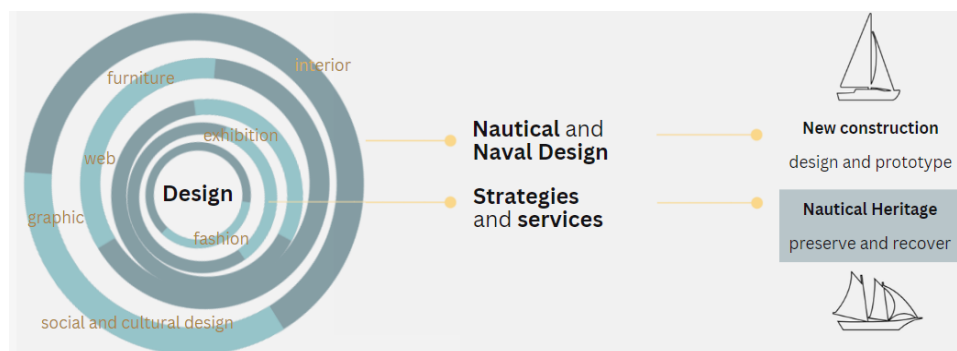


Figure 6. Historical boats are 'products' around which a Design Thinking process can be initiated (credits: M.C. Morozzo, A. Bertirotti, L. Inga).

The anthropological approach as added value

The essential attribute of human life is the exercise of reflection, through which we seek the overall meaning of our actions.

The way we orient ourselves and act in the real world, our behavioural styles, together with the mental and attitudinal patterns we adopt, are often the result of automatism that do not, as such, demand the presence of self-awareness.

Our behaviour, like our mental life, is mostly the result of routines, and if there are no stimuli, or problems, capable of bringing to the surface the motivations for these automatism, it is hard to reflect on things that are habitually considered obvious. For the transition from automatism to awareness to occur, it is therefore necessary to activate a reflexive attitude, which allows us to adjust our perspective, and thus to modify some of our behaviour.

This leads us to a better understanding that reflexivity is the mother of pragmatism, i.e. of that practical thinking that we can articulate, with Stefania Contesini,¹² in its four basic expressions: a) critical-argumentative thinking; b) creative-generative thinking; c) emotional-relational thinking; d) ethical-evaluative thinking. Within these four specificities of reflective thinking, in the case of this project proposal, the creative-generative thinking plays a crucial role.

In this anthropological context, the 'knowledge of what was' generates the 'understanding of where we are now'. Here imagination can become a real project and not a fantasy. Imagination carries the energetic charge of two necessary anthropological attitudes, hope and courage, which are the driving forces of creative-generative thinking.

Both hope and courage are manifest in the creative-generative imagination, which is a powerful competence, thanks to which knowledge and skills, virtues and attitudes are activated. All the elements that respond to deficient situations of the present that is considered and experienced as problematic, with the attempt to draw another reality, positively connoted and allowing a better accomplishment of our personal identity.

Different human cognitive styles have always used the imagination to answer the question: 'What could happen if?' It is precisely this question that makes the authors of the paper propose an imaginary and imaginative vision of museum-going. In the following paragraphs, the authors' reference to the imagination associated with the use of digital technologies to engage the user in the museum experience and create innovative hybrid modes of use will be more clearly revealed.

Our imagination is a particular ability of our cognition and thus also of reflective thought. It can be directed as much toward the past as toward the future: we can imagine what has happened - when we are faced with an object or a circumstance - just as we can imagine what might happen if we were in front of situations and objects that are not yet part of our everyday life.

And everything we imagine causes us emotion, inevitably.

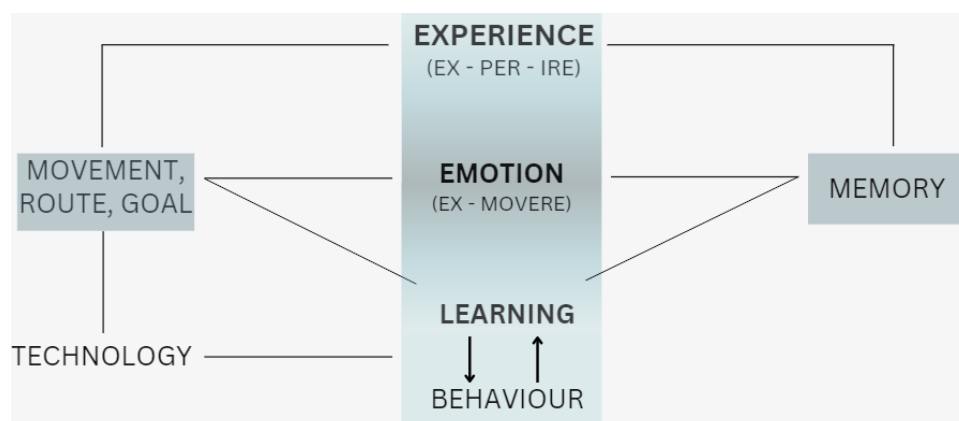


Figure 7. Psychoanthropology links experience to memory, building a knowledge based on history (credits: M.C. Morozzo, A. Bertirotti, L. Inga).

EMOTIONS IN THE MUSEUM EXPERIENCE

In the 1990s, interest in the social and relational nature of the individual was consolidated; the importance of engaging, motivating and empowering human beings in any existential situation was realised.

In the main, it becomes important to be able to involve others, to make them participate in desirable events, inspiring confidence and thus enthusiasm: all the elements captivating individuals and groups, lead them thus to learn more about other people or present, past or future realities. Everybody with an attitude of listening and reflecting. Human beings constantly need vitality, thanks to which one gives meaning to the past that one still appreciates as important in the present, and in the light of which one plans the future.

Nowadays, emotions, their management and their presence within cultural events are considered essential to ensure the authentic success of a cultural production. This is why new training and research activities have developed, focusing on the management of emotions and the construction of development models that allow the appreciation of different events based on them. Today we know, with greater awareness, that the concept of experiential quality comprehends emotions, feelings, passions, desires, intuitions and motivations that turn into reflection, towards oneself and what one is experiencing.

As Martha Nussbaum reminds us, «Emotions are intelligent reactions to the perception of value».¹³

In essence, «the mode of feeling that accompanies the experience of an emotion is firmly anchored on very definite beliefs and judgments that form its very foundation and basis, so that any particular emotion as a whole can be evaluated as true or false, and even as rational or irrational, depending on how we judge the belief on which it is based. Since the feeling is based on evaluation, both it and the emotion in its whole can be modified if there is some change in the opinion».¹⁴

In our instance, the emotional experience we can have within a museum tour allows us to think semantically and critically based on an affective connotation as well. Our thoughts almost always lead us towards everything that has moved us and provoked an additional affective tension in us, precisely because we can experience meaningful relationships with others and with things.

Aristotle, in the *Rhetoric*, offers us, as always, further opportunities for reflection: «Feelings are not blind animal forces, but constituent elements of the personality endowed with intelligence and

discernment, closely related to convictions of a specific nature and therefore sensitive to cognitive changes». ¹⁵

For these reasons, every form of evaluation is therefore a constitutive part of emotion.

DESIGN THINKING AND ENHANCEMENT STRATEGIES

The interdisciplinary vision outlined leads to a strategic planning thought for the evaluation of the Nautical Heritage that aims to move beyond the anachronism of objects that, however admirable in terms of design and luxury, diverges from a concept of navigation understood as a way of moving through space and time, enjoying the environmental context that we are blessed to be able to appreciate, and adventuring into the unexplored one of virtuality.

Innovative intervention can bring back to the museum environment the possibility of directly experiencing vessels and contribute to spreading the value of an experience that until now has been the prerogative of the few. Knowing how to reconcile innovation with tradition represents the possibility, for those sectors anchored to a deep-rooted history, to be motivated by a passion and a far-reaching vision that does not focus solely on the economic factor or immediate gratification, also because history teaches us that, in almost all cases, the fruits will be reaped by those who will follow.

For this to be achieved, what skills are needed? And what are the intersections between a traditional sector and an evolving society?

A digital culture such as the one we are used to juggling is not yet fully accessible in a museum context and even less so if associated with nautical heritage. It is therefore desirable that interactive environments are set up in such a way that we can access, in a simplified and strategic manner, content with a unique character, which would otherwise be difficult to access: the on-board experience on a historical schooner or on an iconic modern-day yacht is today only possible by physically entering the vessel.

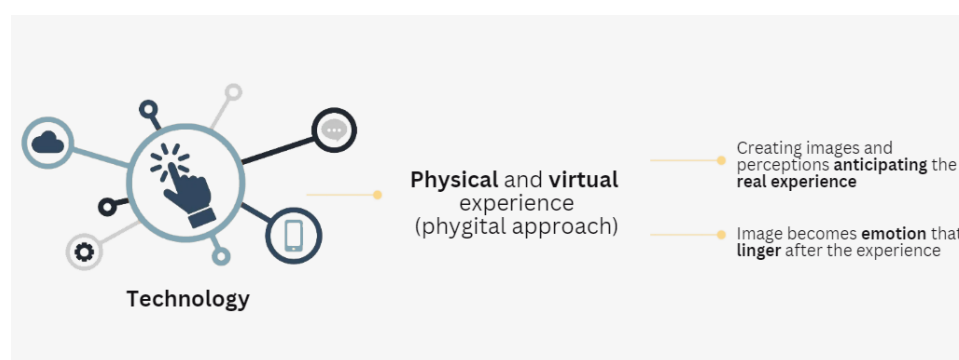


Figure 8. The phygital approach links physical and digital experience (credits: M.C. Morozzo, A. Bertirotti, L. Inga).

This characteristic of user-friendliness represents a limitation for two reasons: on the one hand, the fragmentation of the heritage, which cannot be standardised nor geographically concentrated; on the other hand, the difficulty of reaching and the accessibility. Therefore, the presence of a small number of museums and the limited capillarity of a widespread culture which, in the absence of any integration between museum heritage and digital technologies, makes diffusion scarce, and the use of technology is limited to dissemination on social networks or the web.

Thanks to the versatility of digital technologies, it is possible to imagine a multi-sectoral and scalar museum context: to get to know and experience, even virtually, the treasure that is local nautical heritage on different levels, consistent with the interdisciplinary and multi-sectoral nature of nautical production, its evolution and development.

According to Vitalba Morelli,¹⁶ vice-president of Tuo Museo, the widespread notion in Italy of a museum is that of a ‘place of preservation’, where one goes to visit, learn something and come back home. In foreign countries, especially in the United States, the museum is instead a place where one lives an experience, thanks also to the use of technologies that surround the user in a natural way.

The dissemination of a heritage such as the nautical one, needs broader reflection, capable of extending its contents to the public to create a network of knowledge and multiple possibilities of use, accessibility and dissemination. This would become, for the society, an opportunity to build an active and critical citizenship, through the familiarisation with an educational experience that would enable a link to be made between culture, heritage and territorial identity, not only through an abstract world but thanks to a concrete and applied approach.

As admitted by Lampis,¹⁷ the museum plays a social role because it represents the reference for the cultural development of the community, acting in a relevant way both inside and outside the museum itself, although maybe in an intangible but paradoxically more sharable dimension.

Being enabled to unify the Floating Nautical Heritage of yesterday, today and tomorrow in an eternal and virtual tangible dimension, could become the key to the acknowledgement and dissemination of a strongly identifiable and universally recognisable maritime culture.

CONCLUSIONS

The project strategies proposed aim to influence the user in such a way as to encourage awareness of one's own cultural background by initiating a community pathway, within which the past of one's fellow citizens becomes part of the awareness that will facilitate the maintenance of one's own cultural identity.

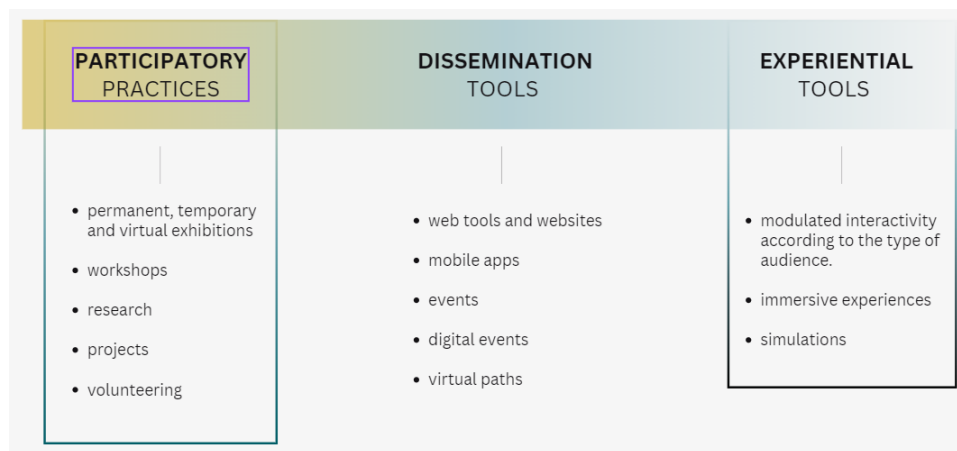


Figure 9. The project strategies and tools for a phygital approach (credits: M.C. Morozzo, A. Bertirotti, L. Inga).

People, especially the new generations, immersed in a social and technological way where they feel ‘connected but isolated’, need and demand to be able to travel into the inner life of the other, to taste their emotions and human teachings.

Therefore, the essay suggests a possible path for the museum visit to become an opportunity to experience and develop one's emotional skills to gain new awareness and knowledge. Since knowledge is an expression of an emotional attachment, it is possible to think of the continuous formation of a cognitive style that leads the individual to experience the past through his or her present. A present that is constituted, precisely and synergistically, by cognition and emotion. A present that recognises in museum places that social and territorial network in which it recognises itself and to which it belongs... and thus is necessarily driven to experience it and make it live.¹⁸

NOTES

- ¹ Maria Carola Morozzo della Rocca. *Per un Portale del Nautica Heritage. Ricerca, azioni e proiezioni.* (Genova: GUP Genova University Press, 2018), 38-41.
- ² Maria Carola Morozzo della Rocca. *Per un Portale del Nautica Heritage. Ricerca, azioni e proiezioni.* (Genova: GUP Genova University Press, 2018).
- ³ BIP Label Bateau d'Internet Patrimonial, accessed July 20, 2024, <https://www.patrimoine-maritime-fluvial.org/navires-du-patrimoine/demande-de-labellisation/>.
- ⁴ NNSHIP UK National Historic Ship UK, accessed July 20, 2024, <https://www.nationalhistoricships.org.uk/>.
- ⁵ Maria Carola Morozzo della Rocca. *Per un Portale del Nautica Heritage. Ricerca, azioni e proiezioni.* (Genova: GUP Genova University Press, 2018), 51-58.
- ⁶ CIM Comitato Internazionale del Mediterraneo, accessed July 20, 2024, <https://www.cim-classicyachts.org/it>.
- ⁷ AMMM Association of Mediterranean Maritime Museums, accessed July 20, 2024, <https://www.ammm-info.net/index.php/it/>.
- ⁸ Flaviano Celaschi. *Non industrial design. Contributi al discorso progettuale.* (Vignate Milano: Luca Sossella editore, 2016).
- ⁹ Architecture and Design Department, University of Genoa.
- ¹⁰ PRA 2016 University Research Projects. *Nautical Heritage, strumenti digitali per la conoscenza e la valorizzazione del patrimonio nautico*, PRA 2017 *I Musei del Mare e della Marineria: reti e network per il consolidamento e la crescita culturale del patrimonio nautico sul territorio italiano* e PRA 2017 *Associazioni e Enti di tutela: reti e network per il consolidamento e la crescita culturale del patrimonio nautico sul territorio italiano*, Scientific Director M.C. Morozzo della Rocca
- ¹¹ Flaviano Celaschi. "Atto culturale e design. Progetto e valorizzazione dei beni culturali." In *Il Sistema Design Italia per la valorizzazione dei beni culturali*, edited by E. Lupo, M. Parente (Milano: Poli.Design, 2009), 14-15.
- ¹² Stefania Contesini. *Allenare il pensiero pratico. Le competenze filosofiche per le persone e le organizzazioni.* (Milano: Mimesi Editore, 2023).
- ¹³ Martha C. Nussbaum. *L'intelligenza delle emozioni.* (Bologna: Il Mulino Editore, 2004).
- ¹⁴ Martha C. Nussbaum. *Terapia del desiderio. Vita e pensiero.* (Milano: V&P, 1998), 389-390.
- ¹⁵ Martha C. Nussbaum. *Terapia del desiderio. Vita e pensiero.* (Milano: V&P, 1998), 87.
- ¹⁶ Vitalba Morelli. *Musei del futuro Competenze digitali per il cambiamento e l'innovazione in Italia.* MU.SA: Museum Sector Alliance, (Mu.SA Project 2018), 24.
- ¹⁷ Antonio Lampis. *Ambienti digitali e Musei italiani.* (Milano: Franco Angeli, 2023).
- ¹⁸ The paper is the result of the common reflection of the authors, but the following are to be attributed: 'Introduction' and 'The Role of Design' are to be ascribed to M.C. Morozzo della Rocca, 'The Anthropological Approach as an Added Value' and 'Emotions in the Museum Experience' are to be ascribed to A. Bertirotti, 'Design Thinking and Enhancement Strategies' and 'Conclusion' are to be ascribed to L. Inga. This publication was realised thanks to PRA 2022 'DESIGN FOR THE TERRITORY' funding from the DAD - Architecture and Design Department of the Polytechnic School of the University of Genoa.

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NETWORKED INNOVATION: LINKING INFRASTRUCTURE, MIXTICITY, AND SPACES OF INTERFACE

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INTRODUCTION

Cities are dynamic systems in continuous evolution where innovation acts as a motor to direct urban transformations towards desired paths. Extensive research has focused on understanding the dynamics that foster innovation.¹ These show that technology innovation districts are based on collective learning and organisation processes generated particularly by personal networks. Some regions, like the Swiss Jura Arc, emerge as exemplary cases, based on decentralised production and networked knowledge transmission. Understanding the key elements of this decentralised network system can contribute to identifying spaces of value in its industrial heritage, offering a blueprint for fostering innovation ecosystems in alternative settings.

In this study, we analyse la Chaux-de-Fonds and Le Locle, two sites in the Swiss Jura watchmaking industry that showcase the circulation of production models and the transmission of technical knowledge. Employing lenses from innovation geography and urban planning theory, our approach encompasses literature analysis, on-site exploration, and dialogues with local stakeholders. This paper delves into how these networks operate at multiple geographic levels, exploring their impact on both the regional economy and the global competitiveness of the Swiss Jura Arc. By examining infrastructure, mixticity (the diversity and interaction of different economic activities), and spaces of interface (areas where collaboration and innovation are most concentrated), this study offers a comprehensive understanding of the mechanisms that underpin the region's innovation ecosystem.

Context and Background

The Swiss Jura Arc is historically significant for its contributions to the watchmaking industry, a sector that has shaped the region's identity and economic landscape for centuries. The evolution from traditional craftsmanship to high-tech precision manufacturing illustrates the region's capacity for innovation. This transition has not occurred in isolation but is the result of a complex network of relationships between various actors, including small and medium-sized enterprises (SMEs), multinational corporations, research institutions, and government bodies. These actors are interconnected through a shared infrastructure that includes not only physical networks, such as transportation and communication systems, but also intangible assets like shared knowledge, skills, and cultural values.

The region's economic structure is characterized by a high degree of specialization in precision industries, which include not only watchmaking but also microtechnology, medical devices, and

advanced machinery. These industries benefit from proximity to one another, enabling frequent exchanges of knowledge and collaboration. Additionally, the region's educational institutions, play a crucial role in sustaining innovation by providing a continuous supply of highly skilled labour and fostering research that can be directly applied to industry.

The horizontal and vertical disintegration of this Swiss system has been presented as a model that offers variety while maintaining quality and delivery times.² Thus, La Chaux-de-Fonds and Le Locle are interesting case studies that display the circulation of production models and the transmission of technical knowledge. This aspect of the site can also be understood as part of the unique intangible heritage of this watchmaking industrial region. Therefore, understanding the key elements of this decentralised network production system can contribute to the identification of spaces of value in its industrial heritage.

Theoretical Framework

Technology innovation districts are based on “collective learning and organisation processes generated particularly by innovation networks and by high institutional thickness.”³ Collective learning takes place not only through explicit/articulated knowledge but also tacit knowledge. This latter type of knowledge exchange needs personal face-to-face interactions⁴ and personal relationships based on trust and reciprocity.⁵ In the case of the Jura Arc, close personal contact has allowed the development of collaborative projects between institutions, both public and private, which contributed to the construction of an interwoven innovation network supporting the development of the watchmaking industrial district.

The concept of networked innovation, central to this study, is grounded in the broader theoretical frameworks of innovation systems and regional economic resilience. Innovation systems theory posits that innovation is not an isolated process but occurs within a system of interactions among various actors, including firms, research institutions, and government bodies. These interactions are facilitated by infrastructure and supported by policies that encourage collaboration and knowledge exchange.

Innovation is maximised in interpersonal diffusion networks with the right balance of homophily, individuals who are alike, and individuals who are different.⁶ New ideas are more likely to come from individuals outside of a social group while effective communication is more probable between individuals who are socially close or share common characteristics or values.

Urban regeneration brings back underutilised assets and redistributes opportunities, increasing prosperity and quality of life”.⁷ It has been linked to concepts such as renewal, revitalisation or redevelopment and it is affected by localised policies tailored to each urban context as well as the agency of actors involved. Industrial heritage is a concept that goes beyond the physical matter and includes (i) processes, including concepts, plans, charts, etc, (ii) means, such as machines, equipment, facilities etc., (iii) culture, that is tacit knowledge, skills, values or identities, (iv) products, like objects and other entities resulting from processes and means of production, (v) containers, that is, elements and architectural structures and infrastructures, and (vi) memories, such as experiences, stories, narratives and witnesses.⁸ Thus, understanding the interactions between these elements in industrial heritage sites can give us tools to use specific heritages as a resource for urban regeneration. In this way, interpretations of the past may be used to produce narratives associated with transformation processes. In other words, understanding all the spatial, social and political elements that form the industrial heritage of a site can give us insights into how to repurpose current urban spaces and how to best integrate contemporary forms of production.

In the case of the Jura Arc and, more specifically, La-Chaux-de-Fonds and Le Locle, I conceptualise multiple factors affecting the generation of innovation networks in the territory. I believe it expresses itself at three levels: at a large geographical scale, the presence of technical, political and social

linking infrastructure is key. At a medium scale, a mix of actors and uses is needed. Finally, at a small scale, the presence of spaces of interface highly contribute to the generation of innovative dynamics.

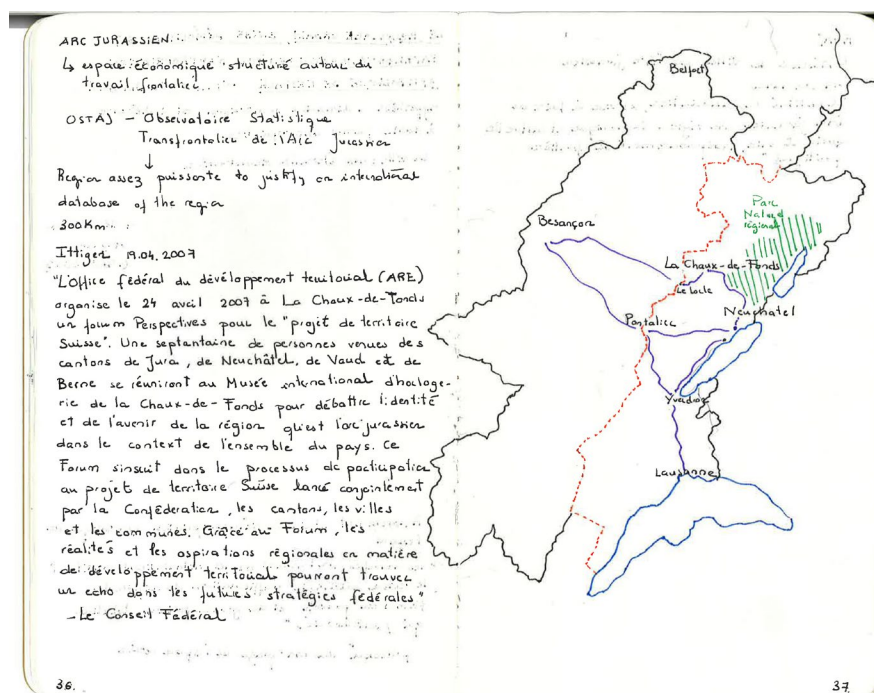


Figure 1. Diagram of the geographic network of the Jura Arc. Sketch from fieldwork notebook

FIELDWORK AS A WAY OF KNOWING

Our approach included (i) a brief session of fieldwork on both sites with diary recording, (ii) three days of trans-disciplinary discussion with experts on the site, participants in the fieldwork who addressed from different disciplinary perspectives, local public representatives and the community, (iii) archival research to unearth the city narratives, and (iv) creative design practices for theoretical understanding. The fieldwork focused on discovering the (invisible) spaces of interface; looking for the fringes and revealing tensions between the visible and the invisible, the controlled vs. the spontaneous, curated vs. organic, or intended vs. unintended. The research was developed within the frame of a seminar organised by EPFL, Politecnico di Torino and Politecnico di Milano in February 2023 on “Urban Regeneration & Industrial Heritage. Between Spatial Practices and Governance”. The seminar included lectures on the site, the topic of urban regeneration and industrial heritage and the fieldwork methodology, as well as the organisation of the collective fieldwork sessions, and discussions with local actors.

As a group, we started by heading to la Chaux-de-Fonds and walking the city following the official UNESCO itinerary in the opposite sense, starting from the centre and ending on the outskirts. We collected our impressions in the notebooks while also exchanging between us. The group had diverse research interests that were challenging to reconcile, from structural joints in industry to biodiversity in urban spaces. Nevertheless, after discussion, the thread of counter-spaces and invisible vs. visible emerged as a common ground. The fieldwork allowed us to identify two types of spaces of interface.

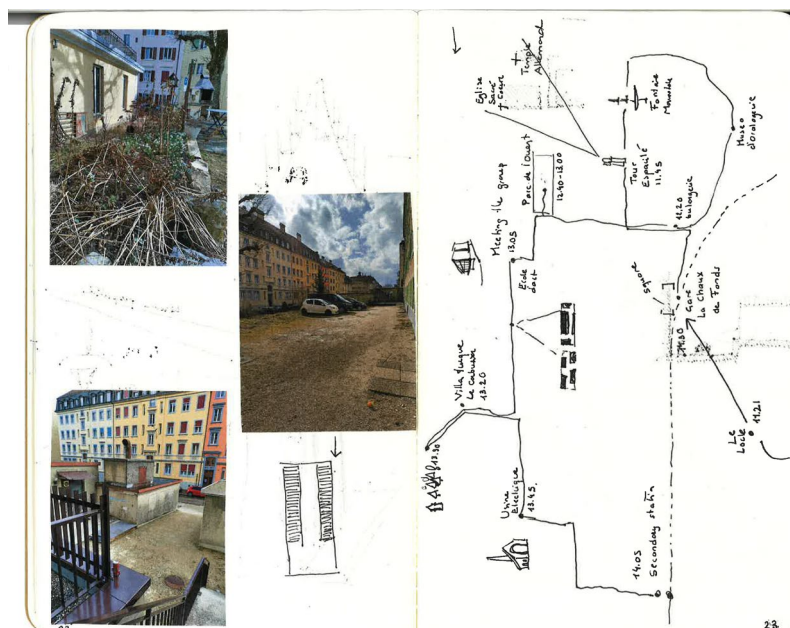


Figure 2. Route taken during the field trip in La Chaux-de-Fonds. Sketch from fieldwork notebook

Firstly, we identified a physical interface space derived from the grid. The integration of diverse typologies and uses in the urban grid implied the emergence of a specific type of “interstitial spaces”. While the streets reflected a regularity that expressed control, and a utilitarian view aiming at ensuring functionality, in terms of circulation or sunlight access; we discovered another type of spaces, not visible at first glance, that embodied the opposite characteristics. Within the blocks, in the left-over spaces between the different-shaped buildings, there were irregular communal outdoor areas. The street grid displayed a top-down quality, but we realised that the actual building footprints were scattered within the regulated space of the block, creating interstitial spaces behind and between the buildings. These include improvised playgrounds, gardens, parking spaces but also orchards. Like in the studies of heterotopias and porosity of Stravrides,⁹ these spaces stand in direct contrast to rational and function-oriented buildings and are not signalled by absolute boundaries. Some of them have fences or low walls but are all recognizably part of a communal outdoor space.

Secondly, we identified a temporal interface space created, in this particular case, by our presence in the site. The seminar brought together a group of researchers from different places to reflect on a common site. The information exchanges generated already created new layers of knowledge and perspectives. At another level, the collaboration with local institutions was reflected most directly in the event of the “Porter le Temps” book presentation¹⁰, which brought together a set of actors interested in the region and its industrial heritage. The dialogue generated between the scholars that had been studying the site, the researchers coming with fresh eyes, the local public institutions and local actors created a perfect example of interface site. These two events are only an example of the strength that constructing a diversity of narratives can imply in the generation of spaces of interface for different actors and the potential creation of tacit knowledge. Both the process and result of the UNESCO World Heritage List recognition have brought a set of new actors into play that bring new ideas within the existing ecosystem and adheres to existing institutions and spaces of exchange with local organisations and stakeholders.



Figure 3. Pictures of interdisciplinary discussions and workshop. Image from fieldwork notebook

L-M-S

In the context of the Swiss Jura Arc, the regional innovation system is characterized by strong inter-firm linkages, public-private partnerships, and a supportive institutional environment. This system enables the region to quickly adapt to changes in the global economy, such as shifts in demand or technological advancements, thereby enhancing its economic resilience. The concept of economic resilience refers to the ability of a region to withstand and recover from economic shocks. In the case of the Swiss Jura Arc, resilience is enhanced by the diversity of its economic activities (mixticity) and the presence of spaces of interface—areas where innovation is concentrated, such as business clusters and innovation hubs.

L. Linking Infrastructure

Political. a national border acting as a seam

The Franco-swiss border at the Jura Arc, acts as a catalyser of dynamics, a source of tensions as well as solidarity and mixing of ideas and people.¹¹ The border works like a seam, accelerating the proximity effects of cross-border workers, and the ideas and practices they carry. These territories, however, are characterized by a lack of governance adapted to their scale and specific needs¹². Thus, border territories emerge at the fringes of control, and naturally tend to develop counter-structures and organisations necessary for their survival. These emergent practices in the territory could, in fact, be the key to innovation.

Social. institutional networks of trust

The disintegrated system of production of the Jura Arc has been coordinated through different institutions. Some of them are directly related with the watchmaking productive system¹³ and, at later stages, to the electronics industry.¹⁴ However, “the complicated web of watch manufacturing

permeated the core of the region's social, political and economic institutions".¹⁵ Education and training on watchmaking, and, later, on microtechnology were offered by regional institutions (University of Neuchâtel and, later on, the École Polytechnique Fédérale de Lausanne (EPFL)), other industries provided equipment, banking institutions were deeply involved in financing, and the industry invested in R&D laboratories.¹⁶ This milieu-type of organisation allowed the spur of collaborative initiatives between the different industrial and societal players. This structure is currently translated into the existence of regional associations with diverse actors involved.

Technical. Being on the way to

Le Locle and la Chaux-de-Fonds are not only located "close" to the border but are also connection points in a transportation network that links Besançon, in France, with Neuchâtel, but also Yverdon-les-Bains, and after Lausanne, Geneva and Bern. This privileged position can be viewed as the geographical parallel of a weak tie in social network analysis¹⁷ the one that ensures that new information and ideas are introduced in a social system.

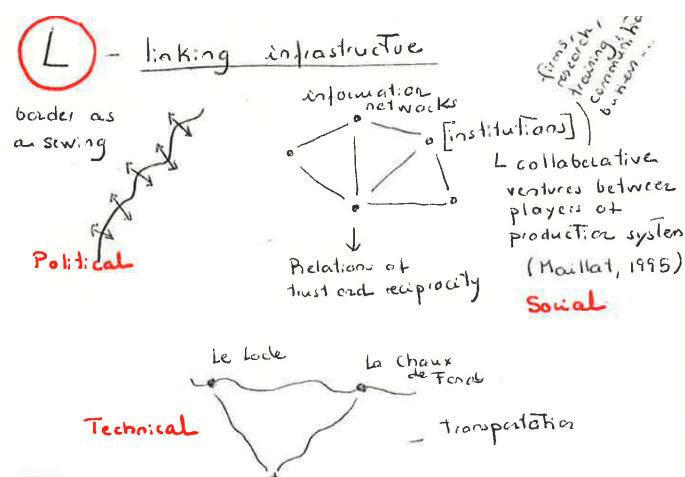


Figure 4. Linking infrastructure. Sketch from fieldwork notebook

M. Mix of actors & activities

Activities. land uses, typologies, institutions

When characterizing the "urbanisme horloger" for the proposition of inscription in the UNESCO¹⁸, the architectural and urban typologies mentioned highlight a mix of uses, such as residential with production in the form of artisanal house, housing with atelier in ground-floor or attic. Density and flexibility have been identified as traits of this "urbanisme horloger", even before the development of the Plan Junod.¹⁹ However, with the plan being the result of a negotiation of the local actors of the time, it is still important to acknowledge the important role of the grid as an urban form that allows flexibility in the functional typologies. Rather than a zoning approach, housing, production and commerce coexist and are interchangeable in the same urban space. "Il n'y a pas de zone industrielle distincte mais une grande intrication entre lieux de production horlogère et espaces de vie".²⁰

Actors. skills, perspectives, narratives

The mix of activities also brings by itself a range of actors involved in the process. From those directly related to the production of the different watch elements, public institutions or training to the rest of the civil society. When living and working coexist in the same space, the interactions between work, life and play strengthen, and the influence of ideas coming from the day-to-day life of

individuals outside of the sector may permeate more easily to the production decisions that in isolated technological clusters.

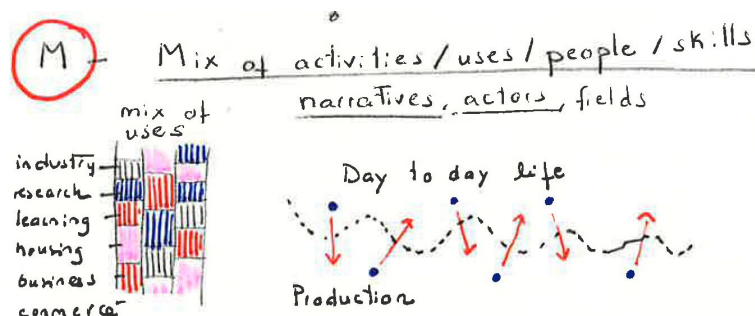


Figure 5. Mixticity. Sketch from fieldwork notebook

S. Spaces of Interface

At a smaller scale, these knowledge exchanges also happen at a specific time and space. Spaces of interface can be permanent locations that foster the interaction of different actors in the same geographic place or can involve temporal organised events that bring people together.²¹ Several scholars, such as Gehl or Jacobs,²² outline certain serendipity conditions for these exchanges to happen, such as ground-floor permeability or active uses. Porosity²³ of urban life allows “a rich network of practices” to transform space into a “potential theatre of acts of encounter”.²⁴ Porosity also implies a loosening of borders, which Walter Benjamin sees as “a way to reclaim the power that thresholds possess to mediate actions that open spatially (as well as socially) fixed identities and encourage chance encounters”.²⁵

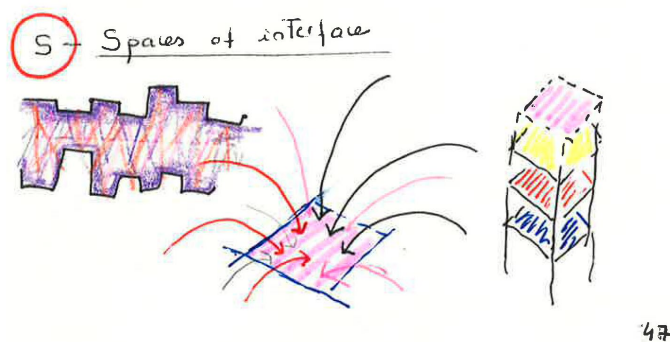


Figure 6. Spaces of Interface. Sketch from fieldwork notebook

At all these scales or levels, we identify a counter-narrative emerging. There is a disorder that escapes from control and generates spontaneous situations of exchange and connection between otherwise separated elements. We could speak of heterotopias “places where differences meet”, a concept that Foucault²⁶ introduces as “counterrangements, those spaces that are absolutely other compared to the normal spaces they “reflect”, representing them, challenging them and overturning them.²⁷ Heterotopias are counterspaces to the dominant ones, sites of resistance, but also the juxtaposition in a single place of several spaces,²⁸ - places of interface that enable “productive and social actors to interact”.²⁹

CONCLUSION

This investigation unveils the multiple factors affecting the generation of regional innovation networks at three geographic levels. At a larger scale, the region benefits from a linking infrastructure acting in three dimensions; political – an international border acting as a seam -, social – institutional networks of trust - and technical – connecting points of the transportation network. At a middle scale, it benefits from a mix of activities – including land use, typologies and institutions- and actors – bringing diverse skills, perspectives and narratives. At the small scale, spaces of interface - unstructured and porous - are key to enabling knowledge exchanges.

The findings of this study highlight the importance of networked innovation in sustaining the economic resilience of the Swiss Jura Arc. The region’s ability to adapt to economic changes and maintain its competitiveness in the global market is largely due to the strength of its innovation system. This system is supported by a well-developed infrastructure, a diverse mix of economic activities, and the presence of spaces of interface that facilitate collaboration and knowledge exchange.

The implications of these findings extend beyond the Swiss Jura Arc. Other regions seeking to enhance their economic resilience can learn from the strategies employed in this region, particularly the emphasis on networked innovation and the development of supportive infrastructure. By fostering strong connections between firms, research institutions, and government bodies, regions can create an environment conducive to innovation and long-term economic growth.

In conclusion, the Swiss Jura Arc serves as a model for how regions can leverage networked innovation to drive economic resilience and sustain long-term growth. The lessons learned from this region can be applied to other contexts, helping regions around the world to navigate the challenges of the global economy and capitalise on new opportunities for innovation.

NOTES

¹ Olivier Crevoisier and Hugues Jeannerat, “Territorial Knowledge Dynamics: From the Proximity Paradigm to Multi-Location Milieus,” *European Planning Studies* 17, no. 8 (August 2009): 1223–41, <https://doi.org/10.1080/09654310902978231>; Michael Fritsch and Grit Franke, “Innovation, Regional Knowledge Spillovers and R&D Cooperation,” *Research Policy* 33, no. 2 (March 2004): 245–55, [https://doi.org/10.1016/S0048-7333\(03\)00123-9](https://doi.org/10.1016/S0048-7333(03)00123-9); S. Breschi, “Knowledge Spillovers and Local Innovation Systems: A Critical Survey,” *Industrial and Corporate Change* 10, no. 4 (December 1, 2001): 975–1005, <https://doi.org/10.1093/icc/10.4.975>; Effie Kesidou and Adam Szirmai, “Local Knowledge Spillovers, Innovation and Export Performance in Developing Countries: Empirical Evidence from the Uruguay Software Cluster,” *The European Journal of Development Research* 20, no. 2 (June 2008): 281–98, <https://doi.org/10.1080/09578810802060769>.

² Amy Glasmeier, “Technological Discontinuities and Flexible Production Networks: The Case of Switzerland and the World Watch Industry,” *Research Policy* 20, no. 5 (October 1991): 469–85, [https://doi.org/10.1016/0048-7333\(91\)90070-7](https://doi.org/10.1016/0048-7333(91)90070-7).

³ Amin and Thrift, 1993 in Denis Maillat et al., “Technology District and Innovation: The Case of the Swiss Jura Arc,” *Regional Studies* 29, no. 3 (April 14, 1995): 251–63, <https://doi.org/10.1080/00343409512331348943>.

⁴ Bjørn Asheim, Lars Coenen, and Jan Vang, “Face-to-Face, Buzz, and Knowledge Bases: Sociospatial Implications for Learning, Innovation, and Innovation Policy,” *Environment and Planning C: Government and Policy* 25, no. 5 (October 2007): 655–70, <https://doi.org/10.1068/c0648>; Crevoisier and Jeannerat, “Territorial Knowledge Dynamics”; Jacqueline Senker, “Tacit Knowledge and Models of Innovation,” *Industrial and Corporate Change* 4, no. 2 (1995): 425–47, <https://doi.org/10.1093/icc/4.2.425>.

⁵ Glasmeier, “Technological Discontinuities and Flexible Production Networks”; Maillat et al., “Technology District and Innovation.”

⁶ Granovetter in Robert A. Hanneman and Mark Riddle, “Concepts and Measures for Basic Network Analysis,” in *The SAGE Handbook of Social Network Analysis*, by John Scott and Peter Carrington (1 Oliver’s Yard, 55 City Road, London EC1Y 1SP United Kingdom: SAGE Publications Ltd, 2014), 340–69, <https://doi.org/10.4135/9781446294413.n24>; Everett M. Rogers, *Diffusion of Innovations, 5th Edition* (Simon and Schuster, 2003).

⁷ UN-Habitat in Florence Graezer Bideau, “Introduction: Urban Regeneration and Industrial Heritage,” 2023, <https://infoscience.epfl.ch/handle/20.500.14299/198191>.

⁸ Florence Graezer Bideau.

⁹ Stavros Stravrides, “Heterotopias and the Experience of Porous Urban Space,” in *Loose Space. Possibility and Diversity in Urban Life*, 1st Edition (London: Routledge, 2006), 320, <https://doi.org/10.4324/9780203799574>.

¹⁰ Florence Graezer Bideau and francesco De Pieri, *Porter Le Temps: Mémoires Urbaines d’un Site Horloger* (Geneva: Métipresses, 2021).

¹¹ Alexandre Moine, “Effets-frontière dans l’Arc jurassien franco-suisse, et outils d’aménagements,” 2013, <https://www.forum-transfrontalier.org/effets-frontiere-dans-larc-jurassien-franco-suisse-et-outils-damenagements/>.

¹² Moine.

¹³ The Swiss Watch Industry Federation (FH), EBAUCHE, manufacturers of ébauchers, Union des Branches Annexes de l’Horlogerie (UBAH), ASUAG or Société des Garde-Temps Glasmeier, “Technological Discontinuities and Flexible Production Networks.”

¹⁴ Swiss Electronics and Microtechnological Centre (CEMSA SA), as a merger of three watchmaking laboratories, le Laboratoire Suisse de Recherches Horlogères (LSRH), le Centre Électronique Horloger (CEH) and the Fondation Suisse de Recherches Horlogères (FSRH) in Maillat et al., “Technology District and Innovation.”

¹⁵ Glasmeier, “Technological Discontinuities and Flexible Production Networks.”

¹⁶ Glasmeier; Maillat et al., “Technology District and Innovation.”

¹⁷ Granovetter in Hanneman and Riddle, “Concepts and Measures for Basic Network Analysis.”

¹⁸ UNESCO World Heritage Convention, “La Chaux-de-Fonds / Le Locle, Watchmaking Town Planning,” 2009, <https://whc.unesco.org/en/list/1302/>.

¹⁹ Graezer Bideau and De Pieri, *Porter Le Temps: Mémoires Urbaines d’un Site Horloger*.

²⁰ Laurent Kurth, Bernard Soguel, and Denis de la Reussille, “La Chaux-de-Fonds / Le Locle Urbanisme Horloger. Proposition d’inscription Sur La Liste Du Patrimoine Mondial. Addenda 1” (Urbanisme Horloger. Candidature du Patrimoine mondial, 2009).

²¹ André Torre, “On the Role Played by Temporary Geographical Proximity in Knowledge Transmission,” *Regional Studies* 42, no. 6 (July 2008): 869–89, <https://doi.org/10.1080/00343400801922814>.

- ²² Jane Jacobs, *The Death and Life of Great American Cities* (Random House, 2002); Jan Gehl, *Cities for People* (Island Press, 2010); Jan Gehl, *Life Between Buildings* (Island Press, 2011).
- ²³ Walter Benjamin and Asja Lacis, "Neapel," in *Gesammelte Schriften* (Frankfurt: Rolf Tiedemann and Herman Schweppenhäuser, 1925), 307–16; Salvatore Pisani, "Neapel-Topoi," in *Neapel: Sechs Jahrhunderte Kulturgeschichte* (Berlin: Reimer: Salvatore Pisani and Katharina Siebenmorgen, 2009), 28–37; Sophie Wolfrum, *Porous City: From Metaphor to Urban Agenda*, 2018.
- ²⁴ Stravrides, "Heterotopias and the Experience of Porous Urban Space."
- ²⁵ Stravrides.
- ²⁶ Foucault, 1993 in Torre, "On the Role Played by Temporary Geographical Proximity in Knowledge Transmission."
- ²⁷ Stravrides, "Heterotopias and the Experience of Porous Urban Space."
- ²⁸ Marco Cenzatti, "Heterotopias of Difference," in *Heterotopia and the City – Urban Theory and the Transformations of Public Space* (Oxford, UK and Cambridge, MA: Blackwell, 2008).
- ²⁹ Torre, "On the Role Played by Temporary Geographical Proximity in Knowledge Transmission."

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RETRACING VAN RIEBEECK: UNEARTHING TACIT HISTORIES AND DECOLONISING SPACE IN CAPE TOWN'S LANDSCAPES OF MEMORY

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INTRODUCTION

Cape Town, South Africa, is a vast and complex city defined by centuries of layered interaction between a multitude of tribes, clans, colonies, cultures, events, myths and memories. Most of the city's history is untold and was never formally recorded, existing only as stories etched into the invisible layers of the city's landscapes of memory.

One such story is '*van Riebeeck's Hedge*' - the legendary 'boundary' of the original Dutch VoC 'Cape Colony', which once spanned nearly 13km¹ across Cape Town. Multiple historic maps,² stories,³ blogs,⁴ papers,⁵ educators⁶ and even artists⁷ refer to the Hedge, often with conflicting opinions about its significance and legacy. Some view the Hedge as an ancient landmark, worthy of protection.⁸ For others, it exists as a symbol of the darkest parts of South African history: the initial steps towards Apartheid and a barrier with which white South Africa dispossessed indigenous people of land and resources.⁹ Despite its significance as one of the first tangible spatial boundaries of Khoi-colonial segregation - and as one of the earliest physical borders in South Africa¹⁰ - van Riebeeck's Hedge is not fully recognised as a significant spatial marker in South African History.

While many versions of the Hedge exist on historic maps (Figure 1), its relationship to present-day Cape Town has not been comprehensively studied, nor is its socio-spatial influence on the city fully understood. Understanding Cape Town's historic spatial legacies is essential to navigating towards a more inclusive and sustainable urban future. This research forms a small part of contemporary discourse on heritage preservation, spatial justice, and decolonisation in Cape Town.

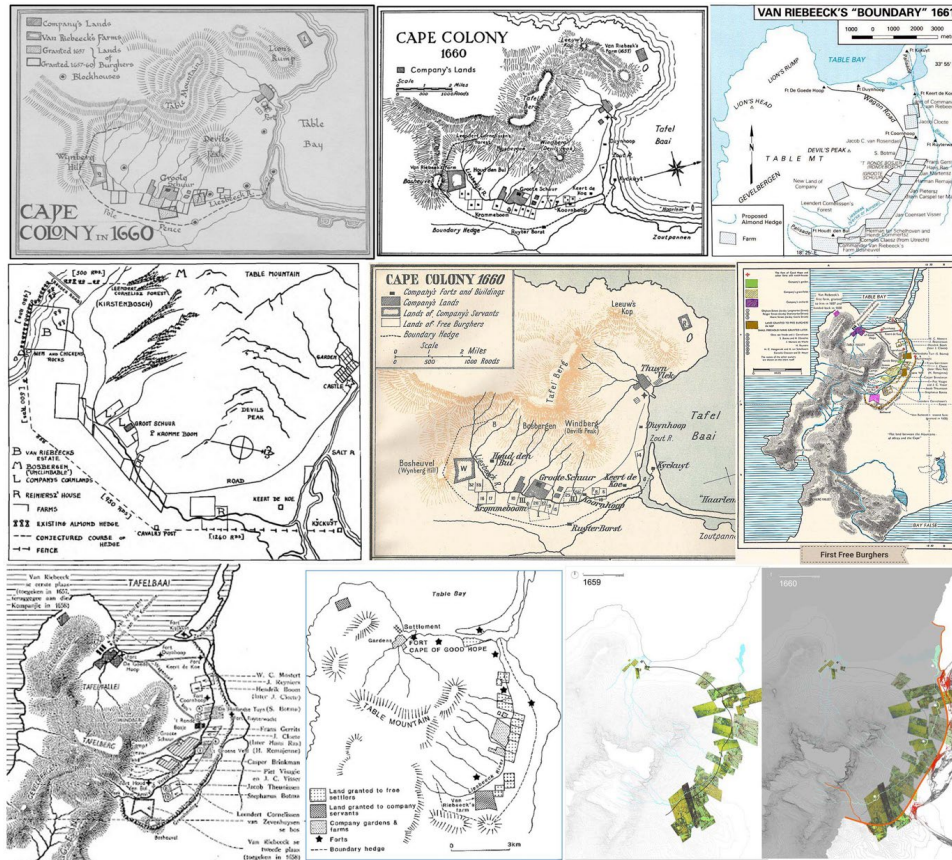


Figure 1. Multiple versions of spatial history: The many versions of van Riebeeck's Hedge. Sources (top to bottom, left to right): Walton(1660);¹¹ Howie (1660);¹² Genealogical Society of South Africa (2017);¹³ Walker (1936);¹⁴ Wat de volk Archive (1660);¹⁵ Wat de volk Archive (1656+ – wrongly attributed date);¹⁶ Brink (2010);¹⁷ Christopher (1994);¹⁸ van Biljon (2013)¹⁹

RETRACING THE HEDGE – PRE-HISTORY TO PRESENT-DAY

To unearth ‘invisible’ relationships between the Hedge and the City of Cape Town, the Hedge was examined in relation to key ‘chapters’ in Capetonian (South African) history: *Early history* (Khoi settlement and colonial relationships before the formation of the Hedge in 1660), *the Dutch era* (1652 – 1805, and the establishment of the Hedge in 1660), *the British era* (1805 – early 1900’s), and later *the Apartheid era* (1948-1993, first under British rule up to 1961, and later as an independent Afrikaner Apartheid state up to the 1994 democratic elections).

A counter-mapping ‘trace’ methodology (and its limitations)

Historic maps of the Hedge each offer their own version of ‘truth’: Discrepancies and contradictions are evident in descriptions and positioning of the Hedge²⁰ and the historic farm boundaries.²¹ (as illustrated in Figure 1) The destruction of the Salt River Estuary,²² and substantial changes to the coastline during the ‘reclamation’ of the Foreshore in the 1930’s²³ further obfuscate relationship of the Hedge to the present-day city. However, the landscape - most notably the documented hydrology and the presence, position and relative form of the *Camissa-, Liesbeek-, Black- and Salt Rivers* - has remained fairly consistent across all historic maps. Accordingly, the positions of rivers were used as ‘anchor points’ in the counter-mapping study, and historic maps of van Riebeeck’s Hedge were overlaid, or ‘traced’, over GIS datasets of Cape Town hydrology to establish relationships between past and present. *It should be noted that while this method is not 100% accurate, it is sufficient to*

gain an understanding of the relationships between Cape Town's colonial boundaries and contemporary form.

Pre-History (before the Hedge): The Camissa Rivers as Khoi-colonial origins

Cape Town originated around its rivers, and rivers are also the origins of much of the region's early history, trade, and later conflict. The abundance of fresh water streams and rivers in the region (known as the *!khamis sa*, “*Camissa*” or “*Sweet water of the People*”²⁴) is what first drew the indigenous Khoi people to the region approximately two thousand years ago.²⁵ The area encapsulated by the Black River, Salt River, and Liesbeek River Estuary and Camissa River System became a primary grazing land for Khoi livestock, and a primary landscape for foraging- and settlement for both the Khoi and San.²⁶ (Figure 2, top diagram)

The first known Khoi-European contact occurred in 1488, and between 1600 and 1652, the Cape region developed as a “proto-port”. European ships travelling to the Indies likely traded tobacco, copper and iron in exchange for fresh meat and water (presumably obtained from the Camissa and Liesbeek river systems by the *//Ammaqua* “Watermans” or Khoi water traders).²⁷ The waters of the Camissa also led to historic conflict: In 1510, Portuguese seafarers documented the first known Khoi-colonial conflict when ox-mounted *!Urill'aekua* Khoi defeated Portuguese seafarer Francisco de Almeida and his men at the Battle of Salt River. Due to the defeat, the Portuguese avoided the Cape for the next century.²⁸ Historical records give conflicting reports about the exact position and causes of the battle²⁹ (while the destruction of the Salt River Estuary and shoreline further complicates geolocation), but multiple records confirm its location as the shore near the mouth of the Salt River Estuary, where the Portuguese had stopped to collect fresh water from the *Camissa*.³⁰ It is almost certain that the battle took place in the region is today the salt river railway line, just north of the Two Rivers Urban Park³¹ (indicated by the red circle in Figure 2 top diagram)

1652 |1660: van Riebeeck's Colony and the origins of the Hedge

In 1652, the Dutch East India Company (VOC), led by Jan van Riebeeck, established a formal refreshment station in Cape Town with the aim to supply fresh drinking water and restock ships travelling between Europe and the East. By situating itself near the existing freshwater streams of the Camissa and Liesbeek rivers, the VOC settlement claimed Khoi water and pastoral land as their own. When the Dutch began cultivating the fertile estuary near the Liesbeek River circa 1658, relations soured and then exploded into open conflict in the first Khoi-Dutch war (1659-1660).³² One of the first sites of conflict between Indigenous tribes and Colonial settlers is widely believed to be at the confluence of the Liesbeek and Black Rivers, in the region that is today known as the Two Rivers Urban park and SAAO Observatory.³³ This landscape of conflict (indicated by the red circle in Figure 2, bottom diagram) is located in very close proximity upstream from the Salt River estuary mouth, where the Battle of Salt River took place 110 years earlier.

By 1660, escalating Khoi-Dutch tensions led van Riebeeck to order the establishment of a defensive boundary consisting of ‘pega-pegas’ (pole palisade fence) or ‘bitter almond trees’ (*Brabejum Stellatifolium*), around the settlement and the farms of the ‘Free Burghers’ along the Liesbeek. This became known as ‘van Riebeeck's Hedge’.³⁴ Walker describes the Hedge as “*a fence of poles (that) was built from the sea-shore near the mouth of the Salt River to... the junction of the Liesbeeck and the spruit of the Salt River; beyond that point, the Liesbeeck was cleared of weeds and the banks made steeper, while from the Kromme Boom the fence was begun again and ran for 600 roods up to the primeval forest which in those days clothed up the eastern slopes of Tale mountain. It was this fence which was strengthened by the famous blockhouses (forts): Kijkuijt on a high sand-hill near the sea-*

shore “between Salt River and the beach”; Keert de Koe between Salt River and the Liesbeeck; Hond den Bul at some point nearer the forest.”³⁵ (refer to green line, figure 2, bottom diagram.)

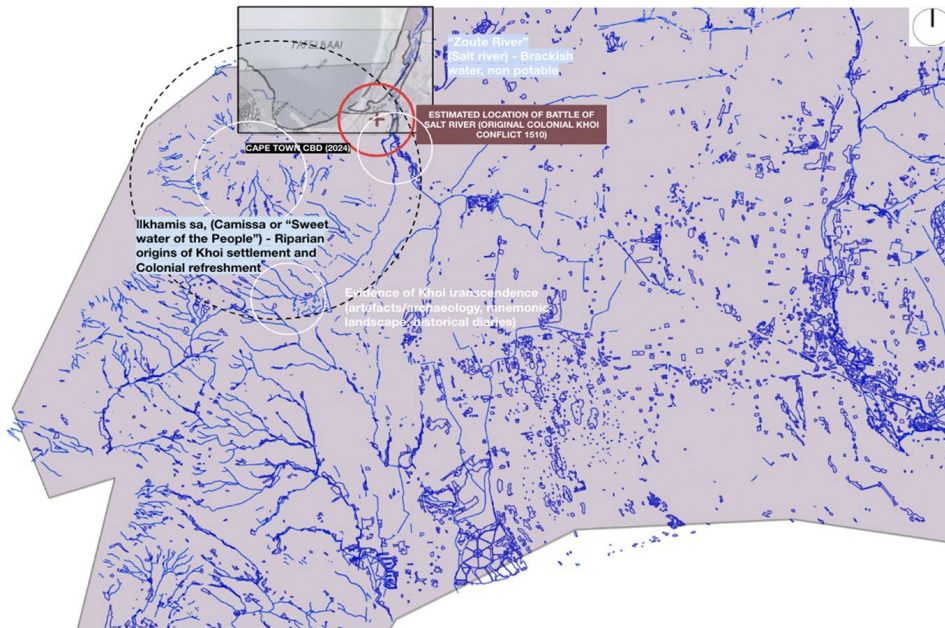
Little was documented on van Riebeeck’s Hedge and the Khoi’s relationship with the cultural landscape it contained. No tangible remnants of the conflict, forts, outposts, or resulting graves remain (although there have been attempts to identify the locations of the original forts).³⁶ However, the impact and significance of the Hedge is clear: the barrier would ultimately dispossess the Khoi of their land, their culture and history, and their way of life.³⁷ Van Riebeeck’s Hedge signifies one of the earliest historical borders and ‘landscapes of conflict’ in South Africa, and became the first step towards racial and spatial segregation in early South African history.

1806-: British Cape Colony and the persistence of the Hedge

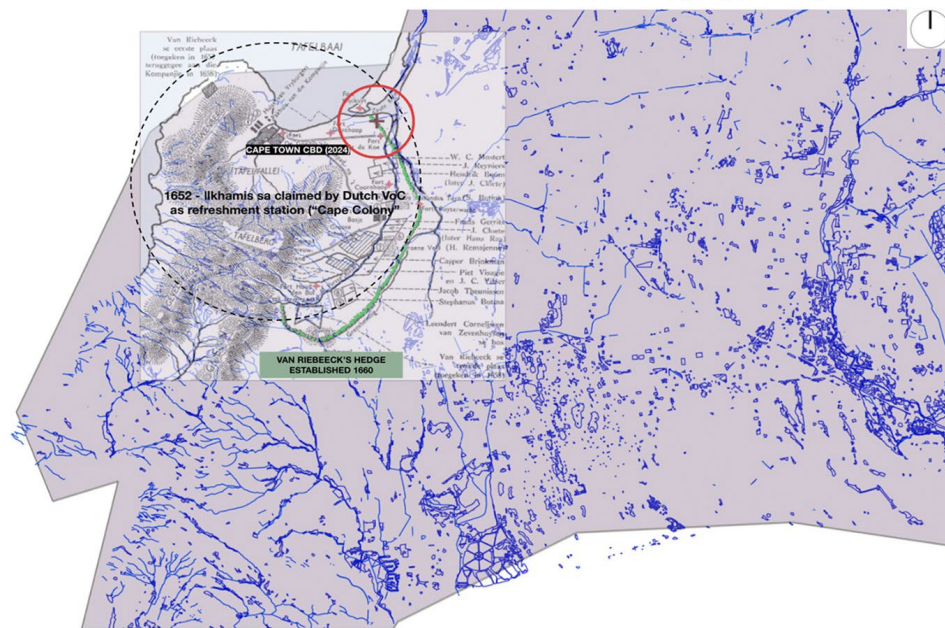
After the *Battle of Blaauwberg*, Britain defeated the Dutch and took control of the Cape Colony in 1806. The infrastructure, culture and governance of the colony changed rapidly: English replaced Dutch as the language of administration; British press and currency was established, and freehold “land ownership” became legal within the colony.³⁸ Despite a rapid shift into British culture, the physical layout and historic barriers of the original Dutch colony remained etched into the landscape as a defining feature of Cape Town’s young urban morphology. Whereas parts of van Riebeeck’s Hedge had already been disassembled by the late 1660’s,³⁹ the intangible ‘Hedge’ remained as urban edge, as a silent driver of the city’s form and design. The influence of the Hedge is still clearly visible in the mid 1800’s, when British Surveyor mapmakers documented the young city and showed its expansion along the *Liesbeeck*, but not far beyond the boundaries of the original hedge.⁴⁰ (Figure 3, top image)

1913/1948 – 1994: Apartheid Spatial Planning and the metaphysical Hedge

Two hundred and fifty-three years after van Riebeeck’s Hedge was established, new barriers of race-based spatial separation were instituted, first through the Natives Land Act (1913) and later, formally through the Apartheid Group Areas Act (1950).⁴¹ The laws initiated forced removals of communities of colour to the outskirts of the city, causing rapid expansion and urban sprawl across the Cape Flats. When tracing the Cape hydrology over the original 1660 Hedge boundary over the 1950’s race-based designations, clear relationships emerge between natural borders, early colonial boundaries and later apartheid barriers. The original boundaries of the Hedge, which established white colonial settler patterns across the city bowl and along the Liesbeeck River and Table Mountain may have (un)consciously informed the borders of geographic race-based Apartheid segregation across Cape Town.⁴² The landscape’s natural ‘borders’, particularly its rivers, further served to designate race-based settlement across the city. (Figure 4, bottom image)

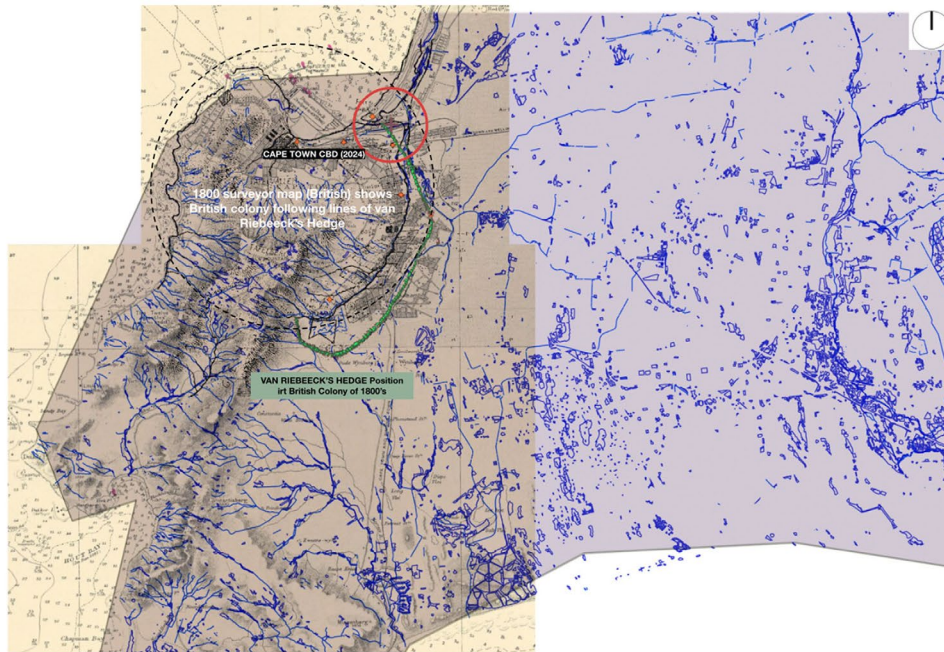


1500-2000 years before Colonial Settlement: Khoi Settlement around Ilkhamis sa (Camissa) River system (dotted circle) due to fresh water and fertile soil (grazing for cattle)
1510 First known Khoi-Colonial Conflict: Battle of Salt River (with Portugese) (red circle)

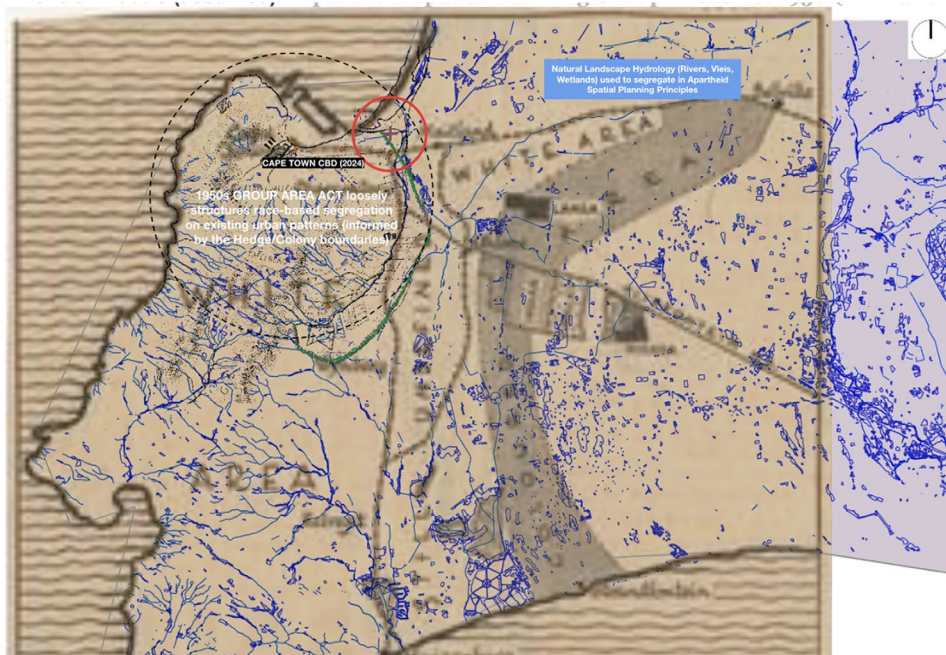


1652 Dutch Settlement Voc establish refreshment station in Cape for passing ships (dotted circle).
 Hedge Planted 1660 to keep Khoi out of "Cape Colony" after increasing conflict. (green line)

Figure 2. (re)tracing the Hedge through time: Early history. (Top) Cape Town before the Hedge. (Bottom) Dutch era (circa 1660) after establishment of the Hedge. Compiled by Author using sources: Walton(1660);⁴³ Howie (1660);⁴⁴ Walker (1936);⁴⁵ Christopher (1994);⁴⁶ Cape Farm Mapper (hydrology layers – river dataset),⁴⁷ Google Earth,⁴⁸ CoCT Open Watercourses Dataset⁴⁹



1800's | 1806 British Colonise the Cape after winning the Battle of Blaauwberg against the Dutch. 1660 colony settlement lines remain largely within the (now invisible) Hedge until the 1900's, when mass expansion beyond the Hedge and into the Cape Flats occurs due to population growth and apartheid settlement laws.



1940's - 1950's (assumed) - Apartheid (Afrikaner Govt under British Rule). The Group Areas Act of 1950 instills Apartheid Spatial Planning Across Town (loosely planned along original colony lines and river lines). The original "white settlement" of the Dutch, later British colony is expanded southward along the mountain.

Figure 3. (re)tracing the Hedge through time. (top) the Hedge during British occupation (assumed 1850's) (bottom) the Hedge irt. early Apartheid Spatial Planning (assumed 1940'-50's) Compiled by Author using sources: Walton(1660);⁵⁰ Howie (1660);⁵¹ Walker (1936);⁵² Christopher (1994);⁵³ Cape Farm Mapper (hydrology layers – river dataset),⁵⁴ Google Earth,⁵⁵ CoCT Open Watercourses Dataset,⁵⁶ HM Admiralty Survey (1970)⁵⁷ UCT Ibalí Collection⁵⁸

HEDGE VS HEGEMONY VS HYDROLOGY VS HERITAGE: CAPE TOWN TODAY

Cape Town is a culmination of historic layers: Each era's hegemony has overwritten the previous one,⁵⁹ yet traces of the past remain and have shaped the contemporary city. In many ways, van Riebeeck's Hedge still exists today, both tangibly and intangibly:⁶⁰ it remains embedded Cape Town's urban morphology, hydrology and movement routes, and has been etched into socio-cultural and racial settlement patterns.

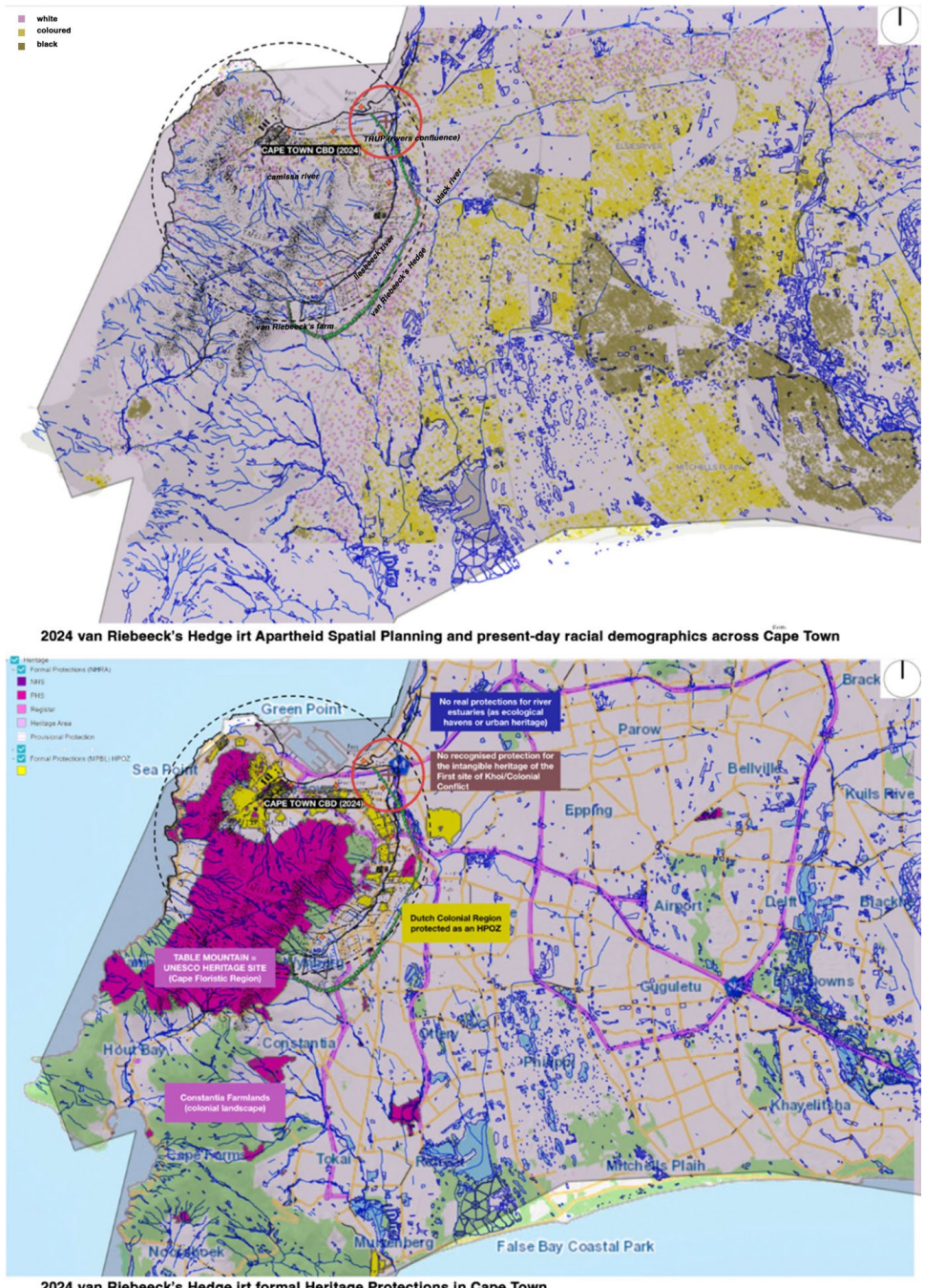
By tracing the Hedge over the contemporary city, its lasting influence on Cape Town emerges. When viewed against contemporary (2011) race/space demographics and settlement patterns,⁶¹ it is clear that there is a direct link between the Hedge as initial colonial boundary of indigenous exclusion and later geographic racial segregation of Apartheid. Both of these initial acts of race-based separatism have defined the demographic settlement patterns of the contemporary city, which remains racially fragmented 30 years into the democratic era. (Figure 4, top diagram).

What is also evident is how the natural landscape – particularly the hydrology of the Cape rivers – has informed the city's socio-political landscape: The *Camissa*, the 'sweet waters' once cherished by the Khoi, were also the reason that the Cape Colony refreshment station was established. This water-based colony evolved into the contemporary Cape Town CBD or "city bowl" – the heart of the city.

The Liesbeek river informed the trajectory of van Riebeeck's Hedge. Together, this 'augmented natural landscape' has defined the neighbourhoods and movement routes of the city's Southern suburbs from its origins in the mountains at Kirstenbosch all the way to the shores at Table Bay. The Black River, originally part of the Khoi grazing lands (and in part the source of the Khoi-Dutch wars), was exploited as a geographic racial boundary during Apartheid and has remained intact as invisible border across the contemporary city. Today, the river still visibly acts as a boundary which separates white settlement zones from the black and coloured communities in the Cape flats beyond. (Figure 4, top diagram).

What do we remember? How do we remember? Why do we remember?

When the Hedge is traced over the city's 'tangible' heritage– further relationships emerge: The portions of Cape Town which enjoy formal heritage protections – including graded buildings and 'heritage protection overlay zones' remains almost wholly with the boundaries of the original Hedge. (Figure 4, bottom diagram) In addition to serving as an invisible urban border, the hedge has acted as an invisible shield, demarcating the original colonial city as 'worthy of protection' while disregarding much older (and possibly more significant) intangible heritage and landscapes of memory related to the Khoi and the earliest Khoi-colonial history of south Africa. The full hedge is not recognised on CoCT heritage layers and notably, the battlegrounds of the Salt River Estuary (Salt River train lines) and the Khoi-Colonial wars (TRUP observatory, Liesbeek/Black rivers) enjoy no formal protection or recognition as being 'heritage-worthy'. It begs the question – *Who's heritage has been protected? What has been remembered? What has been lost – or forgotten?*



2024 van Riebeeck's Hedge irt Apartheid Spatial Planning and present-day racial demographics across Cape Town

2024 van Riebeeck's Hedge irt formal Heritage Protections in Cape Town

Figure 4. Impacts of the Hedge on Contemporary Cape Town (2024)
 Compiled by Author using sources: Top map: Frith(2011), Walton(1660),⁶² Howie (1660),⁶³ Walker (1936),⁶⁴ Brink (2010),⁶⁵ Christopher (1994),⁶⁶ Cape Farm Mapper (hydrology layers – river dataset),⁶⁷ Google Earth,⁶⁸ CoCT Open Watercourses Dataset,⁶⁹ CoCT Map Viewer – Heritage Overlay⁷⁰

WHAT MAY BE RECLAIMED? TWO SITES FOR ACUPUNCTURAL MEMORY

How does one reclaim collective memory? The answers are not straightforward, nor are the necessarily objective. However, a possible starting point would be to recognise the Hedge as a fundamental part of Cape Town’s history and collective Khoi-colonial heritage. A linear landscape of memory worthy of formal recognition and protection.

A substantial impact may be made through the implementation of ‘acupunctural heritage’ – i.e. by focusing protection, recognition or even counter-memorialisation efforts on two pivotal sites related to the Hedge: The ‘origin’ of the Hedge at Salt River/The South African National Observatory/Two Rivers Urban Park and the ‘termination’ of the Hedge in Kirstenbosch Botanical Gardens/Klaasens Road/Bishopscourt. (Figure 5 - 6, circled in white)

The nature of the Hedge at these two locations differs drastically: At Kirstenbosch, physical portions of Wild Almond trees still exist. Two small sections - in Klaasens Road, Bishopscourt and Kirstenbosch Botanical Gardens - have formal heritage protections as National Monuments, but a much larger section of the Hedge exists between the two sites, scattered along residential sidewalks and backyards along Klaasens Road.⁷¹(Figure 7, bottom images) While the Hedge remains intact, the plaques signifying its existence in Klaasens road were vandalised, and subsequently removed, by SAHRA in 2001.⁷² The portion in Kirstenbosch also lacks sufficient didactic and rhetoric nuance and contextualisation,⁷³ and an uninformed visitor may confuse both ‘national monuments’ for vacant sites. (Figure 7, top images)

At the Two Rivers Urban Park, no physical portions of the hedge remain, yet the memory of the ‘intangible hedge’ is equally significant: The region surrounding the confluence of the Liesbeek and Black rivers is layered with centuries of hegemonic conflict. The infamous battle of Salt River took place just north of the site, and the fertile landscape contained by the two rivers is one of the primary causes of initial Khoi-colonial conflict, subsequent war, and the establishment of the Hedge. It is a critically important region in Khoi-colonial history and the origins of South Africa’s socio-political landscape.⁷⁴

History repeats itself because we choose to forget. Because the Two Rivers Site was not formally acknowledged or protected, it was sold to the highest bidder, and at present, a new ‘neo-colonial’ land battle rages between the Khoi and yet another International Trading Company: In 2024 The Amazon HQ is being built at the confluence of the Liesbeek and Salt Rivers.⁷⁵ A corporate office park now buries one of the most significant sites in South African history, largely due to the lack of physical artefacts or tangible ‘memorialisation’ of the site’s historical significance.

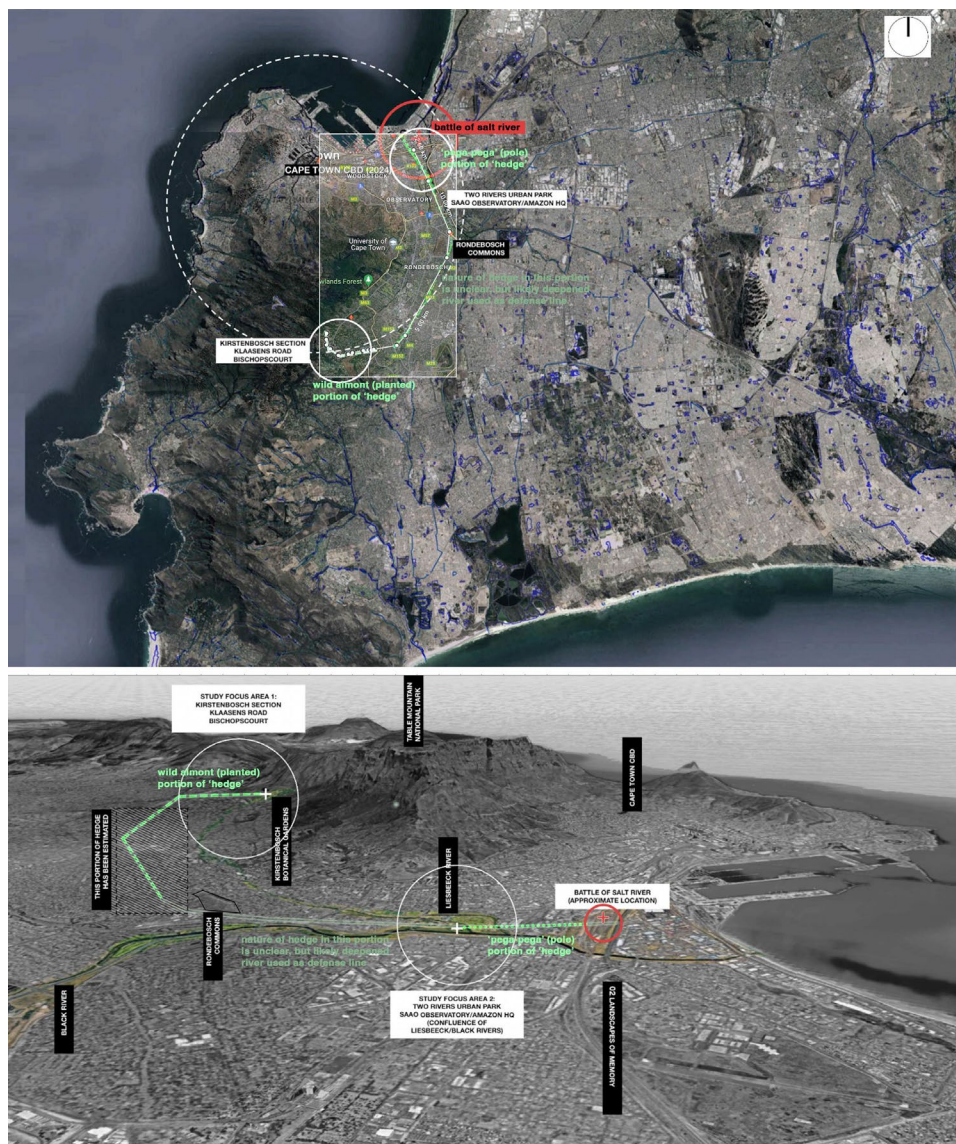


Figure 5. (re)tracing the Hedge across Contemporary Cape Town (2024): Two sites for acupunctural Memory. The Kirstenbosch/Klaasens road section and TRUP observatory section circled in White. (Battle of Salt River estimated location circled in red). Assumed trajectory of the Hedge shown in green. Compiled by Author using sources: Walton(1660),⁷⁶ Howie (1660),⁷⁷ Walker (1936),⁷⁸ Christopher (1994),⁷⁹ Cape Farm Mapper (hydrology layers – river dataset),⁸⁰ Google Earth,⁸¹ CoCT Open Watercourses Dataset⁸²

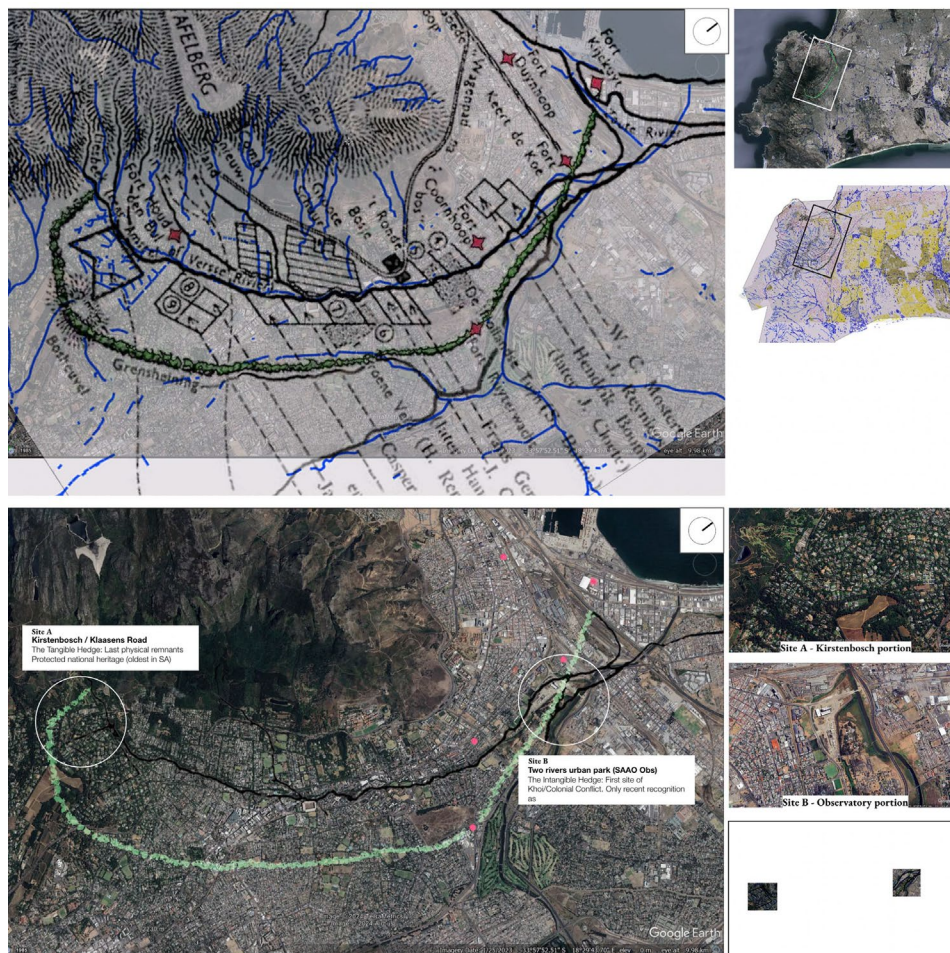


Figure 6. (re)tracing the Hedge across Contemporary Cape Town (2024): Two sites for acupunctural Memory. Compiled by Author using sources: Brink (2010);⁸³ Walton(1660);⁸⁴ Howie (1660);⁸⁵ Walker (1936);⁸⁶ Christopher (1994);⁸⁷ Cape Farm Mapper (hydrology layers – river dataset),⁸⁸ Google Earth,⁸⁹ CoCT Open Watercourses Dataset⁹⁰

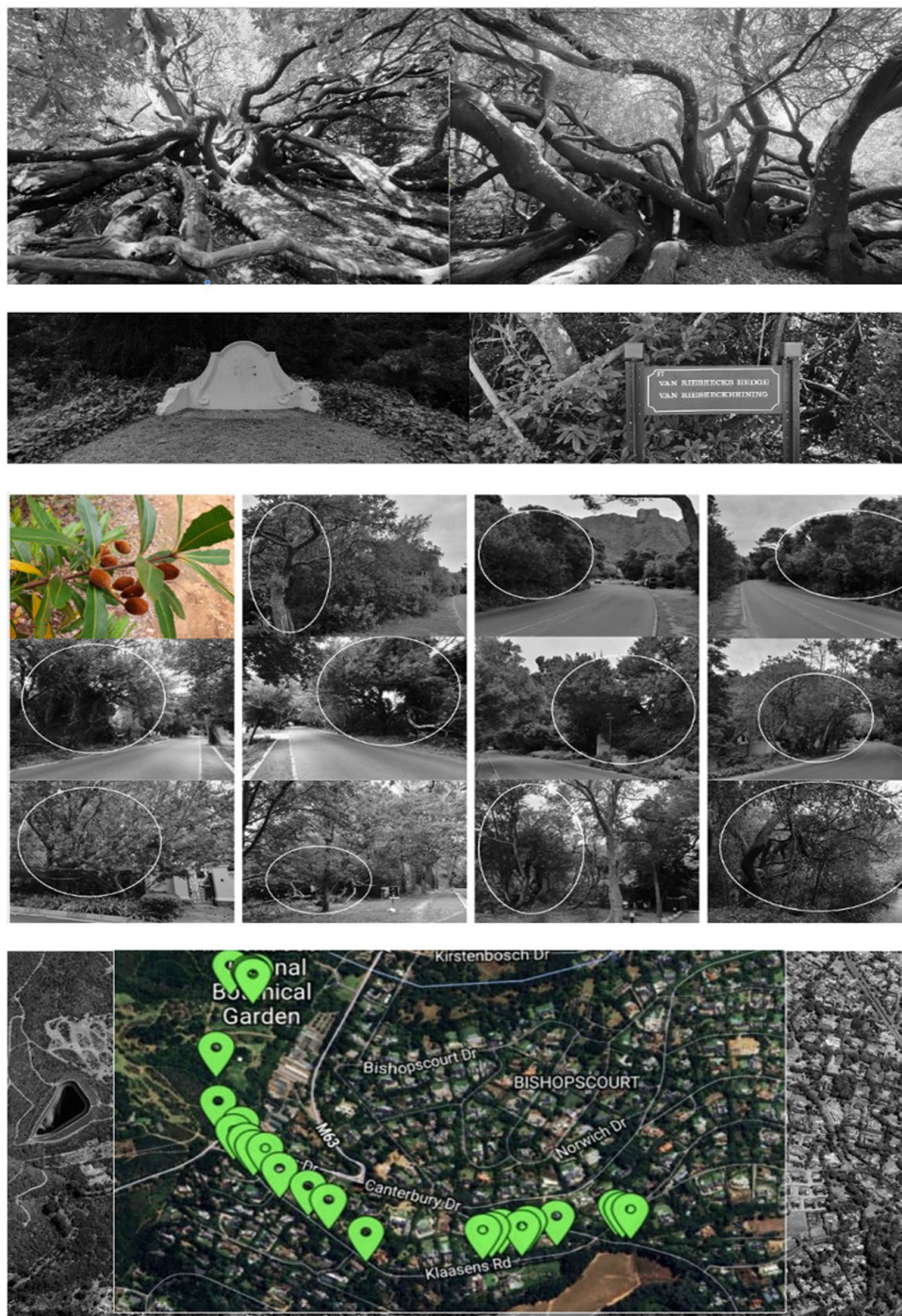


Figure 7. Kirstenbosch/Klaasens road of the Hedge. While two small sections – in Klaasens Road, Bishopscourt and Kirstenbosch Botanical Gardens are recognised National Monuments, a much larger section of the Hedge remains physically intact along Klaasens road between the two sites, scattered along residential sidewalks and backyards (re)finding (the rest of) van Riebeeck’s Hedge | Fieldwork photo-documentation and geotagging of Wild Almond trees was conducted in April 2023 along Klaasens road to obtain a much more comprehensive picture of the tangible Hedge.

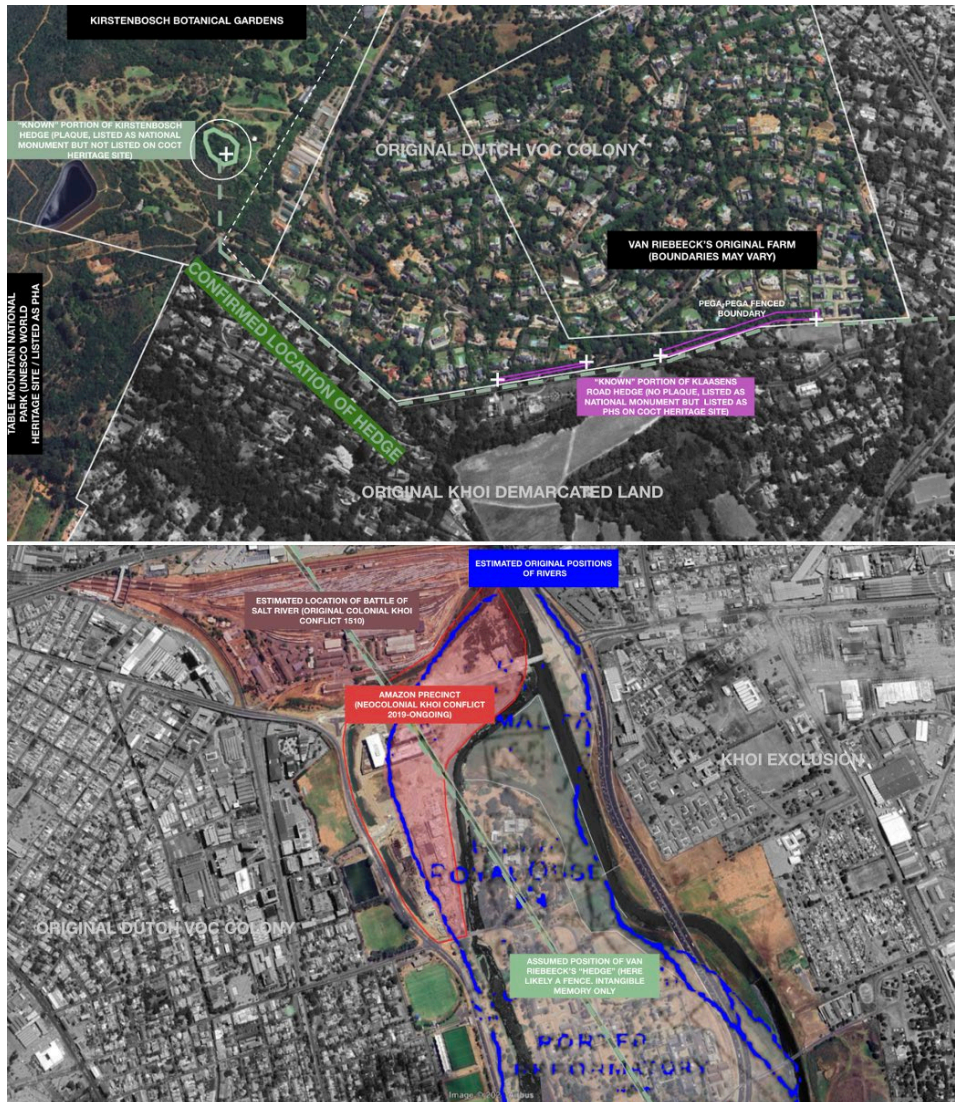


Figure 8. Two Sites for Acupunctural Memory: A more comprehensive understanding of the hedge (dotted green line) in relation to its “known” and “unknown” parts. Physical remnants mapped at the Kirstenbosch/Klaasens Road Section (top map); Intangible Landscapes of Memory, and the Rivers, are all that remains at the TRUP/SAAO Section (bottom map). Compiled by author using fieldwork (fig 7), Google Earth⁹¹ CoCT Map Viewer – Heritage Overlay,⁹² CoCT Map Viewer – Cape Division Historic Maps 1901⁹³

CONCLUSION: THE HERITAGE OF HYDROLOGY?

Cape Town’s colonial history is defined by centuries of conflict over the land and its resources, and a persistent and painful separation of the Khoi from their Indigenous landscapes. There is an urgent need to reclaim the memory of van Riebeeck’s Hedge and to recognise its influence on the city’s present socio-spatial forms and future development patterns.

The issue of place and displacement, land and landscape, has remained a constant yet elusive part of South Africa’s tumultuous identity. In many ways, the origins of Cape Town (and South Africa) are tied to its natural landscape: water, soil, vegetation, topography. The fresh waters and fertile land of the *Camissa* and *Liesbeek* rivers inspired both Indigenous and colonial settlement and conflict across Cape Town. The same rivers, vegetation and topography later defined landscape borders in Colonial and Apartheid segregation. Perhaps a first substantial step towards the decolonisation of heritage

would be a wider recognition of social heritage: a protection beyond the architecture of the 1600's which recognises the significance of the landscape (rivers, topography and soil) not just as resources or natural heritage, but as tangible and intangible markers of Indigenous *social and cultural* heritage. South African history has been written through an extremely narrow lens and Cape Town's heritage protections remain stubbornly focused on physical colonial built artefacts (most notably those enclosed within the 'Hedge's invisible lines') While Khoi history is mostly told through archaeological artefacts, material remnants, rock paintings and storytelling, it is critical to acknowledge that virtually all recorded information and history⁹⁴ on the Indigenous people of the Cape is one-sided, externally observed, and has been filtered through a colonial and often prejudiced lens.⁹⁵ However, to understand Khoi and San culture, it is essential to avoid separating the human and the natural world, (and perhaps more significantly, the spiritual world). The landscape is simply a place of which they are integrally part of.⁹⁶ The landscape also tells the story of Khoi origins: it is the very reason for people settling in the Cape, and their earliest toponyms were derived from the land itself –//Hui !Gaeb (“Where the clouds gather”), Huri ʘoaxa (Hoerikwaggo or “the mountain in the sea”), ʘkhamis sa, (Camissa or “Sweet water of the People”).⁹⁷ History is often forgotten because the language and stories of a place is lost, or lacks physical artefacts or written historical documents that tell its story. It is only once we recognise the collective memory of the landscape as a tangible marker of Indigenous heritage – and protect it accordingly – that South Africa's earliest memories may be reclaimed.

NOTES

- ¹ As measured on Google Earth by author following the counter-mapping study fieldwork (April 2023)
- ² E.A. Walker, "An Old Cape Frontier," *The Journal of the Botanical Society of South Africa*, (1936):9; James Walton, "Cape Colony in 1660," *Stellenbosch SUNDigital Collections – James Walton Collection*, (online: <http://hdl.handle.net/10019.2/313>)
- ³ Melanie Boehi, "Radical Stories in the Kirstenbosch National Botanical Garden: Emergent Ecologies' Challenges to Colonial Narratives and Western Epistemologies," *Environmental Humanities* 13 no. 1 (May 2021):73
- ⁴ Zubeida Jaffer, "Van Riebeeck's Hedge", *Zubeida Jaffer* (online), accessed 20 April 2024. <https://www.zubeidajaffer.co.za/van-riebeecks-hedge/>; Patrick Mellet, "What is true or false about the liesbeek river club site controversy – a factual submission (the pega-pega boundary first frontier)," *Camissa People* (online), September 12, 2022, <https://camissapeople.wordpress.com/2022/09/>
- ⁵ Richard Marback, "A Tale of Two Plaques: Rhetoric in Cape Town," *Rhetoric Review*, 2004, Vol. 23, No. 3 (2004):254
- ⁶ Siddique Motala, "A Place-based response to Fikile Nxumalo," *Critical Studies in Teaching and Learning* 8(2020):53
- ⁷ Michael Amery, "Van Riebeeck's Hedge (Solo): A solo exhibition by Michael Amery," *MichaelAmery.com*, 2021 (online, accessed 2 February 2024). <https://michaelamery.com/van-riebeecks-hedge-solo/>; Stefan van Biljon, "Military Urbanism: Geographies of Segregation in Cape Town, South Africa," *Stefan van Biljon Concept Art and Illustration*, (online, accessed 10 February 2024). <https://vanbiljon.artstation.com/projects/q9PoPN>
- ⁸ E.A. Walker, "An Old Cape Frontier," *The Journal of the Botanical Society of South Africa*, (1936):8
- ⁹ Thabo Mbeki, "Haunted by history," *Harvard International Review*, 21(3):96; Martin Legassick, "British Hegemony and the Origins of Segregation in South Africa, 1901-14," in *Segregation and Apartheid in Twentieth-Century South Africa*, ed. William Beinhardt and Saul Dubow (Routledge, 1995), 43.
- ¹⁰ Iain Low, "Space and reconciliation: Cape Town and the South African City under transformation," *URBAN DESIGN International* 8(2003):231
- ¹¹ James Walton, *Cape Colony in 1660*, Stellenbosch SUNDigital Collections – James Walton Collection, (online: <http://hdl.handle.net/10019.2/313>)
- ¹² W.D. Howie, *Cape Colony in 1660*, Historic Atlas of South Africa (ed. Walker), as reproduced by Iain Low, "Space and reconciliation: Cape Town and the South African City under transformation," *URBAN DESIGN International* 8(2003):224
- ¹³ Genealogical Society of South Africa, "Van Riebeeck's "Boundary 1661," via Genealogical Society of South Africa (2017) online: <https://www.facebook.com/virtual.eggss/posts/jan-coenraad-visser-a-murder-most-foul-post-by-hendrik-strydomjan-coenraad-visser/710390432454014/>
- ¹⁴ E.A. Walker, "An Old Cape Frontier," *The Journal of the Botanical Society of South Africa*, (1936):9
- ¹⁵ Wat de Volk, "Cape Colony 1660," *Wat de Volk – online digital archive* (accessed January 2024) online: <https://watdevolk.co.za/index.php/kaarte/>
- ¹⁶ Wat de Volk, "Eerste Vryburgers 1656+" (wrongly attributed date – likely 1660), *Wat de Volk – online digital archive* (accessed January 2024) online: <https://watdevolk.co.za/index.php/kaarte/>
- ¹⁷ Adam Brink, "van Riebeeck's Hedge" (2010), *Shades of Adamastor* (online, accessed January 2024) [://shadesofadamastor.blogspot.com/2010/05/van-riebeecks-hedge.html](https://shadesofadamastor.blogspot.com/2010/05/van-riebeecks-hedge.html)
- ¹⁸ A. J. Christopher. "Map of first Dutch farms and boundary hedge at the Cape in the 1650s." *The Atlas of Apartheid*. (Routledge, 1994), 14 as reproduced by Siddique Motala, "A Place-based response to Fikile Nxumalo," *Critical Studies in Teaching and Learning* 8(2020):53
- ¹⁹ Stefan van Biljon, "Military Urbanism: Geographies of Segregation in Cape Town, South Africa," *Stefan van Biljon Concept Art and Illustration*, 2013 (online, accessed 10 February 2024). <https://vanbiljon.artstation.com/projects/q9PoPN>
- ²⁰ Patrick Tariq Mellet, "What is true or false about the liesbeek river club site controversy – a factual submission (the pega-pega boundary first frontier), ANEXURE 3: The distorted maps created in the early 20th century.," *Camissa People* (online), September 12, 2022, <https://camissapeople.wordpress.com/2022/09/>; Liesbet Schietecatte and Tim Hart, "The first frontier: An assessment of the pre-colonial and proto-historical significance of the Two Rivers Urban Park site, Cape Town, Western Cape Province," *TRUP Protohistorical Heritage Report*, (Aco Associates Report, November 2015):18

- ²¹ Jennifer Whittal & Jonathan Bell, “The Relocation of VOC-Era Bosheuvel Farm in the Liesbeeck River Valley, Cape Town: A Land Surveying Approach,” *South African Historical Journal*, 67(4), (2015):387–409. <https://doi.org/10.1080/02582473.2015.1094505>
- ²² Kathrin Krause, “Salt River Estuary Restoration,” (Masters diss., University of Cape Town,2020):18-27 (online: https://issuu.com/kathinka.k/docs/2021_04_20_final_thesis_part_1a)
- ²³ Iain Low, “Space and reconciliation: Cape Town and the South African City under transformation,” *Urban Design International* 8(2003):231
- ²⁴ “What is the Meaning of Camissa,” *Camissa Museum – A Camissa African Centre for Restorative Memory*. (online: <https://camissamuseum.co.za/index.php/orientation/meaning-of-camissa>)
- ²⁵ Caron von Zeil, “Water - our Heritage and our Future...”, *Reclaim Camissa, 2018* (online) <http://www.reclaimcamissa.org/blog/water-our-heritage-and-our-future>
- ²⁶ Liesbet Schietecatte and Tim Hart, “The first frontier: An assessment of the pre-colonial and proto-historical significance of the Two Rivers Urban Park site, Cape Town, Western Cape Province,” *TRUP Protohistorical Heritage Report*, (Aco Associates Report, November 2015):2
- ²⁷ Patrick Tariq Mellet, *The Lie of 1652 – a decolonized history of land* (Tafelberg Books, 2020), 95-96, 99
- ²⁸ Andrew Smith, *First People – The lost history of the Khoisan* (Jonathan Ball Publishers, 2022):15
- ²⁹ Liesbet Schietecatte and Tim Hart, “The first frontier: An assessment of the pre-colonial and proto-historical significance of the Two Rivers Urban Park site, Cape Town, Western Cape Province,” *TRUP Protohistorical Heritage Report*, (Aco Associates Report, November 2015):13;
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- ³⁰ Patrick Tariq Mellet, *The Lie of 1652 – a decolonized history of land* (Tafelberg Books, 2020), 101;
- David Johnson, “Remembering the Khoikhoi victory over Dom Francisco Almeida at the Cape in 1510,” *Postcolonial Studies* 12 no 1 (2009):107–130. <https://doi.org/10.1080/13688790802657427>
- ³¹ Nicholaas Vergunst, “Earliest battle site rediscovered—part one,” *Knot of Stone*. (25 March 2021) (online: <http://www.knotofstone.com/2012/03/murder-memory-and-bones/>)
- ³² South African History Online, “Establishment of the Cape and its impact on Khoikhoi and Dutch,” *SAHO* (online, accessed 10 March 2024) <https://www.sahistory.org.za/article/establishment-cape-and-its-impact-khoikhoi-and-dutch>
- ³³ Liesbet Schietecatte and Tim Hart, “The first frontier: An assessment of the pre-colonial and proto-historical significance of the Two Rivers Urban Park site, Cape Town, Western Cape Province,” *TRUP Protohistorical Heritage Report*, (Aco Associates Report, November 2015):2-3
- ³⁴ E.A. Walker, “An Old Cape Frontier,” *The Journal of the Botanical Society of South Africa*, (1936):9;
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- ³⁵ E.A. Walker, “An Old Cape Frontier,” *The Journal of the Botanical Society of South Africa*, (1936):9
- ³⁶ Liesbet Schietecatte and Tim Hart, “The first frontier: An assessment of the pre-colonial and proto-historical significance of the Two Rivers Urban Park site, Cape Town, Western Cape Province,” *TRUP Protohistorical Heritage Report*, (Aco Associates Report, November 2015):3
- ³⁷ Iain Low, “Space and reconciliation: Cape Town and the South African City under transformation,” *URBAN DESIGN International* 8(2003):231
- ³⁸ Andries Nel and Julian R.D. Cobbing, “British occupation of the Cape,” *Encyclopedia Britannica* (online, accessed March 2024) Retrieved from <https://www.britannica.com/place/South-Africa/British-occupation-of-the-Cape>
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- ⁴⁰ HM Admiralty, SANS, J. Dalgeish, Archdeacon William Edwin Lys, Navigation V.H., Purdy Skead, Francis Purey-Cust, H.E Boulton, “Africa - south coast the Cape of Good Hope and False Bay, False Bay”, *Royal Museum of Greenwich*, 1870; 1945 (manuscript corrections to 1947) 1945 (manuscript corrections to 1947); 1870 (online) <https://www.antiquemapsandprints.com/categories/prints-and-maps-by-country/africa/south-africa-cape-colony/product/cape-town-of-good-hope-false-bay-south-africa-admiralty-chart-1870-1955-map/P-9-000378~P-9-000378> and <https://www.rmg.co.uk/collections/objects/rmgc-object-558805>
- ⁴¹ Jaco Barnard-Naudé and Julia Chryssostalis, “Apartheid remains Nomos, law and spatiality in post-apartheid South Africa” in *Spatial Justice After Apartheid: Nomos in the Postcolony*, edited by Jaco Barnard-Naudé and Julia Chryssostalis, (Routledge, 2022):16

⁴² Jaco Barnard-Naudé and Julia Chryssostalis, “Apartheid remains Nomos, law and spatiality in post-apartheid South Africa” in *Spatial Justice After Apartheid: Nomos in the Postcolony*, edited by Jaco Barnard-Naudé and Julia Chryssostalis, (Routledge, 2022):15;

Siddique Motala, “A Place-based response to Fikile Nxumalo,” *Critical Studies in Teaching and Learning* 8(2020):53;

⁴³ James Walton, *Cape Colony in 1660*, Stellenbosch SUNDigital Collections – James Walton Collection, (online: <http://hdl.handle.net/10019.2/313>)

⁴⁴ W.D. Howie, *Cape Colony in 1660*, Historic Atlas of South Africa (ed. Walker), as reproduced by Iain Low, “Space and reconciliation: Cape Town and the South African City under transformation,” *URBAN DESIGN International* 8(2003):224

⁴⁵ E.A. Walker, “An Old Cape Frontier,” *The Journal of the Botanical Society of South Africa*, (1936):9

⁴⁶ A. J. Christopher. “Map of first Dutch farms and boundary hedge at the Cape in the 1650s.” *The Atlas of Apartheid*. (Routledge, 1994), 14 as reproduced by Siddique Motala, “A Place-based response to Fikile Nxumalo,” *Critical Studies in Teaching and Learning* 8(2020):53

⁴⁷ Cape Farm Mapper – GIS Dataset (Hydrology Layers), Managed by *Western Cape Government* (online) <https://gis.elsenburg.com/apps/cfm/> (accessed April 2023 – August 2024)

⁴⁸ Google Earth (online)

<https://earth.google.com/web/@-34.05205235,18.52105419,14.5515749a,99267.39295746d,35y,-0h,0t,0r/data=CgRCAggBOgMKATA>

⁴⁹ City of Cape Town Corporate GIS - Open Watcourse Dataset, *Managed by CoCT* (online) <https://odp-cctegis.opendata.arcgis.com/datasets/f87a9f89ba0140ac9fd141f593ee437d/explore?location=-33.974249%2C18.496223%2C11.72>

⁵⁰ James Walton, *Cape Colony in 1660*, Stellenbosch SUNDigital Collections – James Walton Collection, (online: <http://hdl.handle.net/10019.2/313>)

⁵¹ W.D. Howie, *Cape Colony in 1660*, Historic Atlas of South Africa (ed. Walker), as reproduced by Iain Low, “Space and reconciliation: Cape Town and the South African City under transformation,” *URBAN DESIGN International* 8(2003):224

⁵² E.A. Walker, “An Old Cape Frontier,” *The Journal of the Botanical Society of South Africa*, (1936):9

⁵³ A. J. Christopher. “Map of first Dutch farms and boundary hedge at the Cape in the 1650s.” *The Atlas of Apartheid*. (Routledge, 1994), 14 as reproduced by Siddique Motala, “A Place-based response to Fikile Nxumalo,” *Critical Studies in Teaching and Learning* 8(2020):53

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⁵⁵ Google Earth (online)

<https://earth.google.com/web/@-34.05205235,18.52105419,14.5515749a,99267.39295746d,35y,-0h,0t,0r/data=CgRCAggBOgMKATA>

⁵⁶ City of Cape Town Corporate GIS - Open Watcourse Dataset, *Managed by CoCT* (online) <https://odp-cctegis.opendata.arcgis.com/datasets/f87a9f89ba0140ac9fd141f593ee437d/explore?location=-33.974249%2C18.496223%2C11.72>

⁵⁷ HM Admiralty, SANS, J. Dalgeish, Archdeacon William Edwin Lys, Navigation V.H., Purdy Skead, Francis Purey-Cust, H.E Boulton, “Africa - south coast the Cape of Good Hope and False Bay, False Bay”, *Royal Museum of Greenwich*, 1870; 1945 (manuscript corrections to 1947) 1945 (manuscript corrections to 1947); 1870 (online) <https://www.antiquemapsandprints.com/categories/prints-and-maps-by-country/africa/south-africa-cape-colony/product/cape-town-of-good-hope-false-bay-south-africa-admiralty-chart-1870-1955-map/P-9-000378~P-9-000378> and <https://www.rmg.co.uk/collections/objects/rmgc-object-558805>

⁵⁸ University of Cape Town, “Early Segregation of the Cape.” *Ibali Collection*. (nd, assumed 1940's-1950's) (online) accessed June 2024 <https://i.pinimg.com/564x/c9/b3/f9/c9b3f9e5c24b84e5ba36631f50ee25cd.jpg>

⁵⁹ Iain Low, “Space and reconciliation: Cape Town and the South African City under transformation,” *URBAN DESIGN International* 8(2003):223

⁶⁰ Zubeida Jaffer, “Van Riebeeck’s Hedge”, *Zubeida Jaffer* (online), accessed 20 April 2024.

<https://www.zubeidajaffer.co.za/van-riebeecks-hedge/>

⁶¹ Racial data from the 2011 census. GIS dataset developed by Adrian Frith (online:

<https://dotmap.adrianfrith.com/?lat=-28.6728&lon=24.6708&zoom=-0.18>)

⁶² James Walton, *Cape Colony in 1660*, Stellenbosch SUNDigital Collections – James Walton Collection, (online: <http://hdl.handle.net/10019.2/313>)

⁶³ W.D. Howie, *Cape Colony in 1660*, Historic Atlas of South Africa (ed. Walker), as reproduced by Iain Low, "Space and reconciliation: Cape Town and the South African City under transformation," *URBAN DESIGN International* 8(2003):224

⁶⁴ E.A. Walker, "An Old Cape Frontier," *The Journal of the Botanical Society of South Africa*, (1936):9

⁶⁵ Adam Brink, "van Riebeeck's Hedge" (2010), *Shades of Adamastor* (online, accessed January 2024): [//shadesofadamastor.blogspot.com/2010/05/van-riebeecks-hedge.html](https://shadesofadamastor.blogspot.com/2010/05/van-riebeecks-hedge.html)

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⁶⁸ Google Earth (online)

<https://earth.google.com/web/@-34.05205235,18.52105419,14.5515749a,99267.39295746d,35y,-0h,0t,0r/data=CgRCAggBOgMKATA>

⁶⁹ City of Cape Town Corporate GIS - Open Watcourse Dataset, *Managed by CoCT* (online) <https://odp-cctegis.opendata.arcgis.com/datasets/f87a9f89ba0140ac9fd141f593ee437d/explore?location=-33.974249%2C18.496223%2C11.72>

⁷⁰ City of Cape Town. *CoCT Map viewer - GIS Heritage overlay*, 2024 (online): <https://citymaps.capetown.gov.za/EGISViewer/>

⁷¹ Author - The "unknown" section of van Riebeeck's hedge was mapped (geotagging, GIS, photography) by the author during fieldwork (April 2023 – March 2024) (mapping reflected in Figure 7)

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THE IMPACT OF TOURISM ON THE FORMATION OF LOCAL IDENTITY IN HISTORIC DISTRICTS

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INTRODUCTION

In recent decades, there has been a significant increase in cultural tourism, with the main interest in the main cities as places of concentration of cultural heritage. The Czech Republic is one of the most visited countries in Eastern Europe¹ and the largest concentration of tourists is in Prague. This cannot but be reflected in the public spaces of the city centre, which is already referred to as the "tourist district".

These places attract tourists with their unique local identity, which reflects the historical and cultural heritage of the local people.

The study of the Prague - Prague 1 tourist area was carried out to identify and analyse the impacts of tourism growth.

The growth of tourism encourages the adaptation of local infrastructure to meet the needs of short-term visitors. However, these adaptations can have a negative impact on the preservation and expression of local identity. Tourism-induced encroachment on the urban environment can disrupt the traditional lifestyle and communication of local residents, creating an imbalance in the socio-cultural environment and hindering sustainable urban development.

A sufficiently high concentration of people, including those who live in the area, is a prerequisite for sustainable urban development, with structure and diversity rather than density being important.² Progressive tourist gentrification is leading to a decline in the resident population and a predominance of urban visitors.³ With tourists outnumbering locals, urban public space may cease to be a place where social ties and local identity are formed. Any open space becomes the site of a spectacle that plays out for the visitors of the year.⁴

Demand begets supply and the urban environment adapts to the needs of its guests, who generate significant income. More than 9% of the world's GDP comes from tourism revenues.⁵ Before the COVID-19 pandemic, tourism revenues were less than 3% of Czech GDP and more than 60% is generated in Prague.

On the basis of the above, it is understandable to try to build the brand of cities, attract more and more tourists and create a tourist-oriented infrastructure. However, it should be borne in mind that city branding is often based on local identity, which is shaped both by local landscape features and architecture (the so-called *genius loci*) and by the people who identify with these features.⁶ The local population is therefore an important and key factor in shaping local identity and the basis for a stable and safe urban environment.

STATE OF ART

Local identities are shaped by the permanent population and public spaces.

The growing interest in local identity points to its crisis. Urban identity as a group identity is in crisis in the era of postmodern individualism and globalization.⁷ Historic districts with a rich cultural heritage can be perceived as areas with a predefined identity. However, it should be noted that identity is not limited to visual aspects, but is a complex set of cultural, social and historical processes.⁸

Identity is formed in the long-term and diverse interaction between people and the environment. The necessary diversity is created by the attractiveness of the urban environment to live in and visit. The presence of new people on the streets is important for the diversity of the urban environment, but the dominance of a particular group can lead to an orientation towards their interests.⁹

Tourists seek new experiences with minimal discomfort and liability,¹⁰ and therefore their environment is organized around amenities of lodging, dining and entertainment without dealing with consequences.¹¹ Locals also need accommodation, food and entertainment, but their needs require a more intense and enduring relationship with and responsibility for space and people. Tourists' relationship with the urban environment is episodic, as opposed to the continuous contact of locals.

Identity is built on a combination of similarities and differences,¹² the realisation of which is shaped through long-term interaction between the environment and people, which can only be realised by locals. The urban public space is the platform for such communication, it forms the backbone of the city and is the basis for its sustainable development.¹³

The anthropology of tourism: essential data, cultural aspects, and likages.

"The local community consists of residents who live in destinations visited by tourists" writes anthropologist B. Půtová.¹⁴ In her book, the author also discusses the impact of tourism growth on the commercialisation of the guest-host relationship. In the context of the big city and the influx of tourists, their approach to the destination is becoming increasingly consumerist and the host is becoming a service provider.¹⁵ This relationship contributes to the growth of the host country's profits; for example, in the Czech Republic, tourism revenues have reached almost 3% of GDP.¹⁶

The exchange of cultures is also a positive component. However, with the increasing influx of tourists, there is a negative outcome in the form of commercialisation of local identity and deviant behaviour of tourists.

The economic benefits lead to the attractiveness of the environment for visitor interests. Commercialisation of cultural local identity can lead to its loss and domination by tourist culture. And gradually, emotionally, locals begin to treat the destination in the same way as visitors, as a place of temporary stay and consumption of benefits.¹⁷

Public spaces: places of social connection and local identity formation.

Public spaces, especially in historic districts, play a key role in shaping local identity. Kevin Lynch emphasises that streets, neighbourhoods, intersections and squares (public spaces) help residents to navigate, interact with and remember the city. And the form in which they were realised, their proportions and materials make them carriers of collective cultural and historical memory. These spaces serve not only as physical meeting places, but also as symbols of collective memory and cultural traditions, maintaining social ties and reinforcing a sense of belonging.¹⁸

Public space is a platform for communication and the foundation of the urban fabric. It fulfils three key functions: consumption, mediation and supply. Sustainable urban development depends on a viable public realm that links architecture and socio-cultural interaction and plays a vital role in sustainable development.¹⁹

In today's world, communication has been largely relegated to the space of information flows such as the internet and social media. The high flow of people on the streets of cities in the absence of interaction turns these spaces into transit zones. Monuments and landmarks without connection and communication with the surrounding space become only short-term stops.²⁰ It is necessary to return communication to public spaces, as it is the guarantee of sustainable urban development.²¹ E. Relph states that "people are their place and place is its inhabitants", noting that the relationship between people and their place reinforces the identity of both.²² And the place of action of urban life is the public spaces of the city. Public space mediates identity and serves as a platform for urban communication.²³ Restoring communication in public spaces promotes social integration and strengthens the cultural fabric of cities, making them more meaningful and vibrant for their inhabitants.

METHODS

The study uses a combination of qualitative and quantitative research.

Methods include analysis of anthropological studies on tourism and a review of central district infrastructure. Statistical analysis of demographic and economic data provides an overview of trends in the area.

The research focuses on the central historical district of Prague 1, an important tourist centre.

RESULTS

Tourism growth

Prague 1, which encompasses the historic core of the city, is experiencing significant growth in tourism. According to CSU data, in 2023 Prague not only returned to pre-COVID-19 pandemic visitor numbers, but also surpassed the record numbers set in 2019, which reached 22.2 million visitors.²⁴ For a relatively compact area of the historic centre - the main tourist destination for visitors to the city - this is a significant burden. In a crowded, cramped space, people can find it difficult to make and maintain social contacts.²⁵

The area of the Prague 1 district is 1% of the total area of the city, yet 34% of hotels are located here, namely 310 hotels and guesthouses according to the data for 2023.²⁶

According to data on population dynamics, Prague 1 is the busiest area, with tourists accounting for 60% of the total number of people.²⁷

It is therefore natural that the urban environment changes to meet the needs of the vast majority. Big and well-known brands and shops are taking over commercial space and crowding out local businesses. The big brands can afford the expensive rent in the city center and are also easily recognisable to tourists. Open spaces are either reserved for restaurant front gardens or serve as a transit zone from one attraction to another, with pedestrian congestion due to excessive traffic, and almost no space on the streets for non-commercial presence. In these conditions, the individual is deprived of very important factors for interacting with the space: the ability to move freely, to stop and stand or sit, to observe life around them, to interact with others, and to interact with the city.²⁸



Figure 1. Old Town Hall in 1975/29



*Figure 2. Old Town Hall in 2024.
The image was provided by the author.*

Yes, the lack of urban furniture in public space is not an acquired problem, it has always been so in Prague's streets, but the dramatic increase in the flow of people in the streets has led to a reduction in the possibility of social interaction. There is a need to return communication to the urban space, including the design of stopping places, to create islands of safety between pedestrian thoroughfares.

Influence to infrastructure

In 2019, the Prague 1 municipal authority conducted a survey among local residents to identify deficiencies in civic infrastructure. The survey revealed that there is a lack of small craftsmen, household appliance repair shops and dry cleaners, as well as bakeries, small food shops and fish and poultry shops. In addition, almost 20% of respondents said that there is a lack of sports facilities.³⁰

In the same year, 2019, a study by the Institute of Planning and Development of the City of Prague (IPRPraha) was published, according to which Prague 1 is the district with the highest density of civic infrastructure of all the city districts.³¹

This discrepancy can be explained by the fact that the IPRPraha study was based on distance-based accessibility and took less account of the pressure on infrastructure related to the number of not only

local residents but also the total number of people present. Even short distances are long and difficult to cover due to the constant flow of people. The high rents in the city centre and invisibility against the backdrop of global brands and entertainment venues lead to reduced visibility of small artisans and entrepreneurs, who in turn determine the convenience of the area for permanent residents and create space around them for social connections.

A prominent example is the Starbucks coffee shop chain, which focuses primarily on tourists and occupies the most expensive and prominent buildings in city centres. In the heart of Prague, at Prague Castle, the first new building in 70 years houses this very business.

Social consequences

Residential buildings in the centre of Prague have long been converted into hotel facilities. Between 1990 and 2016, more than 180 houses were converted into hotels.³² Accommodation in the private sector is gaining in popularity, where residential apartments are used for commercial activities. The largest intermediary providing such apartments is the online platform Airbnb. In 2012, it offered 600 accommodation units in Prague, and by 2024 the number of offers exceeds 8 thousand. As can be seen in Figure 1, the highest concentration of offers, reaching 37%, is in Prague 1.³³

These trends not only increase the number of tourists in the historic centre, but also reduce the availability of housing for potential residents. Recent studies of the Amsterdam property market have shown that the increase in short-term rental accommodation has led to a significant increase in property prices and a decrease in long-term rentals.³⁴

An analysis of statistical data on the demographics of Prague³⁵ has shown that the number of permanent residents in Prague 1 has decreased by 46% over the last 20 years, almost doubling.

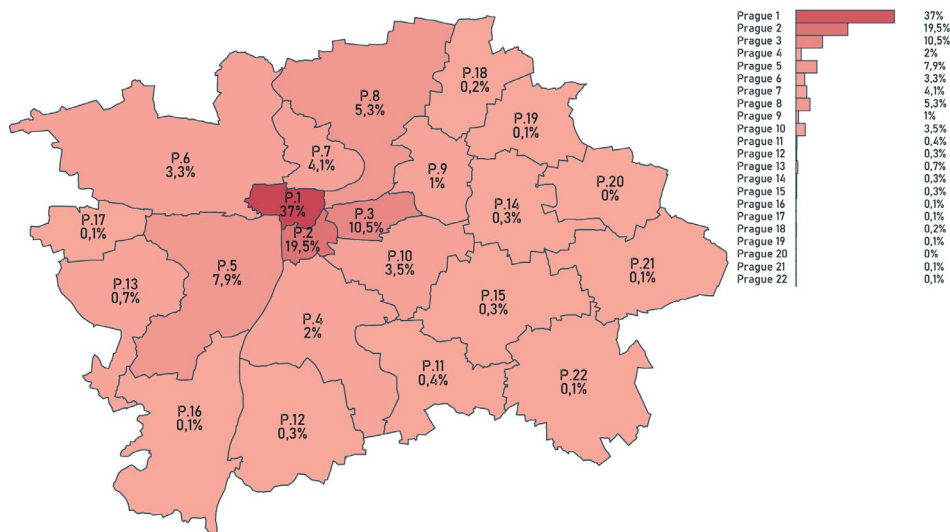


Figure 3. Allocation of AirBnB listings in Prague.
The image was provided by the author.

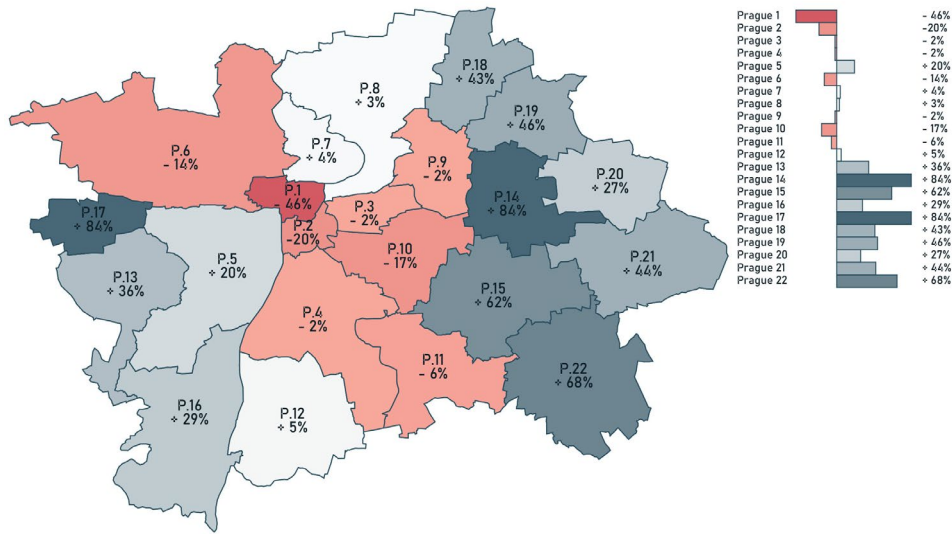


Figure 4. Demography of Prague.
The image was provided by the author.

The lack of a permanent population can contribute to social disintegration and reduced social interaction, which worsens the social fabric of the city.³⁶ Empty neighbourhoods become more prone to vandalism and crime because of the lack of constant supervision and support from residents.³⁷

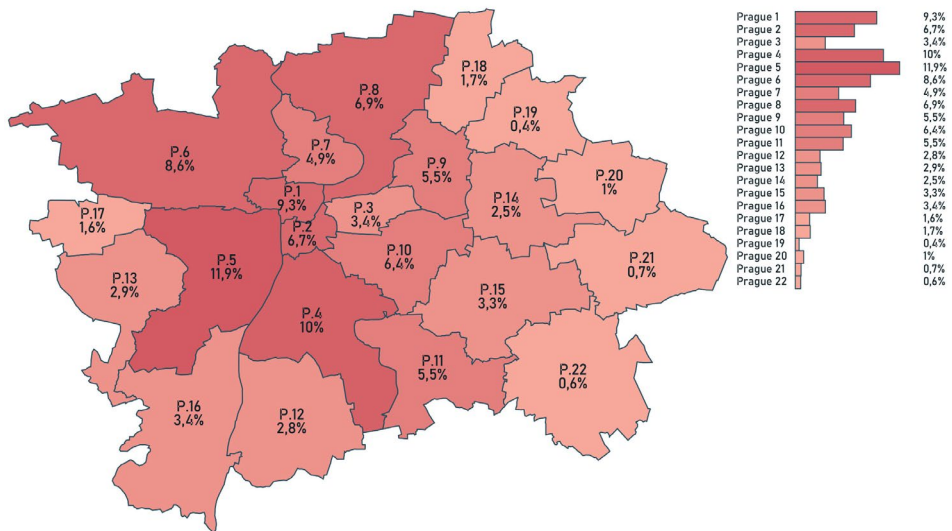


Figure 5. The Share of Crimes by Districts in the Overall Crime Structure of the City.
The image was provided by the author.

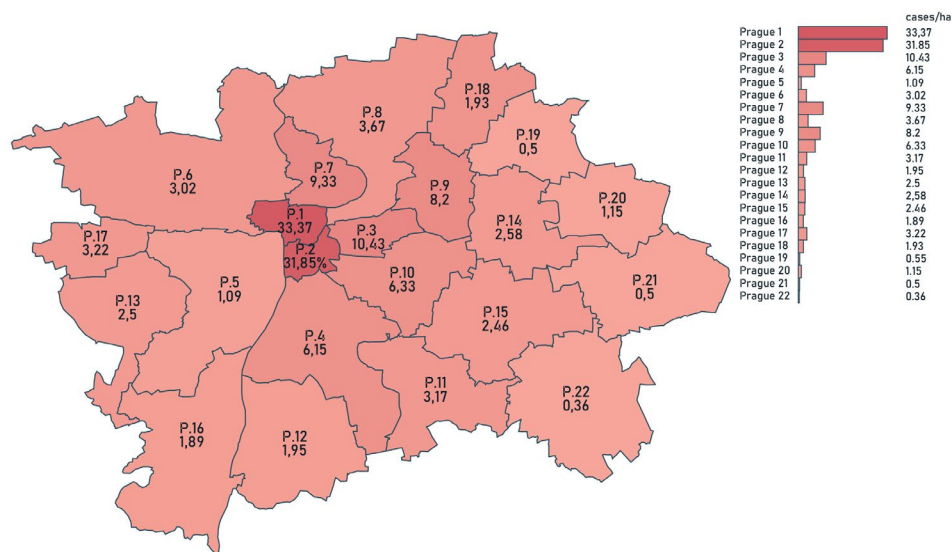


Figure 6. Crime Proportion by Districts Relative to Their Area.
The image was provided by the author.

The need for human presence on the streets is considered one of the key conditions for the safety of urban space.³⁸ However, the main argument is the presence of observers, i.e. those who notice the surroundings and can prevent crime, thus creating a sense of security. However, under conditions of high tourist activity, the opposite effect is observed. An increase in the number of people leads to a decrease in visibility and mindfulness. Locals limit their stay in areas crowded with tourists, while tourists are not responsible for the space around them.

The intrusive movement of "foreigners" in the streets leads to a disruption of communication in the urban space, which in turn leads to an increase in violence.

Impact on local identity:

Declining population, limited opportunities for the development of local culture. The number of active participants in urban life is decreasing.

Tourists do not take part in the daily and political life of the city, their presence in the city streets is generally permanent and especially short-term. This has been made particularly clear by the aftermath of the full tourist orientation of COVID-19, when streets and houses emptied out, most service businesses closed, and with it the vast majority of the city's furniture in the form of planted restaurants on the street disappeared.

During the lockout, however, not only dolphins returned to the canals of Venice, but also local residents returned to the streets of the city. During the Christmas holidays, locals held their own celebrations and carols in the empty Prague streets without tourists. It should be noted that this did not happen everywhere, but in places conducive to it. For example, Bethlehem Square, which was renovated in 2020 by placing 8 new benches,³⁹ where locals used them for their own Christmas celebrations in the winter of 2021. The spatial design here cannot be described as a benchmark, but the very presence of non-commercial urban furniture contributes to the fact that this space is no longer a transit zone, but a place of lingering and social interaction between people.

During the lockdown, there was also a significant decrease in crime targeting public spaces, thanks to fewer potential victims.⁴⁰ It should be noted, however, that in the absence of an endless stream of 'strangers', the mindfulness of local residents may have increased, which may certainly also have contributed to the reduction in crime.

DISCUSSION

Sustainable development of urban public spaces includes not only environmental aspects, but also ensuring their viability and attractiveness for residents. Sustainable cities should create an environment that promotes pleasant leisure and social links between residents. Convenient and well-designed public spaces contribute to overall well-being and improve the quality of life of residents.⁴¹

The main hypothesis is that the increase of tourists in city centres contributes to the destruction of local identity. Based on the idea that local identity is shaped by local residents, the study confirmed the validity of the hypothesis through statistical data on demographics and crime in the most touristic area of Prague.

The permanent residents of the city form long-term social ties that shape local identity. On the other hand, public space is a platform for people to communicate. If public spaces are oriented only for short stays and are overcrowded, this leads to a lower standard of living for local residents and a degradation of identity.

When the bond between people and their surroundings weakens, separation occurs, which is a harbinger of unsustainability.⁴² A comfortable standard of living is not achievable in an environment where social (intimate) distance is constantly threatened by overcrowding.⁴³ Public spaces should reflect the unique characteristics of the local community and foster a sense of belonging and pride among residents.

Tourism is a homogenising factor that destroys the regional and local identity that is the origin of tourism and replaces it with tourist architecture, urbanism and design.

Without regulating the flow of tourism and paying more attention to the structure of the public spaces, with a priority on the orientation towards the permanent population, the preservation and development of identity is at risk.

In modern times, when almost all functions of public space have moved to the Internet, more attention should be paid to creating an attractive urban environment for leisure, giving people the opportunity to spend time there. Although the urban environment no longer has the function of a place of power,⁴⁴ we continue to live in it, it affects us daily and we need to create a safe and pleasant environment.

CONCLUSION

The current focus of architects and urban planners is on public spaces and their design, while the preservation and development of the identity of existing public spaces are equally important. The urban spaces of historic cities are key locations where the identity of the whole city is formed and where important social, cultural, and political processes take place.

Based on the research conducted, it is evident that the permanent local population plays a major role in shaping local identity and contributes to the development and protection of public spaces.

The proposed mechanism of tourism regulation and its impact on urban structure and identity needs further investigation and should be the subject of further research.

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INTEGRATING PARTICIPATORY APPROACHES IN THE PROCEDURES OF BUILT HERITAGE CONSERVATION, THE CASE OF SLOVENIA

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INTRODUCTION

Recent developments in built heritage conservation stressed the crucial role of developing people-centred and human-centred approaches, namely by promoting participation and collaborative research. While several methods and techniques have been developed, a next challenge ahead is how to integrate the results of participation, particularly participatory research into the conservation procedures. The paper presents the results of a recently concluded research on the potential of ethnographic methods in the conservation of built heritage in contested spaces, within which a particular method, the “group memory talk” has been developed. These results are then upgraded with those of an ongoing project about developing interdisciplinary and participatory integrated approaches for the conservation of degraded areas through adaptive reuse. Central to this paper is the perception of the role of participation by the authorities in charge, deriving from case-studies from south-western and eastern regions of Slovenia.¹

Heritage - discourses and approaches

Contemporary heritage theory defines heritage as a cultural process, “an affective and performative process in which heritage meanings are continually made and remade to address contemporary needs and negotiate cultural and social change”.² Thus, for an artefact to become heritage, the cultural process of ascribing or identifying value through the process of heritageisation³ needs to take place. In line with these theoretical reflection, also international policies underscore the relativity and processual nature of heritage, as it is clearly stated in the Council of Europe’s Framework Convention on the Value of Cultural Heritage for Society, also known as the “Faro Convention”, written in 2005. It reads: “cultural heritage is a group of resources inherited from the past which people identify, independently of ownership, as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. It includes all aspects of the environment resulting from the interaction between people and places through time.”⁴

Current approaches in the preservation of cultural heritage have evolved in the last decades from a conventional approach through a values-based approach to a people-centred one.⁵ This evolution mirrors the theoretical concepts of ‘heritage discourses’.⁶ Two key opposites are the authorised heritage discourse and the subaltern and dissenting discourse. The authorised heritage discourse encompasses top-down, expert-led ways of understanding heritage, promoting a univocal

understanding of history and the past, silencing alternative voices, and forcing consensus while focusing primarily on the materiality of the heritage resource. The subaltern and dissenting discourses vary, but their main characteristic concerns the unheard or non-hegemonic position of its bearers, in contrast with the authorised position. In this theoretical debate, a third discourse, the inclusive heritage discourse⁷ evolved, and it consists of a confrontation between the different discourses, promoting not only bottom-up approaches but especially acknowledging different views on heritage and conceiving heritage as a platform of mutual recognition and dialogue, not forced consensus.⁸ Understanding heritage as ever-evolving and dependent on perception and valuation by different societal groups pinpoints that dissonance⁹ is an inherent element of heritage that should not be neglected, avoided or silenced, if we pursue principles of democracy and inclusion. Yet, this poses a set of very practical challenges for the field of built heritage conservation where concatenated decisions about physical interventions in the historic tissue need to be taken. A central role in the decision-making process rests on the experts as heritage officers preparing and signing the official decrees and sanctioning actions, and often of the local authorities, such as municipalities, in charge of implementing them. Several scholarly contributions questioned the role of experts in participatory conservation models,¹⁰ highlighting that the expert has to become rather a facilitator than a decision-maker. How then to address the evolutive nature of heritage and the dissonances within it, in the framework of physical conservation, defined by irreversible interventions in the materiality of heritage?

PARTICIPATORY METHODS AND THE GROUP MEMORY TALK

Several are the participatory methods today that are used also in the conservation field. They are mainly borrowed from the field of community planning and urban planning, whilst specific tailor-made methods and techniques for the field of built-heritage conservation have been developing since the beginning of the millennium.

Participatory methods in built heritage conservation

Methods used for promoting engaged and participatory conservation have been initially borrowed from the broad array in the field of community planning, and urban planning in the spirit of co-design,¹¹ such as focus groups, workshops, world cafés, charettes, as well as different types of mappings, such as collaborative mapping and cultural mapping.¹² However, these methods were often adopted in the design phase, but not necessarily in the identification of diagnostic phase. This point is crucial for the field of heritage conservation, for which both the values-led as well as the people-centred approach require in first place to collect as many data about the site as possible, and from these then to derive the significance assessment.¹³ Thus, methods of values-eliciting and understanding of the heritage significance are central. In 2002, anthropologist SETHA LOW proposed the Rapid Ethnographic Assessment Procedure (REAP)¹⁴ that combined several of the traditional ethnographic methods, used also in other disciplines; namely behavioural mapping, physical traces mapping, transect walk (walkthrough), interviews – individual and group ones, focus groups, workshop etc. It was used to investigate historic public open spaces prior to intervention. Lately this procedure was re-elaborated in a shorter and handier version, the so-called TESS – Toolkit for and Ethnographic Study of Space.¹⁵ Several tailor-made techniques, especially aiming at a clear values-eliciting have been developed by Kate Clark,¹⁶ and recently by numerous major research projects (such as URBINAT). A central new tool for developing participation in conservation are the social media.¹⁷ A particular need in the conservation field is that of consensus, or at least a democratic dialogue, about the different evaluations of the heritage significance of the site, since it is a prerequisite for the decision-making process about the physical intervention. Thus, methods that not

only untangle the numerous layers and meanings are needed, but also such ones that contribute to a minimal shared view which allows then to actually intervene (or not). This aspect is central in contexts of contested heritage.

Group memory talk

In order to address the challenge of collaborative research and values-eliciting of contested heritage, I proposed a new method, called ‘group memory talk’.¹⁸ It combines traditional methods into a structured procedure, with a clear focus on two points: a) to identify shared and dissonant views, and collaboratively pinpoint the minimum shared level; and b) to offer a method that is operational for the conservation-planning procedure and the implementation of conservation interventions.

Memory talk is a concept in environmental psychology and refers to the “discourse in which social memories become lodged in places (both present and erased) and people (both alive and deceased) outside intentionally commemorative and ritual contexts”, thus it refers to the social memory “woven into the fabric of daily talk and gossip in all its variety, contradiction and everydayness” so to reveal “a profoundly meaningful way of relating to the surrounding world, both physical and social”.¹⁹ Aiming at identifying these profoundly meaningful social memories, by doing it consciously and in a dialogic way, the memory talk lies at the core of this method. It combines elements of focus group, impromptu group interview, photo-voice and photo-eliciting, individual interviews and participant action research. The core consists of a public event where people are key actors as they exchange memories about a selected site, supported by visual material. However, the whole method-procedure consists of at least seven phases. Phase 1 is the preliminary investigative phase, based on mappings, either analogue or digital (via social media) in order to identify sites of interest, normally those awaiting a conservation intervention; in cases where a site has already been selected through other means, this phase can be skipped. Phase 2 is dedicated to preliminary interviews with key stakeholders, usually the pioneer dwellers etc., at the same time archival research can be conducted. In cases where time allows, also a REAP/TESS analysis can be carried out in order to identify the constituency and a preliminary identification of values. Phase 3 takes the work further into the collaborative research, in the form of collaborative mapping or a participatory exhibition of the results of REAP/TESS. Phase 4, finally, refers to the “group memory talk”. It is conceived as a public event, without central speakers, where all the participants, usually the local community, are actually the central actors as they are invited to share their memories and recollections. The talk is supported by visual material, collected in the preparatory phase, that the audience comments, and the researcher moderates. Central is the idea that the participants interact. However, in order to make this “talking to each other” as multivocal as possible, the event is structured in three steps. Step 1 takes place at the very beginning, when the participants are asked to write down, on pink post-its, in a sentence or even in a word, what connects them personally to the site at stake. Then they share what they have written. Then, the talk is directed towards the tangible and intangible qualities of the site in the past and in the present, so that in Step 2 the participants are asked to write these down and then share them. As they share them, the answers are collected in a matrix on a poster. The matrix is pre-prepared; the horizontal parts are filled as the talk proceeds, the headings of the vertical parts are pre-filled with a ranking in a 7-level scale, from “very important” to “disturbing”. Once the qualities are listed, participants are asked to rank them, finally the votes per quality are summed. Step 3 refers to envisioning the future of the site: each participant describes, on a green post-it, his own vision, all are then gathered on a common poster; with this, the memory talk ends. It is followed by two synchronic phases. Phase 5 refers to the principles of reciprocal ethnography and consists of preparing a form of “returning to the interlocutors”, in the form of a publication, brochure, documentary film, exhibition. Parallel runs Phase 6 which consists of presenting the results of this collaborative research to the

responsible authorities, namely the heritage office and the municipality. When results of the collaborative research are fine-tuned with the requirements of the authorities, these are transferred into the intervention planning (which is Phase 7), and handed over to the architect-planner in charge, in the form a report.

The method was applied, between 2022 and 2024, in three sites in western Slovenia, yet, not all phases were reached in all of them. All case-studies consisted of sites with a high level of public accessibility: a community building (*zadružni dom*) in the village of Bertoki near Koper/Capodistria; a modernist neighbourhood (*ruski bloki*, by Edvard Ravnikar) in Nova Gorica; a nameless public space, formerly a historic garden, known among the older members of the local community as “Giardinnet”, situated in centre of the historic core of Koper/Capodistria. In late 2023, parts of the method were used also within the project HEI-Transform, in case-studies in eastern Slovenia.

PARTICIPATION IN THE EYES OF HERITAGE OFFICERS

The method was most developed in the case of the historic open space called Giardinnet, in Koper, that was already identified by the municipality as a site of future intervention. It has no official name anymore, only the vernacular naming. The area was historically the kitchen-garden of the Mayor’s Palace, later transformed into a historicist garden, and in the mid 1950s it was redesigned as a shady playground, that was converted into an asphalted parking in early 1970s. The parking was removed within a pedestrianization process in 2022, and it was reorganized as a temporary open public space with benches. It is an eloquent example of a site with inherent latent dissonances. In fact, the city and the region Istria represent an exemplary case of dissonant heritage due to a tumultuous history through the 20th century, marked by Fascist violence, and the consequent population change at advent of the Yugoslav socialist state in the 1950s.

For this case, all the phases were carried out, including a REAP/TESS and two participatory exhibitions. In autumn 2023, the case was presented to the local authorities.

Results of the “group memory walk” in Giardinnet(to)

The results of the “group memory talk” method showed that different groups of the local community identified highly consonant meanings and qualities of the site. Among the tangible dimensions, greenery, paving, sizes, colours, feeling of the site were highlighted, and particularly sensorial elements and atmosphere (the site as a hidden corner, allowing intimacy). All participants highlighted the wish for the area to be designed for the local community, and not for tourists. A point of dissonance concerned the design of the aspired green space: some participants were keen to a reconstruction of the historicist garden, although the majority simply asked for a general return to greenery. Identified intangible dimensions of the space stressed the affective but also social value of the site, referring to their youth and childhood, and thus to the feeling of safety and community belonging as well as the social value as space of intercultural encounters. The dissonance, however, occurred in relation to the naming and lack of naming. Views diverged between some local inhabitants who stressed the historic value of the former toponyms, and proposed to use the official name from the pre-war Italian period; while most were promoting the official use of the vernacular name “Giardinnet(to)”. This analysis of values-eliciting and quality identification was gathered in a report and presented at a joint meeting to the local authorities, namely the Municipality, manager of the public open space, and the Heritage Office, in charge for the site as part of the historic core of Koper that is protected as monument of local significance.

Response of the authorities

Despite the initially expected hesitance by the authorities towards the community's view, the approach and the results were well accepted by both. Heritage officers stressed that the significance assessment mainly converged with their expert assessment of the sites, regarding the tangible dimensions. Thus, the authorised and the subaltern view overlapped.

A central issue, raised by both representatives of the authorities, concerned the issue of integrating such collaborative methods in the conservation procedures, and expressed clear support towards inclusive approaches for assessing heritage. Identified challenges tackled two main points: which category of immovable heritage is most feasible for inclusive approaches, and at which point in the procedure such ethnographic research should be introduced. Results showed that the most feasible category is the public and open space, as it is not restricted by limitations concerning private property rights, and the public nature strengthens the need for public involvement. Reasoning about the phases of integration into the conservation procedure, it was stressed that – from the point of view of public authorities – it is preferable not to do a case-by-case analysis, as it would mean that ethnographic research should be required by the heritage officer in charge at the moment when the investor proposes an intervention. In this case, the official legal procedure only allows a 30-days timeslot to integrate new data, which is not enough for a relevant ethnographic and participatory approach. A more adequate approach would encompass systematic ethnographic research for a broader area (ie. neighbourhood or city center) that would support not only conservation of a single site but also urban conservation. This in turn should be continuous and updated on permanent basis.

Challenges in integrating participation were discussed also with the responsible heritage officers, responsible for two sites in eastern Slovenia (castle and a small historic core), used as case-studies the project HEI-Transform. Here too workshops with the community were realized by architects, focusing on envisioning the future. Insights from the interviews with the heritage officers stressed several more issues, some particularly related to the Slovenian framework. Namely, the growing bureaucratisation of the heritage officers' work and the consequent public perception as "policemen", limits the potential of participation. Secondly, heritage officers are often subject to pressures by the investors and the managerial attitude of local authorities which stick to the neoliberal dogma of the lowest cost. Conversely, the representatives of the municipalities stressed the limitations of the four-year mandates that impact on the long-term plans.

CONCLUSION

The case-studies have shown that implementing people-centred approaches in built heritage conservation, through participatory methods, has very high potential, yet they need to be fine-tuned with existing procedures' requirements. Insights from the case-studies, referring the authorities' position, pinpointed three important issues. The first refers to the need for longitudinality of the research work and the critique of the "rapid ethnography"²⁰ in co-design practices as limited. Presented insights support a long-term and in-depth collaborative research in order to allow monitoring of change and a large territorial scale. These meet also the principles of one of the most promoted approaches in urban conservation, this is the HUL – Historic Urban Landscape approach.²¹ Secondly, the most feasible category of heritage for implementing participation is that of the public open space and public buildings. Third, insights question the usual dichotomy between the authorised heritage discourse, held by experts and authorities, and the subaltern discourses. Participatory methods unveiled new axes of consonances (between authorised position of experts and the public) and dissonances (among the different authorities). Particularly, dissonances were identified between the local authorities as managers of the heritage sites, and the heritage officers as the experts in charge for preservation. Conflicts between the two indicate that expert discourse does not necessarily contrast

the supposed subaltern views of the lay community, but rather differs from the investors profit-oriented view. Finally, the question is what profile does the “expert” group encompass: is it primarily the heritage officer? Is it the planning architect in charge? Or is it the researcher implementing participatory methods? Insights meet reflections from the scholarship stating that experts should become “humble experts”,²² thus facilitators or moderators seeking consensus, or at least the minimal shared ground among the many stakeholders.

NOTES

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HYBRID ENVIRONMENTAL PROJECTION PLATFORM (HEPP). AN EXTENDED REALITY PLATFORM THAT COMBINES THE SENSE OF PLACE WITH THE PALIMPSEST OF THE CITY'S SPACE TO PROMOTE LOCAL CULTURAL HERITAGE.

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INTRODUCTION

The Hybrid Environmental Projection Platform (HEPP) is a spatial augmented reality platform integrated with Information and Communication Technology (ICT) systems.¹ Initially conceived as part of the Automatic Kinetic Theatre project, inspired by the ancient Greek Mobile Theater, HEPP has evolved into an independent, multi-purpose platform. This platform is an interactive educational and cultural tool that bridges real and virtual spaces, enabling simultaneous "presence" in diverse cultural locations. The design of HEPP aligns the spatial environment with the experience it aims to deliver, creating an adaptable immersion space.

HEPP was conceptualized to facilitate the creation of immersive educational and cultural experiences, transcending the capabilities of simple audio-visual (AV) systems. It aims to provide a holistic experience by employing environmental stimulants that engage human perception mechanisms, allowing users to feel as though they have been transported to the projected place and time.² By offering a multimodal experience, HEPP supports diverse ways of presenting cultural assets, making it a versatile tool in educational and cultural contexts.

The central research question guiding HEPP refers to the development of a pipeline for designing adaptable interactive cultural and educational extended reality (XR) platforms and 360° content from data archives. To answer this question, all the platform iterations were designed to project information on two primary spatial levels: passive layers that convey the sense of place and active layers that deliver the core educational material. This distinction is grounded in cognitive processes related to how the human brain perceives and understands information, facilitating effective communication of complex ideas. HEPP's unique visual layering approach deconstructs and reconstructs educational content spatially, enhancing the overall understanding of the subject matter.

The project has undergone several iterations, each improving upon the previous version in both hardware and software design. The paper presents the latest stages of design, development, and

operation, focusing on its design, implementation, and the educational and cultural impact it has achieved through its various versions.

The latest version of HEPP v1.0 is a permanent 270° interactive immersive installation projecting a real-time audio-visual tour of ten monument sites in Chania, Crete, Greece. The project helps visitors understand the palimpsest of Chania, which was recreated for each of the 10 sites with documentation from different historical eras while experiencing the evolution over time through the Visual Layering methodology. The main goal of the recreation was to provide the users with the feeling of visiting the monument in different historical eras while emphasizing an overall “sense of place” rather than historical accuracy in small details.

BACKGROUND AND MOTIVATION

Historical Context and Motivation

The Hybrid Environmental Projection Platform (HEPP) originated from the Automatic Kinetic Theatre project, which drew inspiration from the ancient Greek Mobile Theater.³ Initially, HEPP was designed to be the technological backbone of this theater project, but it soon evolved into an independent platform with broader applications. The transition from a theater-specific technology to a versatile, multi-purpose tool reflects the increasing demand for innovative platforms that merge the physical and digital worlds.

The development of HEPP was driven by the need to create adaptable immersive educational and cultural experiences through existing archival content. In a world of rapid information and evolving advanced display mediums, traditional educational tools often lack the ability to fully engage users in a dynamic, interactive learning experience. HEPP addresses this gap by integrating advanced spatial augmented reality systems with ICT, providing a platform that can simulate complex environments and diverse scenarios. This capability is particularly valuable in educational settings, where immersive experiences can significantly enhance learning outcomes by making abstract concepts tangible.

One of the primary challenges in developing HEPP was achieving physical integration in existing environments, such as schools and historic spaces. The platform had to be adaptable to various physical environments while preserving the spatial features of the existing space while maintaining elevated levels of user engagement and immersion. This required transformable and lightweight design solutions that could balance the portability requirements, ease of installation, and the technical demands of projecting immersive, high-definition content. Additionally, the platform needed to facilitate user interaction in an intuitive way, which posed further challenges in terms of hardware and software development.

HEPP DEVELOPMENT

The development of the Hybrid Environmental Projection Platform (HEPP) was a multi-phase process, with each version building upon the previous one, incorporating feedback, and addressing identified challenges. This section outlines the key stages of development, from the initial prototype to the more advanced versions, highlighting the design alterations and technological advancements.

HEPP Version 0.1: Initial Prototype

Design and Construction

The first version of HEPP (v0.1) was a prototype that laid the groundwork for subsequent developments.⁴ This version was characterized by vertical structural columns, referred to as “boxes,” which acted as the framework for projection screens. These boxes housed the AV equipment using “cross projection,” where each projector aimed at the opposite screen. Additionally, an interactive

robotic element, the "bot," was introduced. The bot was designed to engage directly with the audience as an actor, moving among them and providing an additional layer of information and interaction (Figure 1).

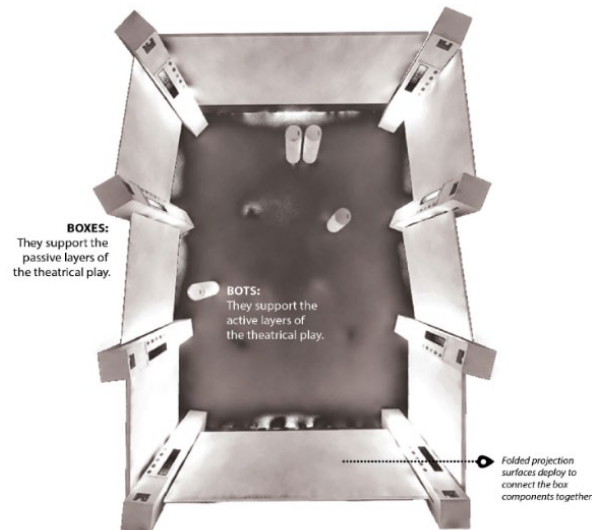


Figure 15. The original HEPP spatial configuration.

HEPP Version 0.2: Alternative Design

Design Changes

Version 0.2 introduced several simplifications aimed at improving the platform's usability and effectiveness, based on the observations on the initial prototype. The most notable change was the removal of the "boxes," focusing instead on a front projection system that achieved seamless projection. This version also reduced the number of projectors from five to three, making the setup more manageable. The projection screens were redesigned as a single piece of gauze fabric attached to a wooden frame, further simplifying the installation process.

Educational and Cultural Installations

Version 0.2 was tested in two different contexts: an elementary school and a public cultural festival. In both cases, the reduced design proved successful, offering an immersive experience with fewer technical complications. The content was adapted from the first version, ensuring continuity while accommodating the new projection setup. The results from these installations confirmed that the platform's simplifications enhanced its usability, though they also revealed a need for more interactive content and bespoke software to fully realize HEPP's potential.

HEPP Version 0.3: Transformability and Adaptability

Structural and Software Enhancements

HEPP version 0.3 marked a significant evolution in the platform's development, focusing on transformability and adaptability to different spatial environments. This version reintroduced the "boxes," but with a new horizontal design, allowing them to lie on the ground and serve as a housing for deployable structural arms and speakers. These arms, constructed from metal and marine plywood, were designed to be collapsible and lightweight, enabling various configurations depending on the available space. The projection screen was expanded to 18 meters wide, supported by five ultra-short-

throw projectors, providing an ultrawide projection surface with a native resolution of 9600 x 1080 pixels.

On the software side, HEPP v0.3 integrated custom software developed using the Unity game engine, allowing for the display of 360° videos and ultra-wide content. The software also introduced body motion controls using Kinect for Windows, adding a layer of interactivity that aligned with the platform's goals of creating immersive and engaging experiences.

HEPP Version 0.4: Integration with Projection Mapping Software

Software and Hardware Improvements

HEPP v0.4 built upon the improvements of the previous version by addressing the identified need for projection mapping and edge blending.⁵ This version integrated Spout, an open-source technology that allows for real-time sharing of rendered frames through the GPU, enabling seamless interaction between the Unity application and projection mapping software. The use of MadMapper software facilitated precise calibration of the projectors, ensuring a unified and immersive projection without visible seams.

Demo Installation

The updated platform was installed at the Center for Mediterranean Architecture (CMA) as shown in Figure 2. The installation process was streamlined, thanks to the projection integration with edge blending, resulting in a higher image quality and more immersive experience. This version could be installed in one of the installation configurations shown in Figure 3. Feedback from this installation was overwhelmingly positive, with visitors appreciating the improved visual quality and the improved seamless immersive environment.



Figure 16. HEPP v0.4 installation

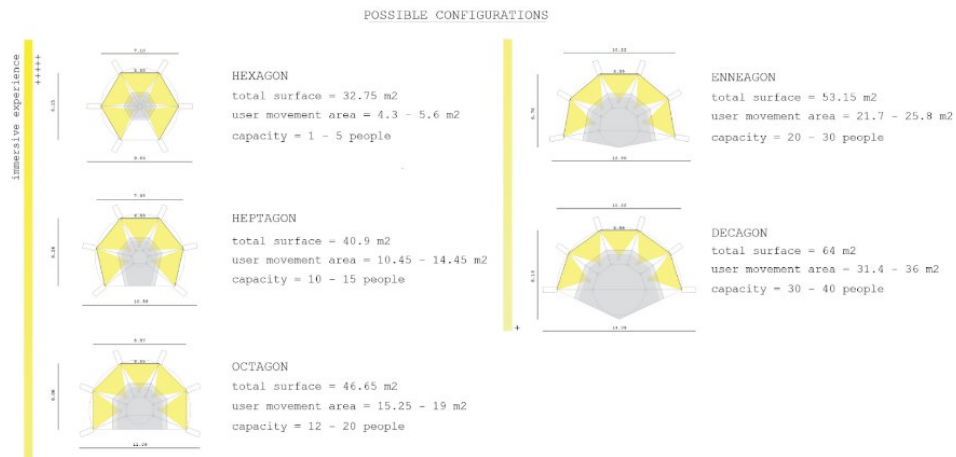


Figure 17. HEPP v0.4 installation configurations

HEPP Version 1.0: Latest iteration

The culmination of the Hybrid Environmental Projection Platform’s development is embodied in version 1.0, which integrates the evolution from earlier iterations and introduces significant advancements in infrastructure, hardware, and software. This version is the first to reach a technology readiness level of TRL-9, signifying a fully operational and commercially viable product. The installation is shown in Figure 4 and Figure 5.



Figure 18. HEPP v1.0 installation (photo 1)



Figure 19. HEPP v1.0 installation (photo 2)

Design and Implementation

HEPP v1.0 was realized as a permanent installation in the historical Sampionara Gate, in cooperation with the Municipality of Chania. Funded by the Partnership Agreement for the Development Framework 2014-2020, this installation is part of a larger project aimed at promoting the historical monuments of Chania's Old Town using innovative ICT technologies. The installation operates as an interactive virtual tour, allowing users to experience 10 key monuments of the Old Town through different historical eras.

The physical setup includes a specialized curved circular screen offering a 270° view, with a circumference of 21 meters and a height of 2.2 meters. Five short-throw FULL-HD stereo projectors (1920x1200 pixels each) are mounted upside down on a circular metal base, which is securely anchored to the building's stone veneer grout, avoiding any damage to the historic structure. This contrast between the ancient structure and the immersive space enhances the immersive experience.

Monument Reconstruction

Using the Visual Layering methodology⁶ developed in earlier versions, each of the 10 monuments was meticulously recreated across multiple historical eras, based on source material provided by archeologists and historians. This content is presented in a 360° virtual environment, with a focus on conveying the "sense of place" rather than striving for complete historical accuracy in minor details. The historical eras range from the Ottoman Occupation to the Cretan State and the period between 1960 and 1980, with each monument offering a unique window into the past. Sample 360 images from these historical eras can be seen in Figure 6.



Figure 20. HEPP v1.0 historical eras.

User Interaction and Software Design

The HEPP v1.0 installation features custom software developed in Unity, specifically tailored to handle the complexities of the platform’s interactive capabilities. The software supports multiple input devices, including a mouse-keyboard setup, Nintendo Switch Joy-Con controllers, and an Intel RealSense D435 depth camera for gesture recognition. This versatility allows users to interact with the installation in a manner that feels natural and engaging.⁷

The user interface includes a 3D map of Chania’s Old Town, where users can select any monument to explore. Each monument is represented by a sphere on the map, and selecting one triggers a transition to a focused view, where the monument’s historical context is presented. The software also features an automated virtual tour option, providing an overview of all 31 historical eras in a continuous loop, ideal for unsupervised viewing.

The core software adaptation in this version is the application of Visual Layering within a 3D interactive environment. Unlike previous versions, where this methodology was applied to static images and video, v1.0 brings the concept to life in a real-time game engine, offering a dynamic and immersive experience that adjusts based on user interaction. Environmental effects like dynamic skies, water reflections, and ambient sounds further enhance realism and immersion. Furthermore, the real-time simulation allows the efficient handling of future additions and alterations. Figure 7 shows the high level software architecture diagram of the HEPP v1.0.

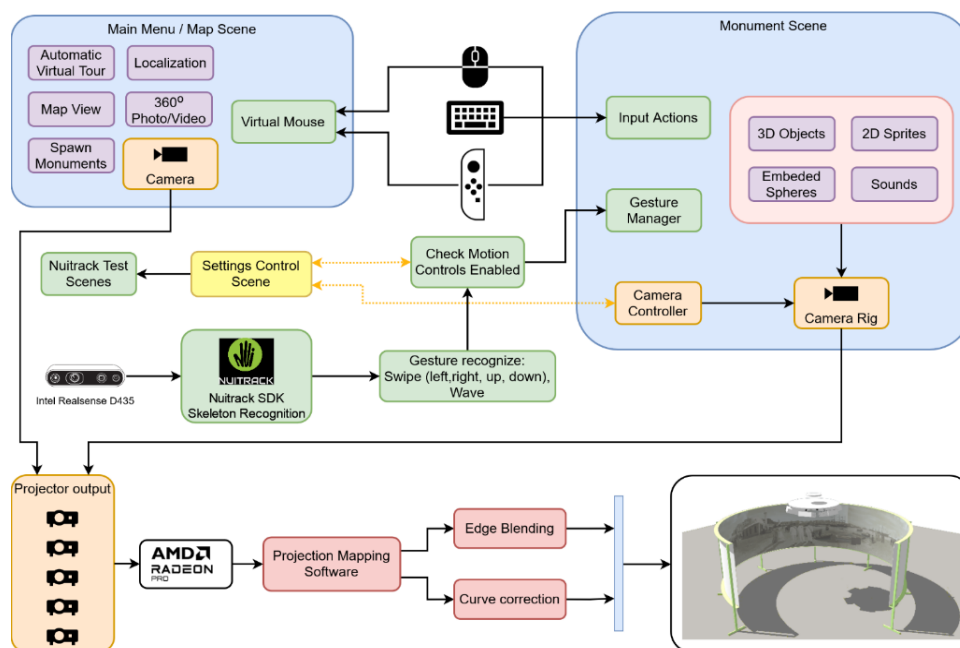


Figure 21. HEPP v1.0 high level software architecture diagram.

Evaluation and Feedback

The evaluation of HEPP v1.0 was conducted in two stages. The first stage focused on assessing the content for each monument, with users providing feedback via the User Experience Questionnaire (UEQ). The results (Figure 8) indicated enhanced ratings for attractiveness, stimulation, and novelty, though dependability was rated lower, due to the lack of direct interaction in the early evaluation phase.⁸

The second stage involved a live demonstration of the fully installed platform at Sampionara Gate, as part of an international training event. Participants, including artists from various countries, provided overwhelmingly positive feedback, particularly praising the platform's immersive quality and the effectiveness of the historical reconstructions. The use of gesture controls and the overall interactivity of the installation were highlighted as significant contributors to the platform's impact.⁹

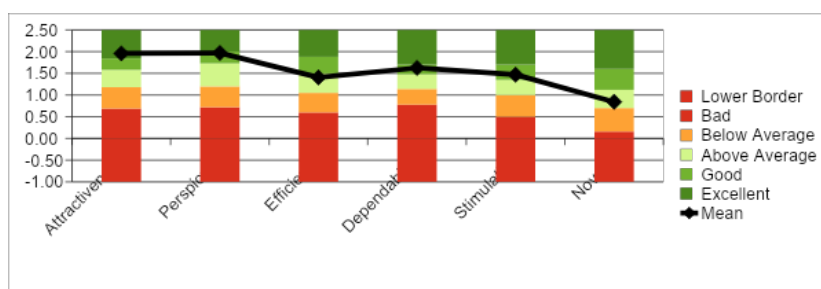


Figure 22. Second stage evaluation UEQ benchmark results.

HEPP Version 1.0: Virtual Reality Implementation

Building on the success of HEPP v1.0, a Virtual Reality (VR) version was developed to extend the platform's reach and provide a portable, immersive experience. This chapter outlines the development, demonstration, and evaluation of the VR version, highlighting the technical adaptations required to transition from a large-scale projection system to a VR environment.

Technical Adaptations

The VR version of HEPP was initially developed for the Meta Quest 2 headset, a standalone device that does not require a wired connection to a PC, making it ideal for exhibitions and demonstrations. Transitioning HEPP from a large-scale, high-resolution projection platform to a VR environment required significant technical adjustments.

The original HEPP application, developed in Unity, was not initially designed with mobile platforms like Android in mind, and its size (over 100GB for the Unity project and 25GB for the Windows build) posed challenges for VR deployment. Several external libraries and assets used in the original application were incompatible with Android, necessitating the replacement of these elements with alternatives that would work on the VR platform. The development process involved cleaning up the imported projects, resolving compatibility issues, and optimizing the content to ensure smooth performance on the VR headset.

The content, originally designed for ultra-wide screens, was adapted for VR by adjusting the scenes to fit within the constraints of the VR environment while maintaining the immersive quality of the original platform. This included reworking the 360° content and ensuring that the visual fidelity remained high despite the platform change.

Demonstrations and User Feedback

The VR version of HEPP was displayed at several events and exhibitions, including the 86th Thessaloniki International Fair, InnoDays 2022 in Heraklion, and InnoExpo 2023. During these demonstrations, the VR application allowed users to experience seven different historical eras, with scenes automatically transitioning every 20 seconds.

The VR headset's mirroring functionality was utilized to display the experience on a PC screen, allowing other attendees to observe the user's experience. Although the VR version did not include controller-based interaction, the automatic scene transitions and the immersive quality of the content provided a compelling experience for the users.

Feedback from these demonstrations was highly positive. Many participants noted that it was their first time using a VR headset, which added to the novelty and impact of the experience. The VR adaptation of HEPP received high marks across all user experience scales, particularly for attractiveness, stimulation, and novelty. The only scale with a higher variance in responses was efficiency, likely due to the learning curve associated with first-time VR users.¹⁰

Evaluation and Feedback

The evaluation of the VR version was conducted using a User Experience Questionnaire (UEQ), imitating the evaluation method used for the main HEPP platform.¹¹ The results demonstrated that the VR version was effective in delivering an immersive and engaging experience. While the VR version achieved high ratings for most user experience scales, the efficiency scale displayed a higher variance. This was attributed to the varying levels of familiarity with VR technology among the participants.

CONCLUSION

The Hybrid Environmental Projection Platform (HEPP) has evolved through multiple iterations, each addressing the challenges of integrating digital and physical environments to create immersive educational and cultural experiences.¹² From its inception as part of the Automatic Kinetic Theatre project to its current form as a fully operational platform, HEPP has demonstrated significant advancements in both technology and design.

Throughout its development, HEPP has consistently focused on enhancing user interaction and immersion. The platform's use of spatial augmented reality, coupled with advanced Information and Communication Technology (ICT) systems, has allowed for the creation of dynamic, adaptable environments that bridge the gap between the real and virtual worlds. Each version of HEPP has evolved based on previous iterations, leading to improvements in hardware, software, and overall user experience.

The most current version, HEPP v1.0, represents the culmination of these efforts. Its successful permanent installation in Sampionara Gate highlights the platform's ability to deliver immersive, interactive experiences that engage users in exploring historical and cultural content. The introduction of the Virtual Reality version further extends HEPP's reach, making it accessible in portable formats and broadening its potential applications.

The feedback from both the permanent installation and the VR version has been positive overall, highlighting HEPP's effectiveness in creating compelling educational and cultural experiences. Users have commented on the platform's immersive qualities, technological features, and the historical depth of content provided.

Future Directions

There are several potential directions for further development of HEPP. Enhancing the platform's interactivity, refining the visual fidelity, and expanding the range of content are all avenues that could be explored. Additionally, the integration of more advanced projection mapping techniques and the continued development of the VR version could further elevate the platform's capabilities.¹³ HEPP's evolution underscores the growing importance of immersive technologies in education and cultural heritage preservation. The demonstrated pipeline for generating immersive cultural experiences from existing archival content is still in the first steps.

Machine models with feature detection and edge detection through convolution will assist in the process of sorting the material and extracting features. Artificial Intelligence (AI) Generative Diffusion models will demonstrate future directions for generating content-aware fills and textures and even speculate regarding missing areas in the 360° environments. Upscaling the existing imagery through super sampling Machine Learning Models will also increase clarity and resolution. In terms of hardware, Augmented Reality devices such as the Apple Vision Pro, can enhance presence while stimuli such as olfactory will play a crucial role in further enhancing user presence. As these technologies continue to evolve, platforms like HEPP will play a crucial role in shaping how we engage with and understand cultural heritage.¹⁴

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A CONTEMPORARY ATLAS OF SIERRA NEVADA HIGH MOUNTAIN REFUGES

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INTRODUCTION

Sierra Nevada National Park, southern Spain, offers a wide network of shelters of all kinds in its more than 85,000 hectares: guards, free and natural shelters, or bivouacs, as well as other constructions and infrastructures related to agricultural, forestry or livestock activity converted into places of refuge. Many of these constructions have been part of this unique mountain landscape for centuries. These elements face the passage of time and the harsh winter conditions and are in different states of conservation, facing the danger of abandonment and ruin. Their landscape and heritage character, legacy of shepherds, farmers and stockbreeders who for centuries inhabited the high mountains, makes it necessary to catalogue and inventory these architectural constructions in a contemporary manner.

Bivouac and natural shelters are unique and characteristic constructions in terms of architectural heritage, as well as being unprotected from abandonment and possible disappearance. The inventory aims to produce contemporary cartographies by processing metadata captured by point cloud and parametric sensing. The transfer of all this data provides the public and the National Park's conservation teams fundamental tools for the valorisation of these elements and future action plans. The objectives take the guidelines of the Sustainable Development Goals through the valuation of rural heritage as part of the sustainable socio-economic development of an area of special environmental sensitivity.

Sierra Nevada

Between Granada and the Mediterranean Sea, a great mountain range, the Sierra Nevada, with the three highest peaks of the Iberian Peninsula, Mulhacén, Veleta, and Alcazaba, has been rising since the Alpine folding period in the middle of the Tertiary era. The most important peak, the Mulhacén, reaches an altitude of 3,482 meters above sea level, and from it it is possible to see the highest peaks of the neighboring African mountains on clear, sunny days in winter.¹

Sierra Nevada is the second highest mountain range in Europe after the Alps and many 19th century travellers called this region the “Switzerland of Andalusia” and Sierra Nevada “the Alps of Andalusia”.² The approximate area of the mountain massif is about 2,000 square kilometers and stretches from east to west for about ninety kilometers. There are almost twenty peaks in Sierra Nevada which are more than three thousand meters high.

It is interesting to note that in the first allusions to Sierra Nevada in Islamic literature the elements that stand out are purely geographical: the altitude, the wind, the cold and the difficulties of life on its

summits. References to the Sierra in Muslim literature inspire a feeling of awe rather than admiration. While the earliest descriptions date from 903, the only recorded poetic allusion dates from the 12th century. Its author, Abu Muhammad Abd Allah b. Sara Al-Santarini, composed five verses alluding to the intense cold he felt in the Sierra.³ From then on, the refuge will be one of the main concerns for residents and visitors to this unique high mountain landscape.

HIGH MOUNTAIN ARCHITECTURE

The first evidence of life on the peaks of the Sierra Nevada dates to the Iberian period, some 2,500 years ago. Ancient historians record that, from the earliest times, mining activity was notable. The Phoenicians and Carthaginians exploited the Sierra and with the arrival of the Romans the activity intensified, carried out on behalf of the Roman government.⁴ However, it was during the Muslim period that the Sierra acquired a higher level of development. Life on the high peaks, however, was mainly seasonal, due to the harsh conditions. Shepherds and stockbreeders sheltered in small structures during the nights.

Primitive structures

Caves, mines, natural shelters or the remains of other converted structures were the main places of refuge for the temporary inhabitants of the high peaks. When analysing the most minimal structures, the recognition of the territory carried out by these dwellers is also noteworthy. They found in hollows or small shelters in the rock a place where they could find refuge. The very morphology of the terrain is, in the first instance, the basis of the protective space. We are reminded of some fantastic drawings that form part of the Norwegian architect Sverre Fehn's (1924-2009) imagery of man's relationship with the land, the protection it naturally offers and the relationship with its horizon, which we invite the reader to discover.⁵ After choosing the most suitable place for the protection that the rugged mountain offered them, the structure had to be completed. The materials used belonged to the immediate landscape that contained them. This gives them an intrinsic character to the territory itself. The material remained the same, arranged in the same way as it was found. Overlapping schist walls, usually taken without mass, completed the sheltered spaces.

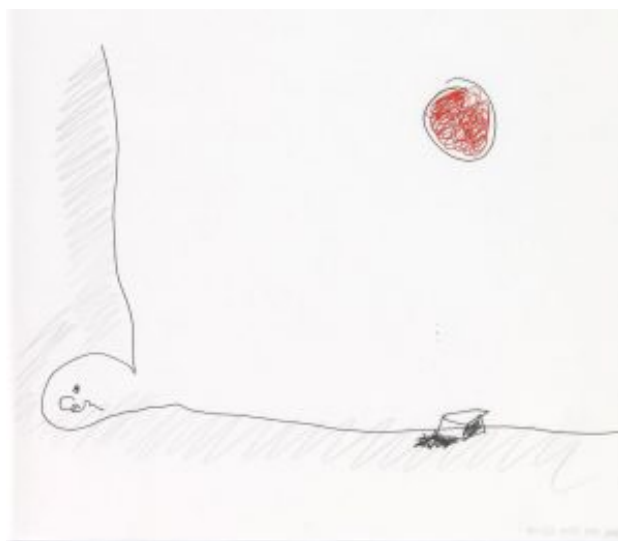


Figure 1. Sverre Fehn, *Sketch of a cave*, 1984.

In the larger structures, the entrance openings are arranged in a serpentine shape, creating curves that prevent the passage of the cold winds that hang over the high peaks. Gestures that seem to evoke the

well-studied entrance sequences of the rooms found in the Alhambra and Nasrid Palaces at the foot of this mountain range. On the other hand, in the smaller structures, the entrance door is narrow and high, to prevent the animals from looking for shelter there as well. This gave them security during the night. The size of these openings allows them to be covered with a travelling coat. At the time of covering, it was again the schist slats themselves arranged in such a way that they had to be able to withstand the heavy load of the snow on them. It was common for wood not to be used in these structures. Its availability is limited in the high summits, as well as being a major danger to the inhabitants themselves, given the risk of being used to make fire, carried away by the rigors of the cold.

Singular structures

In addition to the rock caves and shepherds' huts, the oldest places of refuge in the Sierra Nevada are linked to historical events and missions that took place on the high peaks: from the Geodesic Expedition to Mulhacén in 1879 to the reforestation plans of 1930⁶ or the Spanish Civil War (1936-1939).

Geodesic mission to Mulhacén in 1879

At the end of the seventies of the 19th century, an event of great scientific importance took place in the Sierra Nevada: the geodetic link between Europe and Africa via the Mulhacén Peak and the Tetica de Bacares in Spain and the M'Sabiha and Filhaussen mountains in Algeria. The triangulation that was to be achieved exceeded 270 kilometers; a length never before achieved.⁷ Geodesists from the Spanish and French Geographic Institute designed a complex operation for which it was necessary to build the huts and shelters needed to house, safely and comfortably, the numerous personnel that had to be stationed at almost three thousand five hundred meters, as well as the instruments and loads destined for the service of the stations. They were rustic shelters made of rough masonry, poorly bound with mud, lime and sand, with wooden doors and windows and slate roofs, material brought up from Trevélez, the highest village in the Alpujarra, on the southern slopes of the Sierra. Antonio Rubio left a formidable testimony of the mission in his book *Del mar al cielo*, published two years after the mission, in 1881.⁸ The inclemency to which such structures had to be exposed and the passage of time made their disappearance inevitable. However, today it is still possible to see the remains of one of the greatest historical events that took place in the Sierra. It is worth mentioning that the first hermitage in honour of the *Virgen de las Nieves*, protector of the Sierra, was erected on its ruins. Subsequently, up to four hermitages were built in the Sierra.⁹



Figure 2. Constructions carried out on the Mulhacén for the geodesic connection in 1879.

Spanish Civil War 1936-1939

The civil war in Spain between 1936 and 1939 was reflected in the Sierra itself. Although the front was relatively stabilised, both sides concurred on the summits of the Sierra: the *National* side dominated the Veleta, while the *Republicans* dominated the foot of the Mulhacén. Most of the constructions were made of schist slabs collected from the area, although in some places remains of clay bricks can be seen. There are no remains of the roofs of the buildings either. The trenches were dug into the ground where it was possible, but where it was not, they were made of slab walls and earthen sacks. The constructions consist of trenches, underground shelters, observatories, marksmen's posts, casemates, parapets and stone walls. At some points, the rocks on the site served as a natural parapet, while at other times farmhouses, forestry shelters and other existing buildings were used. Today, going up towards *Alto del Chorrillo*, we can see the first remains, still on the *Republican* side. We can see two small hills that are bordered almost entirely by a trench at the highest point of the two, there are several buildings and underground shelters, one of them completely buried and another one that, with care, we can enter. In the surrounding area there are several gun emplacements and machine gun nests. On *Loma del Tanto*, ten minutes uphill, we see a beacon indicating the location of a concrete shelter with an opening for riflemen. In the surrounding area, there are numerous remains of trenches, some dug into the ground and others made of flagstones.¹⁰

Shelter and refuges

The first proper mountain refuge to be built in the Sierra Nevada was an unfinished project in 1882 for the Laguna de las Yeguas. The project, the initiative of Mr. Indalecio Ventura Sabatel, also contemplated the construction of other resting points. However, it was Ventura Sabatel himself who inaugurated a circular shelter in 1891 at the Puerto del Veleta. Later is the *Albergue de la Sociedad Sierra Nevada*, built between 1912 and 1915 and destroyed during the Civil War. Also of note is the *Hotel del Duque*, built by the Duke of San Pedro de Galatino between 191 and 1925. The construction of the two shelter promoted by the Government, as part of the project for the construction of the road to the Alpujarra, dates from 1929: *Las Sabinas* and *Hoya de la Mora* shelters.¹¹

Unconnected with the mountaineering projects, the Spanish State proceeded to the construction of the highest lodge in the Sierra within the reforestation programme executed between 1931 and 1933. The *Elorrieta* shelter will be a semi-excavated construction in the rock, with enough space to house 24

workers. The *Elorrieta* is located in a magnificent and strategic spot at an altitude of 3,187 meters, a place that in winter is completely covered in snow and is permanently lashed by blizzards. Constructively, it consists of two parts: one vaulted outside and the other dug out of the rock, with a set of galleries dug out of the rock and covered with a brick vault and a tiled plinth. It had a famous plaque on its door that read: ‘Always open on trust to the nobility of the traveller. To enter, turn the handle’. This was followed later and with less ambition by the refuges along *Lanjarón* river: *Terreras Azules*, *Peñón Colorado*, *Caballo*, *Cerrillo Redondo* and *Ventura*. On the northern slope and on the course of the *Genil* river, also as part of the reforestation programmes undertaken in those places, the *Vadillo* and *La Cucaracha* refuges were built.

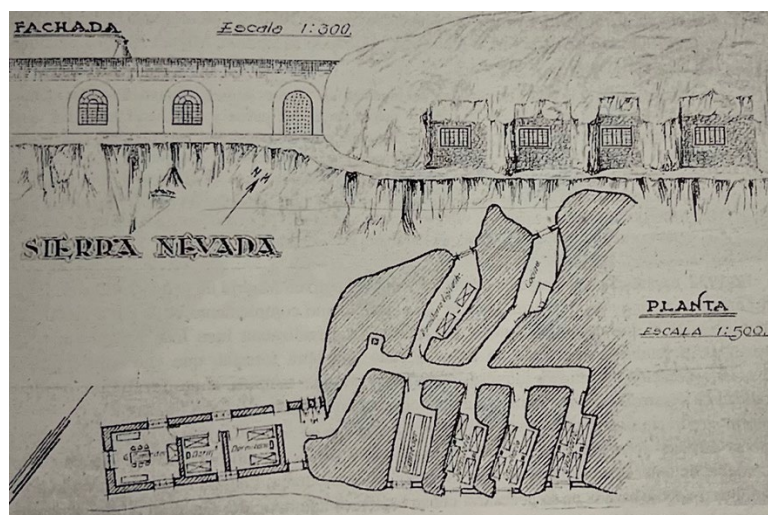


Figure 3. *Elorrieta* shelter plans, José Almagro, 1932.

In 1933, the *Albergue Universitario* was inaugurated on the initiative of Rector Alejandro Otero. It will be located next to the third *Peñón de San Francisco* at an altitude of 2,560 meters. The remaining mountain refuges in Sierra Nevada are dated as follows: *Cilindro*, 1959; *Veleta*, 1961; *Félix Méndez*, 1968; *Las Yeguas*, 1963 at its first site and 1976 afterwards.

Between 1991 and 1992, the Andalusian Mountaineering Federation and the Administration drew up a plan for refuges which envisaged the construction of fifteen of them, continuing the old model of bringing the refuges closer to the high mountain peaks. However, the proposal finally adheres to the new trend of ‘Mountain wilderness’ mountaineers, which recommends not increasing the number of refuges, and the National Refuge Plan, which proposes avoiding the construction of any refuge above 2,500 metres. The Master Plan for Refuges in Andalusia was finally approved in 1995.¹²

The model of the *Poqueira* refuge has made it possible to define the conditions to be taken into account for the location of refuges in other valleys and the new plan envisages the construction of six shelters with guards and at lower altitudes: *Poqueira* (2,450 m), *Ballesteros* (1,900 m), *Trevélez* (1,900 m), *Lanjarón* (2,150 m), *Calvario* (1,900 m) and *Dilar* (2,400 m). To these must be added the bivouacs of *La Carihuela* (3,200 m) and *La Caldera* (3,050 m) built in 1994 as the only concession to the principles of free summits.¹³ A contemporary approximation allows us to have an inventory of 57 existing structures, of which several can be considered out-of-print and do not provide a suitable place for shelter due to their state of conservation.



Figure 4. Lanjarón shelter, José Almagro, 1931.

The bibliographical and historical review has enabled us to establish a classification of the type of structures that have served as shelters for inhabitants and visitors to the summits of the Sierra Nevada. They can be divided into two main categories: singular converted structures and mountain shelters or refuges.

An unique legacy

Important institutions such as Hispania Nostra -renowned association for the defense, safeguarding and enhancement of Spain's cultural and natural heritage- have warned of the state of these structures, including the *Elorrieta* shelter on their Red List.¹⁴ This list includes those elements of Spanish cultural heritage that are at risk of disappearance, destruction or essential alteration of their values, within the aim of making them known and achieving their consolidation or restoration. The *Elorrieta* shelter is also registered as part of the catalogue of modern heritage of the renowned Docomomo Ibérico Foundation. The foundation defines it as “a perfect example of traditional extreme architecture, which not only blends in with the peaks due to its location, but also because it is built with local materials”.¹⁵



Figure 5. Construction of Elorrieta shelter between 1931-1933.

In addition to directly related institutions such as the Andalusian Mountaineering Federation, Granada's own civil society nowadays defends the current values embodied by these unique structures

and the duty of the institutions to defend and protect them. It is not in vain that currently around 15,000 users a year, from 58 countries on all five continents, spend the night in the shelters of the Sierra Nevada.¹⁶ The inventory of these structures in a contemporary way puts us in a position to generate digital cartographies that promote their appropriate use, in addition to generating a historical record of those that are not in a condition to be used today but are an enormous testimony of high mountain architecture over centuries of history. The valuation of the rural heritage and the promotion of the socio-economic activity of the region are undoubtedly in line with the Sustainable Development Objectives contemplated in the current Master Plans within the National Park.¹⁷

A CONTEMPORARY ATLAS

The survey using digital equipment allows a pilot experience with an ultimate propose of generating a large digital map that will be useful to de National Park from the inventory work of all these singular structures, as well as for diagnosis of the state of conservation and the study of possible rehabilitation projects. The multidisciplinary team made up of architects, geographers and telecommunication engineers allows the development of a transversal work of heritage recognition of the territory and the high mountain landscape by mean of contemporary tool such as three-dimensional surveys by processing metadata captured by point cloud.



Figure 6. Fieldwork: Mulhacén and the high-tech equipment, 2024.



Figure 7. Digital survey. Military structure in Barranco de San Juan, 2024.

The selection of the structures to be inventoried will be based on their state of conservation and singularity. This research project begins with those structures located above an altitude of 2,500 meters, identifying those in greatest danger and exposed to deterioration. In addition, a specific area of action is established, covering an approximate surface of 5000 hectares geographically between the most important peaks of the massif: Caballo (3,015 m), Veleta (3,392 m) and Mulhacén (3,482 m), all of which are in the province of Granada.

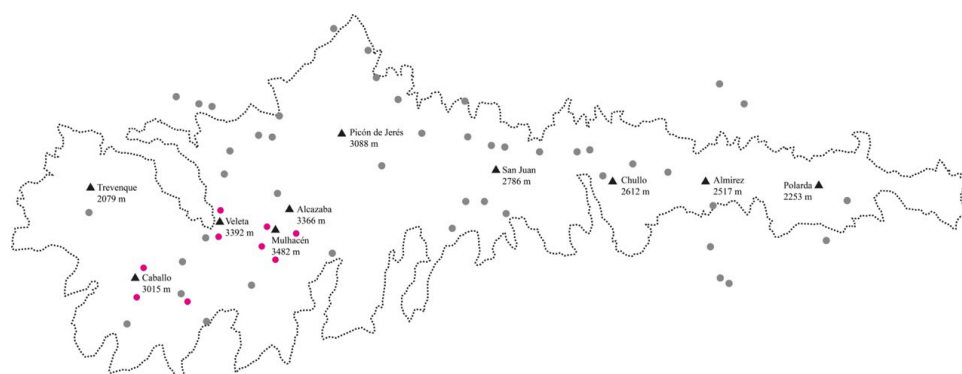


Figure 8. Complete atlas of refuges. In magenta: first digital surveys.

CONCLUSION

The architecture of the high mountains of Sierra Nevada is an exciting journey through the history of the shepherds, miners, tourists and inhabitants of the Alpujarra who have found shelter on its peaks for centuries. This contemporary atlas aims to speak of the future, but also of the past. The brilliant Andalusian architect Antonio Jiménez Torrecillas (1962-2015) said in reference to inheritance: ‘The true value is not so much in what we have generously inherited, as in what we should generously contribute’.¹⁸ This atlas therefore aims to be a review of an ancestral reality using contemporary means. The new technologies we now have are supported by the bibliographic accounts of those first visitors to become a truly complete catalogue with which to enhance the value of the rural heritage of this unique high mountain landscape.

The cataloguing and inventory of the structures has two fundamental lines: the registration of those structures that form part of the memory of the landscape of the high peaks, and the digital inventory of those shelters that are still today a fundamental part of the use and enjoyment of the National Park.

The register will be a digital layer superimposed on the rest of the layers of the history of the Sierra, and will allow us to study them when time makes them disappear. The inventory of the refuges, on the other hand, will allow a more complete dissemination of the entire network of refuges in Sierra Nevada. The transfer of the information collected to the National Park's management teams will enable appropriate conservation measures to be taken, as well as democratisation work, making all the information collected available to the public through the Park's own map viewers. Both lines, past and future, will allow us to continue this *always unfinished inventory* of architectures and will mark an interesting guideline in the use and conservation of these unique structures.

NOTES

- ¹ Manuel Titos, *Sierra Nevada: una gran historia, vol. I* (Granada: University of Granada, 1997), 13.
- ² Elías Pelayo, *La Suiza Andaluza*, *El defensor de Granada*, October 19, 1985, XIV.
- ³ Titos, *Sierra Nevada, vol. I*, 21.
- ⁴ Titos, *Sierra Nevada vol. I*, 301
- ⁵ Sverre Fehn, *Sketch of a cave*. (Oslo, Nasjonalmuseet Arkitektur, 1984).
- ⁶ Miguel Ángel Mesa Garrido, "Reforestation, Silviculture, and Forest Fires in the Landscape Dynamics of the Natural Area of Sierra Nevada (1881–2018)," *Investigaciones Geográficas*, no. 71 (2019): 177–196, <https://www.investigacionesgeograficas.com/article/view/2019-n71-reforestacion-silvicultura-e-incendios-forestales-en-es>.
- ⁷ Titos, *Sierra Nevada vol. I*, 252.
- ⁸ Antonio Rubio, *Del mar al cielo. Crónica de un viaje a Sierra Nevada*, (Almería: Viuda de Cordero, 1881).
- ⁹ Manuel Titos, *Las cuatro ermitas de Sierra Nevada*, (Granada: Atrio, 2017).
- ¹⁰ Antonio J. Ramos, *Itinerario por la Historia reciente de Sierra Nevada*, (Granada: Parque Nacional y Parque Natural de Sierra Nevada, 2019).
- ¹¹ Manuel Titos, *Sierra Nevada: una gran historia, vol. II* (Granada: University of Granada, 1997), 660.
- ¹² Javier Campos, *Refugios de Sierra Nevada*, (Granada: Dos Aguas, 2020), 10.
- ¹³ Titos, *Sierra Nevada, vol. II*, 931.
- ¹⁴ Hispania Nostra, "Refugio Elorrieta", *Red list of Heritage*. Accessed February 8, 2024. <https://listaroja.hispanianostra.org/ficha/refugio-de-elorrieta/>
- ¹⁵ Docomomo Ibérico Foundation catalogue, *Refugio Elorrieta*. Accessed March 9, 2024. <https://docomomoiberico.com/edificios/refugio-elorrieta/>
- ¹⁶ Campos, *Refugios de Sierra Nevada*, 11.
- ¹⁷ Junta de Andalucía. *Plan Rector de Uso y Gestión (PRUG) del Parque Nacional de Sierra Nevada*. Decreto 238/2011, de 12 de julio. Accessed January 6, 2024. https://www.juntadeandalucia.es/medioambiente/portal/documents/20151/2194500/anexo_2_PRUG_parque_nacional_sierra_nevada.pdf/3e74c240-b8d5-7d63-dfb9-978e36d7c432.
- ¹⁸ Antonio Jiménez Torrecillas, *El Viaje de Vuelta: El Encuentro de la Contemporaneidad a Través de lo Vernáculo*, doctoral thesis, supervised by Alberto Campo Baeza (University of Granada, Granada, 2006), <http://hdl.handle.net/10481/1393>.

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THE 1930s RAILROAD BRIDGES IN ZAGREB

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INTRODUCTION

Sustainability ought to ennoble the forces of globalization. Thus, there are many questions considering a fine balance between prefabrication and genuine craftsmanship, as well as many potent answers in 20th century architectural designs. The railroad bridges – overpasses in Zagreb are utilitarian structures carefully designed by architects in 1929 and present exceptionally powerful responses to the task of achieving this fine balance. This paper will delve into the elements of the overpass design and ascertain major architectural decisions that have resulted in the remarkable landmarks of Zagreb’s downtown area which are still in use today. These structures create lasting impressions amidst the bustling downtown traffic and establish a sense of cultural and social identity through various connections with their surroundings. Their unique and harmonical forms superimpose prefabricated solutions. Despite their purpose as communal infrastructures, they present valuable design elements of urban space. They testify to the productive synergistic partnership between architects and engineers that has resulted in optimal structural and aesthetic solutions. So, the legacy of Zagreb’s 1930s railroad overpasses will be uncovered.

1930s Railroad Overpasses: An Architectural and Contextual Background

Provincial environments are adroit at dealing with demanding designs due to contextual circumstances. Throughout history, Croatia was a contested territory, situated on multiple cultural crossroads.¹ In the second part of the 19th century, Zagreb had a strong political and cultural relationship with Vienna.² In 1868, Zagreb became an important railroad junction. The arrival of the railroad marked the beginning of modern urbanization in Zagreb.³ Zagreb’s new urban plan – the “Green Horseshoe” was generally perceived as Zagreb’s version of the Vienna Ringstrasse. It is a U-shaped frame of representative city squares with free-standing monuments imbedded into the urban residential fabric. At that time, it became a stage for social interaction.⁴

The railroads were carefully placed so as not to cross Zagreb’s important main roads. A part of the railroad was placed along Savska Road, one of the main incoming roads to Zagreb’s center.⁵ Due to the railroad, the agricultural areas of Zagreb suddenly became extremely attractive for warehouses, industrial buildings and working-class houses. At that time Lenuci, who was the main urban planner for Zagreb, created new wide avenues and promenades based on modern urban theories. Reality was unable to align with Lenuci’s metropolitan vision of Zagreb. The urban plans of the city and the uncontrolled growth of the new southern and western parts of the city indicated that the railroad itself became a huge obstacle for the city traffic.⁶ Many roads were controlled by barriers, even though level crossings were already prohibited in Vienna.⁷

Political instability made it difficult for the city to move forward with the urbanization and modernization processes before the Second World War. At the same time, significant changes in the direction of Croatian architectural discourse appeared. At the beginning of the 20th century, due to the work of architect Viktor Kovačić, who was a student of Otto Wagner and Adolf Loos, it became important to insist on logic and practicality in architectural design. It was also necessary for buildings to be composed in accordance with the structural material and to meet certain requirements for their purpose.⁸ The 1920s architecture in Zagreb was marked by functionality, rationality, structural truth and honesty. During the 1930s, architects practicing in Zagreb embraced architectural principles and participated in the international discourses of the time, similar to those used in the International Style and grounded on the CIAM theoretical proclamations. Instrumental in developing Zagreb's architectural progress were two newly established architectural schools: The Technical School and The Master Class of The Academy of Fine Arts, as well as the collaborations with protagonist of the Modern Movement. The openness of Zagreb's architectural scene and its rapid inclusion in international currents was facilitated by the return of the latest generation of Croatian architects from international universities and professional schools in Vienna, Dresden, Berlin, Budapest, as well as from the ateliers of Adolf Loos, Hans Poelzig, Peter Behrens, Le Corbusier.⁹ Political instability made it difficult for the city to move forward with urbanization processes before the Second World War. The architects' overall care for the city was visible in several communal architectural interventions, such as schools, hospitals, and railroad overpasses of Savska Road.¹⁰

Objectives, Purpose and Method for Examining Zagreb's Overpasses

The goal of this paper is to analyze the elements of the overpasses' designs and ascertain the architectural decisions that led to sustainable ambience value of Zagreb's downtown area. The aim is to show that architecturally informed utilitarian structures can generate remarkable landmarks. The comprehensive analytical method used in this paper has already proved being helpful in providing the essential elements of architecture that facilitates a more objective assessment of the achieved architectural operations.¹¹ The method starts with an analysis of a program and a context. Following the task, a basic space concept is analyzed. The space and form, movement through the space composition and building technology are elements that enable impartial analysis. Finally, there is an impression made on a user or an observer by a work of architecture, so perceptual and conceptual readings need to be analyzed. The analyzed and evaluated attributes will show the overall architectural contribution of the railroad overpass structures to Zagreb's urban fabric.

DELVING INTO ZAGREB'S 1930s RAILROAD OVERPASSES

The Northern Savska Railroad Overpass was the earliest overpass to be constructed on Savska Road. Subsequently, six of its permutations were designed by the discrete tuning of its concept and built along Savska Road in the 1930s. Therefore, the Northern Savska Railroad Overpass presents the prototypical architectural model that is going to be analyzed.

The Overpass Program and Its Contextual Framework

A railroad overpass had to be built over Savska Road. It had to surmount a huge span of twenty-eight meters and secure a height of four meters. On the site, the Savska Road path was met by railroad and the street that connected the two main railroad stations, at an angle. The north side of the crossing faced an area already defined by built city blocks. The south side of the crossing was an undeveloped urban area with a school building and an office building.¹² One of the main qualities of the site is the presence of the view towards the medieval St. Mark's Church. Later, the importance of the site was verified by the nearby location of Zagreb's Trade Fair in 1936.

The Overpass Architectural Concept

The Savska Road Railroad Overpass was designed by architects Juraj Denzler and Mladen Kauzlaric in 1929. The architects became key architects of the 1930s in Croatia. In the 1920s, Denzler studied architecture at the Technical School in Zagreb and Kauzlaric studied architecture at the Art Academy in Zagreb, so their discourse was grounded in technical and artistic disciplines. Their 1930s architectural designs were clear, simple, functional and flexible modern structures as well as contextual sensible ones.¹³ The main overpass concept was a simple and practical frame with a panoramic view towards the downtown city center as well as the new modern planned parts of Zagreb along the old Savska Road. It was an urban patch, made of a beam bridge supported by two pylons – as illustrated in Figure 1.A. The angle of eighty-two degrees between supporting elements and the railroad overpass was adopted in accordance with the site requirements. This concept materialized the 18th century Laugier’s idea that “simplicity is a positive quality that a skillful architect might handle to great effect”.¹⁴

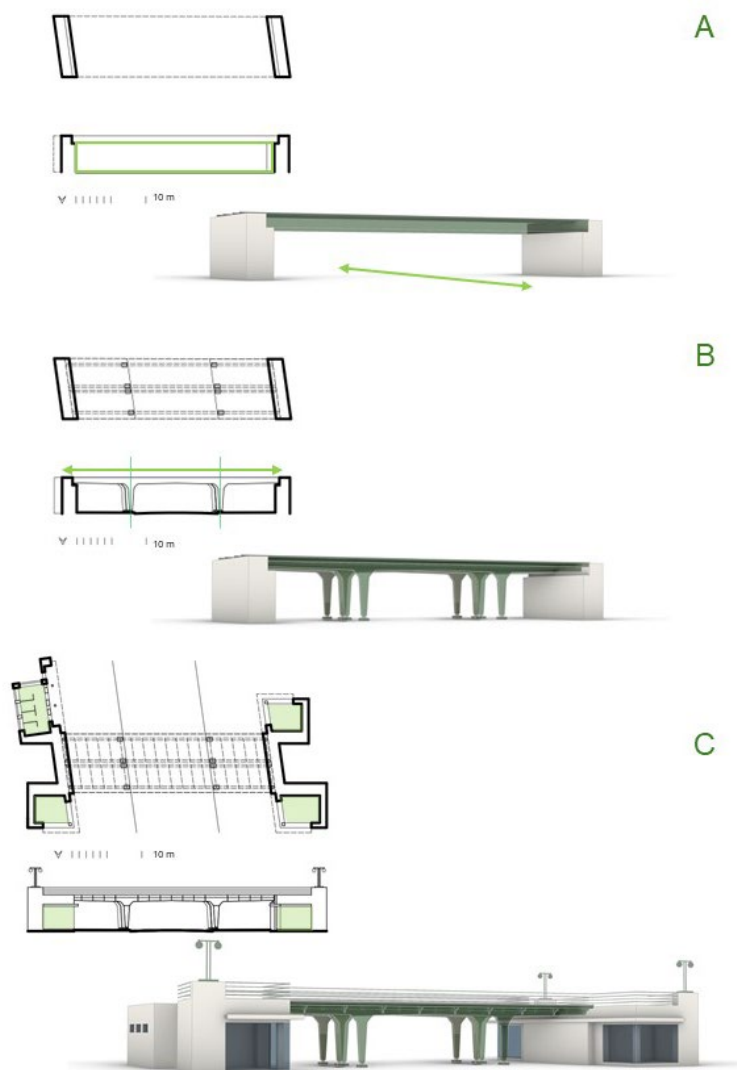


Figure 1. Design of the Savska Railroad Overpass

The Overpass Space and Form Design

The main concept was furthermore elaborated and continuously guided by the ordering principle of axial symmetry. Due to the wide span, additional support had to be provided. To avoid an unfortunate obstacle on the main axis, the span was divided into three parts, using the principle of hierarchy along with the principle of axial symmetry. The central rectangular space became dominant due to its dimensions, position and its function as the main road path with streetcar lines and was tuned harmoniously with the side pedestrian elements. To secure the primary idea of a simple and conceptual frame, the architects used a steel supporting structure of four pairs of pillars and four supported beams, which took less space – as illustrated in Figure 1.B. The steel supporting structure based on axial symmetry and hierarchy was subordinate to the framed space, sheltered beneath the bridge, and clearly directed by the supporting parallel walls. The space was perceived as a whole, subtly rhythmized by permeable membranes defined by the beam and pillars. The height ratio of the pillar and the beam contained classical ionic gracefulness. The architects slightly modified the beams, so the forces were visually directed into the funnel-shaped connection with the pillars. The pillars also taper towards their heels and thus emphasize the verticalization of the loads.

The railroad embankment was designed beyond its primary function of constructive retention. Each end of the massive supporting walls was enhanced with cube structures of kiosks and public toilets that enlarged the original space, emphasized the site of the railroad overpass as well as created the additional function of the overpass and anticipated the urbanity alongside Savska Road – as illustrated in Figure 1.C. The kiosks had large corner glazed openings that promoted visual continuity with the adjacent spaces. White plastered concrete walls, green steel beams and pillars, glazed openings, and green roofs with railings and lamps that bear the notion of the Green Horseshoe, are contrasting elements that are put in a productive dialog and thus produce a refined urban railroad overpass.

Navigating the Area

The approach to the Overpass is oblique and enhances the effect of perspective on its structure. The straight linear main path through the area is primary and is also the organizing element of the space. It is followed by secondary linear paths that also lead to the cubes prior to the main overpass structure. A pedestrian secondary path is widened not only to accommodate more traffic, but also to create a space for pausing, resting or even viewing, therefore consuming the overpass space.¹⁵

Engineering Decisions

The Overpass is a rational construction of a steel beam bridge that is supported by steel pillars. The elements were subtly modified so that all the resulting suppressing forces converge to the eight base points. The elements of the north set of steel beams and pillars are connected by rivets, and the south ones are connected by welding which was, at the time, a modern way of joining metal parts together. The kiosks are built in simple forms of reinforced concrete walls with large, glazed openings that support the flat green roofs that provide natural layers of insulation to the concrete roof.

Perception and Conceptual Interpretation of the Design

The symmetrical composition of the elements reinforces the notion of the axis and stability, as well as facilitates the focus on the overpass structure. The basic classical ratios generate a sense of order among the elements and a visually balanced architectural composition. The carefully placed kiosks contribute to the monumentality of the composition. The steel elements induce a rhythm to the composition. They contribute to a sense of openness and fluidity of space. Their shapes cast shadow patterns on the pavement and contribute to the dynamics of the space itself. The steel structural

elements and details are refined ornaments which, together with the layers of the green rooftops, add additional value to the site and create a pleasurable ambience of Savska Road.

The Savska Railroad Overpass expresses its function in its appearance – as illustrated in Figure 2. It captivates spectators with majesty and importance. It creates a symbolic picture of modern-city gates. The steel elements traditionally connected by rivets face the built urban fabric of Zagreb, and the modern welded ones face the parts of Zagreb that are yet to be urbanized. The Overpass is designed in the spirit of the new constructive aesthetic, it superimposes prefabricated solutions and testifies to Zagreb's transformation into a modern city.

Design Transformation

The Northern Savska Railroad Overpass has become a prototypical architectural model whose formal structure and ordering of elements were appropriate and reasonable for other 1930s overpass designs. Some discrete manipulations are noticeable due to the specific conditions of the site. The prototypical model was understood and accepted, and subsequently a series of permutations - built along Savska Road in the 1930s – clarified and strengthened the original concept of the Northern Savska Railroad Overpass, as well as generated striking and memorable elements of Savska Road in Zagreb.



Figure 2. Savska Road Railroad Overpass Design, A Perspective View

EVALUATION OF THE OVERPASS DESIGN

The Savska Railroad Overpass is a rational and esthetically attractive frame structure, a grandeur and simple composition of harmonic elements based on the principles of axial symmetry and hierarchy. This basic but refined frame structure is a highly valuable design compared to the railroad utilitarian objects of Zagreb and Vienna, as well as a design that incorporates true attributes of Croatian 20th century architecture.

A Comparative Analysis of Zagreb and Vienna

Prior to the Savska Overpass, the Miramarska Street Underpass was built in 1913.¹⁶ The underpass design contains a massive supporting structure that doesn't separate the car and pedestrian traffic as logically as the Savska Overpass does. The utilitarian underpass spaces are also quite narrow and approachable by a very steep street. On the other hand, towards the end of the 19th century in Vienna, architect Otto Wagner oversaw the designs of railroad underpasses and overpasses. His carefully elaborated steel bridge structures, supported by ashlar pillars, were complemented with meticulously designed station buildings.¹⁷ The 1930s Zagreb's railroad overpasses designs show the creative and contextually sensitive progression of Vienna's overpass type. They are practical and modern forms highlighted by horizontal lines and flat roofs. They strike us with extreme simplicity of the steel structure and epitomize adversarial modern architectural principles:¹⁸ they function as the

fundamental and determinative element of a design, and skeletal structures that allow flexible use of space. Unfortunately, in the second part of the 20th century, Zagreb's new railroad overpasses were simple and sturdy prefabricated elements, assembled with no regard to the contextual data. So, the 1930s railroad overpasses serve as a reminder of the importance of thoughtful and architecturally responsible designs of utility buildings because they ensure lasting sustainable value and create unforgettable visual experiences.

Design in the Context of 20th Century Croatian Architecture and Character

The essential quality of the Overpass design is its poetically reduced abstract form, in accordance with the presence of abstraction in Croatian architectural designs. Poetical reduction in Croatian architecture was not the result of an influential international stylistic dictate, but the lasting scarcity of means which necessarily led to formal pragmatism and encouraged rationality and functionality. A lack in the material realm was compensated for by excessive creativity and thus turned into something poetically sophisticated.¹⁹ The design also presents a responsible urban implantation that follows practices present in historical Croatian cities, where contradiction of preservation and modernization is solved meticulously so that each new layer remained loyal to its own historical and artistic moment, while paying attention to new context.²⁰ The overpass designs create prerequisites for social interactions in accordance with Croatian modernist practices. The practices of adding social value to a program, and care for the community and encounters, have been pronounced aspects in many Croatian historical urban and architectural designs.²¹



Figure 3. Zagreb's Savska Road and the Railroad Overpass

The 1930s railroad overpasses have pronounced essential and distinctive character.²² They undeniably express permanence, power and strength, and their simple framed structure appears uncorrupted by the complexities of culture. They strike spectators with grandeur and importance. Their character is perceived immediately through their simple forms rather than through sequential experience and intellect. They directly communicate their function in their outward appearance – as illustrated in Figure 3.

CONCLUSION

The 1930s overpasses are rational, esthetically attractive, architecturally designed structures, simple harmonic compositions based on the principles of axial symmetry and hierarchy. They are poetically reduced abstract forms, as well as modernizing infills that impose memorable “city gates” and generate a place of social and cultural identity. They possess essential and distinctive character, and they have also become characters themselves which vividly generate the recognizable ambience of one of Zagreb’s main streets. The productive collaboration between architects and engineers has generated valuable and sustainable overpass design solutions. The overpass design contains lessons we can all learn from.

NOTES

- ¹ Karin Šerman and Igor Ekštajn, *Fitting Abstraction, Croatia 1914-2014* (Zagreb: MSU, 2016), 5-6.
- ² Eve Blau and Ivan Rupnik, *Project Zagreb: Transition as Condition, Strategy, Practice* (Barcelona: Actar, 2007), 26-27.
- ³ Blau, 62-63.
Zagreb had to negotiate directly with Vienna and Budapest to connect with the railroad and profit from the network of industrialized urban centers and markets for Croatian goods throughout the Habsburg Empire.
- ⁴ Blau, 61.
- ⁵ Snješka Knežević, *Zagreb u središtu* (Zagreb: Barbat, 2003), 155-183.
- ⁶ Snješka Knežević, "Lenucijeve avenije: nove prostorne osi Zagreba," *Radovi instituta za povijest umjetnosti* 44/2 (2020): 152-154.
- ⁷ August Sarnitz, *Otto Wagner, 1841 -1918: Forerunner of Modern Architecture* (Köln: Taschen, 2005), 33.
- ⁸ Viktor Kovačić, "Moderna arhitektura," *Život I/1900* (1900): 26-28.
- ⁹ Darja Radović Mahečić, *Moderna arhitektura u Hrvatskoj 1930-ih, Modern Architecture in Croatia 1930s* (Zagreb: Institut za povijest umjetnosti, Školska knjiga, 2007), 18-20.
Tomislav Premerl, *Hrvatska moderna arhitektura između dva rata: Nova tradicija* (Zagreb: Nakladni zavod Matice hrvatske, 1990), 35-39.
- ¹⁰ Radović Mahečić, *Moderna arhitektura u Hrvatskoj 1930-ih*, 25.
- ¹¹ Nataša Jakšić, "The Chapel on Sljeme, Zagreb: Heritage Messages and Their Expression in Architectural Design Forms," (paper presented at the Fifth International Conference of the Center for the Study of Architecture in the Arab, Amman, Jordan, November 3-5, 2008).
- ¹² Milan Devčić, "Arhitektura Zagreba", accessed August 10, 2024, <https://www.arhitektura-zagreba.com/ulice/savska-cesta>.
- ¹³ Aleksander Laslo, *Arhitektonski vodič: Zagreb 1898 - 2010*. (Zagreb: Arhitekst d.o.o, Društvo arhitekata Zagreba, 2011), 158.; Nataša Jakšić and Karin Šerman, "Novo u starom: Denzlerova Upravna zgrada Gradskih poduzeća u Zagrebu iz 1935. godine u historicističkom tkivu zagrebačkog Donjega grada." (paper presented at the meeting for the Oddelek za umetnostno zgodovino Filozofske fakultete Univerze v Ljubljani, Ljubljana, Slovenia, November 24-26, 2011).; Radović Mahečić, *Moderna arhitektura u Hrvatskoj 1930-ih*, 165-168.
Prior to the overpasses' design, the architects worked together on the project for the School of Public Health and produced condensed composition of authoritative monumentality with a clear spatial solution. Their affinity for modern structures can be followed in their anthological 1930s projects such as Denzler's Communal Services Office Building in Zagreb with efficient skeleton structure that allows transformable spatial solutions which together with the surfaces determined by the rhythm of modules generated the authoritative formula of architecture of functional beauty, austere purity and monumentality. They were not shy of modern solutions in a highly sensitive context. Kauzlarić's project of City Café and Cinema in Dubrovnik did not only nicely fit the appearance and the atmosphere of the city core, but showed respect for the urban structures and became a prominent element in the famous venduta of Dubrovnik.
- ¹⁴ Adrian Forty, *Words and Buildings: A Vocabulary of Modern Architecture* (London: Thames and Hudson, 2004), 251.
- ¹⁵ Francis D.K. Ching, *Architecture: Form, Space and Order* (New York: Van Nostrand Reinhold, 1979), 287.
- ¹⁶ Snješka Knežević, *Zagrebačka zelena potkova* (Zagreb: Školska knjiga, 1996), 260.
- ¹⁷ Sarnitz, Otto Wagner, 32-39.
- ¹⁸ Andrija Mohorovičić, *Prilog analizi nekih osnovnih problema teorije arhitekture* (Zagreb: Acta Architectonica – Arhitektonski fakultet Sveučilišta u Zagrebu, 1975), 62-63.
- ¹⁹ Šerman, *Fitting Abstraction*, 14-16.
- ²⁰ Šerman, 26-29.
- ²¹ Šerman, 30-33.
- ²² Vittoria Di Palma, "Architecture, Environment and Emotion: Quatremère de Quincy and the Concept of Character," *AA Files* No. 47 (2002): 51-53.

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URBAN GRAPHIC HERITAGE — CASE STUDIES FRAMING THE CREATION OF THE OPORTO'S POETIC ARCHIVE

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INTRODUCTION

The city's construction results from a combination of elements created in a planned way that coexists with other more spontaneous ones, giving it a mesh of complex, unique, and unrepeatable manifestations. This urban complexity has attracted countless designers to observe the landscape, recording the various elements and details that compose it in a particular way. This paper deals precisely with these two dimensions. The complexity that takes place in the construction of urban heritage and the presentation of examples of how it has been observed and recorded by various designers.

From the theoretical framework and the case studies, it was possible to project the creation and foresee the relevance of Oporto's Poetic Archive,¹ an archive built from the poetic observation of the landscape by designers, presenting itself as a collaborative, digital, and open-access platform.

This research is the natural progression of previous research work of collecting and recording the city's graphic heritage as a starting point for creating graphic materials.

It was in these creative processes that the potential of the landscape was revealed, specifically its graphic heritage, as a starting point for the development of new projects, inspiring the creation of a larger project, based on the landscape and giving rise to an archive for the preservation of images of the city's graphic heritage, whose purpose is to inspire the creation of new narratives.

MAN-MADE URBAN GRAPHIC HERITAGE

Kevin Lynch suggests that since the city is a large-scale spatial construction, we are only made aware of it throughout long periods in which the city is apprehended and interpreted in distinct sequences, with the same elements being readjusted, reversed, interrupted, abandoned, or even annulled according to specific narratives:

"At every instant, there is more than the eye can reach, more than the ear can hear, a composition or a scene waiting to be analysed. Nothing is known in itself, but in relation to its environment, to the preceding chain of events, to the recollection of past experiences."²

Like Meinig,³ Besse,⁴ Ingold,⁵ and Tuan,⁶ Lynch⁷ also argues that the observer - in this case, of the cityscape - actively participates in what he sees, observing in the light of his own experiences. He

adds that the city is not only an object perceptible by individuals of the most varied social classes, personalities, and backgrounds, but the product of many builders who permanently alter its structure, being an integral and active part of a constant transformation that responds to specific reasons.⁸ The interpretations one makes of it are usually partial and fragmented, involving personal and sensory references.⁹

Another of Lynch's propositions, that the image of the city is composed of a complex mesh of *paths*, *edges*, *districts*, *nodes*, and *landmarks* that contribute to its identity, structure, and meaning,¹⁰ was particularly pertinent to this research and its intent to record a set of graphic traces built by different actors from different origins that shape a rich and complex weave over the urban territory.

The result of this set may or may not have been planned. Landscape-defining documents – such as Municipal Master Plans – allow the growth of the urban network to be controlled in a structured way, where newly built heritage – public and private – is added to the pre-existing-built heritage in a regulated manner. Other marginal and more spontaneous manifestations provide the city with disruptive elements.

Temporal permanence is also of utmost importance. In addition to its most durable constituents, the city has several temporary elements,¹¹ which appear and disappear depending on needs and often leave relatively durable traces. As an evolving and changing organism, the urban landscape is often referred to through the metaphor of a palimpsest, where layers are added on top of existing ones. This can mean destroying or adapting more recent layers to bring older records to light. This heterogeneous set retains fragments and traces of successive stages of development and use, where each embodies the model according to which it was initially conceived.¹²

Bartolini presents another concept inspired by the work of Sigmund Freud, dubbed Brecciation. Brecciation resorts to the metaphor of the agglomeration of diverse fragments, cemented by a matter of the same or different nature, that are transformed into something new and remarkable. They are fragments of different origins, and although they do not obey any chronological sequence, they can form a meaningful entity. By transposing this metaphor to the urban context, it becomes possible to observe the city through a different lens, where various aspects intertwine and coexist.¹³

URBAN GRAPHIC HERITAGE OBSERVED BY THE DESIGNER

Since the mid-twentieth century, numerous designers have documented the urban landscape through their unique perspectives and interests. They have proposed diverse projects where the city's elements are experienced, observed, recorded, and used to create personal archives and various visual narratives, manifested in editorial projects, exhibitions, websites, and other media.

Herbert Spencer et al

Some of the most notable works of this landscape observation are associated with Herbert Spencer, as a designer and observer of the surrounding environment, and as an editor, by publishing works by other designers, artists, and historians. Robert Brownjohn, Alan Fletcher, Aloisio Magalhães, Camilla Grey, Henry Steiner, Bob Gill, Colin Forbes, David Enock, Tony Palladino, and Stanley Eisenman were some of the names that participated with their graphic or photographic work in *Typographica* magazine.¹⁴ This project was a reference in the world of graphic design and went far beyond addressing topics related to typographic production. It charted an innovative path by showcasing the graphic work of modernist designers and artists alongside more conventional themes.¹⁵ In the second series, photography gained a central role as a theme and progressively as a visual. The logic of content creation in which one starts from a text to arrive at a set of images that illustrate or complement it is progressively reversed, giving way to photographic essays that originate the production of texts.

Herbert Spencer also left other works from his vast archive on the landscape that are worth mentioning. His book "Traces of Man" features 24 photographs collected over several years from different countries, united by the common characteristic of pattern. These images reveal significant truths about human life in various regions, offering insights into the human condition that transcend specific locations.¹⁶



Figure 1. Pages from *Typographica Magazine*. Cover and pages from the book *Traces of Man*.

James Sutton

James Sutton's 1965 book "Signs in Action"¹⁷ explores road signs, contributing to the debate about their quality in the English context. The book features photographic contributions from several designers, illustrating weaknesses in road sign organization and presenting examples of good practice.



Figure 2. Cover and pages from the book *Signs in action*.

Nicolete Gray

Nicolete Gray recognized as one of the first promoters of typographic specimen collection in the urban context, presents in her book "Lettering on Buildings" (1960) a set of typography images in urban buildings, discussing them from historical and typographical perspectives, presented in chronological order, tracing the temporal evolution of lettering.

Alan Bartram

Alan Bartram's contribution emerged from his numerous bicycle trips, where he recorded specimens of typography and lettering in public space. Between 1975 and 1986, the publishing house Lund Humphries published a series of books by Bartram, organized by themes where the sequential images were individually captioned, also allowing a continuous text reading from page to page¹⁸.

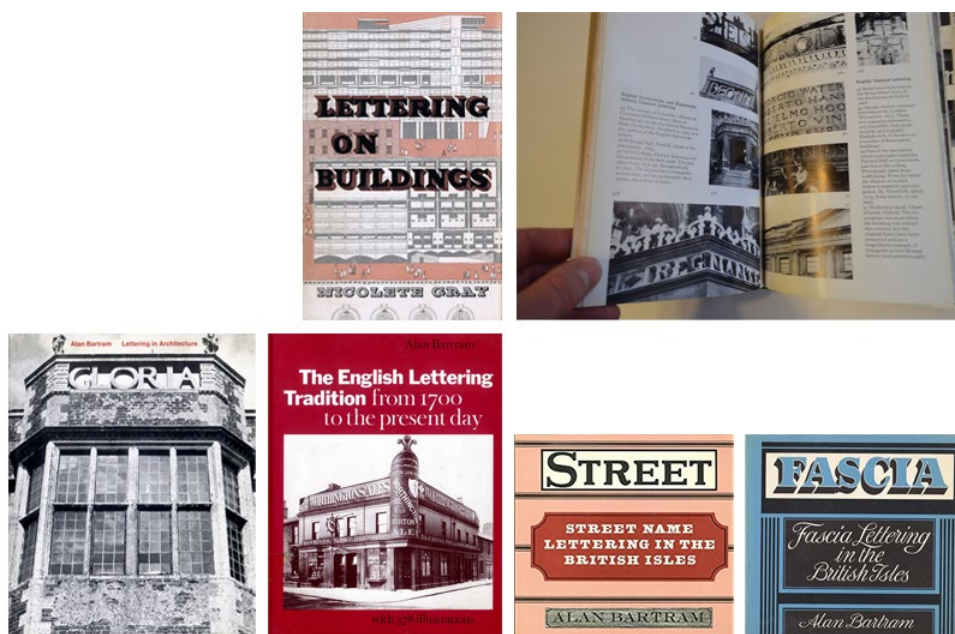


Figure 3. Cover and pages from the book *Lettering on Building*. Covers of Several books by Alan Bartram.

Louise Fili

In the 1980s Louise Fili photographed cities and their graphic heritage, using them as inspiration for her design work. This practice resulted in a vast personal collection, which later gave rise to thematic books on European cities.

America Sanches

America Sanches provides access to over 1,000 photographs of Barcelona, showcasing the graphic heritage created by anonymous artisans, artists, and typographers who have contributed to signing, identifying, illustrating, and decorating the city's urban space.¹⁹



Figure 4. Covers and pages from several books by Louise Fili. Cover and pages from *Barcelona Gráfica*.

Phill Baines and Catherine Dixon

Baines and Dixon²⁰ continue the tradition of observing and recording letters in the landscape. As they state in their introduction, it is about seeing what we often do not pay attention to. Direction signs, inscriptions on buildings, or letters on objects such as manhole covers are all materials that usually cannot fit into a watertight category and are the product of the work of professionals from various fields. This book celebrates the work of all these anonymous professionals and sets itself up as a starting point for studying and understanding typography and lettering in public spaces.

George Nelson

George Nelson, an architect, designer, and teacher, built an archive of thousands of photographs throughout his life. In his book “How to See: Visual Adventures in a World God Never Made”,²¹ he presents a small part of this archive, its classification logic, and how images relate critically to visual literacy, observation, and ways of seeing.

Rob Forbes

Inspired by Nelson's images, Rob Forbes describes the unique experience of observing one's surroundings in "See for Yourself": “(...) Close observation is like any exercise, physical or intellectual or spiritual. The more we see, the more we see”.²² Based on this premise, he creates

connections between seemingly disparate images, relating them to visual classes such as colour, contrast, shape, light and shadow, repetition, or simplicity.



Figure 5. Cover and pages from *Signs: Lettering in the Environment*. Cover and pages from *How to See: Visual Adventures in a World God Never Made*. Cover and pages from *Seen for Yourself: A Visual Guide to Everyday Beauty*.

URBAN GRAPHIC HERITAGE ARCHIVES

In the field of Arts and Design, many authors have used the archive as a starting point for their work.²³ Others have, throughout their professional paths, built archives with the material of their authorship and diverse memorabilia linked to their experiences and interests.²⁴

Several examples compile graphic content from the urban landscape, including books, exhibitions, and websites. Although their genesis and purpose vary, these examples are widely illustrated and loosely classified according to broad categories.

For this investigation, a small group of examples was selected. These materials are not conventional archives, but they share some essential characteristics with archives, making them valuable for this research. These examples combine visual documents of different natures and themes, compiled by authority figures on the subject, who recognized them as crucial for future preservation.

This analysis made it possible to understand the construction structures of these archives, how they are accessed and what information is available for consultation.

The “Central Lettering Record” is one of the most crucial archives on lettering and typography, consisting of photographs, slides, and numerous physical materials. Created in the 1960s, it serves primarily as a pedagogical tool that can only be consulted in person.

The “Lettreiro Galeria Project”, started by Portuguese designers, has been collecting signs since 2014, resulting in a collection of more than 200 specimens from Lisbon and other places in Portugal.

The “Montréal Signs Project”²⁵ is a permanent exhibition of commercial and civic signs on the Loyola campus of Concordia University. The project's website provides detailed information about each specimen's history and location.

The “Portuguese Advertising Tile”²⁶ makes a mapping of the existing advertising tile panels in Portugal. This collaborative archive accepts references for locating specimens and contributing content. Each entry provides images of the panels, location data, historical description, and whether it is still available or has already been removed. The information about the specimens can be accessed from the site's main page, by category, through a map of Portugal, or by individual entry.

“Windows of the World”,²⁷ by photographer André Vicente Gonçalves, records windows as significant manifestations of architects' genius, organised by cities. It is possible to see the unique chromatic and graphic richness of each collected specimen, reinforced by the group identity that the set evokes.

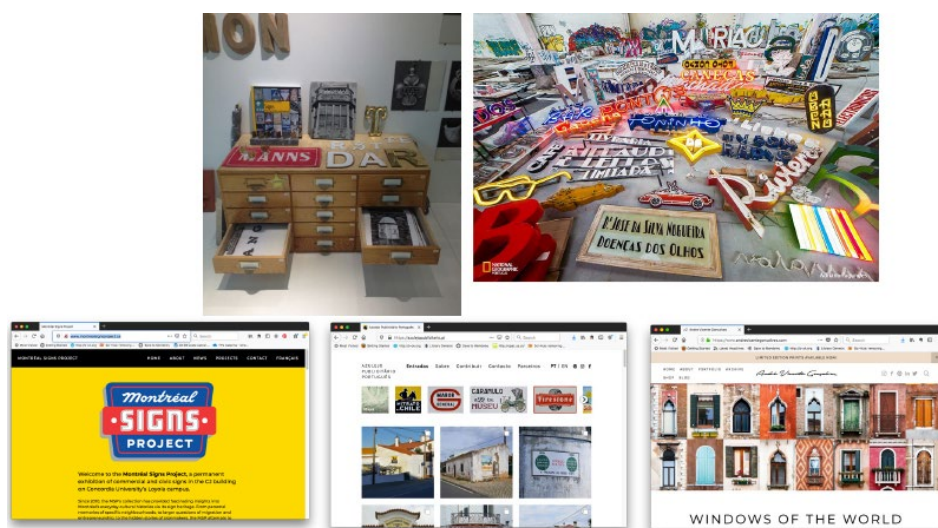


Figure 6. Compilation of images of the various projects analysed – Central Lettering Record; Letreiro Galeria; Montréal Sign Project; Azulejo Publicitário Português; Windows of the World.

OPORTO’S GRAPHIC HERITAGE ARCHIVES

Oporto's Poetic Archive originated in the city of Porto. It became essential to analyse other projects that emerged in this territory and which, despite different approaches (academic, collaborative, spontaneous), collected, analysed, and disseminated various aspects of the city. These repositories allow access to the graphic heritage and its contextual information.

“Porto pelo Porto”²⁸ is an online, collaborative and collective archive dedicated to compiling graphic representations of the word Porto. The project consults printed materials and the urban landscape, organising specimens into inventories. It stands out for sharing similar collection sources and team profiles with the Oporto’s Poetic Archive.

The “Oporto Tiles project”,²⁹ created in 2016, aims to be a public and participatory digital archive of existing tiles in Oporto. Its main objective is to preserve this heritage through surveys, photographic records and contextualisation.

“Porto de Virtudes”³⁰ results from a master's academic research. In addition to a physical exhibition, this virtual exhibition records, through images, videos, audio and texts, a specific portion of Oporto's landscape, preserving the memory and identity of the place.

“Reflexos do Porto”³¹ is an academic work³² on tiles in the city. This archive provides a historical guide, thematic tourist routes, collections by location and a photographic archive of specimens found in the city.

Um Porto Gráfico³³ is a Facebook community sharing images of commercial signs in the urban landscape. It allows sequential viewing of images, albeit with limited information and no search capability.

Porto Gráfico³⁴ and Porto Graphics³⁵ are books that present a record of the city's observation, focused on Oporto's most characteristic details. Both show images of the landscape and its graphic heritage, contemplating distinctive graphics, typography, textures and plays of light and shadow, executed in various techniques such as tile, iron, stone or glass.

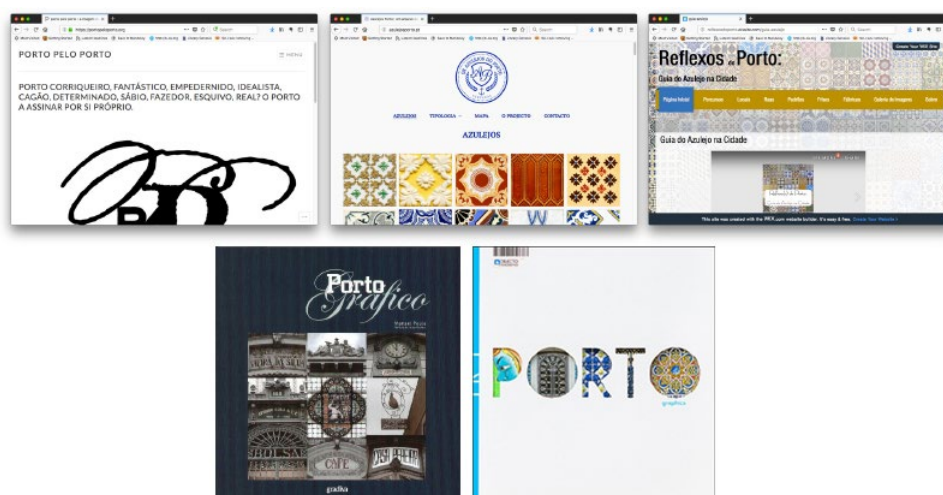


Figure 7. Compilation of images of the various projects analysed — *Porto pelo Porto*; *Os Azulejos do Porto*; *Reflexos do Porto*; *Porto Gráfico*; *Porto Graphics*.

These projects, although with different approaches and focuses, collectively contribute to documenting, preserving and disseminating Oporto's rich graphic heritage, offering varied perspectives on the city's visual and cultural identity.

OPORTO'S POETIC ARCHIVE

Research into examples of both designers and archives was fundamental in defining the approach to creating the “Oporto Poetic Archive”.³⁶ This process validated a particular designer's way of seeing while demonstrating the poetic potential of such visual materials.

Designers were invited to walk around the city along a pre-defined route and record the images most meaningful to them. The subjectivity and uniqueness of the process are thus assumed, proposing a poetic observation of the landscape in which the de-signer records elements that stand out as shaping new meanings.

After analysing the collected records and categorizing the specimens, the archive's contours were defined. Oporto's Poetic Archive was conceived as a digital platform, made available online and protected under a Creative Commons license.

The Archive is structured in two distinct areas: the archive itself, which offers six possible paths to reach individual specimen information, and a section presenting the project. The homepage allows access to graphic heritage specimens randomly or through specific searches – by category, author, dominant colour, street name, or location map (georeferencing).

Regarding how to search in the archive, it was essential to access the contents not only through the principles underlying the textual categories but also through an approach of visual references. In this regard, the search by dominant colour was highlighted, allowing the user to access images grouped by chromatic similarity.

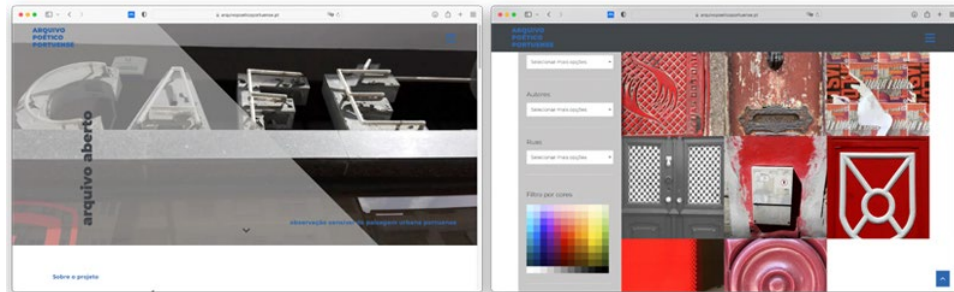


Figure 8. Oporto's Poetic Archive land page. Colour search result page.

CLOSING REMARKS

In the context of the identification of graphic heritage, the relevance of the approaches and projects of these designers is related to their purpose of collecting snapshots of the landscape, and using these images as a starting point for their work, whether from a scientific research perspective, contributing to the study of disciplines such as typography and graphic design, or in the practice of the profession, inspiring the creation of other graphic objects.

This survey also allowed an understanding of how some archives are organized and which functionalities (and conceptualizations) are more interesting and valuable from the perspective of a designer who uses them as a research tool for his work. Each project's positive and weaker aspects were considered to collect data for a set of requirements that Oporto's Poetic Archive should meet.

Although the various examples of repositories of urban heritage in Oporto cannot be recognized as archives, they reveal themselves as indicators of graphic heritage's importance in the design panorama. These case studies were fundamental in validating the potential of images registered by designers, foreseeing the creative and pedagogical potential that an archive of this nature could have.

NOTES

- ¹ “Arquivo Poético Portuense.” Accessed July 19, 2024, <https://arquivopoeticoportuense.pt>
- ² Kevin Lynch. *A imagem da Cidade* (Edições 70, 1982), 11.
- ³ Donald William Meinig. “The Beholding Eye: Ten Versions of the Same Scene.” In *The Interpretation of Ordinary Landscapes: Geographical Essays*, 33–48. (New York: Oxford University Press, 1979).
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- ⁵ Tim Ingold. *The Perception of the Environment – Essays on Livelihood, Dwelling and Skill*. (London and New York: Routledge, 2000).
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- ⁹ Tim Ingold. *The Perception of the Environment – Essays on Livelihood, Dwelling and Skill*. (London and New York: Routledge, 2000).
https://books.google.pt/books?id=S3GakE5OT-kC&printsec=frontcover&dq=the+perception+of+environment&hl=pt-PT&sa=X&redir_esc=y#v=onepage&q&f=false. Sarah Pink. “A Multisensory Approach to Visual Methods.” In *The Sage Handbook of Visual Research Methods*, edited by Eric Margolis and Luc Pauwels. (London: SAGE Publications Ltd, 2011).
- ¹⁰ Robert Harland. *Graphic Design in Urban Environments*. (London and New York: Bloomsbury Academic, 2016): 62.
- ¹¹ Scaffolding, cranes, temporary signage, posters, and graffiti, among others.
- ¹² Johanna Drucker. “Species of Spaces and Other Spurious Concepts Addressed to Reading the Invisible Features of Signs within Systems of Relations.” *Design and Culture* 2, no. 2 (2010): 135–53.
- ¹³ Nadia Bartolini. “Critical Urban Heritage: From Palimpsest to Brecciation.” *International Journal of Heritage Studies* 20, no. 5 (July 4, 2014): 519–33.
- ¹⁴ *Typographica Magazine* (1949-1967). Herbert Spencer Editorial Coordination & Lund Humphries Edition.
- ¹⁵ Rick Poynor. *Typographica*. (New York: Princeton Architectural Press, 2002): 10.
- ¹⁶ Herbert Spencer. *Traces of Man*. (London and Bradford: Lund Humphries, 1967): III.
- ¹⁷ James Sutton. *Signs in Action*. (London: Studio Vista, 1965).
- ¹⁸ Lucy Myers. “In Memory of Alan Bartram, 1932-2013: Writer, Book Designer and Artist.” Lund Humphries, 2013. <https://modernbritishartists.wordpress.com/2013/04/12/in-memory-of-alan-bartram-1932-2013-writer-book-designer-and-artist/>.
- ¹⁹ Norberto Chaves. “La Barcelona Gráfica de América Sánchez.” In *La Barcelona Gráfica*. Barcelona: Gustavo Gili, 2001. https://www.norbertochaves.com/articulos/texto/la_barcelona_grafica_de_america_sanchez.
- ²⁰ Phil Baines and Catherine Dixon. *Signs: Lettering in the Environment*. (London: Laurence King Publishing, 2008).
- ²¹ George Nelson. *How to See: Visual Adventures in a World God Never Made*. (London: Phaidon Press Ltd, 2017).
- ²² Forbes, Rob. *See for Yourself – A Visual Guide to Everyday Beauty*. (San Francisco: Chronicle Books, 2015): 10
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- ²⁴ Sue Breakell. “Archival Practices and the Practice of Archives in the Visual Arts.” *Archives and Records* 36, no. 1 (January 2, 2015): 1–5. Mike Featherstone. “Archive.” *Theory, Culture and Society* 23, no. 2–3 (2006): 591–96. Hal Foster. “An Archival Impulse, 2004.” In *The Archive*, edited by Charles Merewether, 143–48. (London and Cambridge: Whitechapel and MIT Press, 2006). Karl Magee and Susannah Waters. “Archives, Artists and Designers.” *Journal of the Society of Archivists* 32, no. 2 (October 2011): 273–85. Sven Spicker. *The Big Archive: Art from Bureaucracy*. (Cambridge, Massachusetts: MIT PRESS, 2008).

- ²⁵ “Montréal Signs Project.” Accessed July 19, 2024, <https://www.montrealsignsproject.ca>
- ²⁶ “Azulejo Publicitário.” Accessed July 19, 2024, <https://www.facebook.com/azulejopublicitario>
- ²⁷ André Vicente Gonçalves. “Windows of the World Collections.” Accessed September 9, 2020. <https://www.andrevicentegoncalves.com/windows-of-the-world>
- ²⁸ “Porto Pelo Porto.” Accessed September 9, 2023. <https://portopeloporto.wordpress.com/>
- ²⁹ “Os Azulejos do Porto.” Accessed September 9, 2023. <https://azulejosporto.pt>
- ³⁰ “Porto das Virtudes.” Accessed September 9, 2023. https://artsandculture.google.com/story/zgXRBHG_Fst6Jw?hl=pt-PT
- ³¹ “Reflexos do Porto.” Accessed September 9, 2023. <https://reflexosdoporto.wixsite.com/guia-azulejo>
- ³² Nisa Pereira Félix da Rocha. “Reflexo(s) Do Porto: Processo Para a Produção de Um Guia Do Azulejo Na Cidade.” Porto, 2015.
- ³³ Facebook. “Um Porto Gráfico,” n.d. https://www.facebook.com/umportografico/about/?ref=page_internal.
- ³⁴ Manuel Paula. *Porto Gráfico*. (Lisboa: Gradiva, 2004).
- ³⁵ Sérgio Fonseca. *Porto Graphics*. (Maia: Objecto Anónimo, 2016).
- ³⁶ “Arquivo Poético Portuense. Accessed July 19, 2024, <https://arquivopoeticoportuense.pt>

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KADIKÖY HASANPAŞA GASWORKS

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INTRODUCTION

Hasanpasa Gasworks, a significant industrial heritage site in İstanbul, Türkiye, stands as a testament to both an empire's technological breakthrough and a community's commitment to historical preservation. Established in 1891 during the late Ottoman Empire, the gasworks complex played a vital role in providing energy to Istanbul until its closure in 1993. Following years of neglect and an ever-encroaching likelihood of demolition, the site was revitalized through a 25-year conservation and adaptive reuse project, leading up to its reopening as "Müze Gazhane" in July 2021.

Historical Background

The use of coal gas became widespread in Istanbul around the 1850s, starting with the construction of the Dolmabahçe Gasworks to light up the nearby Dolmabahçe Palace.¹ By 1857, gas distribution to Beyoğlu district and shortly after that, to prosperous households in the Pera neighborhood began.² Gas was commonly used for lighting and even started to light up important places of worship on special nights and holidays. After the founding of the Turkish Republic, the gas facility continued to operate alongside additional, newly built gasworks facilities.

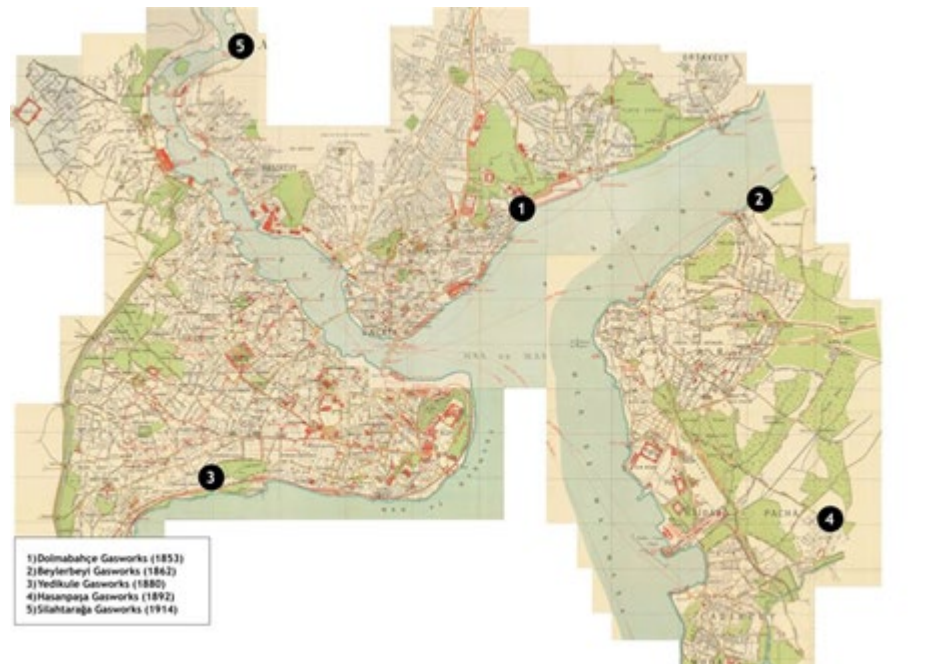


Figure 1. Gasworks facilities in İstanbul on Plan General De la Ville de Constantinople Maps Collage from 1922

The Üsküdar Kuzguncuk Gasworks on the Asian side of Istanbul began construction in 1862. Some three decades later, French industrialist Charles George was awarded the concession for the founding and operation of the Kadiköy Hasanpaşa Gasworks in 1891. The plant officially came into service in 1892.³ Gasworks was originally founded to meet the increasing energy demands of İstanbul's evolving urban landscape and continued to undergo significant expansions and technological upgrades over its operational history. Additionally, the construction of Silahtarğa Power Plant began in 1913, marking a further development in the city's ever-growing energy infrastructure.

Coal's Journey

Coal mining in Zonguldak, Türkiye, has been integral to the region's industrial economic periphery, fueled by the city's abundant coal deposits along the Black Sea coast. Once extracted, coal was transported within the mines using conveyor belts and/or rail systems to the designated loading points near the surface. The historical significance of the Varagel Tunnels in Zonguldak cannot be overstated, as they facilitated the efficient transfer of coal from higher elevations to the coastline for loading onto ships, which transferred the raw material to Istanbul and other urban and industrial destinations.

Establishment Years

The Hasanpaşa Gasworks has gone through three main operating stages. The only documents related to its founding period are the German cadastral maps of Istanbul from the 1910s.⁴ During this time, the raw gas was produced in horizontal chambered batteries in Building P, the cleaning and purification plant was in Building A, the cleaned gas was stored in a single gasometer in Building Gc, and all these facilities were serviced by the workshops, which were situated in Building T. The Pervititch Insurance Maps indicate that this initial period lasted until 1938.

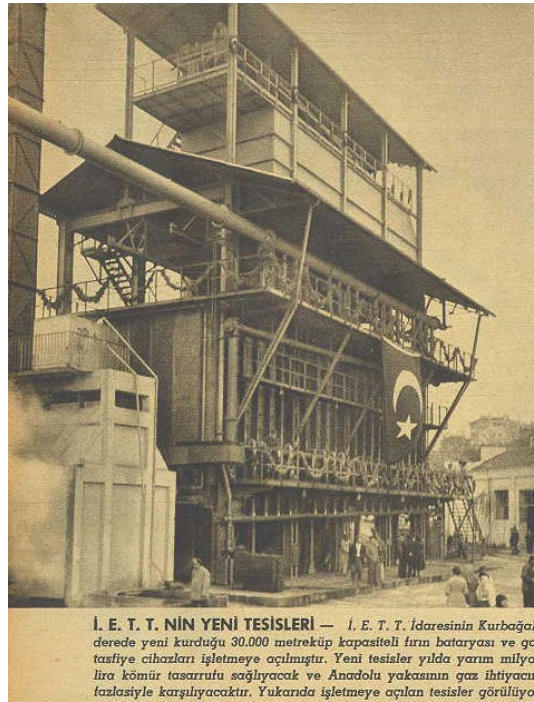


Figure 2. A newspaper clipping featuring second periods' first vertical chambered battery

In the second period, some buildings were reorganized, the plant's capacity was increased with vertical chambered batteries in Building R, a new gasometer with Building Gb, the cleaning and purification plant in Building S, and a new unit to produce carbureted gas, which was added in 1952. In the final phase of the gasworks, German firms constructed the second set of vertical chambered batteries in Building M, along with new cleaning and purification plants in Building N. The compressor in Building F was built by Nuovo Pignone, an Italian company. The gasometer in Building Gb was constructed by Wilke-Werke, a German company, and the gasometer in Building Gc was built by Bonet Spazen, another German company. The third and largest gasometer in Building Ga was produced by TechnoSport, also a German company. This third and final period lasted 36 years, between 1957 to 1993, during which the plant reached its peak capacity.⁵

Community Actions After Closure

The site faced challenges after its closure in 1993. Initially used as a bus depot and threatened with demolition, it was the advocacy of residents, who formed a non-governmental organization under the name of Gasworks Environmental Volunteers, that spearheaded its preservation. The daily lives of the volunteers took place in the surrounding neighborhood of Hasanpaşa, while some of them even had relatives that were formerly employed in the gasworks industry. They came together out of necessity and due to the lack of a public green space and the intentional neglect of a potential public space by profit-driven entities. They started a petition campaign to spread awareness and get coverage in newspapers; and as a direct result of their efforts, the gasworks were included in Türkiye's National Inventory of Intangible Cultural Heritage in 1994.



Figure 3. Pictures and flyers from festivals organized by Gasworks Environmental Volunteers

Documentation

The project started with the documentation of the site in 2000. The conservation and adaptive reuse project of Hasanpaşa Gasworks began with a collaboration between Istanbul Metropolitan Municipality and academics and students from İstanbul Technical University's (ITU) Faculty of Architecture in 2001. A detailed survey of the site was conducted, which would guide the eventual intervention decisions. An advanced measurement tool at the time, laser total station, was used for surveying. The preparation involved creating sketches for both the interior and exterior of the buildings in the complex as a basis for accurate measurement, which involved sketching all the facades and documenting every piece of technical equipment. In addition, spaces were documented in detail with analog photography.

Furthermore, academics from Istanbul Technical University conducted interviews with the now retired workers and technicians of the facility to understand the gas manufacturing processes and the buildings and mechanical installations involved.



Figure 4. Visuals created by laser total station for surveying

Decisions For Restoration Approach

The project was an innovative demonstration of conservation and preservation processes involving multiple disciplines like architecture, restoration, engineering, academia, history and public awareness in Türkiye. The main approach to restoration was to conserve everything on site. Detailed historical analyses of the site formed the decisions for relevant interventions and involved preserving all industrial installations. However, during the intervening period, certain buildings and mechanical installations have further deteriorated due to environmental factors, vandalism, and scrap metal theft. Different conservation approaches were adopted for both the site as a whole and the buildings.



Figure 5. Change in restoration approach over the years

Buildings like A, C, F, I and S, which were once dedicated to specific technical functions like purification, compression, and gas metering and carbureted gas holding, were repurposed into general workshops, adapting to the modern needs of a public space, while also preserving the original materials and architectural details.

M BUILDING - Coke Oven Battery

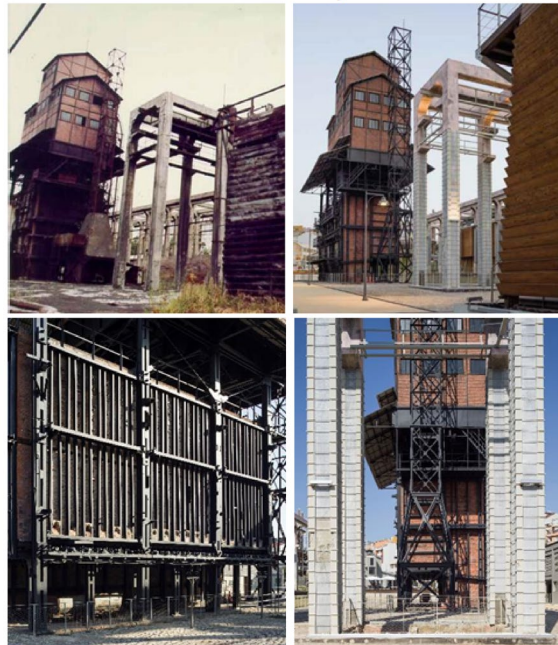


Figure 6. Before and after pictures of M Building after conservation

Buildings M and R, which housed the vertical chambered batteries, were conserved and displayed as monumental structures, as an homage to their industrial heritage, which also offered educational experiences. Related buildings in the production process, such as Buildings N and P, were transitioned into a museum and an exhibition space respectively.



Figure 7. Ga Gasometer and L Building after their re-functioning with contemporary additions

Building L, the coke conveyor structure, and the remaining foundations and outer shell of the largest gasometer, Building Ga, were conserved and attached to modern structures with new functions. In Building L, a freestanding structure in the form of an info tunnel was added, which also highlighted the volume of the original structure. In Building Ga, a theatre and a sky garden were constructed.

Some structures, including the carbureted gas holders, Building I and J and the two smaller gasometers that were demolished after 1994, Buildings Gb and Gc, were redesigned with contemporary materials and details, however in the same overall volume for preserving visual memory. Lastly, Buildings Kd and Ty were designed as a kid's club and a bookstore respectively, as their additions would be essential to the functional integrity of the campus.

Implementation Of Restoration Decisions

During the 13-year-long gap between the approval of the project in 2001 and the beginning of the restoration in 2014, most of the buildings were further damaged due to the environmental and human factors, not to mention a major earthquake in 1999, which has resulted in significant changes to the construction laws in Türkiye. Meanwhile, Gasworks Environmental Volunteers continued to research successful examples of public co-management models in Netherlands, got together with economists and legal advisors, and authored a report for potentially establishing this type of a management system in Hasanpasa Gasworks for the very first time in Türkiye.

Between 2014 and 2019, project authors, advisors, and engineers from various fields and institutions convened in over 200 regular meetings led by Afife Batur. The changing decisions for the restoration approaches can be attributed to both the effects of wear over time and the buildings' weakening structural performance. As a result, several new decisions were made to reflect the necessary changes in the restoration process of these structures.



Figure 8. Change in the site between 1994 to 2021 from aerial views

Current Functions

The re-opening of Hasanpaşa Gasworks as "Müze Gazhane" marks a significant achievement in industrial heritage conservation in Türkiye. The complex now hosts museums, galleries, workshops, educational facilities, and public spaces, fulfilling the community's vision of a vibrant cultural center. The diversity of events held in Müze Gazhane is remarkable, ranging from stand-up comedy performances to İstanbul Municipal Theaters, and from modern art exhibitions to vibrant cultural festivals and sports events. The open space of Müze Gazhane offers a dynamic platform for grand gatherings.

The educational aspect of the project was imperative from the moment of its inception, with the involvement of ITU academics and students in the survey and research of the site. Today, Müze Gazhane continues to serve as an educational hub, offering access to libraries, workshops, and exhibition spaces. It has become a popular destination for students of all grades, contributing to the cultural enrichment of İstanbul through exhibitions, performances, and educational programs.

Studying in a gasworks facility provides valuable insights into the historical and technological development of gas production. It offers the opportunity to understand the evolution of industrial processes.

Additionally, by studying the changes in equipment and facilities over time, researchers and students can gain a deeper understanding of how technological advancements have shaped the energy industry.



Figure 9. New functions assigned by İstanbul Metropolitan Municipality

Its adaptive re-use transformation not only preserves historical buildings and equipment, but also serves as a model for future conservation projects in Türkiye and abroad. The project has wide-ranging implications in the modern efforts of industrial heritage preservation and public engagement in urban planning.

CONCLUSION

Central to the success of the Hasanpaşa Gasworks project was the determined involvement and advocacy of the Hasanpaşa community. The Gasworks Environmental Volunteers played a pivotal role in raising awareness about the site's historical and cultural significance. Since the closure of the gasworks, they campaigned for its conservation as a public space, resisting pressures of construction-oriented investments. Their efforts ensured that the final design respected the community's wishes, focusing on public accessibility and cultural enrichment rather than profit-driven ventures.

Kadıköy Hasanpaşa Gasworks stands as an example of the power of community activism and collaborative heritage conservation. Through decades of effort and endeavor, residents and stakeholders transformed a neglected industrial site into a vibrant cultural center. Müze Gazhane not only celebrates Istanbul's industrial past but also enriches its present and future as a dynamic public space.



Figure 10. Photos showing the current use of Müze Gazhane

The structures and equipment that were imported from various European countries, together with the local architectural characteristics of the buildings make this complex a unique example of industrial heritage in Türkiye.

As a pioneering example of adaptive reuse and community-driven preservation, the project continues to inspire similar projects worldwide, demonstrating the enduring value of industrial heritage in contemporary urban landscapes.

Müze Gazhane, with its sheer size, suitability for different types of events and organizations, as well as the spatial and architectural flexibility to meet the requirements of potential cultural events and future projects has already become a vital and indispensable part of Istanbul.

The potential of the site continues to inspire the design team to imagine self-sustainable design scenarios. This expansive space holds promise as a multifaceted hub, where children can thrive in innovative educational playgrounds that integrate renewable energy sources and interactive learning exhibits, exploring solar-powered mazes or engaging in hands-on workshops that teach sustainability through play. Beyond its educational benefits for children, Müze Gazhanes has the potential to transform into a vibrant urban park, offering green spaces and community gardens that breathe new life into the cityscape.

The project aimed to transform the site into a cultural destination serving not only its immediate neighborhood, but the entire metropolitan area of Istanbul. By harnessing its potential, the gasworks site could continue to act as a dynamic and sustainable cornerstone of urban life, greatly enriching both.

NOTES

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- ² Nur Akın, "19. Yüzyılın İkinci Yarısında Gaşata ve Pera,Literatür", İstanbul, 1995, s. 127 vd.
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UNDERCURRENTS: CROSS-BORDER MAPPING URBAN HISTORIES IN THE GREAT LAKES REGION

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INTRODUCTION

This paper is based on an overview of transborder research we have been working on for several years, focusing on a recent research project entitled *Sensing Borders: Mapping, Media and Migration* (2020-2024). The research has been set in motion through the *InTerminus Research Collective* which, over the years, has included the contributions of several artists, a few geographers and historians as well as urban planners and architects.

Our investigations start from the premise of un-bordering, un-mapping and remapping of the borderland areas in the lower great lakes. Counter-cartographies or counter-mapping research enables ways to visualize how national boundaries tie into settler-colonial narratives. Relatedly our projects are invested in historical erasures, especially where Indigenous and Black histories traverse international boundary lines in this region. Over the years our counter-mapping projects have established a collaborative network of artists and scholars who are all working in social-spatial practices. In this region it has become especially important to counteract the increasingly securitized spaces that have re-made the Canada-U.S. border in the last two decades, where the impacts on community and grassroots organizations have been severely impacted.¹ In moving the emphasis from the physical border to a significantly larger borderlands region, one that encompasses the great lakes and its watershed, historical and geopolitical complexities multiply as the region spans across two settler nations and several Indigenous ancestral territories. A borderlands perspective to the multiplicity of place is common in thinking through the political, cultural and ecological complexity of the Mexico-U.S. borderlands regions, but it is less commonly acknowledged where the political boundary between Canada and the U.S. only becomes visible through each successive economic or security crisis. Our research draws from critical perspectives in border studies, specifically Julie Young's idea of the "border as archive," an observation that borders are produced through their crises and media reports as archival formations in and of themselves.²

As border studies is inherently interdisciplinary, *InTerminus* aims to trace relations between seemingly disparate fields to emphasize commonalities from a range of historical periods or regions, and to visualize complex and "hidden" geographies: those ranging from settler-colonialism to forced migration, border ecologies and contemporary security practices. An important element of the research project is a reconsideration of the role of migration in the area. We have been particularly careful to consider timescales that are both longer and shorter than the present moment of crisis and how different forms of migration can be sensed, unearthed and documented to see the great lakes

region as space of transit and transition rather than one that is static and divided.³ All of us work through participatory and collaborative approaches to making maps as a form of “low-resolution” field research that attempts to capture fleeting and ephemeral responses to places. Our projects begin with walking, following a range of artist-led practices.⁴

For the last decade, *InTerminus* has worked with the *Hamilton Perambulatory Unit* (HPU), a collective directed by media artists Taien Ng-Chan and Donna Akrey, to organize local “walkshops” that take place within great lakes border geographies. These participatory events work to locate the ways that our built environments promote and preserve certain histories while concealing others. Additionally, since 2020, *InTerminus* has worked with the architect and planner Dorian Moore to produce cross-border research in Windsor and Detroit to understand the long history of urban disinvestment in these two cities and how forms of racial segregation have been built into each city’s urban plans.

Strata-walking, environmental mapping, and urban form mapping are interconnected practices that enhance the understanding of cultural, environmental, and spatial dynamics. Together, these practices offer a comprehensive view of how urban areas evolve and function, integrating environmental and structural considerations to inform counter-narratives. Each of the three methodologies, as utilized for different levels and types of investigation, is detailed in the remainder of the paper.

STRATA-WALKING AND COUNTER-MAPPING IN THE BORDERLANDS

The “strata-walk” is a methodology introduced and developed by the Hamilton Perambulatory Unit (HPU). A play on the slow geologic time of metamorphic strata, the strata-walk is an “experimental research-creation practice.” Defined and organized by “the art of noticing,” strata are collaboratively described and defined through a series of workbooks containing prompts that draw attention to the ways through which spatial meaning is created through the layers or strata noticeable at a site. Strata-walks trace “complex networks, flows, and hidden knowledge” which are vital to understanding borderlands regions. *InTerminus* has collaborated with HPU in the Detroit-Windsor and Niagara border regions where strata-walks call on participants to point to “fissures” in the official narratives of place where alternative imaginings might be possible, beyond national and industrial affiliations.⁵

The most extensive of these was *Buoyant Cartographies* (2018) a three-day collaborative mapping workshop that took place on the Detroit River led by three collectives. Each group researched and led a walking tour of one of three shorelines on the Detroit River: the Detroit Shoreline, the Windsor Shoreline, and Peche Island, which sits in the middle of the Detroit River. Fifteen artists, historians, and urban researchers participated in the event, providing maps and notations that reflected expectations and observations about the river itself: what it facilitates, transports and connects, both in the present and the past⁶. Our workshop began with the premise that the Detroit River serves as a point of connection rather than one of division. The workshop aimed to trace the historical and cultural relationships between water, practices of transit, and histories of migration before the Canada-U.S. border was established in this region, working against the grain of the borderline to observe the river as a space of migration and mobility.

The space of the Detroit River has been colonized multiple times: in the 18th and 19th centuries by the French and the British; a century later by Canadians and Americans; and not long after, through the extractive colonialism of transnational industry which now dominates the landscape. The Anishinaabemowin place name for the region of the Detroit River is Waawiiatanong Ziibi or, where the river bends.⁷ This is the traditional home of the Three Fires Confederacy of the Ojibwe, Odawa, and the Potawatomi, as well as Huron/Wyandot peoples. However, we did not hear or see a direct reference to ongoing Indigenous presence in the region in the public monuments that dot the riverfront pathways, or in the place narratives that have shaped each city’s claim to the river. To guide our

explorations we made workbooks to locate what is ordered, dominant and visible, but also, more importantly, to sense what is no longer available to be seen. The resulting maps, images, and videos collected over the course of our three-day workshop were informed by the poetics of the river.⁸ Participants' maps often noted the ways in which national-colonial narratives are celebrated and performed, crafted into an uncomfortable sense of local pride that overlooks the environmental destruction, and built into waterfront plazas that offer competing visions of the river and its histories.

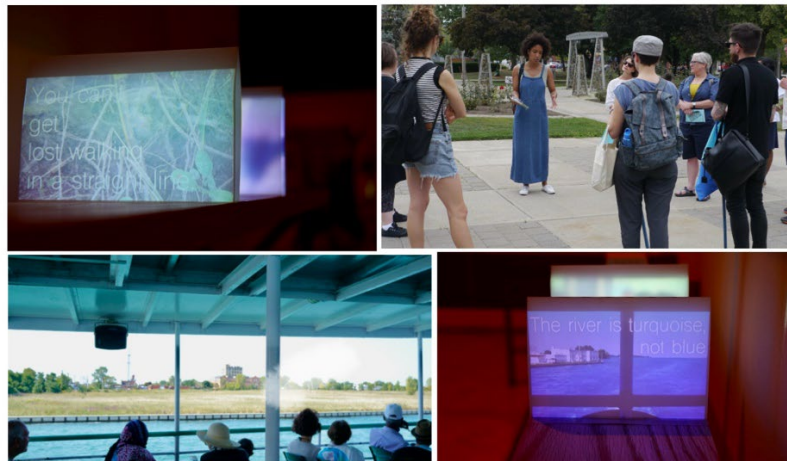


Figure 1. Buoyant Cartographies.

ENVIRONMENTAL MAPPING AND THE NIAGARA FRONTIER

In 2022, *HPU* and *InTerminus* organized a workshop in St. Catharines, Ontario as part of an investigation of the Niagara borderlands urban region that runs between St. Catherine's, Ontario and Buffalo, New York. The name of the Niagara River and falls is an anglicization of the Iroquois place name "Onguiharra" referring to the strait or narrows between Lake Ontario and Lake Erie. The territory is central to reflecting on the importance of water in the Dish with One Spoon Wampum Treaty (1701), which governs indigenous-settler relations here and throughout the Great Lakes.

The Niagara region is one of the most iconic and overdetermined sites in North America and a foundational part of the settler-imagination over the past two centuries. As a site of vacations and honeymoons, the falls provide a sublime backdrop for tourist pilgrimage: its status as a liminal site is etched into the Western imagination as a "shrine of nature."⁹ It is less well considered as a borderlands region, however as it has been encapsulated in the western imagination as a marginal frontier, an affiliation that took an abruptly negative turn as the environmental catastrophe of the Love Canal was discovered in 1977. Looking back to the documentation surrounding 18th century treaties between the British Crown and First Nations however, the 1764 assembly at Niagara nods toward the importance of the region as a vital confluence, a meeting and negotiation place on Turtle Island. In regarding Niagara as a borderland (space) rather than a frontier (line), its "otherness" in the Western imagination starts to fade in favor of a more generative orientation, one that disrupts the Cartesian orientation of the Great Lakes and grounding it by returning it to the navigable waterways that were understood and documented by Algonquin and Ojibwe peoples.¹⁰ This requires re-orienting our familiar Canada-U.S. map, turning it by 90 degrees, and thinking beyond the canals and diversions that were geo-engineered during the 19th century by British, Canadian and American settlers.¹¹

For this workshop, we wanted to look specifically at histories of water and its management in this region in the spirit of the One Dish One Spoon Wampum Treaty to sense where we might locate its

ethos in the urban landscape where the Welland River had been diverted for over a century. The One Dish One Spoon treaty stipulates that resources must be shared, distributed and managed equitably. It is an ancient Indigenous law that traditionally had been used to negotiate sovereignty over hunting and grounds with French and British settlers, though its ethos has been extended in contemporary land acknowledgements to consider natural resources more broadly as awareness of climate change and other ecological issues has become pressing in the last decade. This prompted us to reconsider the extensive geo-engineering projects of the 19th and 20th centuries, where water access was erased from the land. Our questions centered on the various ways that water has not only carved into the land, but also how it has been manipulated through technologies to divide and shape nation states in the 18th century, to power electrification and industry in the 19th and as a site of ruin – chemical and tourist – by the middle of the 20th century. Our workbooks led with the following questions or prompts regarding water--How has it been managed or manipulated? Is it shared or equitably distributed? Is it being cared for future generations?¹²

In reflecting on this process, we started to consider how these collective walks can extend the formal announcement of land acknowledgement. Not as a declaration or statement as has become customary at the outset of public events, but rather as a slower process, an embodied experience of the material history of the built environment, what it enables and conceals. This is but one attempt to reckon with the yawning gap between the official civic memory of place and the ways that we may come to visualize and comprehend an Indigenous understanding of land.

TRANSBORDER NEIGHBORHOOD URBAN FORM MAPPING: BLACK HISTORY IN DETROIT-WINDSOR

Since 2020 our research has focused on histories of migration and cross-border narratives. As a part of this line of inquiry, we have been working with local Black scholars who have been mapping the physical destruction and disappearance of some of the oldest Black neighborhoods in North America in Windsor and Detroit. In Windsor (on the Canadian side of the border) the McDougall Street Corridor was home to a large and thriving Black community which had been growing since the mid 19th century as the American Civil war ended and brought people of African descent in Canada from agricultural areas to urban centers. Windsor (and Essex County) was a terminus for the Underground Railroad.¹³

Willow Key and Irene Moore Davis, co-authors of the McDougall Street Project (2023), researched and documented the churches, businesses, credit unions, social clubs and public halls that formed the backbone of this centrally located neighborhood. McDougall corridor residents “found creative ways to combat the discrimination they faced as a people, while providing services they were often denied elsewhere.”¹⁴ Many of these buildings were demolished in the 1960s with modern urban renewal projects. The question of 20th century renewal projects has been at the forefront of recent historical research on Windsor and Detroit (colloquially called “the Border Cities”) where federal funds (in both Canada and the US) were used to raze whole neighborhoods in the name of “urban blight,” building modern housing that displaced Black communities. Recent historical research in North American cities has brought attention to systemic bias in urban design in the 20th century, where disinvestment in downtown locations has come to be viewed as not merely a capitalist oversight, but one that was carefully set in motion by the systemic racism that underpinned mid-20th century urban planning practices in North America.¹⁵

In this context, the comparative mapping study of the McDougall Street Corridor and the Black Bottom neighborhood in Detroit is unprecedented in its attention to detail and the ways in which racial bias was translated through federal housing policy in the post-war period in Detroit and Windsor.¹⁶ As a significantly larger city, Detroit’s post-war urban transition was far more dramatic

and disruptive than Windsor's as the interstate highway system tore through the city and destroyed the human-scale "walkability" that was set in place in the 19th century. Black Bottom (named in the 17th century by French farming settlers as "terre noir") and Paradise Valley were two central Detroit neighborhoods that were settled by Black workers by the 1930s. These neighborhoods grew with migration from the American South and were self-determined communities that have been well documented in recent years.¹⁷

The maps specifically focus on the prominent settlement periods in these areas, the subsequent investments and disinvestments, and the current state of the physical environment.¹⁸ This ethno-cartography emphasizes the urban form of these predominantly Black enclaves and hints at the existence of transformational events that shaped their current forms.

For the analysis and conclusions of the mapping of the two areas, the research draws from critical perspectives in black migration and settlement studies.¹⁹ These works provide the historical framework for the understanding of Black places, yet these transborder maps cannot address the potential legacy of the struggles to develop these places. Scholars such as Norman Crockett, author of *The Black Towns* (1979), provides a look into the ideologies of black town dwellers in the post-Civil War period and the impact the ideologies had on their pride of place and their positions on state-wide issues. Crockett explains that these towns were built for various purposes including hubris and inclusion in traditional urban boosterism. Do the spaces documented in the mapping reflect that hubris and boosterism? An incisive understanding and analysis is warranted. This is important because the heydays of each of these areas, like many such areas throughout the U.S. and Canada, were short lived.

These maps document past and present conditions as well as highlight the losses of important community structure experienced in the study areas. The comparative mapping of these transborder urban historical regions further extends an urgent counter mapping methodology that again invites us to reconsider longer and shorter timescales and shifts our attention to the endless opportunities to practice the art of noticing in such a transborder region.

Maps in Figures 2 and 3 demonstrate the extent to which the McDougall Corridor (Windsor) and the Black Bottom neighborhood (Detroit) have been disassembled. In a 70-year time span each has gone from a region of relative density (indicated by the metric of a "pedestrian shed") to one characterized by holes where buildings once stood and a relative lack of connective tissue. The Pedestrian Shed is a measure of distance that signals the walkability of a 5-minute walking radius: this has conventionally been used as a measure of the distance that the average person will walk to a destination before driving becomes the preferred option. This map takes as its origin points the centers of commercial activity during the heyday of the study areas, illuminating the access to commercial amenities of the primary residents.

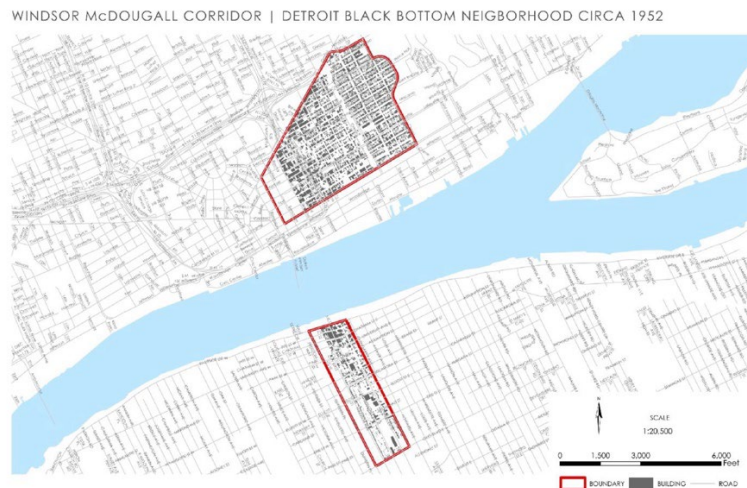


Figure 2. Study Areas Circa 1952: The figure-ground map illustrates the two subject communities during the time generally acknowledged as their period of cultural and historical prominence. A review of the map reveals two districts of intense urban density. Generally, this is an indicator of healthy neighborhoods.

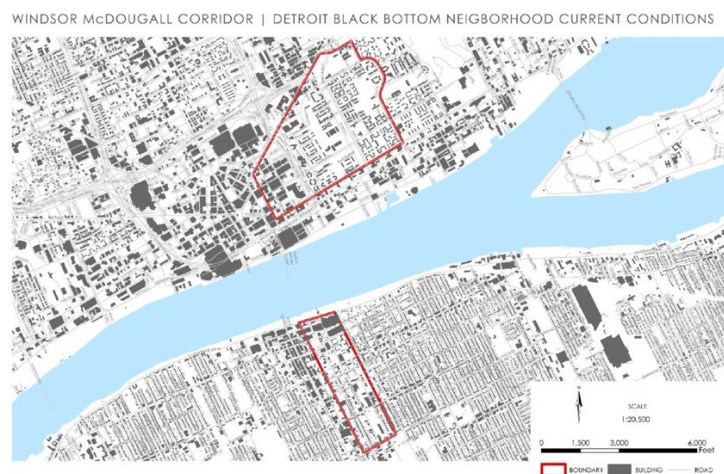


Figure 3. Study Areas Circa 2022: This figure-ground map illustrates the current conditions of the two subject communities. It gives a representation of the contemporary development patterns that have dominated the Windsor-Detroit region for the past 70 years, lower density, interspersed with suburban-style developments.

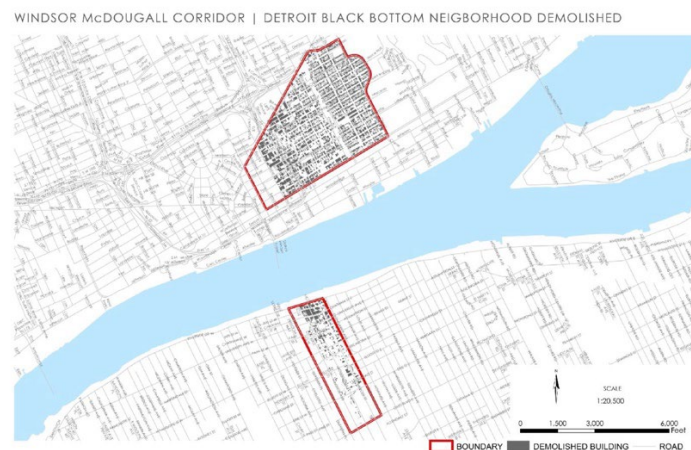


Figure 4. Study Area-Buildings and Infrastructure Lost from 1952-2022: This figure-ground map highlights the physical loss inflicted on the two study areas. The sheer total amount of structures demolished in the study areas illustrates the lack of perceived value in the physical infrastructure of the study areas.

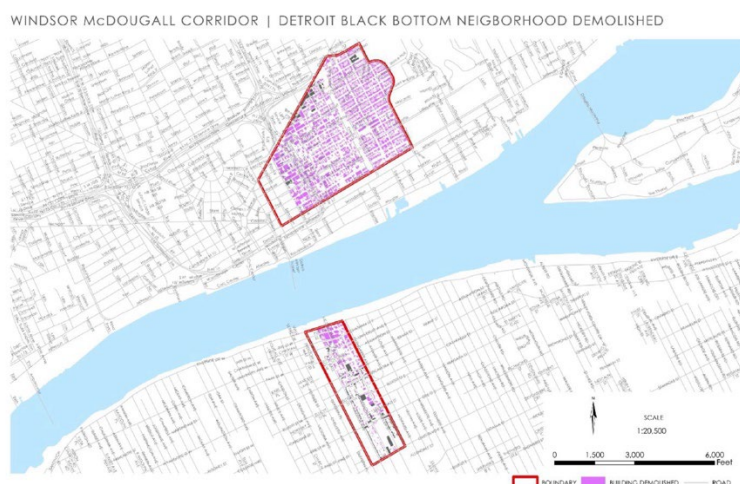


Figure 5. Study Area-Buildings and Infrastructure Lost compared to Buildings Retained: This figure-ground map highlights the remaining structures in the study area in juxtaposition to the buildings lost. This map puts into clear perspective the small amount of physical history that remains in the study areas.

The detailed, compelling maps of these parallel, transborder communities tell a different narrative than traditional histories of Detroit and Windsor and their broader borderlands environments. Historical monuments to the legacy of the underground railroad flank the shores of the Detroit River. Set in bronze, they memorialize an incomplete and partial history. By contrast, in mapping the pedestrian sheds of both neighborhoods we can see the work of historical erasure and urban disinvestment and pulls histories racial bias across the border into a Canadian context. The maps invite us to consider how walking, counter mapping and remapping provide insight into neighboring key sites that remain pivotal points of cross-border traffic and trade. Future questions around transborder mapping and the settlement legacy of both the Underground Railroad and the post-Civil-War migrations northward remain along the North Shore of Lake Erie. Both urban and rural Black communities that were settled during this period extend from the Windsor-Essex region along the shoreline of Lake Erie to the Niagara region and encompasses Chatham-Kent County. In Detroit the

Black communities were physically concentrated within the limits of the city proper. This is evident in the generations-old cultural divide of the city and its suburban neighbors. The extent to which Windsor, on the Canadian side followed the same pattern of division is suggested in the pattern of “downtown” disinvestment which continues today.

NOTES

¹ Lee Rodney, *Looking Beyond Borderlines: North America's Frontier Imagination*, (London: Routledge, 2017); Michael Darroch, Robert Nelson, and Lee Rodney, "The Detroit–Windsor Border and COVID-19", *Borders in Globalization Review* 2:1 (2020): 42-45, accessed January 1, 2025, doi.org/10.18357/bigr21202019883.

² Julie E.E. Young, "The border as archive: reframing the crisis mode of governance at the Canada-US border" *Gender, Place & Culture* 29:4 (2022), accessed January 1, 2025, doi:10.1080/0966369X.2021.1882951.

³ Michael Darroch, Karen Engle and Lee Rodney, "Introduction," *Intermédialités: Histoire et théorie des arts, des lettres et des techniques* 34: *Sensing (Borders)/Ressentir (les frontières)* (2019), accessed January 1, 2025, doi.org/10.7202/1070869ar.

⁴ Taien Ng-Chan, "Strata-Mapping the Detroit River Border with the Hamilton Perambulatory Unit", *Intermédialités: Histoire et théorie des arts, des lettres et des techniques* 34: *Sensing (Borders)/Ressentir (les frontières)* (2019), accessed January 1, 2025, doi.org/10.7202/1070880ar.

⁵ Ng-Chan, "Strata-Mapping the Detroit River Border with the Hamilton Perambulatory Unit."

⁶ *Buoyant Cartographies* was a three-day collaborative mapping workshop that took place on the Detroit River from August 30 - September 2, 2018. The event was co-organized by three art-research collectives: The IN/TERMINUS Research Group (Lee Rodney and Michael Darroch, Windsor ON), Float School (Justin Langlois and Holly Schmidt, Vancouver, BC), and the Hamilton Perambulatory Unit (Donna Akrey and Taien Ng-Chan, Hamilton ON). Workshop participants and researchers included: Talysha Bujold-Abu, Josh Babcock, Karen Engle, Jaclyn Meloche, Robert Nelson, Shalon Heffernan Webber, Julie Rae Tucker, Imogen Clendinning, Terri Fletcher, Annie Canto. Accessed January 1, 2025, buoyantcartographies.com.

⁷ Russell Nahdee, "Seven Grandfather Teachings in Windsor-Essex," unpublished manuscript, Turtle Island Aboriginal Education Centre, University of Windsor, 2016.

⁸ The contributions from the *Buoyant Cartographies* strata-walks combined maps and documentation from the events, which were edited into two short films and exhibited as a split projection at the Art Gallery of Windsor as part of an exhibition "The Living River Project: Art, Water and Possible Worlds" curated by Patrick Mahon and Stuart Reid in 2019.

⁹ Rob Shields, *Places on the Margin: Alternative Geographies of Modernity* (London: Routledge, 1991), 126.

¹⁰ Margaret W Pearce and Stephen J Hornsby, "Making the Coming Home Map," *Cartographica: The International Journal for Geographic Information and Geovisualization* 55:3 (2020), 170–76.

¹¹ "Turtle Island Decolonized," *Decolonial Atlas*, accessed January 1, 2025,

<https://decolonialatlas.wordpress.com/wp-content/uploads/2023/10/turtle-island-decolonized-map-with-index.pdf>.

¹² Participants noted the forms and condition of the water they found and provided reflection and commentary on it in a series of 22 workbooks.

¹³ Irene Moore-Davis, "Canadian Black settlements in the Detroit River Region," *A Fluid Frontier Slavery, Resistance, and the Underground Railroad in the Detroit River Borderlands*, Karolyn Smardz Frost and Veta Smith Tucker, eds. (Detroit: Wayne State University Press, 2016).

¹⁴ Willow Key and Irene Moore Davis, "McDougall Street Corridor," *SWODA: Windsor & Region Publications* 116 (2024), accessed January 1, 2025, <https://scholar.uwindsor.ca/swoda-windsor-region/116>.

¹⁵ Willow Key's research on the misappropriation of federal funds for housing renewal in the 1960s in Windsor comes at a time when renewed calls for affordable housing are met with inadequate proposals for segregated housing.

¹⁶ Dorian Moore, "Comparative Analysis of Black Spaces in Windsor-Detroit, 1952-1922," unpublished manuscript, August 2022.

¹⁷ See <https://detroithistorical.org/learn/encyclopedia-of-detroit/paradise-valley> and

<https://detroithistorical.org/learn/encyclopedia-of-detroit/black-bottom-neighborhood>.

¹⁸ Lisa K. Bates, Sharita .A. Towne, Christopher Paul Jordan, Kitso Lynn Lelliott, "Race and Spatial Imaginary: Planning Otherwise - Introduction: What Shakes Loose When We Imagine Otherwise," *Planning Theory & Practice*, 19:2 (2018), 254–288, accessed January 1, 2025, doi.org/10.1080/14649357.2018.1456816.

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WHISPERS OF TIME: REDISCOVERING AND PRESERVING HYDERABAD'S CULTURAL ICONS IN TELANGANA, INDIA.

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INTRODUCTION

In an era marked by rapid technological advancement, the city of Hyderabad, Telangana, India, stands as a testament to the delicate balance between progress and preservation. Amid the rise of skyscrapers and bustling IT hubs, a silent yet profound transformation has been taking place. Ketham's Atelier Architects and Thinking Hand NGO have embarked on a visionary journey to reclaim and preserve the forgotten heritage of Hyderabad, a city that has long been a cultural beacon with global significance. This self-initiated research project meticulously documents historic structures many of which have been forgotten or overlooked seeking to safeguard the architectural treasures that have shaped Hyderabad's identity.

The advent of the technology boom in the 1990s heralded a new era of prosperity for Hyderabad, transforming it into a bustling metropolis. However, this progress came at a steep cost. The city's rich cultural heritage began to wane, threatened by encroachments, illegal constructions, and widespread neglect. Many valuable historic buildings were demolished, abandoned, or left to decay, their stories lost to time. The primary objective of this research project is to act as a custodian of these architectural marvels before they fade into oblivion. By meticulously documenting these structures, the project aspires to inspire governmental intervention, urging authorities to conserve these invaluable assets. Beyond mere preservation, the initiative seeks to educate and enlighten future generations about the city's profound cultural past, offering a window into the narratives, histories, and stories embedded in these structures.

The culmination of this endeavor is a comprehensive book that encapsulates the essence of these efforts. Richly illustrated with sketches, drawings, narratives, photographs, and textual accounts, the publication serves as a poignant reminder of Hyderabad's cultural richness and the urgency to safeguard it. This paper provides a glimpse into the multifaceted nature of the research project, emphasizing the significance of its objectives and the broader impact on the cultural legacy of Hyderabad.

The Historical Legacy of Hyderabad

Hyderabad, the capital of Telangana, is a city that resonates with history. Founded by the Qutb Shahi sultan Muhammad Quli Qutb Shah in 1591 CE, Hyderabad was meticulously planned around the iconic Charminar, which became the centrepiece of the city. Over centuries, the city evolved into a vital trading hub, particularly known for its diamonds and pearls, while also becoming a crucible of

culture and architectural innovation. The city's architectural landscape is a vibrant tapestry woven with the influences of various dynasties that have ruled it, including the Chalukyas, Kakatiyas, Khaljis, Tughlaqs, Bahmanis, Qutb Shahis, Mughals, and the Asaf Jahi Nizams. Each dynasty left its indelible mark on the city's built environment, contributing to Hyderabad's unique identity as a global cultural landmark.¹

Timeline of Hyderabad's Dynastic History

- Chalukya dynasty (624–1075)
- Kakatiya dynasty (1158–1321)
- Khalji dynasty (1290–1320)
- Tughlaq dynasty (1320–1414)
- Musunuri Nayakas (1336–1365)
- Bahmani Sultanate (1347–1527)
- Qutb Shahi dynasty (1518–1687)
- Mughal Empire (1526–1857)
- Asaf Jahi dynasty (1724–1948)
- Republic of India (1948–present)

These dynasties not only shaped Hyderabad's physical landscape but also contributed to its cultural and intellectual life, making it a city of global significance.²

The Importance of Preserving Heritage Buildings

As India rapidly urbanizes, the relentless pursuit of modern infrastructure often comes at the expense of the country's rich historical legacy. In the race toward development, the nation risks losing its architectural heritage a crucial link to its past. India, with its deep-rooted civilization, is dotted with heritage precincts and buildings that tell the stories of different epochs in history.³ Unfortunately, much of this heritage has been neglected or forgotten, and it is only through efforts of few Govt. initiatives and various organisations, NGOs, like those of Ketham's Atelier and Thinking Hand NGO that these treasures can be brought back into the light.

The exploration of Hyderabad's heritage is driven by author's both personal and professional motivations. The project's initiators were inspired by childhood memories of growing up near historic sites such as Golconda Fort, Qutb Shahi Tombs, and Taramati Baradari. These structures, with their profound architectural qualities - elegant spaces, intricate designs, and thoughtful use of light and ventilation ignited a passion for architecture that would later evolve into a mission to protect and preserve these cultural icons.

The project seeks to:

- **Illuminate Forgotten Heritage:** Showcase the profound architectural design, spatial quality, and cultural significance of Hyderabad's heritage buildings.
- **Raise Public Awareness:** Educate the public, particularly students, on the importance of heritage in understanding cultures and fostering a sense of identity.
- **Foster Interest in Architecture:** Encourage interest in various architectural styles and the urban transformations that have shaped Hyderabad.
- **Promote Knowledge Sharing:** Create platforms for discussion on preserving heritage precincts and exploring conservation strategies.
- **Inspire Conservation Efforts:** Motivate students and professionals to take up conservation activities and contribute to the protection of Hyderabad's cultural heritage.

THE COLLECTIVE APPROACH: A MODEL FOR DOCUMENTATION AND PRESERVATION

The work of Thinking HAND NGO is deeply inspired by the speculative design practices of architects like Mathur and da Cunha, who advocate for innovative approaches to addressing climate change and urban crises. Over years, the organization, in collaboration with Ketham's Atelier Architects, has developed a bottom-up approach known as the "collective approach." This methodology emphasizes a hands-on, participatory process that brings together participants from various sectors, disciplines, and communities including students, professionals, and local experts to collectively address the challenges faced by Hyderabad's historic neighbourhoods and buildings.

The collective approach is a metaphor for speculative design—a method and tool to collectively document, speculate on futures, evaluate, and reform cities. By engaging in workshops, competitions, exhibitions, and discussions, the collective approach aims to adapt to local culture, materials, climate, community needs, and socio-economic realities. This approach has been instrumental in the documentation of Hyderabad's forgotten and unknown buildings, involving a dedicated team of architects, volunteers, and local communities.⁴



Figure 1. India, Telangana, Hyderabad Map.

Documenting Hyderabad's Heritage: Buildings and Methodology

The documentation process is a meticulous and collaborative effort, with teams visiting one heritage building each weekend. The tasks are divided among members based on their interests and expertise:

1. Photography and Videography: Capturing visual documentation of the site.
2. Measurement and Mapping: Using laser tools, tape measures, and scales to record the dimensions of the structures.

3. Site and Surrounding Study: Analyzing the building's context within its environment.
4. Historical Research and Interviews: Engaging with local residents to uncover stories and historical connections.
5. Detail Documentation: Recording architectural details such as wall patterns, finishes, and ornamentation.
6. Structural Analysis: Examining the building's materials, construction techniques, and structural integrity.

This extensive documentation is then digitized and analysed, resulting in a comprehensive set of architectural drawings, including site plans, elevations, sections, and 3D models. The documentation of each building is a testament to the unique mix of local and international art and architecture styles that have shaped Hyderabad.



Figure 2. Collective Approach: Thinking Hand NGO volunteers, Ketham's Atelier Team with students and guest experts in Workshop.

Challenges and Case Studies: Preserving Hyderabad's Architectural Heritage

Documenting and preserving Hyderabad's heritage buildings is fraught with challenges. These include the need for adequate funding, securing permissions, and the physical demands of the documentation process. Despite these hurdles, several buildings have been successfully documented, providing a glimpse into the rich architectural legacy of the city.

Notable Case Studies:

- **Gun Foundry:** Established in 1786 by the French general Monsieur Raymond, this historic site was once a major production center for cannons and cannonballs. Despite its historical significance, the site is often overlooked and in need of preservation.⁵



Figure 3. Gun Foundry, Hyderabad, Photo Documentation by Ketham's Atelier Architects and Thinking Hand NGO Team.

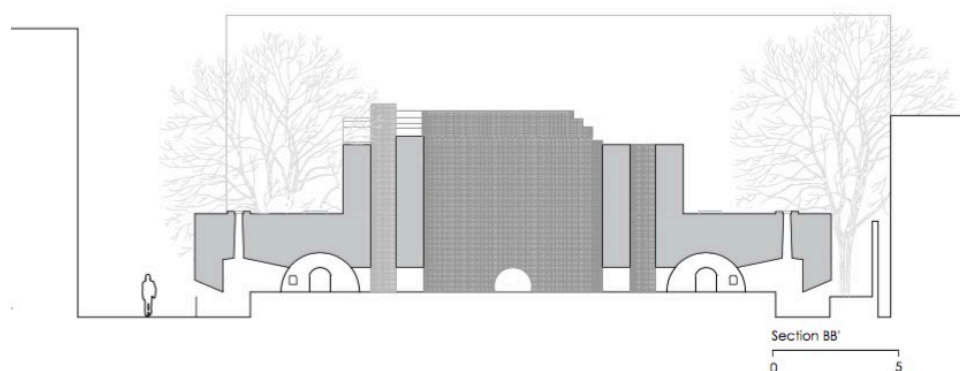


Figure 4. Gun Foundry Section, Drawing by Ketham's Atelier Architects.

Architectural Features: The Gun Foundry is an imposing structure with thick stone walls and massive arches that reflect its military function. The building's design is utilitarian, with a focus on durability and security. However, it also features some decorative elements, such as the arched windows and the intricate brick and stone work, which are characteristic of the Indo-European architectural style that was prevalent during the late 18th century.

Preservation Challenges: The Gun Foundry faces significant challenges, including encroachment by modern buildings, lack of maintenance, and environmental degradation. The structure has suffered from water infiltration, leading to the weakening of the walls and the growth of vegetation on the roof. The surrounding area has also become heavily urbanized, with new construction threatening the integrity of the site.

Current Status: Need restoration and maintenance.

- Baradari of Nawab Khurshed Jah Bahadur: A stunning palace with a European façade and a rich history, this building is a relic of the Asaf Jahi period. It remains relatively well-preserved but requires attention to prevent further deterioration. It was originally designed by Nawab Khurshid Jah Bahadur's grandfather, Shams-ul-umara Amee-e-Kabir and was completed by his father – Rashiduddin Khan in the late 19th century.⁶

Architectural Features: The Baradari features a European-style façade with neoclassical elements, including tall columns, pediments, and symmetrical proportions. The interior, however, is distinctly Indian, with intricately carved wooden doors, staircases, and stucco work that reflects the craftsmanship of the time. The palace is surrounded by open space and garden, adding to its overall grandeur.



Figure 5. Baradari of Nawab Khursheed Jah Bahadur, Hyderabad, Photo Documentation by Ketham's Atelier Architects and Thinking Hand NGO Team.

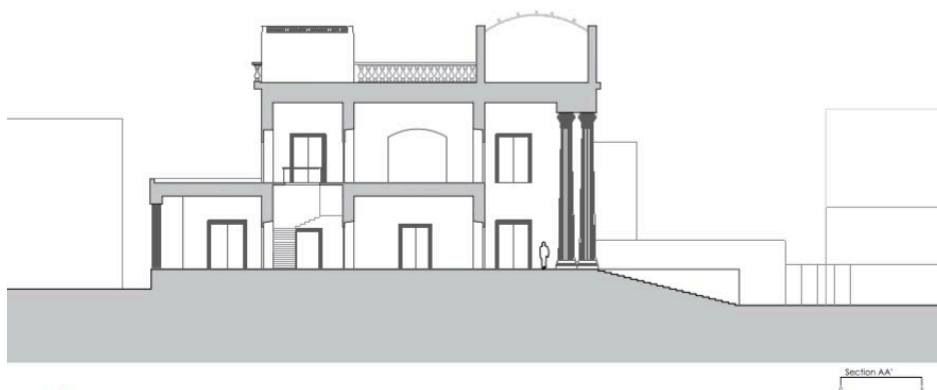


Figure 6. Baradari of Nawab Khursheed Jah Bahadur Section, Drawing by Ketham's Atelier Architects.

Preservation Challenges: Despite its historical and architectural significance, the Baradari has suffered from neglect and is in a state of disrepair. The building's structural integrity has been compromised by water damage, and many of the decorative elements have been lost or damaged. Additionally, the gardens have been encroached upon by modern development, further diminishing the site's historical context.

Current Status: Front open space is still used as public playground by surrounding neighbourhood and the good news is it is now under restoration.

- Pavilion in Bhagwandas Garden: A beautiful structure surrounded by a large garden, this pavilion is a testament to the wealth and influence of Raja Bhagwandas Hari Das, who accompanied the first Nizam to Hyderabad. The pavilion is a rare example of the Mughal and Gujarati architectural style. The Bhagwandas pavilion built around 1800 resembles Tipu's palace in toto with open arcades all around and jharokas (balconies) overlooking the arcaded verandhas.⁷



Figure 7. Pavilion in Bhagwandas Garden, Hyderabad, Photo Documentation by Ketham's Atelier Architects and Thinking Hand NGO Team.

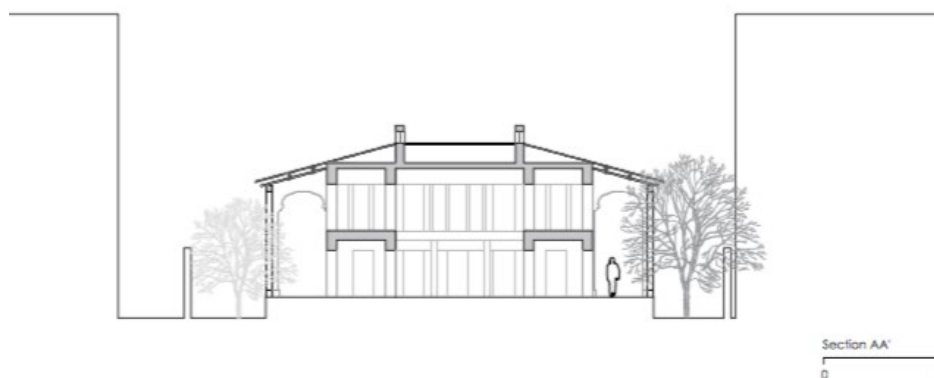


Figure 8. Bhagwandas Pavilion Section, Drawing by Ketham's Atelier Architects.

Architectural Features: The pavilion is a modest yet elegant structure, with a central chamber surrounded by an arcade of arches, jharokas (balconies) overlooking the arcaded verandas. The design is typical of garden pavilions of the time, with an emphasis on open, airy spaces that connect with the surrounding landscape. The pavilion's interior features delicate stucco work and painted decorations, adding to its charm.

Preservation Challenges: Over the years, the garden has been encroached upon by urban development, and the pavilion itself has been neglected. The structure has suffered from weathering and vandalism, and much of the original decoration has been lost. The surrounding garden has also been significantly reduced in size, diminishing the pavilion's historical context.

Current Status: The Pavilion in Bhagwandas Garden has been documented, and efforts are needed to restore the structure and its surroundings. The project possibility is not only restore the pavilion but also to revive the garden, it's a private property and belongs to Bhagwandas family. It would be great if it can be converted to a public space that can be enjoyed by the community. This approach aligns with the broader goal of integrating heritage preservation with urban development.

- **Amberpet Burj:** The Burj is named after a muslim saint Hazrat Amber Mian, whoes sanctum sanctorum is situated near the Burj. The Burj which is a 2 storyed building probably served as an

outpost during the early Asaf Jahi period. The style of architecture can be classed as regional Mughal variation.⁸



Figure 9. Amberpet Burj, Hyderabad, Photo Documentation by Ketham's Atelier Architects and Thinking Hand NGO Team

Architectural Features: The Amberpet Burj is a simple yet robust structure, built from local granite stone with thick walls and narrow openings designed for defense. The building's design is utilitarian, with a focus on functionality rather than decoration. However, it does feature some ornamental elements, such as the crenellations along the parapet and the jharokas (balconies) that are characteristic of Islamic and Gujarathi architecture.

Preservation Challenges: The Burj is located in a densely populated area, and its surroundings have changed significantly over the years. The structure has been encroached upon by modern buildings, and its visibility and accessibility have been compromised. The Burj has also suffered from neglect, with vegetation growing on the walls and structural issues threatening its stability.

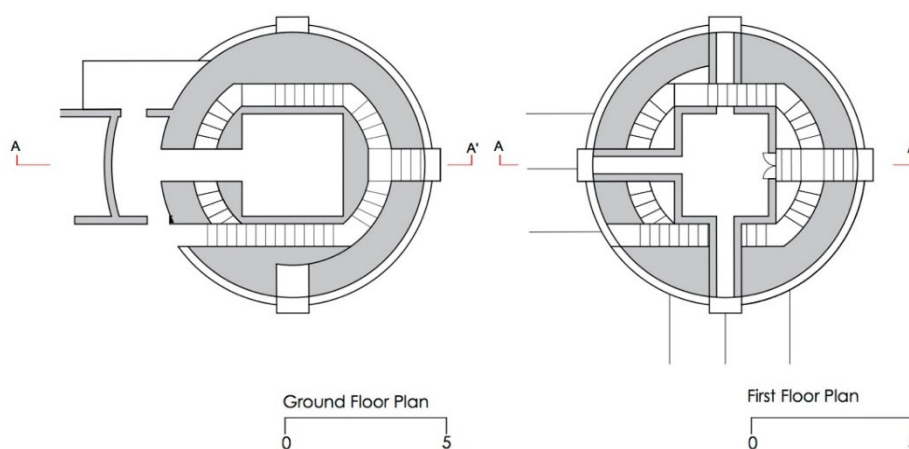


Figure 10. Amberpet Burj Plans, Drawing by Ketham's Atelier Architects.

Current Status: The documentation of the Amberpet Burj has provided valuable insights into its architectural and historical significance, highlighting the need for immediate preservation. Efforts should be focused on stabilizing the structure, removing encroachments, and restoring the Burj to a condition that reflects its historical significance. Further a proposal to develop the surrounding area into a heritage zone, creating a space where the public can engage with the city's history.

The Way Forward: Actionable Steps for Long-Term Preservation

To ensure that Hyderabad's heritage buildings are preserved for future generations, a series of actionable steps need to be implemented. These steps should be part of a comprehensive, long-term strategy that involves all stakeholders in the preservation process. Below are some key recommendations that could guide the future of heritage conservation in Hyderabad.

1. Establishing a Heritage Trust

One of the first steps towards ensuring sustainable heritage preservation in Hyderabad is the establishment of a dedicated Heritage Trust. This independent body could be responsible for overseeing all preservation activities, including the identification of endangered buildings, fundraising, and public awareness campaigns. The Trust could also serve as a liaison between the government, private sector, and international organizations, ensuring that all efforts are coordinated and effective.

2. Implementing Legal Protections

Strengthening the legal framework around heritage preservation is crucial for protecting Hyderabad's historic buildings from demolition or unsympathetic alterations. The government should review and, if necessary, update existing heritage laws to provide stronger protections for listed buildings. This could include stricter penalties for illegal demolitions and incentives for property owners to maintain and restore their historic buildings.

3. Fostering Public-Private Partnerships

Public-private partnerships (PPPs) offer a viable solution for funding and managing heritage preservation projects. By involving private companies, philanthropic organizations, and community groups in the preservation process, a broader range of resources can be mobilized. These partnerships could take the form of joint ventures for the restoration of specific buildings, sponsorships for cultural events, or the creation of heritage-themed tourism initiatives.

4. Engaging the Community

Community engagement is critical for the success of any heritage preservation initiative. Efforts must be made to involve local residents, business owners, and other stakeholders in the preservation process. This can be achieved through public consultations, workshops, and heritage walks that raise awareness about the importance of preserving Hyderabad's architectural heritage.

5. Promoting Heritage Education and Awareness

Ongoing education and awareness-raising efforts are essential for creating a culture of preservation in Hyderabad. This can be achieved through a variety of means, including school programs, public lectures, and media campaigns. By highlighting the cultural and economic value of heritage buildings, these initiatives can inspire a broader segment of the population to take an active interest in preservation.

6. Utilizing Technology for Preservation

The use of modern technology can significantly enhance heritage preservation efforts. Techniques such as 3D scanning, digital archiving, and virtual reality (VR) can be used to document and preserve historic buildings in their current state, creating detailed records that can be used for future restoration projects or as educational tools.

7. International Cooperation and Funding

Finally, it is important for Hyderabad to seek international cooperation and funding to support its heritage preservation efforts. Global heritage organizations, such as UNESCO, the World Monuments Fund, and the International Council on Monuments and Sites (ICOMOS), can provide valuable expertise, funding, and advocacy support.

CONCLUSION: BUILDING A SUSTAINABLE FUTURE FOR HYDERABAD'S HERITAGE

The preservation of Hyderabad's heritage buildings is not just about saving the past; it is about building a sustainable future that respects and celebrates the city's rich cultural legacy. By taking a holistic approach that includes legal protections, community engagement, education, and the use of modern technology, Hyderabad can ensure that its historic structures continue to tell their stories for generations to come.

The efforts of organizations like Ketham's Atelier Architects and Thinking HAND NGO demonstrate that with passion, dedication, and collaboration, it is possible to make a significant impact in the field of Architecture and heritage preservation. However, the responsibility does not lie with these organizations alone. It is a collective endeavor that requires the participation of everyone—from government officials and private businesses to local communities and international partners. As Hyderabad moves forward, it must do so with a deep respect for its past legacy. The city's heritage buildings are more than just physical structures; they are the embodiment of Hyderabad's identity, its history, and its spirit. By preserving these buildings, we are not only honoring those who came before us but also ensuring that future generations can continue to experience and learn from the rich cultural tapestry that makes Hyderabad unique.

“The younger generation plays a crucial role in preserving cultural heritage as they are the guardians of our future. Through creativity, innovation, and active involvement, they do more than protect cultural heritage; they enhance its value and resilience for future generations.” - Brahmantara, The Ministry of Education, Culture, Research and Technology.⁹

A concerted effort to preserve our heritage is a vital link to our cultural, educational, aesthetic, inspirational, and economic legacies - all of the things that quite literally make us who we are.-Steve Berry.¹⁰

In conclusion, the future of Hyderabad's heritage lies in our hands. It is our responsibility to ensure that the city's historic buildings are not lost to time, but preserved and cherished as symbols of a vibrant, diverse, and enduring cultural legacy. Through collective action, innovative thinking, and unwavering commitment, we can create a future where Hyderabad's heritage buildings stand not as relics of a bygone era, but as living monuments that continue to inspire, educate, and enrich the lives of all who encounter them.

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NOTES

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MONUMENTALITY: A DISCUSSION ON ALOIS RIEGL'S THEORETICAL PREMISE FOR CULTURAL BUILT HERITAGE

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INTRODUCTION

Monuments embody the circumstances which have led to the consolidation of historical time within the built form. The commemoration of historical and political events is often a consequence of a dissonant past - a historical period riddled with war and political conflict with detrimental effects on societal structures and forms of built heritage. The memorialisation of history and formation of collective memory have influenced the design of monuments and orchestrated methods of preservation. This research discusses Alois Riegl's theoretical premise that has informed classification within cultural inventories, leading to protection through enlistment and methods of conservation of cultural built heritage in London. The paper incorporates Riegl's classification and value attributes determined through 'intentional commemorative value', 'historic' and 'age value' to ascertain the architectural intent, the influence of historical and political events on the conception of the monument and the nature of a temporal evolution with regards to its material composition. These set of values are measured against contemporary forms of cultural significance such as 'use value', 'newness value' and 'present day value' in the context of conservation that envisages a practice seeking to integrate historic built forms within a modern and post-modern built environment. Additionally, the discussion seeks to derive relations between different forms of cultural practice and their representation through value attributes ascribed to the works of cultural heritage. For instance, the correlation between 'age value' and the act of preservation, and alternatively 'historic value' and restorative practices are resonant and expressive in the course of protection.

Values represent "a social association of qualities to things", implying an emotive or communal attachment as a prerequisite for any object or built form to qualify as a cultural artefact. "Values represent attributes given to sites, objects and resources, and associated intellectual and emotional connections that make them important and define their significance for a person, group or community."¹ Incorporating a values-based approach in the administration of cultural heritage with the integration of a diverse range of values, widens the scope of the parameters used to examine the asset critically.

Defining an Approach

Alois Riegl set the foundation for historic monument legislation within the former Austro-Hungarian Empire through his seminal work "The Modern Cult of Monuments: Its Character and Origin" in 1903.² The historian separated and defined the constituent values of monuments with regards to whether they represented contemporary or historically grounded cultural attributes. Furthermore, Riegl's work theorised on the relationship between the monument, the embodiment of history and its relationship with time. The architectural style, historical era and 'age value' have defined an aesthetic appeal for the monument. The cult of age gained popularity during a politically and ethnically conflicted period in the history of the Austro-Hungarian Empire, where nostalgia took precedence in establishing monumental status due to an ease in the readability demonstrated by the effect of time.³ Since then, disparate approaches based on the 'cult of age' and 'cult of newness' have produced distinct cultural narratives where 'historical value', 'age value' and 'newness value' co-exist to create a complex perpetual matrix of monuments.

While 'age value' emphasizes the collective effect of the past, 'historical value' contextualises singular moments of history with the present.⁴ 'Age value' is also based on the resemblance of ruins to their original states as the monument is more valuable when it is perceptibly a fragment of a recognizable whole. On the other hand, 'historical value' attempts to retain the original memorial in its entirety. The contribution of 'age value' and 'historical value' to the reading of history is evident in the process of assessing authenticity and simultaneously anticipating a need for 'newness value.'⁵ Age value associated with a historic monument is best represented through fragmentary remnants of a dissonant past, an incompleteness or an element of imperfection inherent and evident in the historic built form. Historical value, on the other hand, attempts to retain the original memorial in its entirety. Riegl states that the cultural built form or artefact may display time or 'age value effect' (*Alterswert*) through decay and disintegration. Alternatively, ascribing 'historical value' to a work of architecture constitutes a formal act of memorialization through which a monument or memorial is conceived. Consequently, the listed domestic or commercial building based on its value attributes bears the marks of its makers and serves as a memorial for their artistic legacy.

Alois Riegl distinguishes between monuments that represent an intentional work of commemoration and others that have transformed into monuments by having acquired 'age value' with the effect of time. The act of enlistment in relation to less monumental works of architecture as a consequence of diversification within cultural inventories have, in addition, expanded the perception of the monumental, transforming historic fragments into architectural expressions that merit protection. The 'historic value' of the monument aids a particular perception of the built form bridging historical events with the present and embodying time focused on an instance within the artefact. This is evident with regards to the 'intentional monument'. Alternatively, Riegl illustrates the unintentional form of memorialisation of the intentional memorial, stating that the act of arresting time and memory within a historical moment was left unintentionally for future generations. He supports the restoration of 'intentional monuments' as a prerequisite of the type to display 'historical value', untarnished or decayed over time. Furthermore, repair and restorative practices assure the 'use-value' of the memorial which reintroduces a past relic into the rapidly evolving built environment. In this context, Riegl emphasises the inherent links between the monument's value in continuous use and its preference for restoration aimed towards retaining a newness and practicality. He introduces the idea of the 'present-day value' that contextualises the historical monument within contemporary cultural associations and frameworks, referring to the monument's significance in real time. The value-based framework conceived as a consequence of these myriad interpretations constitutes a comprehensive analytical device that enables the dissemination of past relics and cultural built forms based on certain essential attributes. These characteristics are instrumentalised to ensure necessary forms of protection,

determine the course of cultural practice and facilitate an acknowledgement of monuments as sources of cultural and collective memory.

By contrast, the value-based framework employed by Historic England contextualises the theoretical premise within contemporary cultural practice. The approach is defined through ‘evidential value’, ‘archaeological value’, ‘historic value’, ‘design value’, ‘communal value’, ‘aesthetic value’, ‘social’ and ‘spiritual values.’ ‘Evidential value’, similar to ‘archaeological value’ alludes to its past and provides evidence by means of which a historical evolution of the built form, artefact or site can be created. ‘Historical value’ represents an association with historical events. ‘Aesthetic value’ can be related with ‘age value’ or ‘evidential value’ for which the ‘aesthetic value’ representative of a past is distinct from ‘design value’ embodied by, for instance, works of conservation and restoration with evidence of more contemporary forms of intervention. Finally, ‘communal value’ denotes the association of the heritage asset with a community or group, while ‘social’ and ‘spiritual values’ represent the intangible aspects of the heritage site, which can be retained despite morphological changes in its physical form as a result of contemporary cultural practices. The case studies examined in this paper instrumentalise this carefully crafted system of classification towards the analysis of significant forms of cultural heritage in London, and their subsequent realisation as intellectual monuments of historic and cultural memory that transcend their monumental material form and architectural expressions.



Figure 1. St. Paul's Cathedral : architectural features and aspects of monumentality

Conserved Monuments of Faith: The St. Paul's Cathedral

The Cathedral of the Anglican Bishop, St. Paul's, is situated on Ludgate Hill, northeast of Blackfriars, north of the river Thames. Intersecting the processional route of Fleet Street between the City of London and Westminster, the monument serves as an architectural marker creating a significant node in the borough. As a nationally renowned monument, it complements the Tower of London in scale and influence, with view corridors designed to protect its elevation from developments and urban regeneration schemes in the vicinity. In addition, the premises of the Cathedral include 300 monuments, smaller in scale and significance but noteworthy owing to their architectural and historic value.

The Cathedral as it exists today, was designed by Sir Christopher Wren in 1710 of Portland stone, reconstructed after the Great Fire of 1666. The building stands at a height of a hundred and eleven meters crowned with a magnificent dome representing one of its most significant architectural features. Christopher Wren's design combined Neoclassical, Gothic and Baroque elements, symbolising English Restoration and 17th century scientific philosophy. Subsequently, in the 19th century, some decorative changes were made to the interiors in conformation with Victorian style and

preferences. The rebuilding and renovation of the Cathedral and its premises have demonstrated a necessity and collective will to preserve a religious icon which, with time, has acquired ‘historical value’, and ‘use value’. Integral to the Fleet Street and St. Paul’s Conservation Areas, the Cathedral is a marker of architectural, historical and cultural significance in the City of London.

St. Paul’s Cathedral is both an intentional and unintentional monument with regard to its approach to commemoration. ‘Intentional commemorative value’ and ‘historic value’ render St. Paul’s an ‘intentional monument’, with its ‘unintentional value’ emerging as a result of the passage of time and the retention of historic value. Built to signify a specific moment in history, the Cathedral is conserved to embed temporality translocating the monument to its period of conception and consequently, its original form. This ensures the preservation of ‘art value’ through a careful reconstruction of historic art specific to a period. Historical paintings and cartographic representation of London such as Wenceslaus Hollar and Visscher’s panoramic view of London, in addition to Antonio Canaletto’s paintings from Somerset House River Terrace next to Waterloo Bridge have preserved the image of the Cathedral as a sanctified monument against which future developments would be measured. The church has contributed to the distinct “Skyline” of the city, a term coined by historians John Burchard and Albert Bush-Brown in the 1890s when the visual transformation of the city became internationally recognised as an architectural, urban, commercial, and political phenomenon of significance. The term followed the conception of “skyscraper” in Chicago in the 1850s in the aftermath of a similar state of urban expansion.⁶ The skyline creates silhouettes of the city of London and has been represented through maps and drawings historically, as an evolving image and urban identity. Its contribution to the montage of city images represents “an urban collective” that indicates the assignment of value to a cultural built form by its resident population. ‘Historic value’ is attributed to the heritage asset by means of its visibility, which as stated by the GLA, makes “aesthetic, cultural or other contributions” to a view and “assist(s) the viewer’s understanding and enjoyment of the view”. Historic value is also ensured through corresponding relations between the conception of the Cathedral and significant historic events that have directly or inadvertently led to its realisation. In addition, the Cathedral enshrines a ‘use value’ through damage and disintegration over the course of history that efforts of restoration have sought to salvage.

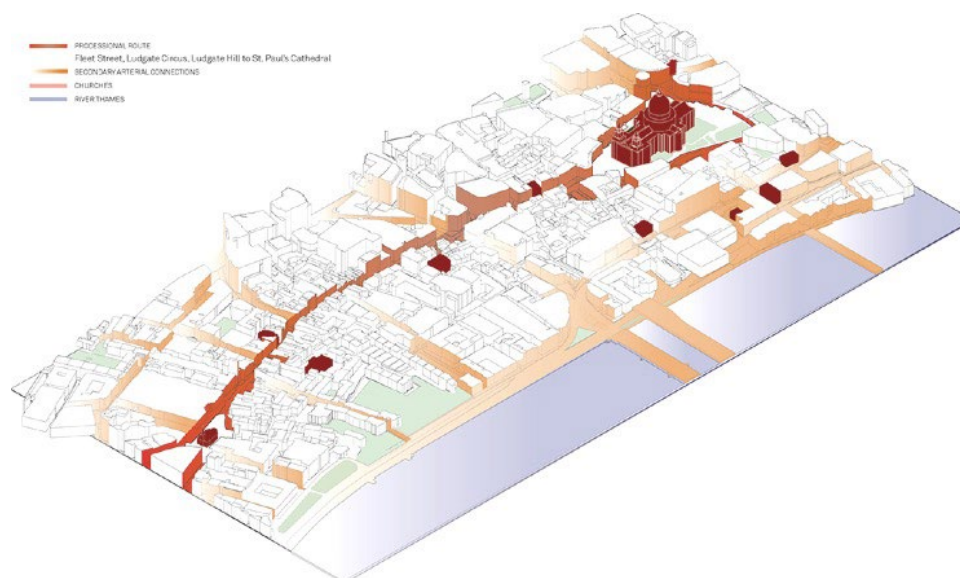


Figure 2. The Path of Pilgrimage: Fleet Street and neighbouring religious institutions

With regards to the notational system instituted by Historic England, the Cathedral can be classified by means of its ‘design value’ in addition to its ‘historic value’ owing to the strategic decisions in design that have ensured the restoration of its formal and spatial tributes. Every act of Conservation, for instance, the reconstruction of the Cathedral following the Great Fire of 1666, has been commemorated. Cultural practices that have incorporated St. Paul’s and its premises address both aspects of ‘commemorative value’ and ‘use value’ by reinstating cultural heritage to its original form and secondly, through engagement with a transforming urban fabric. In this regard, a ‘newness value’ is simultaneously attributed by ensuring a ‘use value’ for the monument. The Cathedral is rich in ‘communal value’ evidenced by its functional character as a Christian house of God built on a site previously occupied by religious institutions that commemorated St. Paul. Additionally, its engagement with the historic and iconic newspaper and printing industry in the Fleet Street area illustrate inherent links with the resident literary community. Finally, despite a series of architectural interventions and alterations with regards to its material reality, the Cathedral sustains its ‘social’ and ‘spiritual values’ encapsulated within its repository of cultural memory. Although cultural practices have led to evidential erasure of material culture, the Cathedral has maintained its status as an intentional monument – a Site of Memory that embodies the Spirit of Sacrifice.⁷



Figure 3. The London Wall, Scheduled Ancient Monument in the City of London

Preserved Monuments of Power: The London Wall

The preservation of cultural property and heritage process weaves a historical narrative encompassing the present, situating the contemporary built environment within a historical framework. Preservationist movements have been known to gain support, particularly in the aftermath of a traumatic event of destruction. The practice of conservation aims to retain the monument, both conceptually and with regards to its material manifestation, as a receptacle of memory that constantly transmits and replenishes itself through engagement with the beholder. The scheduled monuments and remnants of the fortifications of the City of London referred to as the London Wall, preserve memory and time in its abstract form and even in the absence of an enclosure. The phenomenon can be best described as an attempt to preserve a semblance of architectural and military history of the city that communicates its dissonant and complicated historical conception and subsequent destruction. As

observed by Horkheimer and Adorno, "today the past is preserved as a destruction of the past".⁸ The relevance of this statement in the context of the preservation and conservation of cultural heritage is represented by the ruin and the sustained efforts and initiatives that have sought to memorialise a discordant past or the material remnants of it.

A form of fortification has always enclosed the Roman city of Londonium. Currently, remnants of the walled town are dispersed in the contemporary City of London, indicating a formless boundary of the previously fortified enclosure that has dissolved only to be reconstituted as more expansive limits of the borough. The wall remained intact following the departure of the Roman army in AD 410 and through an extended period during which the city seems to have been abandoned. In the late Anglo-Saxon period the wall was repaired, and during the Norman conquest of 1066, large portions of the wall were incorporated into the medieval defences of the city. The fortification influenced the development of the city street patterns all through the Middle Ages. In addition, it served as the backdrop for urban development that emerged on either side of the border by the mid-17th century. These urban outgrowths, appendages and parasitic developments contested the material form and architectural intent of the fortification, manifesting instead as a subversion of colonial power over the city. The wall started disintegrating through the construction of new buildings and railway lines. Consequently, the preservation of the wall as a significant historic marker in the urban fabric has remained contested from within and beyond its immediate context. Sub-standard foundations and proximity to the moat of the Tower of London are exemplary in this regard, having contributed to its degradation over the decades.

The ruins of the city walls exist to assert certain principles of Riegl's theory, such as the value of 'age'. In this regard, the Wall's formal memorialisation through inscription contributes to its conception as an unintentional monument that has acquired value owing to its age, evident in its disintegration over time. Alternatively, the ruins contradict other values, including the 'intentional commemorative value' owing to the purpose-built form of the fortification intended towards territorial protection and collective habitation as opposed to the commemoration of a historic or military event. While the ruins display the effect of age ensured by means of preservation, its incorporation with contemporary urban interventions retains a 'present-day value' in the form of 'use value', that integrates the archaeological fragments within the contemporary urban context. In addition, the fortified ruins bear testimony to its 'evidential' or 'archaeological value' that have consequently led to its enlistment and scheduled status. The 'historic value' of the monument is associated with its establishment as a fortified enclosure succeeding the Roman conquest of Britain and Anglo-Saxon building traditions and material use. Furthermore, the reconstitution of the City boundaries has successively diminished any embodied 'communal' or 'social values' within the bordered territory of the ancient walled city. Known today primarily owing to its 'age value' and preserved monumental status, the London Wall bears evidence to a dissonant past in British history.



Figure 4. St. Paul's Cathedral and Listed buildings in the Fleet Street Conservation Area

CONCLUSION

In retrospection over the millennium, two classes of structures within European architecture, namely churches and fortifications, have been distinctly regarded based on their scale, durability and degree of investment and efforts dedicated towards their preservation.¹⁰ These characteristics attest to the monumentality of the cultural built form and the rationale for their prioritisation within the realm of cultural practice. The examination of the case studies in this paper have sought to interpret and communicate the concept of 'Monumentality' enshrined within these structures. The monumental serves as an embodiment of collective memory in the public realm, representative of an official or unintentional act of commemoration. The celebration of resilience against violence, war and political conflict manifests as a result in the intentional and unintentional monument, religious architecture, and the fragmented fortification. These monumental forms gain recognition by means of value attributes that aid comprehension, interpretation and use as sites of memory while contributing towards their protection and care in the contemporary city.

NOTES

- ¹ Alois Riegl, *The Modern Cult of Monuments: Its Character and Origin*. (Cambridge, Massachusetts: MIT Press, 1982)
- ² Riegl, 1982.
- ³ Alexandra Harrer, "The Legacy of Alois Riegl: Material Authenticity of the Monument in the Digital Age." *Built Heritage* 1, no. 2 (2017): 29-40, doi:10.1186/BF03545661
- ⁴ Riegl, 1982.
- ⁵ Riegl, 1982.
- ⁴ Françoise Choay, *The Invention of the Historic Monument*. trans. Lauren M. O'Connell (Cambridge: Cambridge University Press, 2001).
- ⁵ Riegl, 1982.
- ⁶ Wayne Attoe, *Skylines: Understanding and Molding Urban Silhouettes*, (Chichester: John Wiley and Sons, 1981).
- ⁷ John Ruskin, *The Seven Lamps of Architecture*, (London: Smith Elder & Co., 1849)
- The term 'memory' has diffused across academic contexts from cultural, social, and political studies into humanities, history, architecture and archaeology. In 1984, Nora described *lieux de memoire* as "an unconscious organisation of collective memory" reflecting commonalities between national, ethnic or group. This research aims to explore memory as an intellectual debate, a dynamic cultural practice and for expanding the boundaries of architecture within and beyond academic, commercial and political contexts. The material manifestations of collective history and memory with tangible, monolithic, recognisable, and permanent features are referred to as archetypal 'collective memory.'
- Please see Pierre Nora, "Between Memory and History: Les Lieux de Mémoire" trans. Marc Roudebush, *Representations*, No.26, Special Issues: Memory and Counter-Memory, (Spring 1989) (University of California Press, 1989), 7-24, <https://doi.org/10.2307/2928520>.
- ⁸ Max Horkheimer and Theodor Adorno, *Dialectic of Enlightenment: Philosophical Fragments, (Cultural Memory in the Present)* ed. Gunzelin Schmid Noeri, trans. Edmund Jephcott (California: Stanford University Press, 2002.)
- ⁹ Ruskin, 1849.
- ¹⁰ "The Politics of Space," Paul Hirst, (London: Architectural Association, School of Architecture, April 2, 2015) <https://www.youtube.com/watch?v=w6v4nPFx70k>

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KAROO ART DECO: SURVIVAL STRATEGIES OF THREE HOTELS, A COMPARISON

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INTRODUCTION

This paper focuses on the re-use and conservation of heritage buildings that do not receive support from heritage and conservation bodies. In particular, the emphasis is on durability, one of the “seven principles of sustainability in construction” identified by Derry.¹ It compares three Art Deco Hotels in the Karoo in terms of their histories, design, and physical layout and how their Art Deco designs were combined with conservation and marketing strategies to remain sustainable business establishments. The aim is to highlight the importance of design in the creation of durable and sustainable projects, towns, and regions.

The Art Deco style of architecture and design had its beginnings as far back as the years before the start of the First World War during the period 1914-15. It became a popular style only after the war in the 1920s and 1930s specifically after the *Exposition des Arts Décoratifs* in Paris during 1925.²

While societal change was one of the reasons for the international development and spread of the Art Deco Style, it does indicate that the style, albeit during the early period (before the economic depression of the 1930s), was predominantly associated with cities and prosperity and that this period might have been bad for rural areas.³ However, research by the author,⁴ found that the Karoo-area contains several Art Deco buildings, including seven hotels. It was also established that none of the buildings in this style, received any interest or support from local heritage and historical societies.

ART DECO AND ART DECO ARCHITECTURE

“Art Deco embodied an age when there was a style to life”.⁵ The term Art Deco originated from the literature that discussed the 1925 Parisian exhibition titled *Exposition Internationale des Arts décoratifs et industriels modernes*.⁶ The term has only been in use since 1966.⁷

Art Deco was a modernistic style and, as such, formed part of the Modern Movement but stood in contrast to the ‘radical functionalism’,⁸ more commonly associated with Early Modern or the International Style, as this more radical movement became known. The rivalry was likewise manifest in South Africa. Hence, many of Art Deco’s detractors despairingly referred to it as ‘modernistic’.⁹ Alain Lesieutre holds that this phenomenon was an attempt ‘to create a full-blooded, perfectly coherent decorative style, with its own completeness, its own internal logic, and its own dream’.¹⁰ Van der Linde contend that “many transformations, mixtures and ramifications of the style exist” which” manifested in diverse areas of the material and spiritual culture, for example furniture design, clothing, motor design and especially in architecture”.¹¹ She agrees with Hillier that Art Deco drew

inspiration from a variety of sources and movements such as Art Nouveau (particularly the work of the Wiener Werkstatte), Cubism and the Russian Ballet.¹² She adds Fauvism, Expressionism, Futurism, Constructivism, Orphism, Surrealism, Nieu-Plastsism in addition to the Bauhaus, L'esprit Nouveau, De Stijl and historical architectures of civilisations and groups such as that of Egypt, Native Americans, eastern and far eastern cultures.¹³

Duncan¹⁴ holds that it is difficult to define the main characteristics of Art Deco. This is because the style drew on so many, often conflicting sources. Lesieutre points out that Art Deco design was smart and 'avoided the pretty' He adds that it was this quality and the corresponding toughness that made it possible for the style to assimilate so many other design styles, particularly geographical styles such as African design features.¹⁵ Federico Freschi holds that 'As a style, Art Deco is characterized both by its modernity and its interest in exoticism, often expressed in the use of stylized plant and animal forms, and references to "other," non-Western cultures'.¹⁶ Regional variations in Art Deco buildings commonly reflect local building traditions and building materials.¹⁷

Art Deco design is most found in office buildings, retail establishments and cinemas; it has profound commercial associations¹⁸ where its idiosyncratic forms were applied as theatrical devices. Other commercial applications include hotels such as the Century Hotel by Henry Hohaus. However, buildings in this style also feature in other areas such as state and religious buildings.¹⁹

Art Deco in South Africa and the Karoo region.

South Africa has many Art Deco buildings. Those in the cities are, generally well documented and photographed by various authors including Martin²⁰ and various articles by Freschi²¹ and by Van der Linde²² amongst others.

Freschi²³ points out that in Johannesburg, the Art Deco style arrived late with most of the buildings in this style constructed during the 1930s unlike the international situation where the period stretched from the second half of the 1920's and continued to the end of the 1930s.²⁴ In South Africa the style survived until the mid (and even late) 1940s.²⁵

Martin shows that the South African economy was very unstable during this period.²⁶ She points towards the negative impacts of the depression, the unstable price of gold and diamonds and the severe drought²⁷ that gripped the country. This period was then followed by one of prosperity and wealth which lasted until 1937.

Despite the stylistic rivalry described above, Art Deco, in many instances, become the stylistic norm in South Africa; 'an unequivocal expression not only of urban self-consciousness',²⁸ but also of rural self-consciousness and the desire to 'articulate notions of modernity'. It also transcended language barriers by finding favour amongst the Afrikaans population following the combination of African with Afrikaner identity in the 1930s and 1940s by architect Gerhard Moerdijk.²⁹ Thus, South African Art Deco emerged as a 'self-assured period piece' and an unambiguous expression of the country's emergent self-conscious capitalist and even nationalist identity within a context of modernity and progress.³⁰

Having compared South African Art Deco architecture with international manifestations, Van der Linde³¹ found that while South African examples of Art Deco architecture are in many ways like international examples, there are several unique characteristics such as:

- the buildings are smaller in scale
- Classical Deco, Gothic Deco and International Deco, variants of the style that incorporated other styles in an eclectic way, are quite prevalent
- the South African examples were also different because of their large-scale use of local building materials such as South African Marble

- South African Art Deco examples often included local fauna and flora as well as historical incidents in decorative elements.

South Africa is home to several Art Deco style hotels. These include the Springs Hotel, Casseldale Hotel in Springs, Capitol Hotel in Bloemfontein, Seaview Hotel outside Gqeberha, the Palmerston Hotel in Gqeberha³² and the Edward Hotel in Durban.³³

The Karoo is a large semi-desert area in the south-western part of South Africa (Figure 1). The author's travels and research have revealed that the Karoo region boasts seven hotels designed in the Art Deco style or with Art Deco elements. These are the Hanover Hotel, Transkaroo Country Lodge in Britstown, Victoria Hotel in Cradock, Montagu Country Hotel, Karroo Theatrical Hotel in Stytlerville and the Karoo Art Hotel in Barrydale.



Figure 1. Typical Karoo landscape. Photo by author.

RESEARCH METHODOLOGY

This qualitative analysis used case study methodology.³⁴ The study compares three Art Deco Hotels in the Karoo to compare their histories, design and physical layout and how their Art Deco designs were combined with conservation and marketing strategies to remain durable and sustainable business establishments. This was done to highlight the importance of design in the creation of sustainable projects, towns, and regions. Semi-structured interviews were used to gather information from the hotels. The information gathered was augmented with reviews of marketing material from the hotels. The three hotels were selected because they developed a specific niche offering wherein their Art Deco design forms an integral part.

The qualitative approach was chosen because the study needed to record the manifold meanings, sentiments, and experiences of the interviewees.³⁵ Furthermore, the study incorporated a literature or desk-top review.

THREE KAROO HOTELS

Montagu Country Hotel

Montagu is located two hours' drive from Cape Town on the popular R62 route. Montagu is endowed by mineral hot springs that attract visitors from across the country and internationally. The first hotel built on the Montagu Country Hotel site was a Victorian style building built in 1875 at a mineral spring that still forms part of the spa in the present-day hotel. During 1932 a new Art Deco style hotel (Figure 2) was built behind the original hotel which was then demolished. In 1996 the hotel was liquidated and acquired by new owners who set out to focus on the building's Art Deco style and refurbish it emphasizing this aspect in both its interior as well as the hotel building (Figures 3 and 4).

This included adding an expansive deck area on the main street edge. The revamped hotel opened in 2020. The L-shaped double storey Art Deco building forms the focus point of several nondescript buildings housing various hotel functions; the hotel provides 29 rooms, two restaurants, a spa, art gallery and electrical charging point.³⁶



Figure 2. Montagu Country Hotel. Photo by author

Figure 3. Montagu Country Hotel banister detail. Photo by author



Figure 4. Montagu Country Hotel interior. Photo by author

The hotel's marketing is built around its Art Deco design and the owners continuously strive to restore the building back to its original design. The public areas and about half the bedrooms are furnished with Art Deco style furniture. Guests remark about this aspect and the hotel daily. Guests also choose this hotel for reasons associated with its location and the value it provides the tourist. The local heritage association provides moral support to the hotel and its activities.³⁷

Karoo Theatrical Hotel

This hotel is located just outside Steytleville, a small town in the Eastern Cape province. Steytleville is not located on any important routes and the town itself is home to the Royal Hotel, built in 1896.³⁸ This hotel (and town) was, due to regulations, without a Liquor License between 1910 and 1995. During this period, the Theatrical Hotel was built across the river from the town in the Art Deco style as the Karroo Hotel in 1943.³⁹ The square shaped single storey hotel (Figure 5) is uniquely decorated by apartheid style directions and liqueur advertisements included in the finishing plaster and on the parapets (Figures 6 & 7). In marketing terms, the hotel distinguishes itself as follows: "...the hotel is an extravaganza of style, laughter and even a hint of decadence during the Saturday night cabaret show when glitz and burlesque meet over a grand piano in the hotel's intimate Grimaldi's Theatre Hall."⁴⁰ The present owners bought the derelict hotel in 2003. The hotel accommodation comprises 16 rooms, a theatre, bar and billiards room. A collection of pianos is on display.⁴¹

While the hotel's eclectic interior decoration is emphasized in its marketing material the exterior is not mentioned but features on its website.⁴² According to co-owner Mark Hinds, the current owners selected this hotel for their envisaged cabaret shows because of its Art Deco style and guests do

notice, remark, and book at the hotel because of the design of the hotel designed by Maurice Berman.⁴³ He confirmed that they do strive to maintain and enhance the hotel’s design because of the theatrical and “old world” atmosphere it presents. However, they have not received any support or acknowledgement from local heritage organizations.



Figure 5. Porte cochere and main entrance in 2023. Source Karoo theatrical Hotel website

Figure 6. Plasterwork decoration in 2009. Photo by author



Figure 7. Plasterwork detail in 2009. Photo by author

Karoo Art Hotel

The Karoo Art Hotel is situated off the main tourist route of Barrydale, a town that is a popular stopover for tourists and travelers on the R62 in the Little Karoo. The main L-shaped, double storey building was built in the late 1800’s and the Art Deco veranda was added in 1937. Subsequently, the foyer (Figure 9) and lounge area’s (Figure 10) were altered to enhance the Art Deco character of the building. Like most Karoo Art Deco buildings, decorations, where they exist, are functional but sparse. The hotel includes 4 themed bedrooms, a cinema, map room bar and lounge”. ‘In doing so they received no support from local heritage organizations.⁴⁴ It is not clear if the present owners were aware that their hotel design is mostly Art Deco.



Figure 8. Karoo Art Hotel entrance and veranda. Source Karoo Art Hotel website⁴⁵

According to Sue Melvill, co-owner, the owners bought the building in 2022 when in a run-down state and decided to turn it into, and market it as an Art Hotel. They do not use its Art Deco features as part of their marketing or in their furnishing and decoration: Their focus is on the art on display. Hence the interior has taken on an eclectic nature.⁴⁶ She informs that, to her knowledge, guests have to date not remarked about the Art Deco aspects of the building. However, the design of the building and the potential inherent in it was the reason they bought the building and what gave rise to the art hotel concept. Thus, as in the case of the Karroo Theatrical Hotel, the Art Deco features of the building provided a suitable envelope for niche market that the owners explored. During a visit, two of the hotel's staff indicated that guests remark about the Art Deco style of their buildings. Considering their 'art hotel' concept, it is unlikely that some of the guests visiting the Karroo Art Hotel would have recognized it as such.

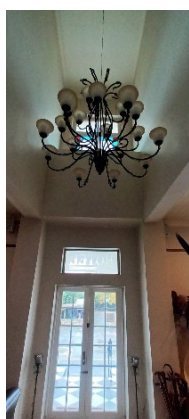


Figure 9. Karroo Art Hotel Foyer.
Photo by author

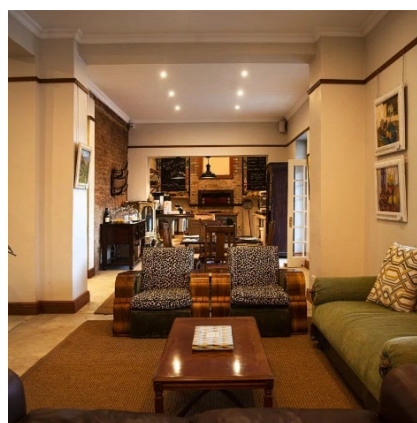


Figure 10. Karroo Art Hotel Lounge.
Source Karroo Art Hotel website

COMPARISON

Two of the hotels are double storey and one single storey. Each of the three hotels has identified a unique niche within which they are operating. All three hotels were acquired by their present owners when they were no longer in operation. While it is not known how the hotels were marketed previously, currently, only the Montagu hotel explicitly uses their Art Deco style in their marketing efforts. However, this aspect influenced the market segment and the niche market chosen by the other two.

Except the Karroo Theatrical Hotel, the hotels are on popular tourist routes and are in popular tourist towns. The Theatrical hotel is situated away from the main road through the town, and the town itself is not a significant tourist attraction.

All three hotels have been refurbished by their new owners. Refurbishment was guided by their chosen market segment. Only the Montagu Hotel strives to include Art Deco furniture as far as possible. The other two hotels have opted for an eclectic mix of furniture which is not out of place for Art Deco buildings because of Art Deco's eclectic nature. Except the Karroo Art Hotel, customers have remarked on the Art Deco style and similarly, only this hotel reported that they have not had guests booking specifically because of the hotel's Art Deco design. However, it should be considered that the owners of the Karroo Art Hotel have only had the hotel for less than a year.

Only the Montagu hotel received any support from their local heritage association. Support here did not include any financial support. This could be because of the town's Art Deco heritage: There are no other Art Deco style buildings in Steytlerville or Barrydale.

FINDINGS

All three hotels faced substantial financial challenges, some even closing, before being taken over by their current owners. While two of the hotels are in towns that attract tourists, the third faced a much bigger problem due to its isolation. No support was available based on the heritage value of the buildings. This implies that managing and marketing these hotels requires considerable skill and that it had to be based on something that would attract guests from distant areas to the hotels, a specific and unique niche.

None of the hotels can be regarded as outstanding examples of the Art Deco style but all three are unmistakable examples of this style.

Each of the hotels chose and developed a unique and appropriate niche market and redeveloped themselves accordingly. In all three cases, the hotels had to do so without much (if any) help and support from local heritage bodies. In all three cases, their Art Deco designs were instrumental in shaping a suitable focus, particularly when considered with the style's popularity as described earlier. This is evidenced by the responses from both the Karroo Theatrical Hotel and the Montagu Country Hotel in which they indicate that guests often remark about this aspect.

CONCLUSION

Despite facing considerable challenges, the three hotel buildings have managed to remain in use or to be re-used resulting in a concomitant conservation of materials, water, energy not to mention the retention of job and economic opportunities in rural areas where de-population and poverty are the norms. The distinctive designs of these buildings endowed them with durability that was instrumental in their continued re-use and sustainability. Sustainability indexes and guidelines such as those mentioned earlier, don't place enough emphasis on aesthetics, possibly because aesthetics is subjective and difficult to measure. This comparison has shown that this is an aspect that could be as important as recommendations for adaptable layouts and energy efficiency and deserves more emphasis in guidelines for the creation of sustainable buildings; positive aesthetics can influence the "re-useability" and longevity of buildings.

NOTES

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- ² Alain Lesieutre, *The spirit and splendour of Art Deco* (London: Paddington Press, 1974), 7-22.
- ³ Wilhelmina Van der Linde "Die neerslag Van Art Deco in Suid Afrika as manifestasie van 'n internasionale tydgees en styl, met spesifieke verwysing na die argitektuur" (DPhil thesis, University of Stellenbosch, 2000), 37-40; Norbert Wolf, *Art Deco* (Munich: Prestel, 2013), 182.
- ⁴ As yet unpublished.
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- ⁶ Norbert Wolf, *Art Deco* (Munich: Prestel, 2013), 22.
- ⁷ Van der Linde, "Die neerslag Van Art Deco in Suid Afrika as manifestasie van 'n internasionale tydgees en styl, met spesifieke verwysing na die argitektuur" [sp], Bevies Hillier and Stephen Escritt, *Art Deco Style* (London: Phaidon Press, 1977), 8.
- ⁸ Hillier and Escritt, *Art Deco Style*, 22.
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- ¹⁰ Lesieutre, *The spirit and splendour of Art Deco*, 7.
- ¹¹ Van der Linde, "Die neerslag Van Art Deco in Suid Afrika as manifestasie van 'n internasionale tydgees en styl, met spesifieke verwysing na die argitektuur," [sp].
- ¹² Van der Linde, "Die neerslag Van Art Deco in Suid Afrika as manifestasie van 'n internasionale tydgees en styl, met spesifieke verwysing na die argitektuur," 10.
- ¹³ Van der Linde, "Die neerslag Van Art Deco in Suid Afrika as manifestasie van 'n internasionale tydgees en styl, met spesifieke verwysing na die argitektuur," 13-30.
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- ¹⁵ Lesieutre, *The spirit and splendour of Art Deco*, 9.
- ¹⁶ Federico Freschi, "Art Deco, modernity, and the politics of ornament in South African architecture, 1930–1940" in *The Routledge Companion to Art Deco*, ed. B. Elliott and M. Windover (Abingdon: Routledge, 2019), 253-270.
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- ¹⁸ Breeze *New York Deco*, 13.
- ¹⁹ Breeze *New York Deco*, 64-76.
- ²⁰ Marilyn Martin, "Art Deco Architecture in South Africa." *The Journal of Decorative and Propaganda Arts* 20(1): (1994):22.
- ²¹ Freschi, "Art Deco, modernity, and the politics of ornament in South African architecture, 1930–1940," 268.
- ²² Van der Linde, "Die neerslag Van Art Deco in Suid Afrika as manifestasie van 'n internasionale tydgees en styl, met spesifieke verwysing na die argitektuur," [sp].
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- ²⁴ Hillier and Escritt, *Art Deco Style*, 19.
- ²⁵ Van der Linde, "Die neerslag Van Art Deco in Suid Afrika as manifestasie van 'n internasionale tydgees en styl, met spesifieke verwysing na die argitektuur," 479.
- ²⁶ Martin "Art Deco Architecture in South Africa." 22.
- ²⁷ South Africa, during the 1930s, was gripped in one of the worst droughts when rains failed completely in 1931 and 1932). "The great Depression and the poor White issue," Accessed August 17, 2023. <https://vaaldam.org/history-of-the-vaal-dam/the-great-depression-and-the-poor-white-issue/>.
- ²⁸ Freschi, "Art Deco, modernity, and the politics of ornament in South African architecture, 1930–1940," 255.
- ²⁹ Van der Linde, "Die neerslag Van Art Deco in Suid Afrika as manifestasie van 'n internasionale tydgees en styl, met spesifieke verwysing na die argitektuur," 485.
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⁴⁰ Karroo Theatrical Hotel, "Our Story."

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⁴³ Mark Hinds, Owner Karroo Theatrical Hotel. Telephonic Interview, 11.00 on June 10, 2024.

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UNPACKING TENSION BETWEEN HISTORICAL PRESERVATION AND PEDESTRIAN MOBILITY THE TAICHUNG CASE

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INTRODUCTION

Being the third largest city in the central part of Taiwan, Taichung's rich colonial heritage has attracted increased tourists, especially towards its old city area, prompting various projects aimed at revitalizing cultural assets since 2017. Nevertheless, the old city grapples with challenges like narrow roads and aging buildings due to evolving commercial dynamics. A pedestrian-friendly system is crucial to accommodate tourism and preserve heritage, yet current trends prioritize widening streets by demolishing old buildings, sacrificing historical ambiance and contradicting efforts to promote historical tourism while hindering pedestrian comfort.

The core concern lies in reconciling urban fabric, local memories, and culture while leveraging historical heritage for tourism. Despite the municipal government's efforts to promote historical tourism and revive the local economy, challenges often lead to the demolition of old buildings, exacerbating conflicts between historical preservation and modernization. Resolving conflicts between historical street blocks and road rights has become a primary concern for Taichung's old city.

RESEARCH MOTIVATION

“It has been nearly two months since Taiwan lifted its entry restrictions and ended mandatory quarantine, allowing most foreign tourists to visit the country. Following the loss of international tourism revenue during the Covid-19 pandemic, the government has pledged to increase the tourism value and attract 10 million foreign tourists by 2025. However, critics argue that while attracting and retaining foreign tourists, Taiwan must first improve road safety – for both drivers and pedestrians.¹”

CNN's report on Taiwan tourism in January 2023 strongly referred to Taiwan's traffic as "pedestrian hell" and emphasized the necessity of addressing pedestrian safety to enhance its tourism appeal.

According to statistics from the Ministry of the Interior,² the pedestrian sidewalk coverage rate in urban areas nationwide is only 42.49%. In other words, over 57.51% of roads lack sidewalks, excluding non-urban roads. Walking on sidewalks today, we often feel they are not spacious enough, and we have to contend with bicycles and illegally parked motorcycles. Only 62% of sidewalks meet the required width and suitability criteria. In an environment where sidewalks are not even half-covered and with low suitability, the impact on foreign tourists walking in Taiwan is even more significant.

Lin Zhi-xue, vice chairman of the Taiwan Traffic Safety Association, mentioned in an interview with CNN,³ "We rely too much on law enforcement. The focus should be on designing better road infrastructure and enhancing driver education." However, why is it difficult to implement infrastructure changes? According to the overview of urban road management responsibilities outlined by the Ministry of the Interior's Construction and Planning Agency,⁴ municipalities formulate their own ordinances for road construction and maintenance, leading to complex division of responsibilities and hindering efforts to drive change, which proves futile.

Compared to the other five directly governed municipalities, Taipei's pedestrian space is much more comprehensive. However, despite becoming the second largest city in the country, Taichung ranks second to last in pedestrian safety among directly governed municipalities.⁵ Taichung City Government began the "Taichung City Cultural City Historical Space Remodeling Plan" in 2017, aiming to develop the old city area into a core historical tourism area. However, the current situation of pedestrian space is not optimistic. The narrowness of historical streets, old buildings, and parking difficulties have created tension between preserving historical texture and modern transportation needs. In addition to existing road demands for cars, motorcycles, and buses in the old city area, there is a basic need for bicycle and pedestrian sidewalks, especially with future tourism development requiring comfortable and attractive pedestrian spaces within the limited space of the old city area.

Space

Taichung, as the only directly governed municipality in Central Taiwan, implemented its first urban improvement plan in 1899, actively restructuring and developing the old city area. Apart from organizing four rivers – Green River, Willow River, Plum River, and Mayuantou Creek, they attempted to replicate Japan's Kyoto's grid-like road system in the Taichung urban area. They opened up old streets like the one diagonally traversing Datun Down Street and constructed new streets like Zhonghua Road and City Hall Road. These developments laid important foundations for the construction and development of the Taichung urban area. With the opening of the North-South Railway in 1905, the Taichung urban area expanded further towards the direction of the train station, and the streets became even more prosperous. The area from Taichung Station to Zhonghua Road and from Gongyuan Road to Minquan Road became commercial districts, witnessing burgeoning commercial activities, reflecting the significant emergence and modernization of Taichung at that time. Due to its rich historical heritage, Taichung's recent tourism development has increasingly focused on the old city area.

CORE CONCERN

The old city area in Taiwan, modeled after Kyoto's grid-like urban planning, ironically lacks a pedestrian-friendly system despite efforts to revitalize its economy through historical tourism. Issues such as illegal parking, business encroachment on sidewalks, and poor sidewalk design hinder pedestrian movement. The city government promotes historical tourism projects while struggling to provide friendly pedestrian spaces due to aging buildings and irregular streets. This often leads to accelerated demolition of old structures.

The study aims to explore the balance between preserving historical districts and modernization in Taichung's old city area. It seeks to find solutions that promote both cultural heritage and urban development. The research considers factors such as urban planning policies, local traditions, and transportation. Core research questions include:

1. Why have pedestrian rights been compressed as cities transition from people-oriented to car-dominated environments?

2. Why is historical preservation often neglected compared to infrastructure development in urban areas?
3. What tensions exist between historical district preservation and mobility, and how do local residents and users perceive these issues?

Pedestrian Rights and Research

The exploration of pedestrian spaces in Taiwan began in the 1970s, initially focusing on safety issues for children and women. In the 2000s, attention shifted to special urban areas. Lin Yu-yo⁶ highlighted three key concepts in transportation: Enforcement, Education, and Engineering. Historically, emphasis was placed on legislation and law enforcement, with engineering aspects often overlooked.

The issue gained public attention when video creator Zheng Cai-wei exposed discriminatory remarks by the traffic bureau, as noted by P'an, Yung-hung.⁷ This led to increased focus on engineering solutions and sparked discussions on motorcycle rights. Social media platforms have further amplified the conversation on pedestrian rights.

Lan Chia-chun⁸ argued that "walking should be a basic right actively safeguarded by the state, without differentiation based on individuals or locations." Despite criticisms of 1990s Taipei City beautification efforts, pedestrian rights issues persist today, particularly in Taichung's old city area. The city lacks all three Es (Enforcement, Education, and Engineering), warranting further exploration into urban transformation.

However, existing literature has not fully addressed the privatization of public spaces or potential solutions to regulatory failures over the past 30 years. The resurgence of pedestrian rights issues presents an opportunity to explore these aspects.

Michel de Certeau's concept of everyday tactics (1984)⁹ highlights how pedestrians in Taiwan are often forced to use overpasses, underpasses, or crossings, ostensibly for protection but actually serving to ensure smooth vehicular traffic flow. Despite regulations outlined in Taipei City's 1982 study on urban road classification and design standards, issues persist 40 years later, leading to narrowed pedestrian spaces.

Taiwan's mixed land use, insufficient urban facilities, and privatization of public spaces have contributed to problems such as encroachment by vendors, signage, vehicles, and public utilities. These challenges are not easily overcome by urban governance techniques mentioned by Foucault,¹⁰ as power often lacks efficiency in practice.

The research suggests that people break existing street planning constraints through violation, evasion, alteration, diversion, and resistance, possibly due to low self-discipline and lack of respect. Conversely, increased awareness of pedestrian rights has led to resistance against public space encroachments.

Beyond the top-down 3E traffic concept, the reactionary nature within the network of ordinary users in public spaces deserves deeper exploration. Those advocating for pedestrian rights may become a pathway to address the "privatization of pedestrian spaces."¹¹

In conclusion, the study of pedestrian rights in Taiwan reveals a complex interplay between urban planning, societal behaviors, and governance. While progress has been made since the 1970s, significant challenges remain in creating truly pedestrian-friendly environments. The ongoing discourse and activism surrounding this issue suggest a growing awareness and potential for positive change in the future.

The Tension Between Historical Preservation and Mobility Rights

The tension between historical preservation and the mobility of pedestrians in the old city area of Taichung has been the subject of in-depth research. Scholars have focused on projects such as the Taichung Railway Station and the Green River Remediation Project. The Taichung Railway Station project aimed to address the urban development barrier caused by the railway, and in the process of preserving the old station, it incorporated the concept of an "urban living room" by designing large pedestrian plazas.¹² As for the Green River project, it involved diverting water sources, purifying sewage, and basic environmental beautification, as well as the central district's urban regeneration plan, aiming to revitalize commercial areas along the Green River and study space reuse issues.¹³ Although the Taichung Station itself has a spacious facade conducive to pedestrian movement, the main roads connecting to areas like Chenggong Road, Taiwan Boulevard, and Zhongshan Road in the old city area still suffer from unfriendly pedestrian spaces. While the Green River project has ingenious designs for pedestrian spaces and plazas along the riverbank, the same problems persist on the external sides of roads and buildings in the old city area.

Current policies regarding the old city area in Taichung clearly illustrate the conflict between historical preservation and the rights of pedestrians to move. This reflects the "developmentalist" urban governance approach that Taiwan adopted since the 1980s. On one hand, urban environments are improved through infrastructure variations like road widening, while on the other hand, historical elements are used to recreate or reshape urban imagery. The phenomenon of disregarding old buildings to expand streets symbolizes the inability of historical elements to integrate with rigid road infrastructure, often seen as outdated, obstructive, or irrelevant elements.¹⁴ The struggle between infrastructure and historical preservation often faces limitations imposed by the "historical authenticity" causing material rigidity, making it difficult to challenge the dominance of mainstream urban meanings and extensive infrastructure.¹⁵ It requires going beyond mere preservation of history and viewing historical preservation as an active participation in infrastructure development. The development of the concept of historical preservation to the discourse of "cultural heritage preservation" in urban planning provides unique opportunities and limitations. By rethinking the urban historical process, we can delve deeper into the foundation of urban planning and provide valuable reference points for planning practice.

In this regard, "practical planning" believes that research should provide more concrete cases and detailed narratives to demonstrate the negotiation and compromise of power relations and values in the planning process, as well as their consequences and who bears them. Therefore, practical planning research can inspire successors. If the value shaping process immersed in power relations can be changed, perhaps viable alternative outcomes may result. In the development context of the old city area of Taichung City, practices such as demolishing old houses, renovating buildings, widening roads, and changing industries are packaged under the concept of public interest in road rights, hiding many private interests within. The disregard and lack of clarity regarding residents and social contexts will only make this planning responsibility unclear, leading to the loss of neighborhood characteristics and lack of interactivity.

PRELIMINARY ARGUMENTS

This study will extend its arguments based on the concept of "practical planning," aiming to simultaneously explore the ways of preserving cultural assets in history and institutionalizing the mobility power of infrastructure. Apart from changing the traditional focus of historical preservation solely on experts, scholars, or history enthusiasts, and even alienating historical elements to maintain the operational costs under the guise of "historical tourism" and urban mainstream significance, the crisis of historical elements will be addressed. By applying the concept of cultural practical planning,

residents and users residing in the area will develop a deeper relationship with historical elements, not only enhancing "historical authenticity" and local identity but also establishing grassroots connections to operational methods and sustainable local operations.

Furthermore, concerning pedestrian mobility power, one of the arguments of this study is whether the road network originally designed for pedestrians during the Japanese colonial period can be transformed back into a pedestrian-oriented and people-centric traffic context in the old city. Implementing the mobility power into the infrastructural "walkability" will be one of the arguments of this research. For representative streets with low traffic flow, participatory planning emphasizing pedestrianism and life permeating the streets will integrate local textures and pedestrian mobility power. Tourists and general users will be able to safely stroll through the old city, experiencing the local history, industry, and human interactions of Taichung City's old town, thus achieving the goals of historical tourism and community participation. – as illustrated in Figure 1.

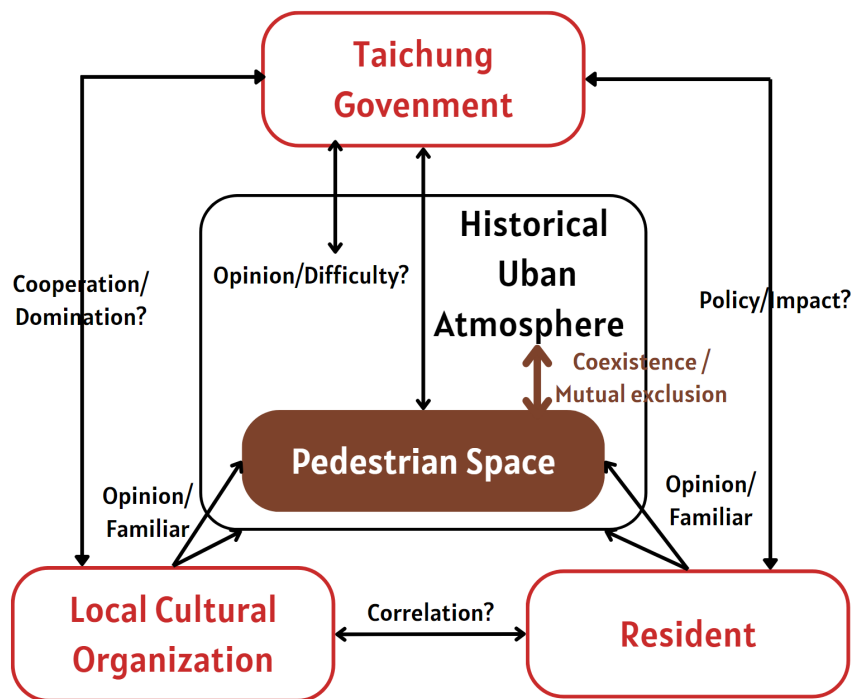


Figure 1. Analytical Framework Diagram.

Research Methodology

In order to better understand the tension between urban space in Taichung's old town regarding historical preservation and mobility power, a significant amount of literature related to mobility power or delving deeper into the concept of "road rights" will be reviewed. Previous perspectives from scholars like Lan Chia-Chun and Wang Chih-Hung have influenced my stance, encouraging me to further question whether the institutionalization of historical preservation elements into infrastructure and the difficulties encountered in Taichung's old town can truly achieve the goals of historical tourism. Furthermore, I aim to explore how spatial politics systematically delineate key roads and pedestrian public spaces users, and how they produce and reproduce pedestrian public spaces and their social relationships in the process of conflict interaction within society.

Moreover, I believe that conducting institutional ethnography by meticulously collecting narratives of how surrounding businesses and residents live and work, along with engaging in exchanges with the locally rooted "Midtown Regeneration Cultural Society," can weave together the underlying social power structures behind each story. This approach not only reveals the unnoticed traces of power dynamics in everyday life but also provides updated planning perspectives for the reproduction of pedestrian and road spaces.

RESEARCH SCOPE

My research will focus on the neighborhood area delineated by the Taichung City Government's "Taichung Cultural Central City Historical Space Reconstruction Project." The choice of this scope is based on the consideration of how to navigate comfortably and safely through the old city area, primarily focused on historical tourism. Therefore, as shown in the diagram below, the main focus will be on the blocks along the central axis of Zhongshan Road from Taichung Station to the area connecting the former Taichung Prefectural Hall and the Prison Drill Ground.

It is evident that aside from the areas mentioned in the "Taichung Cultural Central City Historical Space Reconstruction Project," such as Taichung Station, Green River Park, and the unfinished restoration of the former Taichung Prefectural Hall, there are still numerous issues with pedestrian spaces in the old town area. This includes snack vendors occupying the sidewalks near the well-known attraction of Taichung Park, which limits pedestrian space and even leads to inconvenience for pedestrians, blaming queuing customers for the obstruction. The sudden blockage of sidewalks on Market Road forces pedestrians to move outward, but without pedestrian space between buildings and roads, coupled with parking spaces directly marked on the road, it becomes an area unfavorable for pedestrian passage.

Furthermore, regarding the aspect of promoting walking and energy-efficient cities through public transportation, bus shelters should provide a conducive waiting environment. However, on Sanmin Road, with sidewalks occupied by motorcycles and cars and no pedestrian lanes, bus stops are placed on the road, and waiting passengers can only wait for buses on the street, having to dodge passing vehicles. When buses arrive, they also need to be careful. Finally, considering the relationship between the historical atmosphere of the old town area and pedestrian spaces, taking the example of the Chien Ma Chamber of Commerce Taichung Branch located on Zhongshan Road, the potential for revitalizing historic buildings is present. However, the issue of sidewalk encroachment and the lack of pedestrian space outside the sidewalk endpoints on the road are common in Taichung's old town area. Whether the pedestrian spaces and historical atmosphere shaping at Taichung Station and Green River Park extend to and permeate the entire old town area still requires further investigation. However, it is evident that in the old city area, which is promoted as a selling point for historical tourism, only the pedestrian system configuration at Green River Park and Taichung Station is inadequate. This is also why this study focuses on the old town area of Taichung City.

IN-DEPTH INTERVIEWS

The research objectives include examining the historical preservation situation and pedestrian space issues in the old town area of Taichung City, as well as focusing on the daily life situations of local residents and users. To achieve these goals, participatory observation will be conducted to understand how residents in the old town area actually operate in their daily lives.

In the study, the researcher will observe the role allocation of different power exercises in the pedestrian space system and explore how they interact with, use, and participate in the space. Additionally, through field research and project discussions, the researcher will propose action plans

for "practical planning," transforming the tug-of-war between historical preservation and the power of mobility into coexistence.

Combining the data from the previous two sections, identify potential disputes and stakeholders involved in historical preservation and mobility power, and understand how residents and users perceive the public spaces in the old town area of Taichung through interviews. The primary aim is to observe how the government, relevant organizations, users, and residents respond to the spatial changes mentioned above through different activities and issues. This part will primarily involve data analysis, in-depth interviews, and participatory observation.

CONCLUSION

This research project aims to shed light on the intricate balance and conflicts between historical preservation and urban modernization, particularly within the context of Taichung's old city area. Through an in-depth exploration of various factors impacting the preservation and modernization of historical districts, the study seeks to offer feasible solutions to promote the inheritance of historical culture while facilitating urban development.

Insights into Pedestrian Rights and Urban Mobility: By examining the gradual compression of pedestrian rights in urban environments, the research will provide insights into the transition from people-oriented cities to car-dominated urban spaces. Understanding these dynamics is crucial for developing more pedestrian-friendly urban infrastructures and transportation systems.

Valuing Historical Preservation: The research aims to address the relative neglect or undervaluation of historical preservation compared to infrastructure development in urban areas. By highlighting the significance of preserving historical districts, the study seeks to foster a deeper appreciation for cultural heritage and identity.

Exploring Tensions between Preservation and Mobility: Through an analysis of the tensions between historical preservation and the power of mobility, the research will uncover the complex relationships and perspectives of residents and users residing in historical localities. Understanding these tensions is essential for developing holistic approaches to urban planning and development.

In conclusion, this research project strives to contribute to the discourse on urban development and historical preservation by offering nuanced insights into the challenges and opportunities presented by Taichung's old city area. By emphasizing the importance of pedestrian rights, valuing historical preservation, and exploring tensions between preservation and mobility, the study seeks to inform policy-making and planning efforts aimed at fostering sustainable urban development and cultural heritage conservation. Ultimately, the research aspires to promote the creation of vibrant, pedestrian-friendly urban spaces that celebrate the rich history and cultural identity of Taichung's old city area.

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FROM AUTHENTIC NEON LIGHT TONIGHT: A COMPARATIVE STUDY OF PRESERVATION EFFORTS IN HONG KONG AND TAIWAN

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INTRODUCTION

Neon signs, once iconic symbols of urban landscapes and nighttime illumination, have significantly declined in cities like Hong Kong and Taiwan. Once prevalent as advertising mediums in the 19th century, these signs now face cultural preservation challenges due to their diminishing presence. This study explores the authenticity of neon signs and the impact of various preservation strategies on their cultural value. In Hong Kong, regulatory constraints have contributed to the decline, though recent preservation efforts—including conserving original signs, government-led reconstructions, and artistic innovations—are gaining traction. These initiatives also draw inspiration from Taiwanese practices. Conversely, Taiwan's shift to LED signs, driven by economic and energy concerns, has spurred a nostalgic revival of neon. This revival includes both traditional craftsmanship and LED approximations, which are often contested by purist artisans. Neon signs originated from William Ramsay's 1898 discovery of neon's luminescent properties, later commercialized by Georges Claude. Claude's innovations, first showcased at the 1910 Paris Motor Show, quickly became global symbols of modernity and quality. This research aims to clarify neon's evolving role in urban aesthetics, its authenticity in contemporary settings, and the effectiveness of various preservation methods in maintaining its cultural significance.

THE NEON HISTORY

Hong Kong

Neon signs spread across Asia following its first installation in Tokyo's Hibiya Park in 1926.¹ Shanghai quickly adopted neon technology, establishing domestic production by 1927.² In Hong Kong, Georges Claude established a neon factory in 1932. Following the economic resurgence after World War II, neon signs became widely adopted as symbols of modernity and effective advertising mediums. Unlike the decline of neon in the United States due to socio-technological changes, Hong Kong experienced a neon renaissance starting in the 1950s. The neon-illuminated cityscape emerged as a distinctive tourist attraction and cultural icon. The zenith of Hong Kong's neon era occurred in the 1980s-1990s. However, the advent of energy-efficient LED technology initiated a gradual decline in neon usage. This trend, coupled with the relocation of neon factories to mainland China, precipitated the industry's contraction post-1990s.³

The implementation of stringent regulations by the Buildings Department on December 31, 2021,⁴ further accelerated the demise of neon signs. This policy allowed signboard owners to erect, alter, or

remove certain types of signboards without prior approval, leading to a significant reduction in the number of neon signs. While Hong Kong's tourist attractions have waned, the Tourism Board plans to promote a "Mega Event" as a 2024 tourist attraction strategy,⁵ with neon signs being officially set up as landmark attractions representing the city's image.

Taiwan

Neon first appeared in Taiwan during the Japanese colonial period, around the 1930s, illuminating the street called Rong Town (Heung Yang Road), known as "Taipei's Ginza" at the time.⁶ However, the neon light industry was not yet popular then. It wasn't until after World War II, when Taiwan's economy began to flourish, that the first advertising agency, "Guohua Advertising," recognized the potential of neon lights to capture consumers' attention. In 1964, the first "National" (Panasonic) neon tower was erected on the roof of the then-trendy "Zhunghua Shopping Yard," marking the beginning of the neon sign craze. The neon became part of Zhunghua Shopping Yard's brilliant nightscape and a symbol of Taipei City. Following the success of the "National" neon sign, other large enterprises followed suit. And by 1971, ten neon towers stood on the roof of Zhunghua Shopping Yard, becoming a landmark of Taipei. However, building structural issues eventually led to the demolition of these neon towers in 1985. Despite this, the neon light trend continued to spread across Taiwan, becoming a common feature in advertisements for restaurants, cinemas, and department stores. With the invention of LED lights, which were energy-efficient, bright, and low-cost, the neon industry gradually declined.

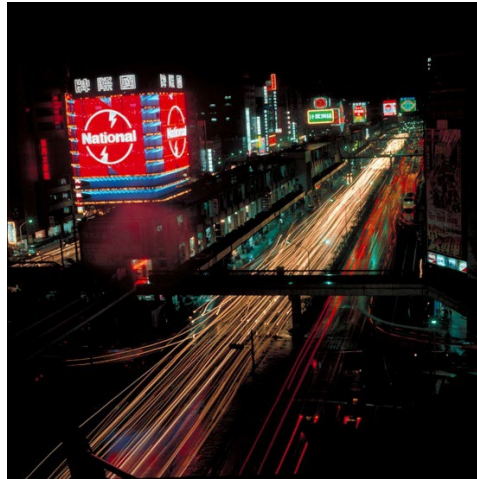
FROM COMMERCIAL LANDSCAPE TO PUBLIC ART

Architectural space is a medium through which information is conveyed.⁷ Buildings themselves carry architectural language and symbolic meanings. Agents move within spaces, and symbols are produced or advanced by their activities. Neon signs, as symbols in public spaces, express the interweaving and resonance of urban bourgeois culture and civic life. Their bright illumination at night brought considerable business to merchants, making neon signs a preferred choice for shopkeepers. This phenomenon aligns with the lyrics of "The Sound of Silence," which mention, "and the people bowed and prayed to the neon god they made," and "City of Blinding Lights," which states, "Neon-heart, day-glow eyes, a city lit by fireflies, they're advertising in the skies." Both songs highlight how neon has become a deified object in consumer society, a concept Guy Debord referred to as "social relationships mediated by images" in his work "Society of the Spectacle".⁸

Neon became a spectacle, evolving into popular culture in modern society, which is essentially rooted in consumption. Unlike tungsten filament lamps, neon use glass tubes filled with gas connected to electricity to illuminate. Although beautiful, they are fragile and are often placed at a distance from people, such as on rooftop signs. This distance also represents, to some extent, the distance between people and space. Under the accumulation of enormous capital and scientific technology, neon, as an image, becomes an urban landscape of capital activity. The more glamorous the lighting, the stronger the exclusivity of the space it represents. Those who cannot integrate into these spaces are likely to feel increasingly isolated.

Through the visual presentation of information on neon signs, people can find the information they need, helping to develop urban cultural life. Sharon Zukin argues that the display of information on signs confirms the central role of consumer culture in urban economics and popular perceptions.⁹ It is also a symbol of urban "authenticity," pointing out that urban aesthetics are constructed by signs. Large neon signs are particularly eye-catching at night, serving not only as identification tools but also providing environmental orientation, helping people locate and identify places and activities while familiarizing themselves with places and increasing their sense of security. For instance, the ten

neon towers in Taipei's Zhunghua Shopping Yard in the 1960s and 1970s became a "shining city wall"¹⁰ in the minds of Taiwanese. The more neon signs in an area, the more prosperous its economic and cultural industries. In Taipei, Ximending was the most flourishing. In the 1990s, only high-end restaurants, hotels, and cinemas could afford to use neon lights as decoration. Later, it gradually spread to different businesses.¹¹ Consequently, the entire Ximending area became a symbol of neon landmarks, not just part of the industrial economy but also the "installation art" of the city's heyday.



*Figure 1. Taipei Zhunghua Shopping Yard in 1983
(Facebook: ZHANG,ZHE-SHENG)*

We often see the protagonists lingering and rushing around neon signs, revealing their confusion and unease in a city intoxicated by material excess in Hong Kong movies. Conversely, Robert Venturi, in "Learning from Las Vegas," argues that while the street order in Las Vegas appears chaotic, it actually has a hidden order.¹² Neon lights have become representative of the city's image, with large, spectacular neon signs becoming a form of imagined public art. Hong Kong's neon signs share a similar status. Due to the absence of earthquakes and the prevalence of high-rise buildings, Hong Kong provides an ideal environment for neon signs to flourish. Unlike the giant signs on Las Vegas, Hong Kong's neon signs must compete with numerous others on narrow streets. To stand out, businesses create signs with diverse patterns and unique shapes. Despite the streets being filled with signs, they don't create a chaotic scene. Businesses pay attention to the size of neon signs, typically using them on higher floors of buildings so that people across the street can see them clearly.¹³ Hong Kong's geography, with many buildings constructed along hillsides, allows for a more layered placement of signs, creating a sense of depth and hierarchy.



Figure 3. Nathan Road in 1960s
(oldhkphoto.com)

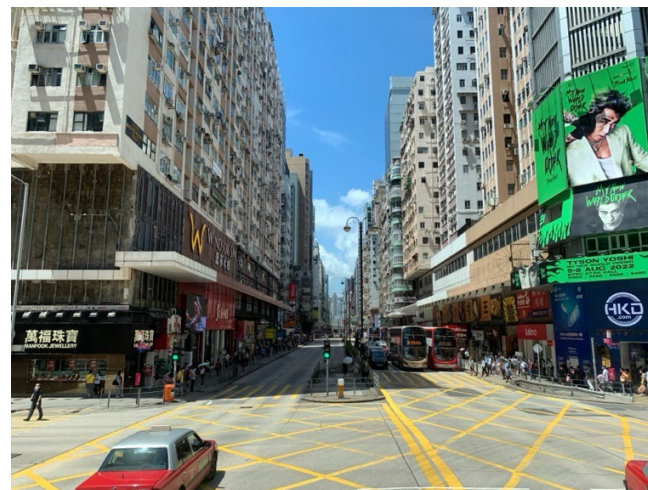


Figure 4. Nathan Road in 2022
(Author)

The most salient contrast can be observed along Nathan Road, once renowned for its profusion of neon signage. A comparative analysis of historical and contemporary streetscapes reveals an almost complete absence of neon advertisements in the present urban landscape. During the era when neon signs proliferated, double-decker buses and pedestrians traversed these thoroughfares unimpeded, suggesting that these installations did not pose significant hazards to public safety. This observation raises critical questions :

- Is the wholesale removal of signage the only viable solution to address potential safety concerns?
- Could a more nuanced approach, such as implementing regular maintenance and inspection protocols, suffice to mitigate risks while preserving this unique aspect of Hong Kong's visual culture?

The public's desire for urban authenticity, as Zukin points out, "expresses our own anxieties about how places change".¹⁸ Especially after the social movements of 2019, people have become particularly sensitive to "change," and they hope to re-establish a sense of identity and belonging in this city. A local neon artist points out that Hong Kong's neon lights have become synonymous with "home," and the landscape created by neon is their self-identity¹⁹. At the same time, under the trend of local culture popularity, the movement to preserve neon signs has become a focus of public attention at this crucial moment, mainly divided into three directions:

- **Original preservation**

In recent years, private sector efforts to save and preserve neon signs have gained momentum. One prominent organization is the non-profit Tetra Neon Exchange, which focuses on salvaging neon signs that can no longer remain in their original locations. The organization also promotes these signs both locally and internationally, collaborates with craftsmen to document and study the history of neon, and regularly partners with various entities to organize exhibitions that educate the public about the cultural significance of neon signs. Since 2013, the M+ Museum has been collecting neon signs ordered to be dismantled by the government. The museum has also documented many neon sign archives and created a neon map, allowing the public to locate both existing and historical neon signs. M+ Museum believes that neon signs are a symbol of Hong Kong's visual culture and play an important role in the city's cultural identity.

- **Memory reproduction**

Given the strong public identification with neon signs, and their role in shaping Hong Kong's urban image, the Hong Kong Tourism Board included neon lights as part of its 2024 Mega events to attract tourists. These initiatives involved recreating dismantled neon signs using LED tubes and placing them at key locations. However, the difference between LED neon and traditional neon is evident; neon lights have a softer glow and can display colors similar to the aurora, viewable from 360 degrees. Traditional neon requires skilled craftsmen with years of experience, unlike the relatively easier-to-produce LED signs. Some critics argue that "it's too late to preserve after demolition",²⁰ and from the perspective of urban authenticity, LED neon does not compare to traditional neon craftsmanship. Despite these concerns, various districts in Hong Kong are actively promoting the installation of LED neon signs as nostalgic landmarks to boost the economy. Conservationists argue that resources should instead be allocated to repairing existing neon signs, as this would be a more effective long-term preservation strategy. The Tetra Neon Exchange has also used recreation methods to bring back dismantled neon signs, further highlighting the tension between preservation and modernization.

The film "A Light Never Goes Out" also addresses the diminishing recognition of neon craftsmen and the subsequent exodus from this profession, which poses challenges for the transmission of skills to future generations. This problem is exacerbated by the absence of neon-related curricula within the Vocational Training Council, Hong Kong's primary vocational education institution. Bureaucratic constraints in the educational system prevent neon artisans from teaching within official frameworks. These artisans often lack formal academic qualifications. The systemic barrier impedes the transfer of knowledge and expertise to younger generations, risking the loss of a craft deeply intertwined with Hong Kong's cultural identity and visual heritage.

- **Artistic innovation**

Since the 1950s, neon has been a subject of artistic interest, representing contemporary life in creative ways.²¹ Inspired by neon preservation methods in other countries, younger local neon artists in Hong Kong tend to approach preservation through artistic means. Due to the unique visual culture embedded in Hong Kong's neon signs, these artists transform neon elements into art forms, giving them new meanings and allowing more people to experience Hong Kong's culture.²²

In contrast to Hong Kong's fervor for neon light preservation, Taiwan leans towards Memory Reproduction and Artistic Innovation. Taiwan's recent neon trend draws connections to Hong Kong's neon signs, partly projecting aspirations for Taiwan's economy through the lens of another city's past prosperity and partly focusing on the aesthetic construction of urban landscapes. While Taiwan's LED

signs are often criticized for their chaotic and unattractive appearance, Taiwan also had an era when neon signs were ubiquitous, especially in Taipei's Ximending and Zhonghua Shopping Yard areas. Recently, new businesses in Ximending have begun to use neon lights as their primary decoration, attempting to restore the area's former neon landscape. These businesses often approach neon from an artistic design perspective, reintegrating it into daily life as a decorative element.

Regarding Artistic innovation, as producing quality neon lights requires years of experience and craftsmanship, local artists choose to collaborate with neon craftsmen, designing sketches for the masters to create neon installations. Currently, most of these neon masters' commissions are from artists, with few large outdoor sign projects. However, some neon masters have noted that government-commissioned neon art installations are often dismantled or discarded after exhibition. On the other hand, some local neon masters are dedicated to exploring neon techniques, extending them to other artistic interfaces. Huang Shun-Le has combined neon lights with Taiwanese opera, creating props for performances. He also integrates neon techniques with daily objects as a spatial practice of everyday life. By combining neon technology with drinking cups, the cups emit neon light when placed on a wireless electrode base, allowing neon to transcend fixed locations and become mobile.

Artistic innovation in neon involves collaboration between local artists and skilled craftsmen, who bring artistic sketches to life as neon installations. While most commissions now come from artists rather than large sign projects, some craftsmen note that government-commissioned neon art is often dismantled after exhibitions. Despite this, artisans like Huang Shun-Le are pushing boundaries, integrating neon into other art forms. Huang has combined neon with Taiwanese opera and everyday objects, such as drinking cups that glow when placed on a wireless base, making neon mobile and expanding its artistic reach.

CONCLUSION

The preservation of neon lights in both Hong Kong and Taiwan mirrors the distinctive cultural and historical circumstances unique to each location. In Hong Kong, these neon signs are intricately linked to the city's cultural identity and image, with their conservation primarily occurring through innovative artistic endeavors. Conversely, in Taiwan, neon lights are regarded as a component of the cultural and creative sector, where preservation efforts focus on sustaining traditional craftsmanship by integrating it into contemporary design. Although the concept of "authenticity" in neon lights is understood differently in each region, both have successfully maintained the cultural significance of these signs in the face of rapid urban change.

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HISTORIC PRESERVATION FOR REVIVING THE CULTURAL AND ARCHITECTURAL IDENTITY, REBUILDING PEACE, AND SUSTAINABLE DEVELOPMENT IN POSTWAR IRAQ: REINFORCING THE ROOTS OF THE PAST FOR REBUILDING A SUSTAINABLE FUTURE

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INTRODUCTION

In post-war Iraq (the land of Mesopotamia and the cradle of civilization), following more than forty years of successive wars and political unrest, the discussion of heritage destruction and possible postwar preservation strategies and the reinforcement of the cultural identity for rebuilding peace and sustainable development becomes inevitable priority.

The systematic destruction of high-profile historic sites during the past decades of wars not only caused a tragic loss of the architectural heritage and legacies of the country, but also played a crucial role in shaping the disturbed cultural and architectural system in postwar contexts wherein war has ended but sustainable peace is yet to be realized and established. In such disturbed systems, postwar reconstruction started in Iraq including rising waves of irregular investment and non-sustainable development projects. The surviving heritage from the past wars, is now demolished to be replayed with alien structures threatening not only the existence of the survived architectural heritage but also transforming the cultural and the historic national identity of the country and hence, tremendously hindering the possible potentials for rebuilding peace and sustainable future.

Hence, in postwar contexts, as that of Iraq, crucial aspects and questions have to be addressed, such as: does the end of the direct war means the end of targeting the architectural heritage? What are the other forces and forms of violence threatening the sustainable existence of the historic legacies in Iraq and other postwar contexts? How can the role of historic Preservation be activated for reviving the cultural and architectural identity, rebuilding peace, and sustainable development in postwar Iraq? Following the brutal annihilation of the architectural heritage and historic legacies during the past four decades of wars and political unrest in Iraq, is there still any chances for historic preservation, heritage protection, and reviving the cultural and architectural identity of the country for peace and sustainable development?

This paper is structured to discuss these points and provide possible answers for the raised questions. the discussions also involve the crucial role of careful preservation strategies as being not limited to protecting legacies of the past. It is also about reinforcing the cultural, architectural, and urban systems of the present, and rebuilding a sustainable future. Heritage, in this paper is also introduced

as architectural reference and generative type for balancing the modernization in contemporary contexts and creating an architecture inspired by the past but not a copy form of it, rooted in the place and growing forward a sustainable future..

THE SYSTEMATIC DESTRUCTION OF HERITAGE: INSTRUMENTALIZING ARCHITECTURE FOR WAR

During the past 40 years of wars and unrest in Iraq, (extensively through the years from 2006-2016) the brutal targeting caused a massive destruction of the architectural heritage and high-profile historic sites in the country. The destruction of architectural heritage was never a random collateral damage, it was a deliberate systematic act to serve agendas of occupation, ethnic and cultural cleansing, violence and war.¹ In peace studies and the discourse of “architecture and war” this case is clearly defined by Andrew Herscher as “Warchitecture”.² It is targeting particular groups of human beings massively and indirectly by targeting their architecture (a process of redefining the relationship between war, architecture, and human being). This relationship explains that unique sort of *violence* that is aimed precisely and systematically at *architecture* and reveals the main target: *human beings*. The target of Warchitecture is never a random architecture; The target of Warchitecture, is the architecture that is typically narrated as HERITAGE.³ The architecture that has specific symbolic values, stands as a symbol of the value system in a particular culture;⁴ the architecture that is a SYMBOL of the Nation’s presence, and represents its culture and moral values;⁵ and the destruction of such architecture is a destruction of the collective memory.⁶

THE POWER OF WARCHITECTURE IN PLACES OF HERITAGE

In Iraq, three years following the military operations of the 2nd Gulf War of 2003, particularly on Feb 22, 2006, Iraqis woke up on the news of targeting the Samarra Mosque (al-Askari Shrine).⁷ By the end of the same day, ethnic-base murder toll had risen to frightening numbers marking the outbreak of the first civil war in the history of the country. The systematic targeting of Al-Askari Shrine is a clear message of targeting the symbol of the value system of the Shia Muslims in Iraq. Violence has intensified in Iraq to its highest levels and incited outrage, fear, and a degree of resentment that appears to be stronger than any mass murder can engender.⁸

The rising rates of daily deadly explosions, ethnic cleansing, systematic assassination based on the religious and political backgrounds, abandoned houses, closed shops, and dead bodies on the streets had become the everyday scene. One year later, by 2007, over 4 million Iraqis fled the country seeking refuge around the world. 2.7 million Iraqis had been internally displaced into places where they found majorities of their same ethnic description. The demographic and cultural structure of the country had been transformed. This displacement crisis was described by (UNHCR) as the largest population migration and the largest movement of people in the Middle East since 1948.⁹

Warchitecture continued:

In 2014 -2016 during the war against the terrorists of ISIL, particularly in Mosul, north of Iraq, the systematic and brutal annihilation of architectural heritage in the city is announced by UNESCO as a cultural cleansing.¹⁰

It was a systematic iconoclasm,¹¹ and deliberate destruction of architectural landmarks that represent every historical, cultural, and religious identity that captures the coherent diversity of the social structure and encapsulates the spirit of Mosul, as a symbol of diverse religious coexistence and tolerance. The historical monasteries, churches, mosques, the high profile historic and ancient sites, the museum, and even the libraries,¹² and the modern and national architectural landmarks, were

brutally destroyed by ISIL.¹³ These buildings encapsulate the spirit of Mosul, as a symbol of religious and cultural coexistence and tolerance.¹⁴

Few examples of Warchitecture in Mosul, north Iraq, include: The destruction of ancient artifacts in the ancient city of Hatra (a UNESCO World Heritage site 2,000-year-old archaeological site; The city of Nimrud - 3,000 Year-Old (the local palace was bulldozed, while Lamassu statues at the gates of the palace of Ashurnasirpal II were smashed).¹⁵ Al-Tahera Church, a Syriac Catholic church (constructed between 1859 and 1862), Bombarded in old Mosul in 2017. Nabi Younis Shrine Mosque (Jonah's tomb) destroyed by ISIL in 2014. Al-Sa'a Church (862–1873 CE)¹⁶ destroyed in 2016,¹⁷ and The Great Mosque of Al-Nuri (1172–1173 AD)¹⁸ destroyed in 2017. Both together Al-Hadba minaret and the clock tower of the Al-Sa'a Church were the defining landmarks of Mosul skyline, both were destroyed by ISIL, Figures 1,2, 3.

In addition to the UN and UNESCO, the worldwide Media, News, NGOs and other institutions raised their voices to condemn the brutal annihilation of the architectural heritage revealing the ultimate goal behind this brutal assassination of architectural heritage: to destroy the history of a whole nation and to extremely eliminate its national identity, collective memory, the sense of belonging, the cohesive social structure, and above all: it was the human being that meant to be destroyed. Stated by the NBC News: ISIS 'Tried to Destroy the Identity of Iraq'.¹⁹ RASHID International, introduced their report to the UN stating that the intentional destruction of heritage in Iraq is a violation of human rights.²⁰ The number of Iraqi refugees has increased dramatically that by 2018 the UN refugee agency UNHCR announced that the situation in Iraq is desperate.



Figure 1. Destroyed in 2016- the Our Lady of the Hour Dominican Latin church in Mosul Built in the 1870s by the Dominican Fathers,
<https://www.asor.org/chi/reports/incident-report-feature/al-Sa-a-%E2%80%9CClock%E2%80%9D-Church>



Figure 2. Destroyed in 2017 -The Great Mosque of Al-Nuri and its historical leaning minaret of which gave the city its nickname "the hunchback" (al-Ḥadbā'), first built in the late 12th century

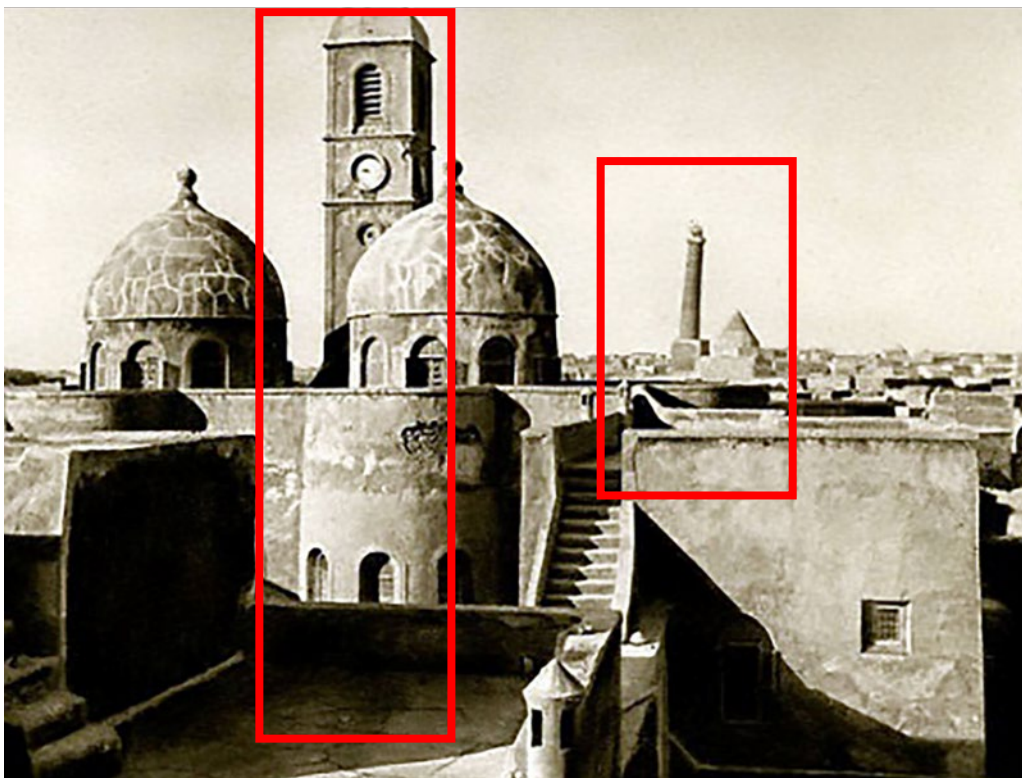


Figure 3. Al-Hadba minaret and the clock tower of the Al-Sa'a Church sharing the Mosul skyline. Both were destroyed by ISIL.

THE END OF THE WAR: DESTRUCTION OF HERITAGE CONTINUES!

In post-war Iraq, despite the end of the direct war, the destruction of heritage continued. According to peace studies, the end of the war does not mean that peace has been established.²¹ In fact, the long-term damage of Warchitecture clearly manifests in postwar contexts. Stated by Johan Galtung in his propositions on “Negative peace and Positive peace”: postwar contexts (as that of Iraq in the present time) can be precisely defined as “NEGATIVE PEACE” wherein direct war has ended but the root causes of the conflicts are still active and yet to be structurally addressed and transformed.²² In such contexts, the destruction of the collective memory and the disconnection between the human being and the place (rapturing the bond with the roots) are among the most damaging consequences of Warchitecture (the destruction of the architecture that has specific symbolic values, stands as the Nation’s presence, and represents its culture and moral value system).²³

In such fragile societies (ill society),²⁴ postwar reconstruction operations have started in Iraq. With the absence of proper regulations, waves of investment projects rise with no consideration to the particular requirements of the local contexts. With the lack of public awareness about the potentials of historic preservation as an active strategy for sustainable development, locals perceived capitalist investment projects as development. Hence, historic properties are being sold, demolished, and dramatically replaced with alien structures with no any mentioned resistance in the face of the capitalist machine of the property developers.

With the rapid expansion of investment project within the historic cities and urban fabrics in Iraq, the historic buildings are being tragically wiped from the map. What have survived the war, is now demolished by property developers, without even being documented, leaving no chances for any future preservation intervention. With the increasing number of new alien structures imposed directly in the heart of historic city centers, the architecture identity of the local contexts in Iraq is being transformed and the destruction of heritage continues.

HISTORIC PRESERVATION FOR REBUILDING GENERATIVE TYPES FOR REVIVING THE CULTURAL AND ARCHITECTURAL IDENTITY

Despite the tragic loss of heritage and continuous destruction of heritage, the chances for heritage preservation and reviving the cultural and architectural identity in postwar Iraq still persist. Similar successful experiences could be analyzed and carefully examined as examples to learn from including the postwar reconstruction projects in Europe following the WWII. However, the historic preservation and urban regeneration project the - Msheireb downtown -in Doha, Qatar could a good example since it belongs to a contextually and culturally relative to that of Iraq.²⁵

Until 1950, Doha was only a small village with settlements forming a compact strip of five km along the coast.²⁶ By 1960s-70s, with the flow of oil revenues and the import of new construction materials, Doha witnessed a rapid urbanization with large-scale development projects. Despite the improvement in living conditions, for more than three decades the massive development projects were expanding at the expense of the demolition of the prominent historic buildings provoking a major threat for the city’s urban and architectural heritage.²⁷ Similar to the case of Iraq, whole historic districts were swept away from the map transforming the city’s cultural and architectural identity, deleting long chapters from its history, and fading away its collective memory. By 1980s, the efforts towards the conservation of cultural and architectural heritage led to the legislations of the first law to save and protect Qatar’s cultural and architectural heritage. This law states that any building built before 1950 is considered as heritage that needs to be conserved. According to Djamel Boussaa: “this new law threw the first seeds to conserve what remains of Qatar’s cultural heritage and thus offered a new hope to sustain a future for the country’s cultural heritage.”²⁸ In2010, the Msheireb Downtown Doha

regeneration project was launched.²⁹ With new vision based on fusing Qatar’s architectural heritage with contemporary design, the downtown reflects timeless elegance.³⁰

Msheireb is structured around five main districts. The fifth district (Heritage Quarter), which represents an area of 2% of the entire site, is the only still survived heritage area to stand as witness of the past.³¹ In the Heritage Quarter, only four significant old traditional houses have miraculously escaped from complete demolition (Bin Jelmoed House - Company House, Mohammed Bin Jassim House and Radwani House).³² Only one of these houses - Radouani house- still maintain its original structure.

These four houses are extremely crucial to keep traces and memories of the original site. If these four houses have been carefully preserved, they would act as an architectural generative references to create and regenerate the architectural identity not only for the district but for the entire city.

The main objectives include saving the remaining historic structures, reviving the history, and moving forward to a sustainable urban regeneration with new architectural identity rooted in the past (reviving the cultural and architectural identity by generating an architecture that is inspired but not copied from the past). The historic preservation for the four remaining historic structures, in this case, is a process of rebuilding the source of the inspiration (reconstruction of the reference). The need to establish a new urban identity and character for Msheireb was fundamental in creating a new image to the city. The four houses have been carefully preserved and adaptively reused as museums (Msheireb Museums- DNA – JOURNEY TO THE HEART OF LIFE’), to form a vital part of the Msheireb Downtown Doha development, to tell stories of the nation’s history, to engage, inspire, and spark historic preservation for sustainable development.³³ The preservation of only four remaining old houses were enough to rebuild and revive the architectural and the cultural identity of Doha activating its heart as a vibrant platform for sustainable development. The the Msheireb Downtown Doha regeneration project is fully opened in 2022 to become the world’s first downtown regeneration project and is Doha’s new destination for living, leisure, and business.³⁴



Figure 4. Radwani House represents traditional Qatari family life and gathers, preserves and shares memories of Qatar in a time of historic social transformation.
<https://msheirebmuseums.com/en/about/radwani-house/>

CONCLUSION

In postwar contexts, despite the end of the direct war against architecture (Warchitecture), the destruction of heritage could continue in faster pace. In Iraq, during postwar reconstruction recovery, vast investment projects are thriving and rapidly expanding at the expense of a massive and brutal demolition of heritage and historic buildings.

What has survived the wars is now demolished by property developers, and replaced with alien structures without considering the particular requirements of the local context. With the increasing number of the new alien structures being imposed within the urban and traditional fabrics, architectural and urban deformation exacerbate. The cultural and the architectural identity of the city have transformed into a disturbed system.

Furthermore, the historic structures and heritage are being permanently wiped up from the map as they are brutally demolished without even being documented leaving no chances for future physical or digital reconstruction. Entire chapters from the history of the country are being deleted threatening not only the existence of the surviving architectural legacies from the past, but also transforming the cultural and the historic national identity of the present and therefore, tremendously hindering the possible potentials for rebuilding peace and sustainable future.

Three main points played a crucial role in further deteriorating the case : the first is insufficient historic preservation and heritage protection law enforcement and regulations. The second is the lack of awareness among the public, especially the local owners, about the real value and the potentials of their historic properties in reinforcement of the cultural national identity of the country and boosting its economic development on long-lasting terms. Locals understand historic preservation as a past/back-forward strategy and a resistant force against development for the future. Whereas, historic preservation is proved to be among the most influential strategies for sustainable economic development. Historic preservation, heritage protection, reinforcing the cultural values of a particular context and reviving its architectural identity, as an approach, rejects the capitalist machine of investment (non- sustainable development). It rather supports the sustainable development on both the cultural and the economic levels. The third point revealed in this paper is the physical displacement and the emotional separation between the local owners and heritage particularly in post Warchitecture contexts. Activating historic preservation for sustainable development ensure rebonding human being with heritage as a crucial step forward to reviving the cultural and architectural identity and rebuilding peace and sustainable development in postwar contexts.

The consequences of this brutal annihilation of heritage are not limited to the historic districts. The impact is also evident on the greater contexts and cities expansion through new modern districts. The loss of heritage, in its deep levels, is a loss of the reference. For re-stabilization of the disturbed architectural systems and reinforcing the cultural and architectural identity in postwar contemporary contexts, architectural legacies from the past operate as organizational generative types when designing the new structures (architectural references). The design principles and core characteristics of the architectural types provide the guidelines for generating a contemporary architecture, belonged to its contexts, inspired but not copied from the past.

From this perspective, historic preservation is not only a process of safeguarding the legacies from the past, but also an active strategy to generate balanced architectural and urban systems with cultural and architectural identity that is rooted in the place and growing forward the future.

Finally, despite the brutal annihilation of architectural heritage during Warchitecture and the tragic loss of historic buildings in postwar Iraq, the chances for historic preservation, heritage protection, and reviving the cultural and architectural identity of the country are still persisting. Examining successful experiences, such as the Msheireb Downtown Doha regeneration project, proves that the preservation of only four surviving historic houses played the crucial role in revitalizing the contexts,

creating vibrant urban experience, reviving the cultural and architectural identity, and moving forward to establishing a sustainable future for the country.

NOTES

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- ¹⁶ Our Lady of the Hour Roman Catholic Church, popularly known as al-Sa'a ("Clock") Church or Latin Church, was constructed by Dominican friars 1862–1873 CE. In 1882, the Empress Eugenie, wife of Napoleon III, donated the famous Clock Tower in recognition of the Dominican monks' service to the people of Mosul during a typhoid epidemic in the 1870s. The neighborhood surrounding the church subsequently became known as al-Sa'a. <https://www.asor.org/chi/reports/incident-report-feature/al-Sa-a-%E2%80%9CClock%E2%80%9D-Church>
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ENHANCING SUSTAINABILITY AND USER EXPERIENCES BY REPURPOSING OLD BUILDINGS – THE CASE OF COFFEE SHOPS IN HONG KONG

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INTRODUCTION

To promote sustainability, scholars recommend repurposing and remodelling existing spaces using strategies that minimally alter building structures and require limited resources rather than construct new buildings with new materials.¹ A recent study of Copenhagen’s coffee shops described how vacant buildings originally constructed for non-retail purposes, such as small factories, garages, and workshops, were transformed into attractive cafés with minimal renovations.² This approach promotes sustainability but also generates aesthetic benefits by blending old and new components.

The promotion of speciality coffee and the opening of coffee shops have surged in Hong Kong in recent years, establishing the city as a leading destination for speciality coffee.³ Consequently, it could be expected that store owners, in their quest to create unique, appealing spaces for their coffee shops, would also seek to repurpose buildings previously intended for other purposes. Accordingly, we investigated whether and how older buildings originally designed for different purposes are being used to host coffee shops in Hong Kong.

In our first round of data collection, which included historical research and desk research on more than 700 coffee shops, we learned that in densely populated Hong Kong, where buildable land is scarce and most manufacturing industries have been relocated abroad, vacant industrial buildings are rare. However, we did identify a trend of setting up coffee shops in spaces initially intended for other purposes. These coffee shops were often located in shophouses (*tong lau*, which are two to four stories and whose height is restricted to 1.25 times the street width) or composite buildings (early, multistorey modernist structures from the 1950s–1960s that host a mix of residential and commercial activities on different stories).

This study draws on place and environment observation studies of over 100 coffee shops in Hong Kong. It explores the atmospheric benefits of opening coffee shops in buildings not originally intended for this purpose and discusses how new atmospheres are created through the combination of old and new building components. The analysis reveals how design elements in these spaces are deliberately reused in the remodelling process, indicating an intention to preserve what is considered a distinct ‘Old Hong Kong style.’ In addition to the direct reuse of buildings and building elements, we also identified a unique Hong Kong style in the use of recontextualised and refabricated Old Hong Kong-style elements.

BACKGROUND

Adaptive reuse and atmosphere consumption

The need for massive material and energy consumption poses a significant challenge for the construction industry, necessitating drastic reductions in carbon emissions and impact-mitigating strategies.⁴ As the effects of climate change intensify, repurposing buildings is being recognised as more sustainable than demolition and new construction, and scholars advocate for repurposing and remodelling existing spaces with minimal alterations and resource use.⁵ In one example of such repurposing, a recent study of Copenhagen's coffee shops showed how vacant industrial buildings can be transformed into attractive destinations with minimal renovations, thereby promoting sustainability and offering aesthetic benefits such as spaciousness, narrative presence, inviting surroundings, and unique atmospheres through the synergy of old and new components.⁶

With a population of 7.4 million and an area of 1,114 km², Hong Kong is among the most densely populated areas in the world.⁷ Buildable land is scarce, and most production has been moved abroad, leading to the frequent demolition of older structures to make way for new construction,⁸ and to the redevelopment of viable industrial areas as business districts.⁹ Therefore, vacant industrial buildings are rare. Nonetheless, a trend of converting spaces originally intended for other purposes in older neighbourhoods into coffee shops is also observable in Hong Kong (Figure 1). Retail spaces in older neighbourhoods, which were formerly used to host garages and hardware stores, have become attractive spots for coffee shops.¹⁰



Figure 1. Example of a coffee shop (left) in an older neighbourhood formerly occupied by garages and hardware stores. Photo taken by the authors.

Retail spaces in old buildings allow consumers to engage with parts of a city's history. For example, at the Battersea Power Station mall in London,¹¹ shoppers can experience the interior of a former power station. In Hong Kong, The Mills, which formerly hosted a group of textile factories, has been

transformed into a destination for shopping, leisure, and learning.¹² In these cases, the combination of old and new components results in unique atmospheres and corresponding consumer responses.¹³

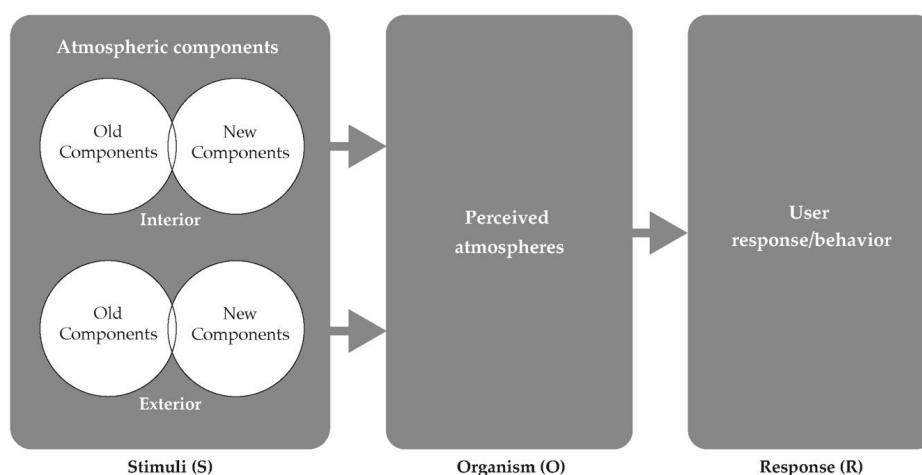


Figure 2. Illustration of how atmospheres in cafés are created through the combination of old and new interior or exterior components. These atmospheric characteristics impact users' behaviours and perceptions of these places (from Münster 2024).

Atmospheric elements evoke feelings and influence behaviours in consumers,¹⁴ and atmospheres can themselves be consumed,¹⁵ as has been observed in the cases of stores,¹⁶ neighbourhoods,¹⁷ and cities.¹⁸ In Hong Kong, for example, neon signs are an example of atmospheric consumption.¹⁹ The meanings of neon signs can vary depending on the individual or group of users who sees them. For some, neon signs symbolise the 'good old days' and a prosperous economy. Although the government initially mandated the removal of neon signs, citizens recognise their symbolic significance, and activities are carried out to preserve them.²⁰ We wondered whether a similar strategy of preservation might be found in old industrial buildings now hosting contemporary shops.

METHODS

Research approach

This study is part of a broader research project focused on adaptive reuse in café design. The current study serves as a preliminary investigation intended to refine and focus the research questions. Given the study's exploratory nature, a qualitative approach was adopted²¹ to understand the atmospheric benefits of using buildings not originally intended as coffee shops as cafés, and to study whether and how new atmospheres are created through the combination of old and new building components.

Our interest in the histories and atmospheric elements of these spaces, including the combination of old and new components, led us to adopt an approach that encompassed both desk research and observation studies. Relevant shops were first identified based on media documentation and field observations. Place and environment observations²² were then conducted between October 2023 and May 2024.

Data

The first dataset consisted of images and descriptions of shops found online on OpenRice, Instagram, Google, and various other websites. In this initial desk research, 706 cases were identified. We created a table with case information and characteristics such as names, locations, types of buildings, and

types of neighbourhoods. Additionally, a document was compiled that contained photos of the interiors and exteriors of every shop.

As we were interested in the adaptive reuse aspect, we focused on shops located in buildings not originally intended as spaces for consumer experiences, making field trips to 111 of these shops. During these field trips, we studied the atmospheric elements in the shops, using the list of variables created by Turley and Milliman²³ as a guideline. This ensured that, for each shop, we registered elements related to the exterior, general interior, layout and design, point of purchase, decorations, and human variables. We took photos and recorded videos of the interiors and exteriors. We then cross-referenced our photos with those found during the desk research and created a comprehensive file that included all 111 cases.

Analysis

In our initial analysis of the photos, we observed a tendency for cafés to be inspired by coffee shops in regions such as Japan, Taiwan, Scandinavia, and Australia. However, we also identified a specific style unique to Hong Kong. These latter cafés featured elements characteristic of Hong Kong, such as tiles, furniture, porcelain, lamps, and fans. Most of these elements appeared in traditional Hong Kong-style cafés, also known as *cha chaan tengs*, and in buildings constructed in the 1950s and 1960s, where many of these cafés were originally located. Figure 3 presents collages made by Hong Kong Memory, which show elements informally agreed upon by the local community – including designers and students – to be symbols of a Hong Kong style.²⁴



Figure 3. These collages show what is informally agreed upon by the local community, including designers and students, to be elements of an Old Hong Kong style. This mostly includes elements that appeared in Hong Kong-style coffee shops (or cha chaan tengs, top) and in the buildings in which those shops first appeared (bottom).²⁵

We analysed the photos of the 111 cases, searching for Old Hong Kong-style elements, and identified such elements in thirty-four of the coffee shops. We further examined these elements and found that they fit into two main categories. The first was directly reused elements, which implies the direct preservation of elements that belonged to the building or its neighbourhood. The second category is ‘symbolic reuse,’ which denotes the presence of Old Hong Kong-style elements in a new context. The presence of directly reused building elements was found in twenty-nine cases, while recontextualised elements, or what we call symbolic reuses, were found in twenty-three cases.

FINDINGS

This section is divided into two subsections: one describes the direct reuse of Old Hong Kong-style elements, and one describes elements of symbolic reuse. Figure 4 shows examples of direct reuse, while Figures 5 and 6 show examples of symbolic reuse.

Direct reuse

This category includes directly reused building elements that embody a distinct Old Hong Kong style. These elements are preserved and reused in their original context to impact the store experience. They include the presence of neighbourhood characteristics (Figure 4, A), elements found in the neighbourhood and used as decorations in the shop (B), original facade elements reused in the new coffee shop (C), original tiles reused from when the building was constructed (D), and furniture, elements, or layouts inherited from the former occupant (E, F). As an example, we found a coffee shop reusing the built-in furniture from a former Chinese pharmacy (G).



Figure 4. Photos of cafés displaying directly reused Hong Kong-style elements in the modern coffee shop context. Photo taken by the authors.

Symbolic reuse

This category includes recontextualised Hong Kong-style elements or replications of such elements. We define recontextualised elements as those that are not directly reused on site but originate from a different context, such as china/porcelain used in a new setting (Figure 5, H); new mirrors situated as panels, as in many traditional cha chaan tengs (I); the presence of old Hong Kong-style furniture, such as tables and chairs (I, J); and the presence of wall or ceiling fans (K). These fans are common for their practical function of circulating air in Southeast Asia, but in the context of the coffee shops, we found that they were also used as a decorative effect. Additionally, we found Hong Kong-style inspired graphics on paper cups (L), receipts designed in the style of those seen in the classic cha chaan tengs (M), and modern decorations inspired by former Hong Kong-style neon signs (N).

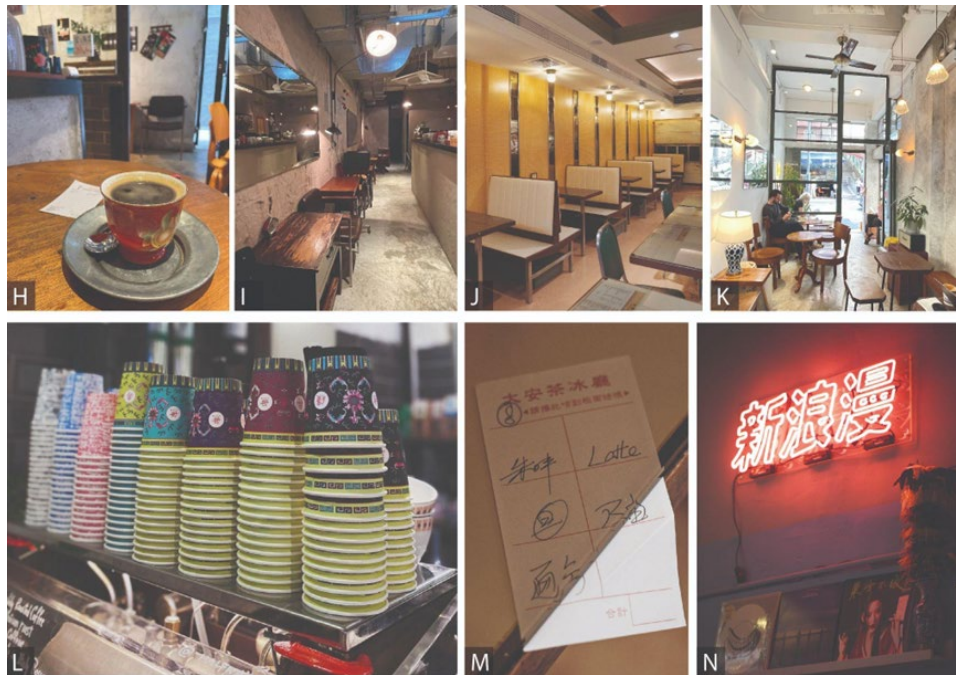


Figure 5. Photos of cafés displaying symbolically reused Hong Kong-style elements. Photo taken by the authors.

As for symbolic reuse, we also found replications of old Hong Kong-style elements that were newly fabricated in an old style (Figure 6). These include replicas of wall tiles and floor tiles from the 1950–1970s (O, right) and replicas of traditional metal gates (P, right).



Figure 6. Examples of photos of replicated tiles and metal gates, shown here with an example of the original element on the left and the replica on the right.

The old Hong Kong-style components often appeared as atmospheric enhancements in the shops rather than tools used for their utilitarian purposes. In cases where the elements were directly reused, the reuse of materials may also have represented a more sustainable strategy than the production and purchase of new elements, since the existing materials were reused as is. As a result, these elements did not end up as waste, and resources were saved by avoiding the production of new elements.

DISCUSSION

We investigated whether the trend – previously identified in Europe – of repurposing abandoned buildings, such as former workshops or garages, into coffee shops also exists in Hong Kong. We learned that standalone abandoned buildings are rare in Hong Kong, and they are not commonly used for coffee shops, as observed in Copenhagen.²⁶ However, we did find a tendency to open small,

independent speciality coffee shops in the ground floor spaces of buildings in neighbourhoods previously dominated by small businesses, such as hardware retailers, industrial suppliers, or auto repair shops, where the focus was not on consumer experiences but solely on the exchange of goods and services. These neighbourhoods have become attractive destinations for the speciality coffee industry, manifesting an interest in experiencing and preserving the atmospheres of these neighbourhoods and retail spaces. In terms of building elements, we noticed a trend of reusing or recreating original features, such as metal shutters and tiled floors. Regarding interior features, we observed the reuse of signage and furniture. Both practices contribute to narrating the host building's past. However, in several cafés, building elements and furniture were replaced with replicas of the old styles to ensure that they met current standards for functionality, hygiene, and maintenance.

Our findings indicate that the interest in reusing these retail spaces, and their architectural elements may not be motivated by a desire for environmental sustainability but rather reflect a desire to preserve local culture. The owners seem motivated to communicate a specific aesthetic that stylistically tells the story of Hong Kong's former architecture and interior designs.

Hong Kong is a constantly developing new city, where buildings are frequently demolished to make way for newer, taller, and more modern structures (Figure 7, left) or drastically repurposed (Figure 7, right). This can evoke a sense of nostalgia.²⁷ Additionally, the city is increasingly characterised by immigration from abroad, with migrants bringing along new norms and habits that may eradicate existing ones, which might foster a desire to protect what is considered an original Hong Kong style. Another possibility is that store owners are not motivated by nostalgia but rather by an awareness that this style can create an ambiance that is itself a consumable experience – an ambiance that the store owners know their customers enjoy while drinking coffee.



Figure 7. (Q) Example of a corner house built in the 1960s (left) and transformed into a 24-storey hotel with approximately 200 rooms in 2019 (right). (R) The State Theatre Building in the 1980s (top right), which was later repurposed for various uses with different tenants in the early 21st century (bottom right).

LIMITATIONS AND FUTURE RESEARCH

This study is part of a larger research project and serves as an initial exploration meant to refine and define the key research questions. As this study is based solely on the researchers' interpretations of a selection of café designs, we recommend conducting more in-depth studies to better understand the intentions and considerations behind the reuse, preservation, or replication of specific elements and architectural details. A deeper investigation into the significance and implementation of this distinctive Hong Kong style in interior architecture is needed. For example, conducting in-depth interviews with store owners and designers involved in the design process could provide valuable

insights into their motivations for adopting this design. Additionally, interviews with consumers could shed light on how different user segments perceive and experience these interiors. Furthermore, interviews could reveal whether there is a difference in how different user groups experience the use of directly reused elements of symbolic Old Hong Kong style elements. Another limitation of this study is its exclusive focus on a specific type of interior: coffee shops. Future research could explore other types of interiors, such as different hospitality venues or retail spaces, to determine whether this trend is prevalent across various interior design contexts in Hong Kong or confined to specific environments.

CONCLUSION

We explored the adaptation of existing buildings for use as coffee shops in Hong Kong and identified a trend towards repurposing spaces previously used by hardware retailers, industrial suppliers, or garages. These shops were not originally intended to house coffee shops, where customers would hang out and have a nice experience – they were service centres that fulfilled utilitarian purposes. These spaces are now perceived as attractive locations for coffee shops, often existing side by side with the original hardware shops and garages. In these spaces, we found examples of preserved Old Hong Kong-style building elements, such as old tiles, which were preserved and reused in their original form within the new coffee shop context. In addition to preserving Old Hong Kong-style building elements in these shops, we observed the presence of contextually adapted Hong Kong-style elements, such as Old Hong Kong-style furniture and porcelain. We gather such approaches under the rubric of ‘symbolic reuse,’ since they are not directly reused in the original context of the shop but rather taken from other environments and integrated into the coffee shop design to create a specific atmosphere. These elements can be further divided into two groups: Old Hong Kong items reused in a new context, such as furniture, china, and glasses previously used in, for example, local domestic households or restaurants, and replicated Hong Kong-style elements, such as new metal gates or tiles designed to replicate Old Hong Kong-style elements. This investigation highlights creative and culturally resonant ways in which spaces are reused and transformed into contemporary shops in Hong Kong.

ACKNOWLEDGEMENTS

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PROTECTION OR MANAGEMENT OF AUTHENTICITY OF (NOT ONLY WORLD) HERITAGE? - CASE STUDY OF TORUŃ IN POLAND

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INTRODUCTION

The aim of the paper is to indicate the most important aspects of the protection and management of the authenticity value of urban heritage subject to international and country protection in the context of contemporary functioning on the example of Toruń in Poland. This is a city which has its medieval historic centre listed on the UNESCO World Heritage List (WHL), but which also has other urban monuments subject to preservation and management: the residential district: Bydgoskie Przedmieście (Bydgoskie District) (three times the size of the historic centre and inhabited by more than twenty thousand people), whose urban planning and architecture was mainly shaped in the nineteenth and early twentieth centuries, and the area of the Nicolaus Copernicus University (NCU) campus from the 1970s. (with over twelve thousand students and over three thousand employees)¹ (Figure 1).

They are also linked by the historic military architectural and urban complex of the Toruń Fortress from the nineteenth century, which is planned to be protected as Monument of History and to be submitted for the UNESCO's List.²

Each of areas has its own specific characteristics and problems, the solution to which is expected from the city authorities and conservation services: the former have the task of taking care of sustainable development and carrying out land-use policy, the latter of preserving the authenticity not only of individual buildings, but also of the entire landscape (buildings, layout) of the said complexes.

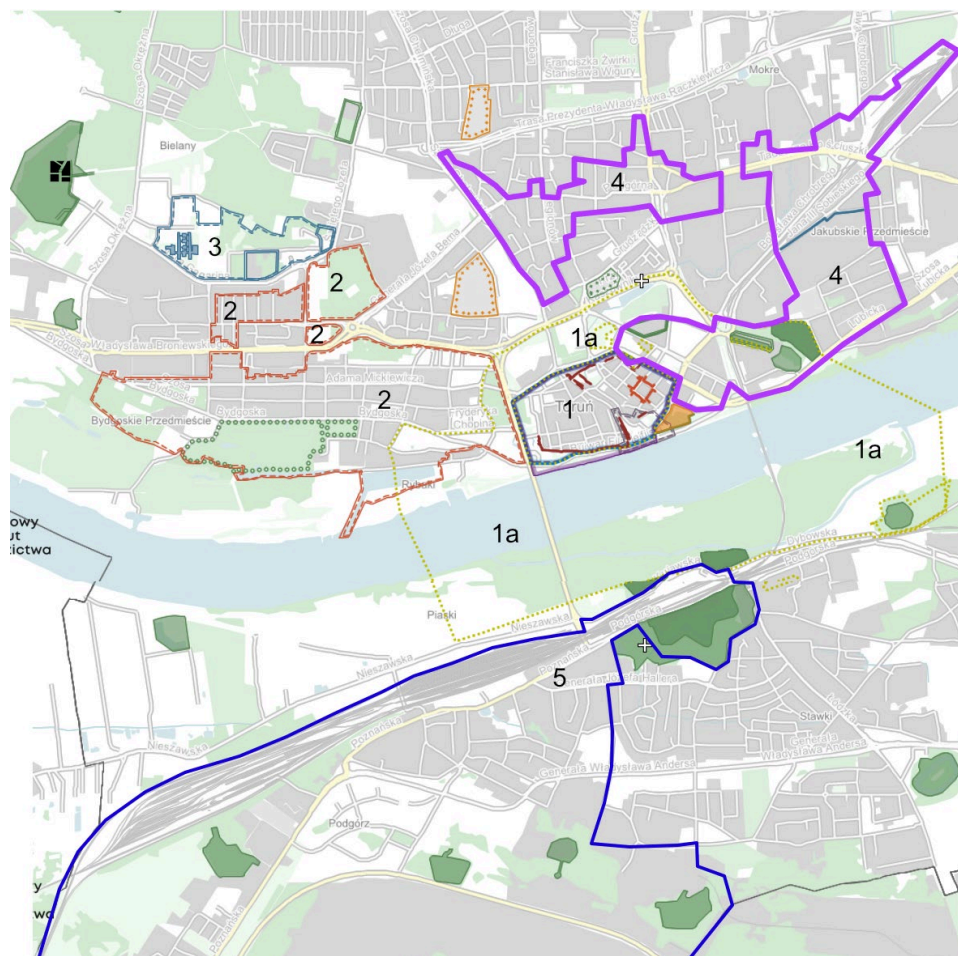


Figure 1. Toruń: a plan with protected historical areas: 1 - the Old Town included in the UNESCO List (and in the national register of historical monuments and recognised as a monument of history) 1a - UNESCO buffer zone; 2 - Bydgoskie District (in the register of historical monuments), 3 - NCU campus (in the register of historical monuments), 4 - areas entered in the municipal inventory of historical monuments, 5 - Podgórz district, the oldest part of which is planned for entry in the register of historical monuments (<https://mapy.zabytek.gov.pl/nid/>, August 28, 2024, drawing of the boundaries 4 i 5 K. Zimna-Kawecka)

POLISH LEGAL FORMS OF PROTECTION AND ATTRIBUTES OF HISTORIC CITIES

UNESCO's status in Polish law does not affect legal protection, as the scope of protection of monuments in Poland is regulated by the Legal Act.³ A monument is a work of a human or related to their activity, which is a testimony of a past age or an event, the preservation of which is in the interest of the community due to its historical, artistic or scientific value. This means that a monument has a purely material form. Exceptional natural objects as monuments of nature are protected in Poland by a separate Act.⁴ There is no time criterion for a historic monument – it is supposed to be an image of the past, but it must have at least one value that makes it important in the public interest to preserve the monument in its authentic structure, or a structure with valuable historical layers. A provincial conservator is appointed to protect monuments in each region, and may delegate a part of the competence to a municipal conservator, employed in the municipal administration.⁵

When looking for the distinguishing features of historical urban monuments in Poland, criteria are applied according to the Washington Charter, which indicates that the preservation of cities should be an integral part of economic and social development, and the attributes which value the cities are

listed as follows: the layout of the city, the interdependence between buildings, greenery and the open space, the appearance of buildings, the interdependence between the city or a historic district and the natural and cultural environment, the functions which the city or district fulfilled in the past.⁶

Urban complexes can be protected by the entry in the register of historical monuments. A municipality may also create a cultural park, whose the scope of protection is agreed with the conservator and linked to spatial development planning. Exceptional urban monuments of supra-regional significance may be recognised as Monument of History - in such case the intangible attributes are also valued. A form of protection that is important in terms of controlling the preservation of the authenticity of the substance and the ongoing management of the space is the local spatial development plan, the content of which must be agreed with the conservator. Local plans take into account the principles of protection of cultural heritage and monuments, as well as the protection of contemporary cultural heritage. In the absence of a plan in an area included in the register of historical monuments, the conservator makes an agreement on any investments.⁷

Public consultation is mandatory during the creation of a local development plan. Stakeholders also have the right to submit proposals to the conservation plans for the cultural park and the Local Revitalisation Programme prepared by the municipalities.⁸

The conservator and the city authorities also cooperate on the basis of the municipality's strategic documents: this is the Study of Conditions and Directions for Spatial Development, into which the conservator designates the zones of protection, and indicates the buildings and their surroundings that are a subject to restrictions on possible changes.⁹ Another document is the Municipal Programme for the Care of Historical Monuments, which is passed every 4 years. It defines the goals and methods of implementing the communal conservation policy. An important document is the Local Revitalisation Programme, which indicates action plans for several years.¹⁰

THE CHARACTERISTICS OF PROTECTED HISTORIC URBAN AREAS IN TORUŃ AND METHODS OF MANAGING THEIR HERITAGE

The Old Town area

The area of Toruń listed by UNESCO as a medieval urban complex is dominant in the decisions and guidelines for investments to preserve its authenticity (Figure 2). According to the OUV, Toruń is recognised as a historic medieval city that has largely preserved its original street layout and unique historic buildings, partly with interiors. It set the standard for urban development in the region during the urbanisation of Eastern Europe in the thirteenth and fourteenth centuries. This combination of two fortified towns with a castle is a rare form of medieval agglomeration that has survived almost intact.¹¹

The material substance of the buildings is also authentic: the city fortifications, churches, walls delimiting building parcels, tenements with Gothic origins visible in all cellars, many elements of wall construction, facades, the architectural detail and decorative interior design. Many of the buildings represent the highest level of achievement in medieval architecture, which had a great influence on the entire region.¹²

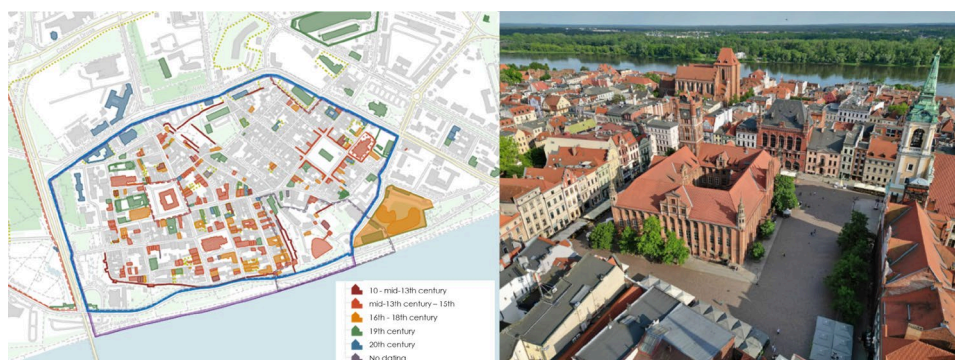


Figure 2. Toruń: plan of the Old Town area with marked monuments entered in the register of monuments, with the Monument of History boundary (violet) and the UNESCO boundary (blue) (<https://mapy.zabytek.gov.pl/nid/>) and view of the Old Town Square with the Town Hall and the Old Town of Toruń to the south (photo. Kapitel, 2023, August 28, 2024, [https://en.wikipedia.org/wiki/Medieval_Town_of_Toru%C5%84#/media/File:Torun_rynek_staromiejski_\(2\).jpg](https://en.wikipedia.org/wiki/Medieval_Town_of_Toru%C5%84#/media/File:Torun_rynek_staromiejski_(2).jpg))

Toruń is known as the birthplace of the astronomer Nicolaus Copernicus and the tradition of gingerbread manufacturing. The Old Town comprises about seven hundred and sixty-nine historic buildings and squares.¹³ They are guarded by conservation authorities: there is a provincial conservator's office in Toruń and a municipal conservator, and monitoring of the UNESCO area is carried out by the National Heritage Institute. The conservation authorities issue agreements for all investments in this area. The basis for protection is entry of the layout and buildings in the Register of Historical Monuments. Unfortunately, there is no Heritage Management Plan (it is still being under preparation) and no spatial development plan, which obstructs a coherent investment policy.¹⁴ According to the Municipal Program of Care for Monuments, the following elements are protected in the area: height proportions shaping the silhouette of the complex - including dominants; view axes; parcel divisions; historic buildings together with elements of contemporary architecture co-creating a conscious composition and elements of small architecture.¹⁵

Problems in the context of authenticity are: adaptations of tenement houses for short lease and other functions, e.g. gastronomy and compliance with technical standards.

The city authorities have funds to support investments in this area, which are included in the Local Revitalisation Programme; they make efforts to obtain funds from various European Funds; on the basis of public consultations, they support investments supporting the development and utilization of the space for cultural, tourist and economic purposes, but also improving the life of ordinary inhabitants,¹⁶ e.g. part of the ruins of a pre-fortress castle bailey was utilized as a sports pitch for children learning nearby, and a park with a children's playground was developed within the city walls (Figure 3).



Figure 3. Toruń: the boulevard on the Vistula River after revitalisation with glass pavilions whose cubic capacity was changed under the impact of public opinion; below: the area next to the castle (south of the Old Town area) developed into a football pitch, and a playground in the between defensive walls area on Podmurna Street (in the north of the Old Town area) (photo. K. Zimna-Kawecka, 2023)

The historic structures of the castle mill and the officers' school building were agreed to be used for tourist purposes – as hotels. As a compromise – the conservation officers agreed to remove some of the historic structures in order to save the monuments from destruction through lack of function.

The city authorities are cooperating with residents in identifying targets and areas for revitalisation: in addition to public consultations, a Committee for Revitalisation in the Municipality of Toruń has been set up and a Cultural Heritage Representative has been appointed. In cooperation with the authorities of the University, a Team for the Research of Medieval and Early Modern Toruń has also been established.¹⁷

The inhabitants are characterised by a high level of social commitment stemming from a sense of pride and attachment to the city's heritage in the tangible and intangible sphere. They take an active part in public consultations on investments within UNESCO and the surrounding areas. The illustration of their actions are, e.g., the adaptation of the waterfront into a city beach, expressing disagreement to the construction of pavilions for tourist purposes obscuring the view of the city walls (Figure 3); demanding the exposure of the preserved archaeological heritage (ruins of medieval churches and a monastery). Residents show dissatisfaction with the overabundance of tourists who prevent the ordinary use of cultural and gastronomic facilities.¹⁸

Respect for authenticity among the inhabitants and authorities is well evident in the remains of the ruins of the medieval castle.¹⁹

Tourists show great interest in the city all year round, make use of the accommodation, cultural and gastronomic infrastructure, appreciate the authenticity of its medieval substance, but they also pay attention only to the most visually attractive monuments. Toruń's intangible heritage is also highly

recognisable: gingerbread products and the figure of the astronomer Nicolaus Copernicus. These two tourist products have been known for ages.²⁰

The Bydgoskie District

The second area is the Bydgoskie District, which was established on the site of former city gardens and a wharf fishermen's settlement and forest area. In the nineteenth century the City Park was formed and the new district was laid out on a simple chequerboard street grid layout. The regulation plan (1880s) consolidated the east-west elongated layout into regular blocks based on the axes of two parallel streets, along which other streets were created in the following years. The perpendicular axis was School Street, while military zones - barracks - were located in the western and northern parts. The development of the district reflected its function: an exclusive district for merchants and officers, in the southern part - for workers, and on the peripheries - school and military zones. The buildings constitute Toruń's largest, coherent and well-preserved building complex from the second half of the nineteenth century and the first quarter of the twentieth century, representing the urban and architectural trends of the time (timber-framed houses, villas, Historicism Art Nouveau as well as Neo-Gothic and Eclectic tenements, Modernist villas and multi-family housing estates). After the Second World War, empty parcels were developed with buildings adapted to the original concept, with an exception in the western part, where 11-storey tower blocks were built. Apart from the housing, office, hospital and public buildings were located in the district, especially on the eastern side, and a number of buildings of various types of schools were located on School Street - the ones well preserved, still perform educational functions today (mainly the buildings belonging to the NCU – Figure 4). Authenticity is therefore largely preserved not only in layout, buildings and decoration, but also in function.²¹

The district's landscape is considered a characteristic feature of Toruń's historical urban landscape and the area is included as a priority in the Local Revitalisation Programme. The conservation officers control the monuments and agree on investment decisions throughout the area. Protection is made possible by the registration of the layout, parks and buildings (there are more than five hundred monuments in the records), and a local development plan has been drawn up for almost the entire area with guidelines from the conservation authority. In order to facilitate the functioning of the town, the network of main arterial roads was excluded from the protected area.²²



Figure 4. Toruń, views of ul. Bydgoska, Mickiewicza, and the park in Bydgoskie District (photo: Karolina Zimna-Kawecka, 2023) and a view of the central part and the historic complex of the former Teachers' Seminary (now the Faculty of Fine Arts at the University of Toruń) and the new buildings of the University of Toruń, with the school building from the 1950s in the background, historic school buildings, barracks and a housing estate in the neighbourhood (photo. Andrzej Romański, 2023, August 28, 2024 (<https://art.umk.pl/wiadomosci/?id=28131#PhotoSwipe1725126664121>

According to the Municipal Programme for the Protection of Monuments, the elements of the historic area are to be protected in terms of: preserving the layout of streets, squares, the character of frontage development and buildings (especially the timber-framed buildings and villas); preserving the historic green areas with control of planting; preserving the landform (the slopes of the main park and the hills with forest parks); it is possible to introduce new complementary architecture with the reference to the historic one and the composition of the complex and to the neighboring development.²³

The city authorities undertake protection by setting goals in the Municipal Programme for the Care of Monuments and in the Local Revitalisation Programme, aiming to improve the lives of the citizens through revitalisation. Within the 113 projects in the Programme it is worth pointing at developing the public space of the main street, giving it a residential feature and renovating selected frame villa buildings and the Park (Figure 4).²⁴

70% of the district's historic buildings were in need of renovation in 2020.²⁵ The problem is the long-standing neglect of private owners regarding the timber-framed buildings - some of them are being demolished for technical reasons. The most valuable ones receive support for conservation and restoration repairs. New developments are designed to fit in with the historic buildings in terms of the lumps, technology and main forms (Figure 5). As a result of active public protests, it is sometimes manageable to save monuments through relocation.



Figure 5 Toruń, three timber-frame buildings in Bydgoskie District, from left: historical monument subjected to conservation and restoration works (real authenticity); reconstructed/rebuilt monument (authenticity of form), contemporary building in place of the previous one with reference to the timber-frame construction (with reference to the genius loci of the place) (photo. Karolina Zimna-Kawecka, 2023)

Society: mainly the district's residents committed to revitalising and popularising the district's values have formed the Bydgoskie District Association, which co-organises the district's Festival. For a dozen years or so, a conference popular with Toruń residents has been organised annually by the community and researchers: it is called Monuments of Toruń of the Younger Generation (as unlike to conferences devoted to the medieval heritage).

At the same time, there is a lack of holistic appreciation of authenticity for this district, e.g. in terms of functions - the former school buildings in the south-western part (owned by the NCU) will be sold. It is not known what function they will be adapted for, but probably not an educational function. A large part of the former half-timbered military barracks has also been demolished, due to their poor technical condition, and have been replaced by housing estates whose architecture is intended to refer to the historical buildings, but is not perceived as such by the residents.

The Nicolaus Copernicus University Campus

The third major protected area is the NCU Campus. It was built in 1973 to celebrate the 500th anniversary of Nicolaus Copernicus' birth. It is considered an outstanding example of post-war modernism in Central Europe, the first academic campus in Poland based on European models. In 2020, it was entered in the register of monuments as an urban layout with some parts of the buildings retaining historic furnishings. An 82-hectare post-military site with forest was allocated for the development. The complex was divided into 2 axes: the administrative and representative part and the scientific part (Faculties, Rectorate and Library – as illustrated in Figure 6: A) and the east-west axis - the social and residential part (dormitories – Figure 6: B and assistants' houses, with a canteen building, an academic club, a gymnasium and a clinic with a sanatorium – Figure 6: C). At the intersection of the axes the Main Forum was created, whose boundary is marked by the Assembly Hall and Rectorate buildings (Figure 6: 2, 1), the swimming pool and the Library building (Figure 6: 3). The common space is made up of wide and narrow covered passageways, and the buildings are surrounded by greenery and a forest park. The project envisaged space for expansion with additional Departments, which took place in the 1990s, with the bodies and forms of the new buildings being adapted to modernist principles.²⁶



Figure 6. Toruń, NCU campus: a main part (A) with Rectorate (1), Assembly Hall (2), Library (3), Faculties: of Chemistry (4), of Biology and Environmental Protection and of Earth Sciences (5), Colegium Humanisticum (6), of Economic Sciences and Management (7); a residential part – dormitories (B), east – residential part (C) with an academic club, formerly canteen building, a gymnasium and a clinic with a sanatorium (now Institute of Psychology). Bottom right: Assembly Hall (photo. Andrzej Romański <https://portal.umk.pl/pl/article/kampus-umk-okiem-urbanisty> <https://portal.umk.pl/pl/article/ponadczasowy-prezent-dla-kopernika>; plan: <https://mapy.zabytek.gov.pl/nid/>, accessed August 28, 2024)

The buildings were designed comprehensively with interior decoration and furnishings. However, the authorities of the University, indicating the need for modernization, made a number of changes - sometimes to the external parts and largely to the furnishings and decor by removing them. Recognition of the value and the desire to preserve the authenticity of the layout, buildings and furnishings prompted the conservation authorities to include the campus in the Register of Historical Monuments.²⁷ As a result of this, the Conservator must agree on all investments within the complex that may affect the artistic, aesthetic impact, both in terms of lumps and facade of buildings, greenery, small architecture and pavement changes, as well as agreeing on changes in interior design in the buildings indicated in the decision.

In general, the academic community with the authorities of the NCU is proud of the campus and its importance as a monument. In the minds of city authorities and the public, the University is mentioned as one of Toruń's landmarks alongside Gothic architecture.²⁸ In general, residents have a positive attitude toward the institution and the very appearance and functioning of the campus, which is adjacent to a residential district. The community enjoys spending time in the Campus - the Forum, and uses the forest park and the university's resources (such as the Library).

On the positive side, in terms of preserving authenticity as a conservation compromise, one can assess the cooperation with conservation officers with the participation of local residents during the adaptation of the former university outpatient clinic building to house the Institute of Psychology with outpatient consultation centers open to local residents (Figure 7). The new function was skillfully combined with the preservation of the historical continuity of the place: the former therapeutic function was replaced by a scientific and didactic one along with the provision of psychotherapy services; the former sanatorium rooms are laboratories and therapy rooms.²⁹ The change was the separation of space for the halls, adaptation for the disabled, and new technical infrastructure. Selected former architectural and decorative elements were retained - such as ceramic tile cladding, wainscoting, spray plaster, floors, stairs, and some woodwork. The changes were to combine tradition and modernity. This is an exemplary case of participatory design, with a part of the authenticity of function and substance preserved.³⁰



Figure 7. Toruń, NCU: the Institute of Psychology (photo. K. Zimna-Kawecka, 2024). Left: south patio and interior of east corridor with ceramic tile cladding and wainscoting before renovation (photo. M. Trojan. Chronicle of Headquarters construction of the Institute of Psychology NCU, July 2019, <http://psychologia.umk.pl/Infokat/kronika-budowy/kronika-budowy-lipiec-2019> accessed August 28, 2024). Right: the new south corridor in place of the patio and east corridor with preserved former interior elements (photo. K. Zimna-Kawecka, 2024).

CONCLUSION

As can be seen, the three areas, which date from different times, exhibit common types of attributes that are vehicles of authenticity postulated for preservation and management: layout, structures and their functions. Each has the same administrators, and the common users are the residents. Each area is reflected in the city's strategic documents and preservation policy, and each also involves the local community participating in projects. The UNESCO area is prioritized in terms of protecting the authenticity of tangible and intangible heritage attributes; guidelines for cultural tourism and management of medieval heritage have the greatest impact; in the Bydgoskie District area, efforts to improve housing conditions dominate. However, efforts to preserve authenticity are not made about in-depth recognition of others traditional functions. The University campus has only been included in

the protected areas for the past four years, but the aforementioned example of adaptation gives hope for the right direction of protection.

It is worth mentioning that there are also plans to enter into the Register of historical monuments two more districts of the city from the late nineteenth and early twentieth centuries: on the eastern side of the Old Town complex - and the district on the other side of the Vistula River to the south (Figure 1). In addition, in the coming years, an application will be prepared for recognition as a Monument of History of the post-military infrastructure of the nineteenth century Fortress of Toruń, consisting of fifteen ring forts and two hundred other military structures along with communication routes, which, due to the preservation of the authentic structure, topography and view links, have become a permanent feature of Toruń's landscape.³¹ Thus, Toruń in the near future will be unique in Poland in terms of the proportion of protected area to urbanized area. It can be seen, however, that despite the difficulties, cooperation between the city's administration, conservation services and residents is working well, as these stakeholder groups share similar general goals for protecting the authenticity of the historic town.

NOTES

¹ Data comes from the official website of the City of Toruń, accessed August 28, 2024, <https://torun.pl/pl/miasto/mieszkanicy-dane-liczbowe> and the NCU portal, accessed August 28, 2024, <https://www.umk.pl/uczelnia/liczby/>): the number of students does not include students from the NCU Medical College in the city of Bydgoszcz.

² “Gminny Program Opieki nad Zabytkami Miasta Torunia na lata 2022-2025”, Gmina Miasta Toruń 2021, [“Municipal Programme for the Care of Historical Monuments 2022-2025”], point 7.1, p. 57, accessed August 28, 2024, <https://torun.pl/pl/aktualnosc/w-trosce-o-zabytki>.

³ “Ustawa z dnia 23 lipca 2003 r. o ochronie zabytków i opiece nad zabytkami”, Dziennik Ustaw 2003, 162 (1568) ze zmianami, [“The Act of 23 July 2003 on the Protection and the Care of Monuments”], article 3 (1), 4 and 7, accessed August 28, 2024, <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20031621568>.

⁴ “Ustawa z dnia 16 kwietnia 2004 r. o ochronie przyrody”, Dziennik Ustaw 2004, 92 (880) ze zmianami, [“The Act of 16 April 2004 on Nature Protection”], accessed August 28, 2024, <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20040920880>.

⁵ “Ustawa z dn. 23 lipca 2003 r.”, [“The Act of 23 July 2003”], article 3 (1), 89, 96 (1-3).

⁶ “Charter for the Conservation of Historic Towns and Urban Areas”, ICOMOS 1987 [Washington Charter], article 2 (a-f), accessed August 29, 2024, https://www.icomos.org/images/DOCUMENTS/Charters/towns_e.pdf.

⁷ “Ustawa z dn. 23 lipca 2003 r.”, [“The Act of 23 July 2003”], article 8-9, 13-22.

⁸ “Ustawa z dnia 27 marca 2003 r. o planowaniu i zagospodarowaniu przestrzennym”, Dziennik Ustaw 2003, 80 (717) ze zmianami, [“The Act of 27 March 2003 on spatial planning and development”], article 8e-8m, accessed August 29, 2024, <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20030800717>; “Ustawa z dnia 9 października 2015 r. o rewitalizacji”, Dziennik Ustaw 2015, 1777, [“The Act of 9 October 2015 on revitalisation”], article 2, 5-7, accessed August 29, 2024, <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20150001777>.

⁹ The Study in 2026 is to be replaced by a so-called “general plan”: “Ustawa z dnia 27 marca 2003 r.”, [“The Act of 27 March 2003”], article 13a-13m.

¹⁰ For Toruń, the currently functioning legacy documents are e.g.: “Gminny Program Opieki nad Zabytkami”, [“Municipal Programme for the Care of Historical Monuments”]; Gminny Program Rewitalizacji Torunia do roku 2027, Gmina Miasta Toruń 2023, [“Local Revitalisation Programme of Toruń to 2027”], Uchwała nr 1264/24 Rady Miasta Torunia z dnia 8 lutego 2024 r., accessed August 28, 2024, <https://torun.pl/pl/aktualnosc/konsultujemy-program-rewitalizacji>.

¹¹ “Inscription: The Medieval Town of Torun (Poland), No 835, Decision 21 COM VIII.C, World Heritage Committee, Twenty-first session, Naples, Italy, 1 - 6 December 1997”, accessed August 7, 2023, <https://whc.unesco.org/en/decisions/2900>.

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¹² The most recent study on OUV values for Medieval Town Toruń see: project of “Plan zarządzania miejscem światowego dziedzictwa UNESCO dla Średniowiecznego zespołu miejskiego Torunia”, [“UNESCO World Heritage Site Management Plan for the medieval urban complex of Toruń”], ed. Katarzyna Piotrowska, Jacek Dąbrowski, Andrzej Przybylski, 2023, 10-16, accessed August 25, 2024

https://www.konsultacje.torun.pl/sites/default/files/pictures/2016/plan_zarzadzania_unesco_projekt_do_konsultacji.pdf; Karolina Zimna-Kawecka, “The issues of urban and architectural heritage protection on the example of the medieval town of Toruń in Poland,” in *Prague - Heritages: Past and Present – Built and Social*, AMPS Proceedings Series, 35.3, ed. Jitka Cirklová, (Liverpool: AMPS, Czech Technical University, Prague, 2024), 325-339, accessed August 29, 2024, <https://amps-research.com/proceedings/>.

¹³ According to 2021 - there are 813 buildings, but some of the buildings are outside the boundaries of the UNESCO area: “Gminny Program Opieki nad Zabytkami”, [“Municipal Programme for the Care of Historical Monuments”], point 5.1.2., p. 16-17 and record of historical monuments, accessed August 28, 2024, <https://torun.pl/pl/aktualnosc/w-trosce-o-zabytki>; “Gminny Program Rewitalizacji Torunia”, [“Local Revitalisation Programme of Toruń”], 63.

¹⁴ Project of “Plan zarządzania miejscem światowego dziedzictwa UNESCO”, [“UNESCO World Heritage Site Management Plan”]; “Uchwała nr 321/12 Rady Miasta Torunia z dnia 28 czerwca 2012 r. w sprawie przystąpienia do sporządzenia miejscowego planu zagospodarowania przestrzennego dla obszaru Starego Miasta wraz z otoczeniem w Toruniu”, Miejska Pracownia Urbanistyczna, Toruń, accessed August 25, 2024, <http://mpu-torun.pl/?cat=6>; “Ustawa z dn. 23 lipca 2003 r.”, [“The Act of 23 July 2003”], article, art. 7, 18-20.

¹⁵ “Gminny Program Opieki nad Zabytkami Miasta Torunia”, [“Municipal Programme for the Care of Historical Monuments”], point 5.1.3., p. 17-18.

¹⁶ “Gminny Program Rewitalizacji Torunia”, [“Local Revitalisation Programme of Toruń”], 4 and next; *Rewitalizacja w Toruniu/Revitalisation in Toruń*, [a brochure promoting the effects of projects included in the Local Revitalisation Programme of the City of Toruń for the period 2007-2015], Urząd Miasta Torunia: Toruń, 2013; “Gminny Program Opieki nad Zabytkami”, [“Municipal Programme for the Care of Historical Monuments”], point 10-11, p. 67-70.

¹⁷ “W trosce o zabytki Torunia”, NCU portal, March 11, 2024, <https://portal.umk.pl/pl/article/w-trosce-o-zabytki-torunia>; Arkadiusz Włodarski, “Toruń ma pełnomocnika ds. kulturowego dziedzictwa”, Tylko Toruń, July 6, 2024, <https://tylkotorun.pl/wiadomosci/torun-ma-pelnomocnika-ds-kulturowego-dziedzictwa/>.

¹⁸ “Gminny Program Rewitalizacji Torunia”, [“Local Revitalisation Programme of Toruń”], 28-29, 40-41, 150-152; “Miasto Toruń, Program rozwoju turystyki dla miasta Torunia do 2030 roku”, [“Tourism development programme for the city of Toruń”], Uchwała nr 859/22 Rady Miasta Torunia z dnia 12 maja 2022 r., ed. Bożena Sikora et al., Collect Consulting S.A. 2021, 15-16, accessed August 28, 2024,

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²⁰ “Monitoring ruchu turystycznego, Turystyczny Toruń 2023, raport końcowy”, ed. Mateusz Ruciński, Urząd Miasta Torunia 2024, [“Tourist traffic monitoring of Toruń”], 23, accessed August 28, 2024,

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²¹ “Gminny Program Opieki nad Zabytkami”, [“Municipal Programme for the Care of Historical Monuments”], point 5.2.1, p. 39-41, point 5.5., p. 53; “Decyzja w sprawie wpisania do rejestru zabytków: historyczny układ urbanistyczny Bydgoskiego Przedmieścia i Rybaków w miejscowości Toruń”, Kujawsko-Pomorski Wojewódzki Konserwator Zabytków, July 25, 2011, [“Decision on entering into the register of historical monuments: historical urban layout of Bydgoskie Przedmieście District and Rybaki district in Toruń”, Kuyavian-Pomeranian Provincial Conservator of Monuments], 9-15, accessed August 29, 2024, <http://www.torun.wkz.gov.pl/bip/30/bydgoskie-przedmiescie-i-rybaki-w-toruniu>.

²² “Gminny Program Rewitalizacji Torunia”, [“Local Revitalisation Programme of Toruń”], 40-41.

²³ “Gminny Program Opieki nad Zabytkami”, [“Municipal Programme for the Care of Historical Monuments”], point 5.1.3, p. 17-18; point 5.2.2., p. 34-37.

²⁴ *Rewitalizacja w Toruniu/Revitalisation in Toruń*, 4, 12-14; “Gminny Program Rewitalizacji: Program rewitalizacji Torunia do roku 2023, Gmina Miasta Toruń 2018, [“Local Revitalisation Programme of Toruń” to 2023”], point 6.1, p. 54-58, August 27, 2024,

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²⁵ “Gminny Program Opieki nad Zabytkami”, [“Municipal Programme for the Care of Historical Monuments”], point 5.1.2., p.16.

²⁶ Michał Pszczółkowski, “Kampus Uniwersytetu Mikołaja Kopernika w Toruniu 1967-1973,” *Kwartalnik Architektury i Urbanistyki*, 55 (2010), 1-2: 39-52; Michał Pszczółkowski, “Kampus UMK Zabytkiem,” *Głos Uczelni*, February 13, 2020, <https://glos.umk.pl/wiadomosci/?id=16898>; “Gminny Program Opieki nad Zabytkami”, [“Municipal Programme for the Care of Historical Monuments”], point 5.2.3, p. 41, accessed August 28, 2024,

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²⁶ Michał Pszczółkowski, “Kampus Uniwersytetu Mikołaja Kopernika w Toruniu 1967-1973,” *Kwartalnik Architektury i Urbanistyki*, 55 (2010), 1-2: 39-52; Michał Pszczółkowski, “Kampus UMK Zabytkiem,” *Głos Uczelni*, February 13, 2020, <https://glos.umk.pl/wiadomosci/?id=16898>; “Gminny Program Opieki nad Zabytkami”, [“Municipal Programme for the Care of Historical Monuments”], point 5.2.3, p. 41, accessed August 28, 2024, <https://torun.pl/pl/aktualnosc/w-trosce-o-zabytki>.

²⁷ "Biblioteka Wydziału Chemii UMK zagrożona? Co z wpisem do rejestru zabytków?", Tylko Toruń, August 30 2019, <https://tylkotorun.pl/wiadomosci/biblioteka-wydzialu-chemii-umk-zagrozona-co-z-wpisem-do-rejestru-zabytkow/>.

²⁸ "Monitoring ruchu turystycznego, Toruń 2023", ["Tourist traffic monitoring of Toruń"], 27; "Miasto Toruń, Program rozwoju turystyki", ["Tourism development programme for the city of Toruń"], 29.

²⁹ Maria Lewicka and Maciej Trojan, "Ciągłość i zmiana na przykładzie rewitalizacji budynku Akademickiej Przychodni Lekarskiej na potrzeby Instytutu Psychologii Uniwersytetu Mikołaja Kopernika," in *Toruńskie rewitalizacje: fakty, projekty, zaniechania*, ed. Katarzyna Kluczajd, Michał Pszczółkowski (Toruń: Stowarzyszenie Historyków Sztuki 2022), 100-102.

³⁰ Lewicka, Trojan, 102-113. The investment implemented according to the SAMQ1 Studio Architektoniczne Maciej Kuras Toruń, Archimedia Architekci & Inżynierowie Poznań, was awarded in the National Building Competition: "Modernizacja Roku & Budowa XXI w." w 2021 r. in the category of 'memory of historical places', accessed August 29, 2024, <https://www.modernizacjaroku.org.pl/pl/edition/2837/object/3135/budynek-instytutu-psychologii-universytetu-mikolaj-kopernika-ul-gagarina>.

³¹ "Gminny Program Opieki nad Zabytkami", ["Municipal Programme for the Care of Historical Monuments"], point 5.2.2 and 7.1., p. 31-34, 57.

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ANALYSIS OF THE PRESERVATION OF THE HOBE FORT IN TAMSUI, TAIWAN IN THE QING DYNASTY

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INTRODUCTION

Tamsui is part of the activities of the aboriginal Ketagalan people in ancient times, but the settlement was developed in accordance with geography and water transport. Defense and security management are the key factors.¹

There are two different axes for the development of Tamsui settlements. One is the officially constructed military defense space, and the other is the settlement space formed by mainland China immigrants. The main official armament space was in the 19th century when the Hobe Navy garrison appeared in the Qing Dynasty. After 1860, the Tamsui port was opened by the Tianjin Treaty. The government built many small forts and military defense facilities to defend against foreigners before and after the Sino-French War in 1884.²

Literature

Space is the product of society.³ Some studies have pointed out that the earliest attempt at military modernization began with the Sino-French War after Taiwan became a province.⁴ Many new types of forts were built at that period,⁵ and can be divided into after the Mudan Incident and before and after the establishment of Taiwan province because of the official understanding of Taiwan's coastal defense vulnerability and importance.

Regarding the historical research and engineering studies for repair of the Hobe Fort,⁶ Shao has completed the investigation and engineering repair report.⁷ Shao introduced discovery of the relic, position of the relic, and destroying situation that been discovered in reconstruction, it proposes several special repairing methods, at the same time; it makes complete record on present situation so as to make complete reduction.⁸ Huang discussed urban design plan for the specific area of Hobe Fort and the operation of urban design review and guidelines for the surrounding areas.⁹

Method

The purpose of "important cultural significance" is to help define and assess the qualities of society. Understanding the important cultural significance is essential. It is possible to grasp the importance of the place to make reservations, to show important significance, or at least to minimize the damage. A clear understanding of the nature and level of the importance of the site can provide recommendations and flexibility for future measures.

This study explores the special spatial structure of Hobe Fort and related urban relics through field investigations, historical materials, and maps, and proposes preservation, management and reuse advice.

The transformation and historical significance analysis of Tamsui military fort and relics

The Spaniards built fortifications and fortresses at the edge of the mountain near the Fortress San Domingo and the Tamsui River after 1628, and they named the fortress "Santo Domingo".¹⁰ The Dutch built Fort Anthonio at the site of Fortress San Domingo in 1644.¹¹ After the Dutch left Taiwan, the Fort was used as the Chinese military fortress during the kingdom of tungning.¹² This place is recorded as a barracks in the official literature in 1724. After Taiwan opened its port in 1860, in 1867 the British and the Qing Government signed a lease as a consulate and consular official residence. The military function had disappeared.

But the Mudan Incident occurred in Taiwan in 1874. In order to prevent Taiwan from being invaded by Japanese and Europeans, the government built Sharon Fort in 1875 (also known as White Fort).¹³ The Sino-French War in 1884 spread to Taiwan, the official converted the old forts into new forts. But these forts were completely destroyed during the war.

In summary, during the Chinese Qing Dynasty Tongzhi era, the forts pushed the defensive range from the Tamsui estuary to the seaside. But the forts was not of much use during the Sino-French war.¹⁴ This should be related to a great relationship with the progress of war weapons and the military strategy at that time.

In 1885, Liu Mingchuan was ordered to supervise the military affairs in Taiwan. He strengthened the defenses of Taiwan Strait, and built forts in the important military areas in Taiwan and Penghu. There were more than ten fortifications in Keelung, Tamsui, Anping, Qihou and Penghu.

In 1886, Hobe Fort was built in Tamsui. The government hired foreigners to supervise. Cannons were inspected by experts. Military camps imitated the Western form.

In addition, the Sharon coast in Tamsui was considered the main defense zone when the new forts were built. This is different from the position of the forts built before the Sino-French war. Officials also built two defensive long embankments.¹⁵ (Figure 1)

However, there was no effect after the construction of the Hobe Fort, because there was no war in this area, so the fort was preserved. (Figure 2- Figure 5)



Figure 1. Tamsui map in 1888. Note:1. Hobe Fort. 2.Tamsui street. 3. The Fortress San Domingo.¹⁶



Figure 2. Entrance of Hobe Fort (image source: Author)



Figure 3. Inside of Hobe Fort (image source: Author)



Figure 4. Relics of Hobe Fort (image source: Author)



Figure 5. Barracks of Hobe Fort (image source: Author)

The Hobe Fort can be combined with other Military Relics in Tamsui as an ecological museum in the future

It is suggested that the military relics around the Hobe Fort be marked and linked. The scope of the military defense of the Sino-French War in Tamsui during the Qing Dynasty can be clearly expressed. Hobe Fort is now a national historical site. The type is a border fort. The historical and cultural significance is mainly military facilities.

The location and the terrain of Hobe Fort both have a historical context, and the view from it of the Tamsui River is very important, it needs to be considered in terms of urban design to ensure the maintenance of the overall landscape.

Today, the preservation method of the Hobe Fort is preserved in its original form. The Hobe Fort is a double-shaped square of about 1.5 hectares. The surrounding walls are piled up to 3 feet high. The inner wall is made of concrete. It has undergone three renovations.

The characteristic of the Hobe Fort is using Western Fortress construction techniques. At that time, there were one 12 squadrons of Armstrong's Rifled Breech Loader, one 10 scorpions of Armstrong's Rifled Breech Loader, and two 8 squadrons of Krupp Model.

It is recommended that Taiwan's various forts built before and after the Sino-French War be regarded as a whole, rather than purely for a single historical site.

It is like a fortress built after the Mudan Incident, including the Anping small fort, etc. or fortresses built after the establishment of the province in Taiwan, including the West Fortress in Penghu, the construction of the Anping Fort, etc.

The preservation discussion should be based on the significance of the fort construction, highlighting the significance of "military modernization" in Taiwan in the 19th century and the success of the Sino-French War in Tamsui.

Space control should be based on Hobe Fort as the core control area, and the extension of the surrounding area as the buffer zone

In urban renewal and building development, it is necessary to conduct relevant directions for the operation of urban design review and urban planning regulation. The height of the surrounding buildings within the area of the historical site preservation area should not exceed the height of the fort.

If a building is built, it should not obstruct the view of Hobe Fort. At the same time, the proposed control guidelines should encourage the concentration of open space and green space, and leave the side to form a green corridor.

At present, there are mainly ticket gates and monuments themselves, and it is suggested that the spatial planning can be improved, which can be defined as entrance passages, tourism service areas, artillery display areas, tunnels and other spatial experience areas.

On the premise of not destroying the monuments, exhibition areas are set up indoors from time to time, and the display techniques can be carried out through the shaping of environmental situations and action memorial spaces, and enhance visitors' interest in learning through multi-sensory meals and advanced technological installations.

Environmental control must be careful not to damage the ontological space and conform to the characteristics of space. (Figure 6, Figure 7)



Figure 6. 3D model construction (image source: Author)



Figure 7. Digital archives (image source: Author)

Reuse design of Hobe Fort should create an accessible environment

Accessibility is a fundamental point to enjoy cultural heritage. A first step may be to conserve the different stratification, all historic periods, and the impact in the surroundings for single pre existences and archaeological sites. A second step is an urban dimension for the accessibility in the historic centers and the pedestrian itineraries.

Through the on-site investigation, the identified features include the following:

1. The environment is well organized.
2. The circulation paths and markings are clear.

3. Safety is ensured.
4. The current state of accessibility has improved, although there remains a lack of environmental infrastructure for the visually impaired.
5. A wider range of activities is now available.
6. The site's historic value is sufficient, but efforts in adaptive reuse need to be enhanced.
7. Shuttle buses facilitate connections to other historical sites.
8. Construction of accessible software facilities is underway.

With reference to international cases, in addition to the needs of the disabled, the needs of the visually impaired and the hearing impaired should be emphasized.

Improvements can be focused on:

1. When the monuments and facilities protrude, they shall be equipped with obstructions to provide safety in the movement of the walking line.
2. Part of the space of the monument itself shall have warning or guidance signs for activities.
3. When there is a difference in the height of the pathway of the monument, at least one barrier-free access should be provided so that the elderly and the visually impaired can experience the characteristics of the entire environment.
4. Heritage Desks and Volunteer Advice Counters can assist the visually impaired in lieu of the setting up of guidance facilities.
5. The exhibition space inside the monument shall be provided with a variety of facilities such as voice reading system, Braille signage, oral video, Braille guide booklet and other facilities during the exhibition, and used for guided tours.
6. The service desk or exhibition area can provide magnifying glasses, widening machines and other enlarged fonts, which is convenient for the elderly and people with low visual ability to read and browse, or for poor color vision recognition.
7. The contrasting color and font size of the exhibition board should consider the difficulty of distinguishing spatial information for the elderly, the visually impaired and the hearing-impaired, especially the text description should be easy for the elderly and the hearing impaired to read.
8. The space should provide sufficiently high brightness lighting.
9. Some spaces can be equipped with active electronic subtitles with the lowest impact on the environment to provide environmental dynamic information.
10. In the spaces prone to danger in the monuments, flashing warning lights can be set up, and when the warning lights are flashing, they can provide instructions for the escape of persons with disabilities.

Let the historical site be the starting point of environmental education and ecological rehabilitation. Combine with surrounding facilities and trails and bicycle lane navigation system to encircle the environmental system of the Tamsui estuary and natural mountain ecology. Organize events in historical scenes so that participants can experience the cultural spaces in historical scenes. (Figure 8)



Figure 8. Barrier-free access (image source: Author)

DISCUSSION

Through the preceding discussion, the following points can be considered from the perspective of connecting Taiwan's modern warfare:

1. Combine all Sino-French War-related artillery batteries in Taiwan under a unified preservation strategy to enhance historical relevance.
2. It is recommended that Taiwan's various forts, built before and after the Sino-French War, be considered as a collective whole, rather than focusing on individual historical sites.
3. This approach is similar to viewing fortresses constructed after the Mudan Incident, such as the small fort in Anping, or those built after Taiwan's establishment as a province, including the West Fortress in Penghu and the construction of Anping Fort.
4. The preservation discussion should focus on the significance of fort construction, emphasizing the role of 'military modernization' in 19th-century Taiwan and the success of the Sino-French War defense in Tamsui.

For example, Hobe Fort can be compared with Ershawan Fort to analyze their differences. Ershawan Fort has the following characteristics:

1. It is located at the top of a hill and faces a steep slope.
2. Local materials were used, with sandstone utilized for the city walls, barracks, and ammunition depots.
3. The base of the battery was poured with iron cement imported from the West.
4. The walls of the battery were reinforced with iron and concrete.
5. It features Chinese-style casemates.
6. There are ancient wells and tombs.

This comparison reveals the differences between the two forts.

CONCLUSION

The main official armament space was in the 19th century when the Hobe Navy garrison appeared in the Qing Dynasty. After 1860, the Tamsui port was opened by the Tianjin Treaty. The government built many small forts and military defense facilities to defend against foreigners before and after the Sino-French War in 1884. This study explores the special spatial structure of Hobe Fort and related urban relics through field investigations, historical materials, and maps, and proposes preservation, management and reuse advice. It is suggested that the military relics around the Hobe Fort be marked and linked. The scope of the military defense of the Sino-French War in Tamsui during the Qing Dynasty can be clearly expressed. It is recommended that Taiwan's various forts built before and after the Sino-French War be regarded as a whole, rather than purely for a single historical site. Space control should be based on Hobe Fort as the core control area, and the extension of the surrounding area as the buffer zone. Reuse design of Hobe Fort should create an accessible environment.

NOTES

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THE VIRTUAL RECONSTRUCTION OF THE VILLAGE OF PORTOMARÍN (LUGO, SPAIN): THE LIMITATIONS OF A RESEARCH PROJECT AND THE CULTURAL, TOURISTIC AND DIDACTIC POTENTIAL OF AN IMMERSIVE EXPERIENCE

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INTRODUCTION

The Portomarín Virtual Project was devised as a digital production based on academic research as part of the drive of digital cultural heritage that has gained momentum in recent years. It also ties in with the works on lost architecture in Galicia carried out between 2016 and 2023 by the IDEAHS research group, to which the authors belong.¹

Recreating the lost village of Portomarín was a complex challenge that required the use of computer technologies to replace the physical experience of visiting the historic site, which was flooded in 1963 by the construction of the Belesar dam on the Miño River (Galicia, Spain). Once the main landmarks on the protected site – the churches of San Nicolás and San Pedro, the bridge and its chapel and the manor houses (*pazos*) of Paredes and Berbetoros – had been dismantled and partially relocated, historical and artistic research and 3D modelling of the village prior to the flooding were used to create a new historical and digital record, which would serve to recover memories from the last inhabitants to live in the village and encourage the transmission of heritage values to those who have grown up in the new village built upstream, as well as to offer a cultural experience to the modern-day pilgrims and tourists who still travel this stretch of the *Camino* to Santiago de Compostela [Figure 1].



Figure 1. Virtual recreation of the lost village of Portomarín

The theoretical framework underpinning this project to study and virtually restore the medieval village of Portomarín is Digital Art History, which aims to situate all the actions undertaken, from organising and analysing information to disseminating the results, at the intersection between historical knowledge and emerging technologies.² The digital tools and methodologies used to analyse the historical documents, making it possible to interpret and diffuse the reconstructed village via an immersive 3D reality experience, required coordinated, interdisciplinary work by the art historians leading the project and graphic designers from the *Centro Infográfico Avanzado de Galicia* (CIAG) and the audiovisual studio *Maxina*. The project was completed in autumn 2023.

With funding from the College of William and Mary (Williamsburg, Virginia, USA)³ and the *Galiverso* initiative from the Xunta de Galicia,⁴ the virtual reconstruction of Portomarín was governed by the principles of rigour, accessibility and usability; it offers an experience that is both scientific and recreational, aimed at a wide variety of audiences.⁵ As a depiction of a lost physical and historical reality, the immersive trail is unusually precise thanks to the thousands of photographs taken and stored by local photographer José López (*Foto Pereira*), which capture most of the old village's buildings and hidden corners. The positive reception of the project at successive presentations organised by Galiverso since its inauguration in November 2023 has prompted us to reflect on and evaluate the merits and limitations of experiments of this kind, which use technology for the purposes of heritage research.

LOST HERITAGE: THE VILLAGE OF PORTOMARÍN ON THE CAMINO DE SANTIAGO

The bulk of Portomarín's growth occurred during the Middle Ages due to its strategic location on the Miño River, which lay on the busy *Camino de Santiago*. The village was among the settlements cited in Book V of the *Liber Sancti Iacobi* in the twelfth century and is named in all the accounts written by pilgrims and travellers on the French Way to Compostela. It had a very well-preserved medieval

structure, with several important Romanesque monuments, as well as Renaissance and Baroque buildings added over the years.⁶ Its unique culture, which centred around the river, and its rich landscape and heritage assets make the loss of the village all the more regrettable [Figure 2].

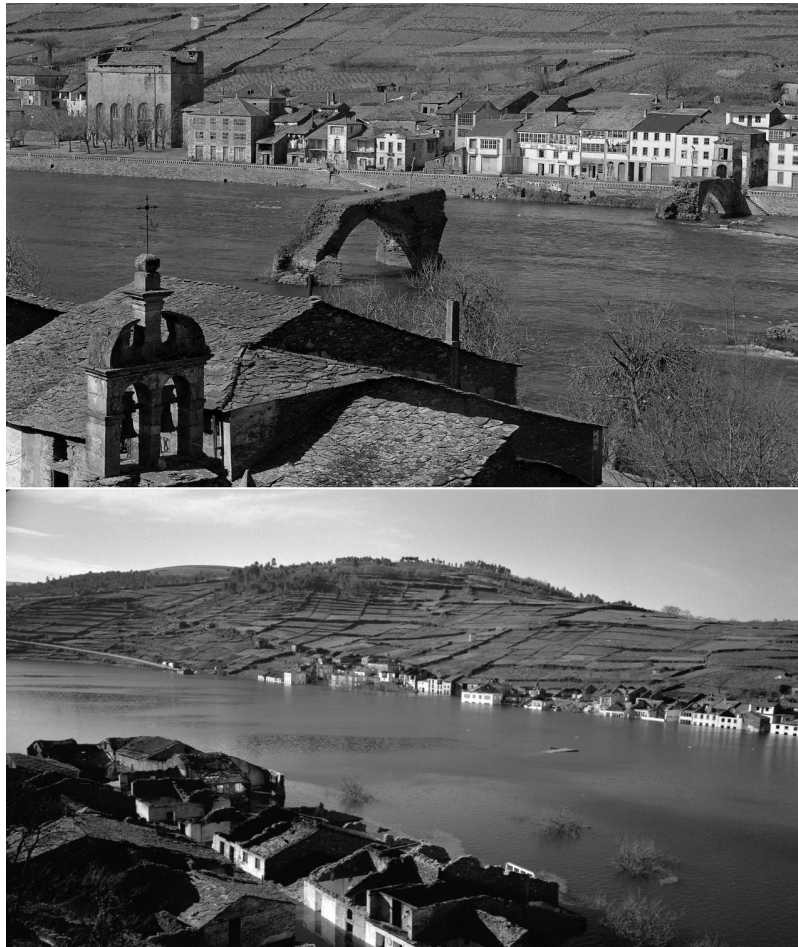


Figure 2. Historical photographs of Portomarín before and during the 1963 flood

The importance of Portomarín as a historic and heritage site was endorsed by the early declaration of the Church of San Nicolás as a Monument of Historic and Artistic Importance in 1931 and of the whole village as a historic site in 1946, one of the first such official declaration in Spain to encompass a settlement in its entirety. As a part of the *Camino de Santiago*, its protected status as a historic site was reaffirmed in June 1963, when all the *Camino* gained the consideration of historic heritage, although this came too late to save the old village, which had been submerged beneath the water three months previously.

In early 1963, the ancient medieval village was flooded after the construction of the Belesar dam, a large-scale hydroelectric project that traumatically displaced the population to a new village built nearby.⁷ Despite complaints, there was no firm opposition. The Guardia Civil and the threat of large fines quelled any attempt at protest. This was a unique case on the Iberian Peninsula and the most brutal example of the effects of economical developmentalism (*Desarrollismo*) promoted by Franco's dictatorial regime, with an unprecedented social and heritage cost. Any lingering criticism, at least in public, was silenced by the impeccable transfer of the Church of San Nicolás and the picturesque charm of the new village that replaced the flooded one.⁸

PORTOMARÍN VIRTUAL: OBJECTIVES AND PROCEDURES OF A VIRTUAL REPRODUCTION

In February 1963, just a few days after the tragic flooding of the village, a newspaper article by poet and audiovisual expert Xosé Alexandre Criebeiro bitterly lamented the lack of graphic testimony to help future generations grasp what had been lost: *How many of the people born in Puertomarín will never know what the village they were born in was like [...] No filmmakers came to capture the tragedy, the immensity, the sheer pain of leaving your land behind [...] Those who purchased a village forgot to leave its makers a precise record of what was and what ceased to be.*⁹

In light of this archival gap, our aim was to produce that “precise record of what was and what ceased to be” in the ancient village of Portomarín. To this end, we established a series of objectives:

1. To research the heritage of a regrettably lost historic site.
2. To create a new historical and scientific record to safeguard the village’s memory and leave a faithful account of what it once was, at a time when direct testimony from former inhabitants is still available.
3. To record the memories of the last inhabitants to have spent their childhood and youth in the flooded village in order to recover both personal and collective memory. This ties in with current dynamics of “historical memory”, which are associated with oppression by a dictatorial regime that imposed its decisions on the population and repressed all forms of opposition.
4. To heal trauma and fulfil the human need to return home, addressing the issues of nostalgia and idealised memories.
5. To create a new memory based on education on heritage values, which will serve as a point of reference for younger generations.
6. To provide rigorous scientific information for tourists and pilgrims to help them understand what happened in Portomarín, grasp the extent of what was lost and revive the original pilgrims route.

Production process

The process of creating the virtual recreation began with exhaustive historical documentation, which provided an understanding of the history and urban development of the old village of Portomarín, and the compilation of more than 2,000 photographs and seven film clips of buildings, streets and urban views, as well as aerial photographs and topographic plans prior to the flooding.

The production process began using *Autocad Civil*, *CadMapper* and *GIS Blender* for the contour lines, drawing on plans and the generation and manipulation of satellite and LiDAR topographic maps [Figure 3].

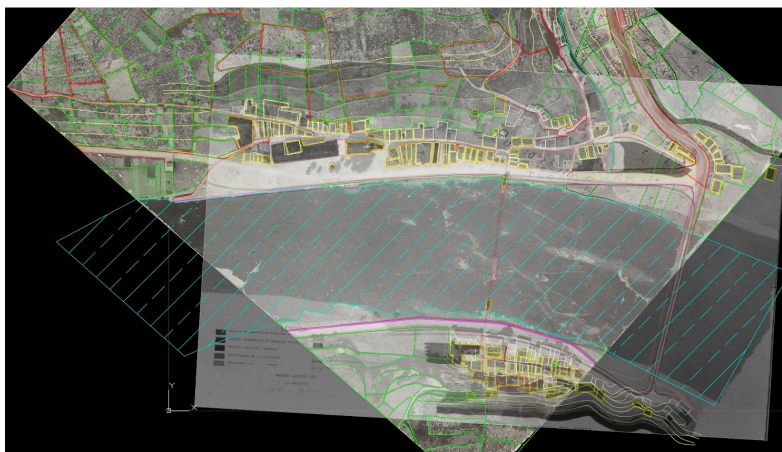


Figure 3. Analysis and generation of the topography

Autocad for 2D was used to draw the floor plan and elevations for the prominent buildings and to ensure a perfect fit between the spatial volumes of the buildings and structures so that they would be compatible with one another in the 3D virtual space. *Sketchup*, *3DsMax* and *Blender* enabled us to model and texture different architectural elements, buildings, walls, bridges and assets (local carts, fountains, boats, historical vehicles, etc.) in 3D [Figure 4].

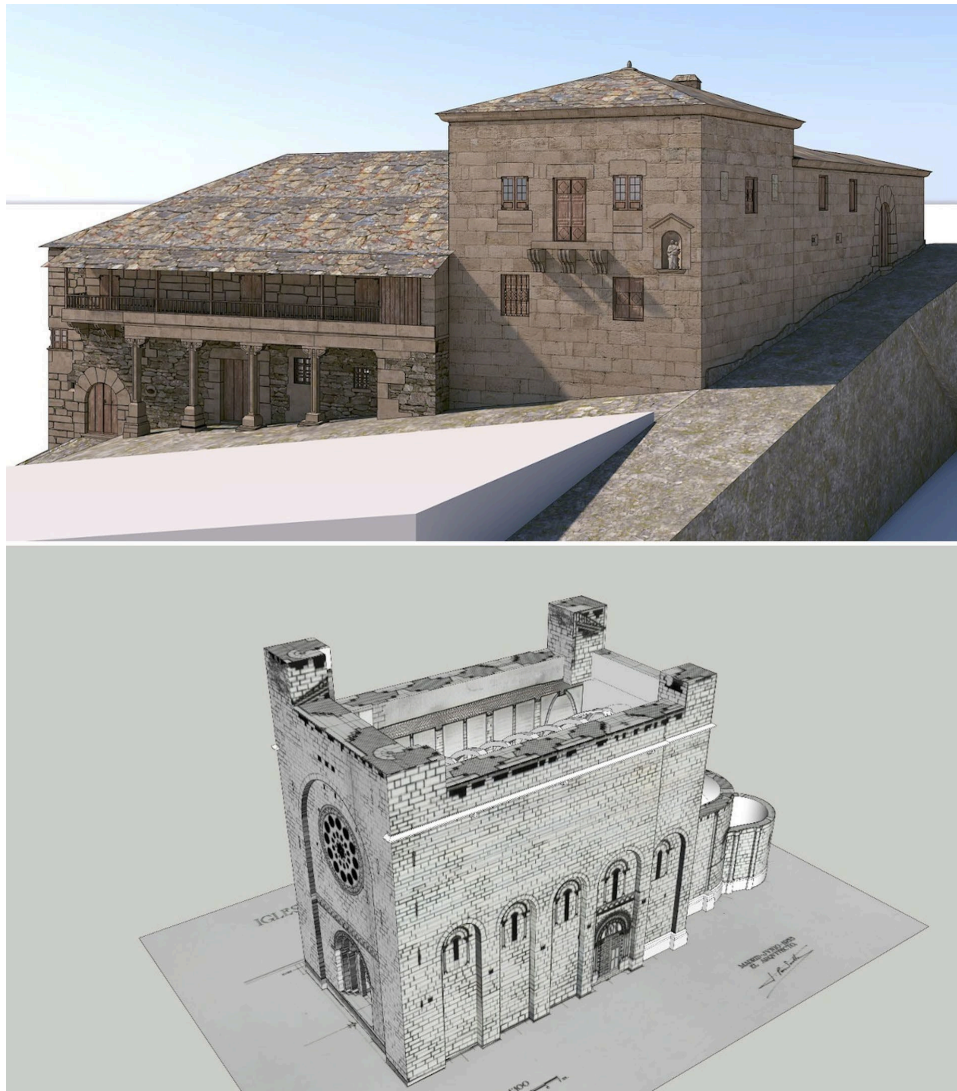


Figure 4. Modelling of elevations and volumes for the Pazo del General Paredes and the Church of San Nicolás

With help from *Photoshop*, *Materialize* and *CrazyBump*, specific textures were generated for the traditional architecture of Portomarín. *Reality Capture* was used to produce the photogrammetry of the sculpted doorways at the Church of San Nicolás. The interior of the church was captured using an *Insta 360 Pro* camera in stereo 8K format. CGI was added to this image to create the time tunnel effect on the exit door, using *Blender 4* and *Geometry Nodes*.

Finally, *Twinmotion / UnrealEngine* was used to perform GPU processing to produce the 3D integration of the urban and rural model of Portomarín, the lighting, the generation of the realistic environment, the trees, the water, the volumetric smoke, etc., which was supplemented by subsequent rendering of 360° hyperrealistic images in 8K [Figure 5].

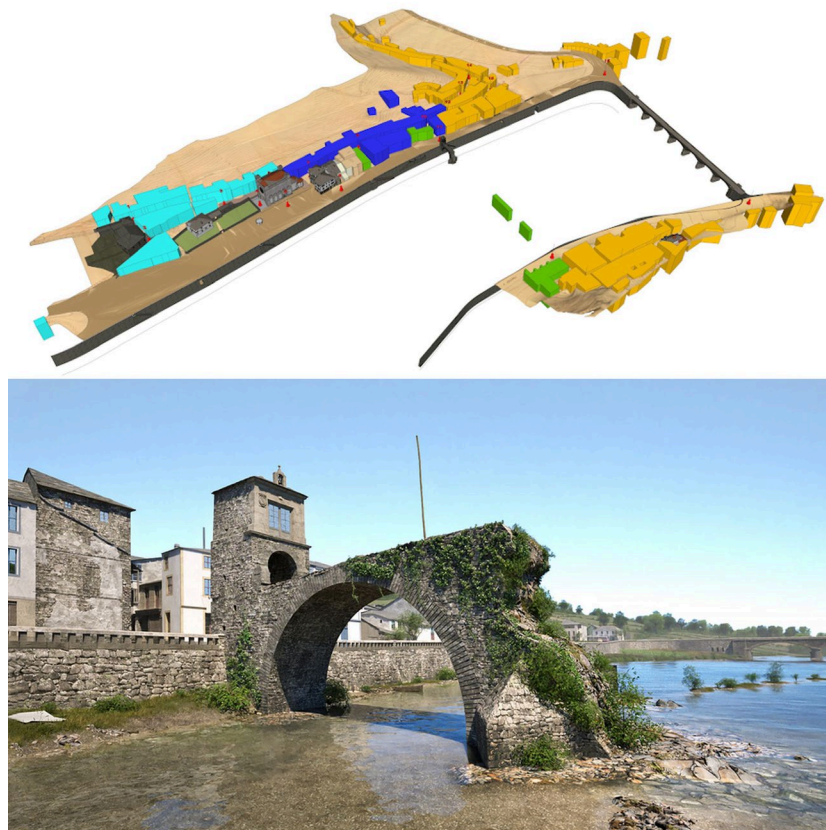


Figure 5. GPU processing and rendering

These 360 and CGI images were then worked on using *Adobe After Effects*. This produced a 360 stereo 8k animation that was then put through the *Galiverso* real-time rendering engine, along with the hyperrealistic infographics, bringing the process to an end.

PORTOMARÍN VIRTUAL: PROBLEMS AND OUTCOMES OF A VIRTUAL REPRODUCTION

From the research stage, the virtual recreation process was affected by the lack of historical plans showing the precise layout of the old village in public and private archives. This was exacerbated by the loss of graphic documentation during the transfer of the village's most important buildings and of the scale model produced by the electrical company Fenosa in 1955 to document the village that was fated to disappear. Fortunately, a detailed plan with contour lines and individually labelled buildings designed by architect Francisco Pons Sorolla in 1955 was found and served as an excellent starting point for the research; the plan differed from the actual layout of the village in some aspects, so it was compared with photographic evidence of changes that occurred after the plan was drawn up [Figure 6].

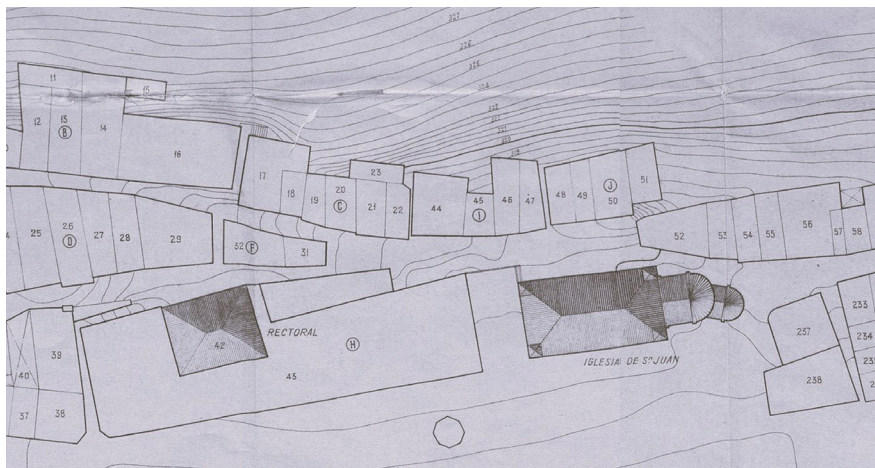


Figure 6. 1955 topographical plan by Francisco Pons Sorolla

Among the graphic material consulted, the private archive of local photographer José López (*Foto Pereira*) was particularly helpful, constituting an extensive set of images that allowed the village to be digitally restored, house by house, street by street. This archive was supplemented by other collections, such as those of Foto Blanco, Vivancos, Ángel del Castillo, Chamoso Lamas, Pons Sorolla, etc., and images from private collections held by inhabitants of Portomarín.

Another difficult task was organising, identifying and locating the buildings shown in the photographs on the plan. In those days, there were no official street names or house numbers. To address this issue, the testimony of several former inhabitants of the old village played a vital role. The project was extraordinarily large in scale, making it all the more complex: there were 344 buildings (188 houses and public buildings and 156 cellars, haylofts, firewood ovens and workshops), along with two bridges, two churches with their sculpted doorways, several chapels, public fountains, signs from businesses, etc.

One of the first decisions made was the specific date in which the recreation would be set. Given that the aim of the project was to serve as a “record”, the period chosen for the village reconstruction was 1960-1962, just before work began to transfer the most important buildings. However, several buildings of interest had been destroyed a few years earlier, so we decided to open up special windows in time to allow the *Casa de la Encomienda* (1938) and the old Pilgrim Hospital (1944) to be observed, clearly stating the date when they were demolished.

A particularly delicate issue was the colour of the architecture, carpentry and business signs. The majority of the available images were in black and white and did little to resolve these hesitations. Fortunately, there were also a small number of colour photographs and films and the former inhabitants of the village also supplied key information from their memories. Oral testimony played a central role in piecing together certain elements that were unclear from the photographs, such as the texts on plaques displayed on people’s homes and on some business signs.

When it came to deciding how to present the final outcome of the project, we sought a middle ground between the technical quality, the resources needed to ensure smooth functioning and the quality of the user experience. The main priority was an immersive, first-person experience with no avatar, making it more sensorially impactful and allowing users to navigate freely around the old village. However, in future, it could be made available online, with access via browsers on a computer, tablet or mobile phone. This would increase user numbers, although the sensorial quality would undoubtedly suffer.

Meanwhile, for reasons of technical complexity and credibility, the decision was made to remove movement and other “living” elements, such as avatars of people, animals, the effect of the wind on

trees or flags, the smoke from chimneys, the water in the river and the fountain, etc. We are aware that this decision contributed to a sense of walking amid lifeless, three-dimensional photographs, but we do not believe that artificial avatars or animals moving repetitively would deliver the realistic feel sought [Figure 7]. Nevertheless, the sound of birds singing and water flowing were included as these non-visual elements indirectly invoke the sense of hearing in the immersive reality.



Figure 7. Final view of the virtual recreation of Portomarín

Other technical aspects considered were accessibility and usability. With regard to accessibility, the possibility of adjusting the perspective for wheelchair users and adapting the experience for people with other disabilities, such as mental illness, was considered. *Oculus* glasses were used for the latter purpose, as they are lightweight and require no backpack or helmet; the remote control was removed to encourage interaction using the hands and fingers, setting directions and points to explore (windows in time) or obtaining information. Using a system that has proven satisfactory in other *Galiverso* experiences, it is also possible to move around to some degree within a limited space and users are able to take the devices and experience to any location as the content is stored in the internal memory of the glasses and requires no large infrastructure.

An important aspect to highlight is the emotional impact of the immersive experience, especially among the village's former inhabitants, which was confirmed at the public presentation of the project.¹⁰ Intense emotional reactions were observed as users were able to walk the streets of their long-lost village once again, returning to an “arcadia” from which they had been expelled in a journey to a happier time and place – their childhood and family homes, all of which has now gone forever. The psychological effects of this experience, however, are beyond the scope of this study [Figure 8].



Figure 8. Press articles on the project presentations (November 5 and 20, 2023)

Finally, the project paves the way for new initiatives in the future. For example, developing historical narratives containing different layers of temporal information that allow the urban development of the old village of Portomarín to be visualised. Another possibility would be to recreate the route of the original *Camino de Santiago* and hold guided tours with audio explanations, equipping contemporary pilgrims and tourists with historical and contextual information. The project could also be made available via outreach tools, such as mobile applications or interactive websites, quality infographics or 3D videos, 360° photomontages, 3D printed models, museographic materials, etc.

CONCLUSION

In our view, the Portomarín Virtual Project is innovative and worthwhile as it recreates an entire village declared a historic site in 1946 to a high degree of realism and precision, based on a rare set of photographs. The scale of this virtual reconstruction makes it unique in Spain, and perhaps in Europe, reducing the need for creative or imaginative licence in similar projects to a minimum. The project has created a new “historical record”, which serves to trigger fragile memories of a remarkable cultural heritage. Despite the multiple limitations of virtual reality, it offers an experience featuring spatial sensations that members of the local community are able to recognise as “their” village. Yet, no matter how rigorous and precise the Portomarín Virtual Project may be, its authenticity as a digital artefact is relative [Figure 9]. Neither the realistic textures nor the accompanying soundscape are capable of replacing the real experience, so it would be necessary to provide additional resources to allow visitors to interact with material elements from the old village. Future actions to consider include disseminating lost heritage, creating tourist experiences and producing educational guides.



Figure 9. 360° views of the route around Portomarín Virtual

Fulfilling the objectives of remedying archival gaps and emotional traumas, the project met expectations during the public presentations. The experience, reinforced by the innate desire to explore, encourages visitors to tour the virtual village in its entirety and draws attention to the community's tragedy and lost assets, landscapes and heritage using rigorous content. It is a lonely, often painful yet rewarding experience for those who were familiar with the original village, whose experiences and memories are reactivated as a result.

At the same time, the digital experience enables concepts, memories and emotions to be reconfigured for the future. It also helps forge a more robust emotional landscape for the new generations living in Portomarín today, who are able to discover and salvage their historical origins through a more powerful experience than mere black-and-white photographs. This promotes intergenerational dialogue and the perpetuation of collective memory [Figure 10].



Figure 10. Presentation of Portomarín Virtual at the Virxe da Luz primary school (Portomarín, December 15, 2023)

NOTES

- ¹ Research projects funded by the Spanish Ministry of Science and Innovation: Memory, texts and images. Recovering lost heritage for Galician society. Code HAR 2014-53893R, years 2015-2018; and, in particular, Memory of lost architectural heritage in Galicia. Twentieth Century. Code PID2019-105009GB-I00, years 2020-2023.
- ² Nuria Rodríguez Ortega, “Digital Art History: The Questions that Need to Be Asked,” *Visual Resources. An international journal on images and their uses* 35:1-2 (2019): 6-20; Ian Milligan, *The Transformation of Historical Research in the Digital Age* (Cambridge: Cambridge University Press, 2022), 7-9.
- ³ *Portomarin Virtual Project. George Greenia Fellowship for Research in Pilgrimage Studies*. College of William & Mary, USA. Code 2022-PO030, year 2023.
- ⁴ *Experiencia de realidad virtual Galiverso*, Museo Centro Gaiás, Xunta de Galicia, Spain. <https://www.cultura.gal/es/evento/97667/109/123551>
- ⁵ Cristiano Bianchi, “Making Online Monuments more Accessible through Interface Design,” in *Digital Heritage. Applying Digital Imaging to Cultural Heritage*, ed. Lindsay MacDonald (London: Routledge, 2006), 450-452.
- ⁶ Ángel del Castillo López, *Inventario de la riqueza monumental y artística de Galicia* (Santiago de Compostela: Bibliófilos Gallegos, 1972), 474.
- ⁷ Alfonso Eiré, *Belesar, o orgullo de España* (A Coruña: Hércules de Ediciones, 2013).
- ⁸ For more information about the village’s history and the relocation of its prominent buildings, see Ángel del Castillo López, “La Arquitectura en Galicia,” in *Geografía General del reino de Galicia*, ed. Francisco Carreras y Candi (Barcelona: Alberto Martín, 1932), vol. II, 928-929, 1045-1046 and 1051-1052; Gonzalo Paz López, *Portomarin. Monografía geográfica de una villa medieval* (Zaragoza: Consejo Superior de Investigaciones Científicas-Instituto Elcano, 1961); Víctor L. Villarabid, *Del viejo al nuevo Portomarin* (León: Everest, 1985); Belén Castro Fernández, *El redescubrimiento del Camino de Santiago por Francisco Pons-Sorolla* (Santiago de Compostela: Xunta de Galicia, S.A. de Xestión do Plan Xacobeo, 2010); and Julio Vázquez Castro, “La villa de Portomarin,” in *Arquitecturas añoradas: Memoria gráfica del patrimonio destruido en Galicia en el siglo XX*, eds. Jesús Ángel Sánchez García, Julio Vázquez Castro and Alfredo Vigo Trasancos (Gijón: Trea, 2023), 241-277.
- ⁹ José Alejandro Cribeiro, “Un pueblo sin recuerdo,” *El Pueblo Gallego*, February 6, 1963: 2.
- ¹⁰ A parallel research on educational strategies to repair the emotional trauma still detected in the village was recently presented as a doctoral thesis: Belén María Castro Fernández, “Recuperación de memoria en contexto de conflicto a través de la educación patrimonial: el traslado forzoso de Portomarin (Lugo)” (PhD diss., Universidade de Santiago de Compostela, 2023).

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CONSERVATION AS VERSION CONTROL: A QUASI-LICENCE FOR PARTICIPATORY PRACTICE

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INTRODUCTION

1) This paper spins off from Mathew Fuller and Usman Haque's 2008 manifesto, *Urban Versioning System 1.0* where they ask, 'What lessons, if any, can architecture learn from software development, specifically from the Free, Libre, and Open Source Software (FLOSS) movement?'¹ Where they are concerned with the future of the built environment, I'm more interested in pivoting around their work to focus on the conservation of cultural heritage as participatory practice. By conservation I mean the preservation of cultural heritage in all its forms, both ancient and modern.²

2) The assumption here is that we can rethink what conservation is and does by looking at software development, in particular version control in "free software", where the archiving of previous versions enables access to any version of a program including the current one.³ If conservation is re-characterised as a form of version control this then radically challenges and disrupts the current doxa in which conservation is imagined.

3) The key question here is can version control strategies be modified to be applicable to the care of cultural heritage? One obvious issue is that when conservators commit to the next version of a thing in their treatments they foreclose some other possible versions, including the complete reversion to an earlier iteration of the thing being conserved.

4) However, I have argued elsewhere that the material components of cultural heritage, along with related archival material in the widest sense (including art historical and conservation documentation, interviews, images, etc.), combined with the prevailing conservation codes of ethics as effected locally, can be considered as an 'instruction manual',⁴ which can be described as being akin to a software program's source code.

But what I really want to address is that those involved in the preservation of cultural heritage are by default involved in processes and actions similar to the kinds of participatory version control procedures formalised in free software development. Note that free software is considered distinct to proprietary software as they operate different regimes for software development.



Figure 1. Versions of Elias Garcia Martinez's work 'Ecce Homo'. Left to right: 2010, July 2012, August 2012. Images: Centro de estudios Borjanos

5) The Free Software Definition first appeared in 1986 and contains the following license articulated as an ethical contract:

The freedom to run the program, for any purpose (freedom 0).

The freedom to study how the program works and adapt it to your needs (freedom 1).

Access to the source code is a precondition for this.

The freedom to redistribute copies so you can help your neighbor (freedom 2).

The freedom to improve the program, and release your improvements to the public, so that the whole community benefits (freedom 3).

Access to the source code is a precondition for this.⁵

6) Attempts have been made to transfer these principles to cultural production in general. In the case of architecture this has often been done on the basis of freely sharing plans, recipes, diagrams and what Fuller and Haque call other “genotypic” information that can then be modified and expressed as new architectural artefacts or “phenotypes”.⁶

7) Free software is engaged in a continuous process of production, implementation, usage and re-purposing processes. Cultural production can equally be understood in this way rather than implemented in a closed and proprietary manner as currently inscribed in our institutions. A process-based approach arguably changes the epistemic nature of conservation, from something hidden and behind the scenes to one being focused on the production of open knowledge through participatory access and understanding. Concomitantly, rethinking conservation as a form of version control underlines the ontological nature of all cultural heritage as being open-ended and “possibilistic” rather than static and immutable (Fig. 1).

8) If we re-characterise conservation as a form of cultural heritage development, we can see conservators act as “heritage-developers” more than ‘conservators’. In doing so we can embed conservation in any audit of the processes and procedures associated with definitions of “human creativity”, the focus of many global cultural institutions but where the labour of conservators, among others like fabricators, is unaccounted for.⁷ Such an audit ensures that the ethical, epistemological, and ontological consequences of the actions of conservators are made integral to any account of creativity in these institutions.

9) In examining conservation and software development as a series of entities, procedures, relations and workflows, we can find much in common with, amongst other things, a clear expression of how both creative production and preservation are intertwined in participatory processes.

10) Conservation has always been a collaborative endeavour, concomitantly reliant on the sharing of information. However, the institutions where conservators work have habituated selected methodologies, technologies and legal frameworks that restrict this will towards collaboration and information sharing. Institutions dominate the ways in which “taking care of things” is done.

11) Nonetheless, conservation always involves multiple kinds of expertise across multiple scales to mandate its decision-making. Conservation needs to focus on this repertoire of collaboration to speak to power and offer alternatives to the current institutional doxa.

12) Going back to the key question of how to apply free software strategies to conservation, conservation appears to present aspects of the genotype and phenotype distinction.⁸ In conservation the archive and the item it archives both offer themselves as *interpretable* instruction sets. This means that the next iteration of the work is that produced by the interpretative effort by a finite set of actants.

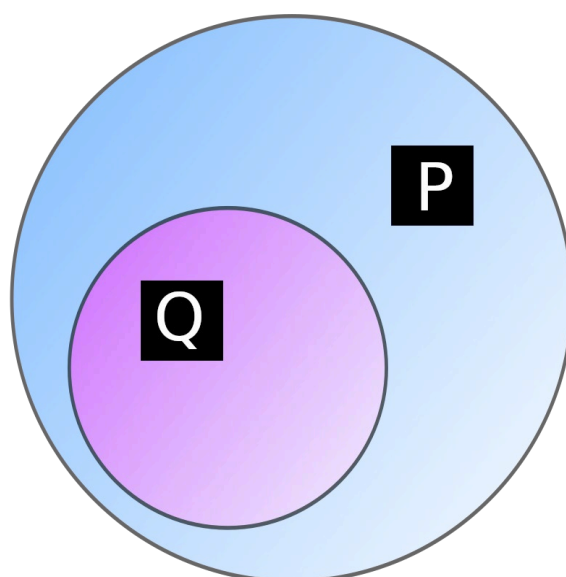


Figure 2. Relationship between the archive and any display or iteration of the artwork or cultural heritage item. (Image: author)

This syllogism illustrates this point in the form of a *modus ponens*, if p then q

1. If *P* is the artwork and its archive then iteration *Q*
2. This is iteration *Q*
3. Therefore *Q* is artwork *P*

13) One thing implied in this syllogism is that the sum of the artwork and its archive is always greater than any particular iteration at any particular time (Fig. 3). One of the more hidden aspects of free software development is the continuous interleaving of testing, implementation, usage and refinement, all of which can be interrogated at any point by those involved, and which makes the genotype/phenotype binary more tenuous as a descriptor given there is no absolute end-product, rather a series of versions activated from an ever-growing repository.



Figure 3. Nam June Paik "Arche Noah": top left, 1989 (image: Helge Mundt); top right 1991 (image: Thomas Goldschmidt); bottom left 2008 (image: ZKM | Center for Art and Media); bottom right 2019 (image: author)

As such, I will abandon the distinction to focus attention on the conservator as someone enabling, generating and engaging in roles similar to those that developers collectively perform in realising free software. However, this doesn't confer equal responsibility to all participants in any process but instead presumes that while hierarchies formed around experience, skill and aptitude are inevitable, they are not immutable.

15) It is here that enabling participatory engagement can be better integrated into the role of the conservator. While understanding a more socially embedded form of conservation would not necessarily be free of those hegemonic powers that determine much of current cultural understanding, it would render such processes more "democratic". Better still it would place a greater emphasis on values and meaning and how these might be activated more pluralistically.

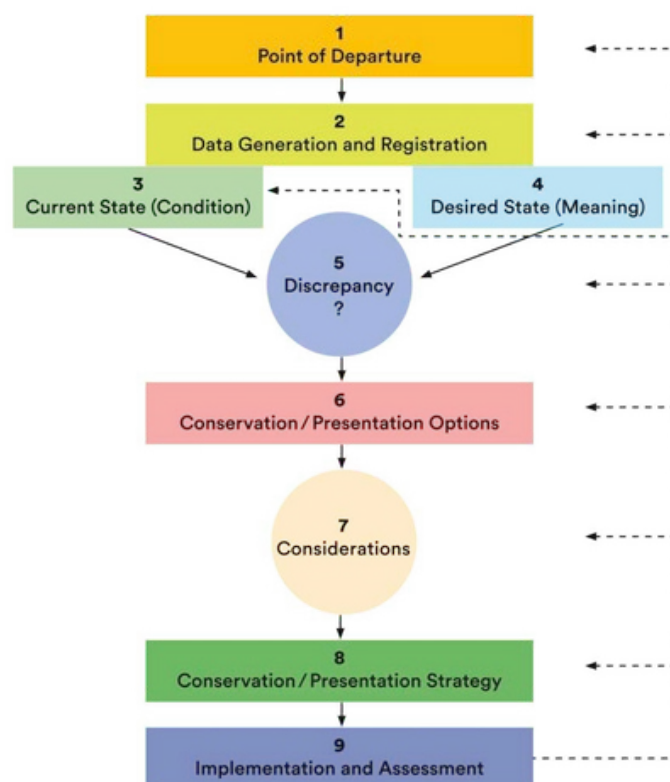


Figure 4. Giebeler et al., *Decision-making model for contemporary art conservation and presentation*, 2019

16) Given this preamble, the rest of this paper is concerned with framing a set of constraints for a quasi-license with which conservators can *do* participatory conservation.

CONSERVATION BY DESIGN

Participatory Conservation

a) A pragmatic first step for participatory conservation would be to develop protocols that enable non-conservators to participate more closely in the decision-making processes and, where appropriate, the conservation itself (Fig. 4).⁹ Much has been done already to facilitate this, but conservators can enable and encourage more collaboratively-made decisions around taking care of things.¹⁰ The current situation of delegating care to conservators alone is unsatisfactory as putting it in the hands of so-called experts is the lowest common denominator and constrains people's investment, motivation, commitment, and agency regarding the care of their cultural heritage.

b) A second step is the formulation of frameworks that underline how, after conservation, the item then represents a particular time-stamped "version of record" – the best agreed version of the work at a particular moment until the next cycle of its care, repair, and (re)use. In free software version control enables code to be archived and held in a structure of changing parts for the purposes of use and further work. Pieces of code and accompanying comments are held in a tree of updated versions. As more coders participate on a project this code may go through another checking and committing process. This allows a project to be both conservative of its quality, in a state of rapid development when necessary, and able to modularise to incorporate different participants when required.

As I have suggested elsewhere,¹¹ conservation exhibits some similar practices but to be meaningful for conservation a version control framework would need to achieve two goals. First, it would enable the procedures of conservation – from condition reporting, decision-making, testing, treatment to

exhibition and display – to be understood as necessarily recursive in that each is modifiable and modified during execution and inevitably so by any subsequent iteration. Second, it would need to account for the different granularities of participation. The fact that it enables anyone to be a co-carer, does not necessarily mean that everyone will participate as a conservator, just as saying that everyone can be an artist or that everything anyone produces in the name of art is art. Such a framework enables recognition for those who participate as having a range of different skill sets, intentions as well as requirements. In encouraging more people to take part in caring for the things around them, it inevitably builds a more collaborative social space for conservation.

With this in mind, I will now elaborate seven initial constraints for participatory conservation.

SEVEN CONSTRAINTS FOR PARTICIPATORY CONSERVATION

A note on constraints

Formulating both arbitrary and non-arbitrary constraints can be useful in guiding those who care for things. However, the truism about rules being made to be broken is part of this discussion. Regulations, legal protections, professional codes of ethics and so on can all be changed by those participating in conservation as conservators are a “recursive public”.¹²

1. Conversation

Conservation should begin with open-ended discussion with custodians, community and public around value and significance. This requires conservators to disregard any temptation to sketch, plan, and model the item as a problem they perceive and to cease ideating around its future state as being the *best available copy of itself*.

Conversation allows for engagement with the multiplicity of lived-experiences, values and meaning the thing has transmitted in the present and the past, as articulated by the array of people involved. It allows for the bleeding of distinctions between experts and citizens, and underscores how heritage is subject to non-linear, relational and responsive actions. Versioning is useful here as it emphasises how any item being conserved is necessarily unfinished, always ready to be reworked by others in the future in response to the impacts and changes it meets.

Conversation enables conservators to produce real spatial situations, both tangible and intangible, we can otherwise only poorly imagine. It makes it possible for interested people to enter into, critique, and add to what is being realised on their cultural heritage.

Conversation also tempers conservation’s habitual representation of probabilities. *For a long time conservation has worked by identifying and predicting problems to then mitigate with actions based on probable outcomes. This stifles an item ontologically and this approach requires the suspension of disbelief as such speculation - while useful in expanding the boundaries of technicity and analysis - is self-limiting: for example, believing how non-specialists care for things is unprofessional rather than seeing that human energy as foundational to a thing's continued care (see Fig 1).*

2. Materiality

A damaged item is usually one that attracts the most attention, in part because it appeals to the desire to care for it and also because damage enables people to understand how something should or *could* be. Damaged things open up new possibilities for new shared memories, knowledge, and experiences. Materials that readily decompose can be said to be ecologically contingent. Those which rapidly decompose to a basic elemental or organic state are particularly interesting. Conserving such materials requires constant innovation, replenishment and theoretical reconstruction about what conservation is, whilst emphasising the ephemerality of the materials themselves and the cultural constructs given to

them. This helps to counteract the usual obsession with permanence and longevity. Cultural objects, both tangible and intangible, always dematerialise or are dematerialised; their preservation or decomposition and loss always have cultural and ecological impacts.

Embracing entities as necessarily contingent in terms of meaning and materiality acknowledges that conservation and creation are overlapping and continuous and that all cultural heritage is dynamic, responsive and variable. All cultural heritage can then be understood as culturally situated and ontologically open-ended.

While non-specialists may feel mystified by technicity, opening up conservation to wider participation facilitates the reprocessing of existing artefacts as cultural building blocks that transition between simple and complex states.

3. Vectorisation

Vectorisation is a means to connect things being cared for to different registers of meaning and (im)materiality; vectors function as forcing points of abstraction.

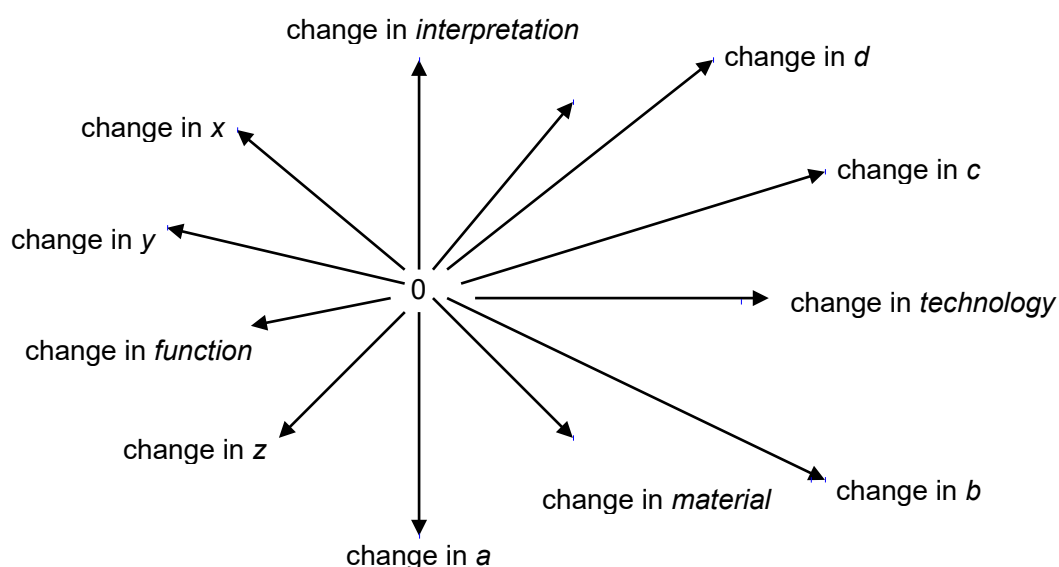


Figure 5. Vectors of change (with examples) from point of item's origin (0)

All versions of the item being conserved always has more than one vector of change and all cultural heritage can be heavily vectorised, resulting in each items having diverse topological edges each time when the co-ordinates of its vectors are connected.

Vectorisation is a procedural representation of the processes and procedures items undergo from the moment of their being. A version control framework can better account for the vectors of change conservation concatenates with and is a graphic way to plan mitigation.

4. Participation

The more granularity an organisation or infrastructure offers, the more it establishes the capability of proficient rather than cursory performance. Being granular increases the levels of cultural enfranchisement.

However, this generosity also sets up the capacity for incompetent performance or that the entity that you care passionately about will be altered by others in ways that might be difficult to bear.

But conservation involves more than simply performing functional and mimetic actions in the service of something like the sovereignty of the artist or the authenticity of the artwork. If the production of

culture is understood as a dynamic involving a multitude of agencies and modalities, then it concomitantly should encourage a lack of attachment to any sense of exclusive authorship as, arguably, both the artwork and any form of conservation will necessarily be modified in the future by someone else.

On the other hand, to mitigate any potential drift in the identity of the thing being conserved, a clear hierarchy of contribution that require different levels of skills, from novice to expert, needs to be provided, as in the old Medieval guilds or contemporary free software development.

The auditing of participation across different scales and times presents conservation as a large-scale learning environment made up of socially-based actants and activities.

5. Collaboration

One consequence of the kinds of collaboration developed in free software has been that people with diverse belief systems can find themselves working on the same project. Anarchists might find themselves contributing to a codebase also worked on by the United States military.

Such paradoxes are replayed in terms of conservation in the interplay between the static and the changeable, between the open and the protected. All work executed under a versioning system in conservation should enshrine this dialectic as a drive for collaboration where only good ideas talk together.



Figure 6. Senior Gija man Gabriel Nodea working on conserving a painting outside Warmun Art Centre in the East Kimberley's, Australia. Image: University of Melbourne. Part of the 'Bangariny-warriny jarrag booroonboo-yoo' (two good ideas talking together) Two-Way Knowledge partnership between the Warmun Traditional Owners and the Grimwade Centre for Cultural Materials Conservation at the University of Melbourne (CC BY-ND 4.0 DEED)

6. Conservation

Any versioning system for conservation should recognise that the world is constructed by its inhabitants, and when we talk about the public domain, we understand that the public is not some pre-existing fact. Publics must be made; indeed publics make themselves, and in so doing publics make

domains that they refer to and through which they are mutually constitutive. The spatial technologies of such publics interweave fluctuating participation and capacities for cultural and organisational coherence.

Conventional approaches to conservation are predicated on mimesis where the ‘ideal state’ after treatment is ideated *a priori* for the item being conserved. This mapping of states is necessarily *anexact* and will always produce better or worse iterations of some thing.¹³ The thing will always differ from itself as Byung-Chul Han has written.¹⁴ Amplifying the means of how these ideal states are psychically constructed narrows the divide between the expert and participant.

The conservator in this situation is of many things, not simply of a single profession. To conserve some thing is to enact a diagramming force in the construction of publics, paradoxically both rule and rule generator, determining the axioms that run through the process. Conservation can unleash processes and encourage the flow of possibilities and modalities. At the same time conservators and their allies operate in specific ways on particular problems influenced by certain domains of knowledge, while always learning and being taken by surprise throughout the entire conservation process.

7. Heritage

Cultural heritage needs better understanding as both socially plastic and historically contingent; as something that is the site of experimentation and redundancy.

Embracing plasticity means those who care for cultural heritage bear responsibility for a sustainable and ecological relationship with the life systems of the planet in a useful and productive mode of operation.

Finally, any conservation versioning system should open the notion of cultural heritage up to its own speculative reinvention. Cultural heritage is not predetermined and only a mode of conservation that encompasses its own demise is fit for purpose.

ACKNOWLEDGMENT

In order to comply with what amounts to a quasi-license, a form of wording should be legible somewhere in the records, such as: "This work is licensed under the Conservation Versioning System v.1.0".

NOTES

¹ Matthew Fuller and Usman Haque, *Urban Versioning System 1.0*, (New York: The Architectural League, 2008), accessed August 24, 2024, <https://archleague.org/wp-content/uploads/2008/04/UrbanVersioningSystem.pdf>.

² Cf. the UNESCO definition for tangible heritage: “The conservation of cultural heritage refers to the measures taken to extend the life of cultural heritage while strengthening transmission of its significant heritage messages and values. In the domain of cultural property, the aim of conservation is to maintain the physical and cultural characteristics of the object to ensure that its value is not diminished and that it will outlive our limited time span” The sources of the UNESCO definition are: UNESCO Institute for Statistics, 2009 UNESCO Framework for Cultural Statistics and International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM), *Risk Preparedness: A Management Manual for World Cultural Heritage*, 1998 and; UNESCO, *Traditional Restoration Techniques: A RAMP Study*, 1988. Accessed August 24, 2024, <https://uis.unesco.org/en/glossary-term/conservation-cultural-heritage>. Other definitions exist that encompass the intangible including, UNESCO, 2003, *Convention for the Safeguarding of the Intangible Cultural Heritage, Legal Rule or Regulation*, accessed 28 August 2024, <https://unesdoc.unesco.org/ark:/48223/pf0000132540>.

³ ‘Free software’ can be defined as software that is produced where users have the freedom to run, edit, contribute to, and share the software. See, for example, Free Software Foundation, ‘What if Free Software?’, accessed August 24, 2024, <https://www.fsf.org/about/what-is-free-software>.

⁴ See, for example, Jonathan Kemp, ‘Conservators, creativity and control’, *Studies in Conservation*, 69, no. 5 (2023). doi: 10.1080/00393630.2023.2241246; Jonathan Kemp, “Practical Ethics v3.0: Version Control”, in *Kunst und Material. Konzepte, Prozesse, Arbeitsteilungen*, ed. Roger Fayet and Regula Krähenbühl, Swiss Institute for Art Research (SIK-ISEA), Zurich: Scheidegger & Spiess (Verlag), 209-227; Jonathan Kemp, “Practical Ethics v2.0”, in *Conservation: Principles, Dilemmas, and Uncomfortable Truths* (Oxford: Routledge, 2009), 60-72.

⁵ “What is Free Software”, Free Software Foundation, accessed August 24, 2024, <http://www.fsf.org/licensing/essays/free-sw.html>.

⁶ Fuller and Haque, *Urban Versioning System 1.0*, 19.

⁷ This *lacuna* in the descriptive account seems to be an inherent contradiction being performed in plain sight by many of our memory institutions, charged to celebrate the achievements of human creativity. Cf. “About The Met.”, Metropolitan Museum of New York, accessed August 24, 2024, <https://www.metmuseum.org/about-the-met>; “Museum of Modern Art: Mission Statement”, MoMA, accessed August 24, 2024, <https://www.moma.org/about/mission-statement/>; “About Us”, National Gallery of Australia, accessed August 24, 2024 <https://nga.gov.au/about-us/>; “Our Vision”, Tate, accessed August 24, 2024 <https://www.tate.org.uk/about-us/our-priorities>; “Strategic Plan 2021–2024”, V&A Museum, accessed August 24, 2024 https://vanda-production-assets.s3.amazonaws.com/2023/01/05/11/55/32/d486d1a9-7f20-4353-a698-0f436431d8a3/V&A_Strategic_Plan_2021-24.pdf.

⁸ The “genotype-phenotype” distinction is akin to what Nelson Goodman describes as allographic art to describe things like concert performances and theatre, where the art is understood in two parts, a score or set of instructions the viewer does not experience and the performance of that score which they do experience. See Nelson Goodman, *Languages of Art: An Approach to a Theory of Symbols*, (Indianapolis: Bobbs Merrill, 1968), 99-122; Pip Laurenson, “Authenticity, Change and Loss in the Conservation of Time-Based Media Installations.” *Tate Papers* 6, 2006, accessed August 24, 2024, <http://www.tate.org.uk/download/file/fid/7401>.

⁹ The workflow shown in Figure 4, while designed for contemporary artworks, has been used to help frame decisions made for a range of cultural heritage items from different cultures and eras. Julia Giebler, Andrea Sartorius, Gunnar Heydenreich, Andreas Fischer, “A Revised Model for Decision-Making in Contemporary Art Conservation and Presentation”, *Journal of the American Institute for Conservation*, 60 nos. 2–3 (2020): 225–235. doi: 10.1080/01971360.2020.1858619.

¹⁰ For example, the implementation of “asset-based community development” (ABCD) and citizen science approaches have been variously applied to protect and conserve traditions, customs, and resources including buildings and collections. See, for example, Sakkarin Sapu, “Community Participation in Heritage Conservation”. In *Conserving Heritage in East Asian Cities: Planning for Continuity and Change*; The Getty Conservation Institute: Los Angeles, CA, USA, 2009; Accessed 28 August, 2024:

https://getty.edu/conservation/publications_resources/teaching/cs_tn_community.pdf; Rosie Brigham and Josep Grau-Bové, “Citizen science in sustainable heritage conservation”, *Routledge Handbook of Sustainable Heritage*, eds. Kalliopi Fouseki, May Cassar, Guillaume Dreyfuss, Kelvin Ang Kah Eng (Oxford: Routledge, 2022), 115-125.

¹¹ See note 2 above.

¹² Conservators are a recursive public in that they are “vitaly concerned with the material and practical maintenance and modification of the technical, legal, practical, and conceptual means of its own existence as a public.” Christopher Kelty, *Two Bits: The Cultural Significance of Free Software*. (Durham, NC: Duke University Press, 2008), 113. With reference to recursivity and self-legitimation also see Peter Suber, 1990. “The Paradox of Self-Amendment in American Constitutional Law”, *Stanford Literature Review*, 7, 1-2 (Spring-Fall 1990) 53-78. Accessed August 24, 2024 <http://legacy.earlham.edu/~peters/writing/psaessay.htm>.

¹³ Conservators compare each option for treatment with a necessary *anexactness* – they understand that their solutions will have rigour but are neither repeatable nor final (cf. Derrida 1989, 122) – and best match them with the desired (projected) outcome after conservation. This ‘ideal state’ (Appelbaum 2007, 173) is determined from the instructional material conservators have to hand, including the work’s archive (in its widest sense), the inputs of stakeholders, and the material aspects of the work itself.

¹⁴ Han, in writing about “the Chinese awareness of time and history”, suggests that Chinese thought “does not recognize the kind of identity that is based on a unique 0event” and that, ontologically, the “original” artwork (*zhen ji*) includes its own trace which “lets the artwork differ from itself”. As such, the artwork is never finished and is akin to being in a state of what free software developers call “perpetual beta” which is understood as being in a constant state of development and release in which constant updates are the foundation for the usability of a program. Byung-Chul Han, *Shanzai: Deconstruction in Chinese*, trans. Phillipa Hurd, (Cambridge, Mass.: MIT Press, 2017), 3, 10.

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THE MAGI MYTH: MORE OVERPOWERING THAN DIGITAL MAGIC

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INTRODUCTION¹

The structured online collaborative funding campaign *Let's Put the Sequeira¹ in its Rightful Place* was launched in 2015/16 by the National Museum of Ancient Art (MNAA),² Lisbon, to acquire the painting *The Adoration of the Magi* (1828) (Figure1) by Domingos Sequeira (Lisbon 1768 - Rome 1837) from its private owner for six hundred thousand euros. This paper offers answers to four questions: Were, as generally assumed, the multiple prize-winning marketing campaign and the digital donation technologies the only levers leading to the construction of the social capital for giving that mobilized donations surpassing the funding goal? Was the painting's artistic intrinsic worth, a syncretic application of visual communication processes established in the Renaissance and from the art of Turner, the major lever of the donation movement? Or were the details of Sequeira's turbulent life story the key to goal achievement? Did other unrecognized, non-orchestrated factors contribute decisively to the desired outcome? The author's thesis, construed on the habitus concept developed by Bourdieu,³ is that the extraordinary millenary reputation of "the most joyous of all Christian myths"⁴ – the Magi myth – was the subreptitious main driver in the construction of the social capital for giving underlying the success of the donor movement.



Figure 1. Domingos Sequeira, *The Adoration of the Magi*, 1828, MNAA, Lisbon

The Magi campaign: an outlier

The Sequeira or Magi campaign was a pioneering entrepreneurial endeavour meant as “a stone in the pond” in a crystalized museological establishment.⁵ As a major partner in international collaborations between museums, the MNAA had historically enjoyed the normal dignity of a national museum: it establishes benchmark norms for good practices, keeping with international standards in conservation and management. However, the MNAA is the “smallest of the large European museums.”⁶

The MNAA’s awkward location in a narrow street in the old part of the city is a persistent handicap for visitors.⁷ Pre-Covid visitors numbered only one hundred and fifty thousand. The last expansion was in 1937. Space is scarce to store new artifacts and for increased restoration work. Plans to enlarge and to open a new front to the avenue downhill have dragged for decades for lack of State funding (Figure 2). The then strict legal framework of national museums severely curtailed financial and administrative autonomy precluding individual museums’ initiatives. The Sequeira campaign was an outlier having been granted special governmental and administrative dispensation for a unique autonomous effort.

MNAA was a non-brand, an oldish name for perceived “oldish” art. The museum’s executive developed in 2015 the multipronged plan *MNAA2020* establishing a strategic objective: to elevate the MNAA reputation and brand as the “first museum of Portugal,” to endow Lisbon with a “large museum,” and to establish its brand as an “international reference,” conveying a new promise: to enjoy great works of art in the place where great works of art are housed.⁸

The Magi campaign offered a putative opportunity to lobby for government funding to enlarge and reposition the museum both in the urban fabric and in the minds of audiences. The campaign was designed to serve as a loud and socially engaging effort to enhance the museum’s standing as an active participant in the preservation and accrual of national and international heritage. However, the *MNAA2020* strategy was disallowed by the then government⁹ despite the success of the Magi campaign, leading to the resignation of the museum director António Filipe Pimentel.¹⁰



Figure 2. Envisioning the enlargement of the MNAA downhill and reconstruction of the right wing (Vasco Lima Mayer Arquitecto)

The entrepreneurial opportunity

The MNAA owns a large collection of drawings and preparatory studies by Sequeira, an obscure painter until the campaign. *The Adoration of the Magi* is one of the four-part Palmela series painted in Rome and is considered by art historians Sequeira’s “aesthetic and spiritual testament.”¹¹ The painting had been bought from Sequeira's daughter in 1845 by Pedro de Souza Holstein, First Duke of

Palmela, and son of Alexandre, the founder of the Portuguese Academy in Rome, the city where the young Sequeira had studied. His two Roman sojourns made a belated Renaissance imprint in his style at a time when Romanticism was prospering. He was a contemporary of Turner in Rome at who's studio he may have seen his work.¹² The *Magi* remained out of public view until it was bought for the MNAA by the campaign.

The government would not provide the funds to buy the *Magi*. The solicited amount was deemed to be politically incorrect for an obscure work of art by an inconspicuous artist at a time of national austerity. After for four years of conversations with the owner, the MNAA considered that the “historical opportunity”¹³ to buy could be lost. A point of equilibrium was found regarding a value acceptable to the owner and hypothetically attainable via public donations. The agreed 600 thousand euros (equivalent to c. 800 thousand in 2024)¹⁴ should be met within six-months.

Exogenous internal and external macroforces appeared as barriers to the daring funding effort. Existing data shows that social capital is scarce in Portugal.¹⁵ The austerity known as the “Troika years” provided a risky environment.¹⁶ However, the fundamental changes brought by the difficult national economic situation would provide an opportunity for entrepreneurial activism.¹⁷ The austere context would counterintuitively prove to be a stimulating factor of the public psyche spurring the will to achieve the donation goal as it brought forward patriotic sentiments and national pride and other donor emotional rewards, such as the illusion of appropriation of the artefact or non-goods “experimental possession.”¹⁸

Collaborative funding

The campaign prompted a mix of collaborative online fund-raising with patronage and pro bono. The reward to donors was not material but emotional or a reputational benefit for institutions or donors looking for prestige and status. Communication and the collection of the donations were centralised in a website hosted by major quality newspaper *Público*.

Pioneering examples in Europe were an inspiration.¹⁹ The *Magi* painting was digitised in ten million pixels, a quantity roughly matching the Portuguese population, each pixel worth six cents of a euro (Figure 3). Donors would click on the pixels of their choice from the painting's website image and put them in a shopping basket. The pixelization of the *Magi* allowed for the “tangibilisation of the request” or “gamification of the process” by introducing elements of gaming and of online shopping.²⁰ The experience was fun, and the mechanics generated enthusiasm.²¹ The application of digital technology to the art world transported it to an everyday environment. The goal of the “game” was the collection of a certain amount of money in a set period. The “sale” of pixels provided a multifaceted experimental journey starting the moment the campaign came to public knowledge, at home while “buying” pixels, and concluding in the post-campaign visit to the museum to observe “my painting” hanging in “its rightful place.”



Figure 3: Público website campaign promo, donors could “buy” pixels from the ten million picture map

THEORY AND RESEARCH METHODOLOGY

The initial research that originated this paper²² envisioned the Magi campaign as a powerful and successful marketing case study anchored in business theory. The hypothesis that the accomplishment of the campaign was not just the product of a well-executed marketing operation in the arts, but that the roots of its lucrative outcome could lay deeper in the cultural substrate of society come later. Indeed, it became apparent that deeper still was an absconded social factor without a maestro, as Bourdieu puts it,²³ and that it did not emanate from the actual marketing campaign but from another source. It became clear that the Magi campaign was a wide-ranging real-life experience calling for an eclectic research perspective spilling out from social capital theory.

Social capital: habitus

Social capital theory illuminated by the *habitus* concept developed by Bourdieu underpinned the research: principles which generate and organize practices and representations can be objectively adapted to their outcomes without presupposing a conscious aiming at ends or an express mastery of the operations necessary to attain them and can be collectively orchestrated without being the product of the organising action of a conductor.²⁴

Trust is the indispensable element of high level actionable social capital. It can only be constructed by contriving transparency and accountability with pervasive and insistent messaging. Regular accurate public reporting the results of the donation process²⁵ was of the essence for trust building and for donor engagement maintenance. The relation of the individual appropriation of communication technologies to develop relations and ties puts the communication process at the core of social capital generation and dissemination.²⁶

The facilitation of the flow of information, the social ties located in certain strategic locations and/or hierarchical positions, provided useful information about opportunities and choices. Social relations reinforced identity and recognition providing emotional support and public acknowledgment.²⁷

The recruitment to the funding effort of signifying powers exuding reputation or recognition and hierarchical structures, such as corporations, embassies, municipalities, schools, was sought and achieved. The significant 200 thousand euros donation made by the Aga Khan Foundation, a Muslim charity long-established in Portugal,²⁸ was instrumental to uplift the giving drive at a mid-campaign moment of instability restoring trust in a successful outcome.

Mediated Discourse Analysis

Mediated Discourse Analysis²⁹ was adopted as the methodology to analyse and interpret the actual campaign. MDA is an action-oriented approach to critical discourse analysis that takes sociocultural activity as its primary focus looking closely at a physical action as the unit of analysis. Every action is simultaneously co-located within a local embodied community of practice and a far-reaching nexus of practice, the expected and valued ways of interacting with materials among people. MDA is a real-time window that is opened through an intersection of social practices and mediational means (cultural tools). MDA offers a concrete link to the social practice theory developed by Bourdieu.

The major driver of the Magi donation movement most likely emanated from deep and intense social and cultural constructs that, indeed, began to emerge. The campaign was a complex issue extending in space and time. Research had to look beyond the here and now, considering how present discourse related to past or future ones, enlarging the classical circumference of discourse analysis.³⁰ Research pursued the path proposed by MDA: material histories of use and access, nexus of practice, focal point, site of engagement, mediational discourse, mediated action, and mediational means. Semiotic means by which an action is carried out, include both language and text but also material objects that have been appropriated for the purpose of the social action.

The main investigative thread was established in a long in-person semi-structured interview with António Filipe Pimentel, then director of the MNAA, and leader of the Sequeira project. History of art and history of religions, Pimentel's book *MNAA 2010-2019*, the MNAA's annual policy strategic planning from 2010 to 2016, as well as *MNAA2020* were major sources, as well as semi-structured interviews with the main actors within the core group of organisations and institutions that conceived, launched, and managed the campaign. Coeval news and opinion articles were other valuable sources.

THE MEDIATING STRUCTURE

MDA proved to be an adequate tool for research, analysis and interpretation of the complex management and socio-cultural ecosystem framing the Magi campaign. The Magi myth represented in the artefact, the painted object, became the research's focus.

The campaign was launched under the efficient slogan *Let's Put the Sequeira in its Rightful Place*,³¹ where Sequeira is the avatar of the *Magi* painting and the rightful place is, of course, the MNAA. It was an entrepreneurial venture under the museum leadership to build social capital for fundraising using all types of networks, most of all open hierarchical networks³² and social media "weak" networks.³³ The campaign required well-placed connections, extensive networking, benevolent good will and high placed political blessing to construct social capital for donating and to simultaneously achieve the other parallel and interlaced management objectives anchored in the strategic objective "MNAA, The First Museum of Portugal:" the urban repositioning and expansion, and the branding of the museum.

The painting, its author and the museum were linked to the public through an ad hoc mediating structure functioning on three axes: quality newspaper *Público*,³⁴ advertising agency Fuel,³⁵ pubcaster RTP -- plus a bank,³⁶ a technology firm, a legal firm, the Group of Friends of the MNAA³⁷ that acted as the trustee of the donations, in total 173 institutions.³⁸ Celebrity endorsements and regular news on pubcaster RTP and cable SIC Notícias, and a massive online campaign produced a halo effect that extended to all kinds of media. Under the leadership of the MNAA, this partnership was the mediational structure that operationalised the campaign.

The funding experience activated the brand and attracted huge media attention delivering valuable free publicity. The generated Advertising Value Equivalent (AVE) was a massive two million euros.³⁹ The initiative succeeded to collect more than the necessary funds⁴⁰ from over fifteen thousand identified private donors⁴¹ on deadline, simultaneously uplifting the museum's brand, albeit for a brief period.

Motivation drivers

The slogan was a call to public action for material support for the acquisition of a work of art. The emotional connection between the project and donors was established through a compelling story: a museum experience that went beyond the enjoyment of art within the museum's walls, triggering an involving life experience, entering homes and new emotional territories, creating unimagined signifying connections.

A study in 2003 on the motivations of collaborative crowdfunders suggested several categories: instrumental effectiveness (satisfying other members' needs, being helpful to others, providing advice), quality assurance (controlling product/service quality, enforcing service excellence, product evaluations), social-economic status and prestige.⁴² These categories were confirmed in interviews made by *Público* on the first weeks of the Magi campaign with a sample of donors, also highlighting Belk's "romanticised" view of giving.⁴³ Two main drivers were identified: altruistic and self-interested (Figure 4).

Romanticised view of giving	
Altruistic	Self-interested
Effectiveness of the campaign	Appropriation, a little of the painting is mine
Goal setting, opportunity	Status and respect, vanity and pride enhancer
Gratitude to the museum	Sense of belonging, homophilism
Citizens contribute	Personal well-being, art makes people happy, a pleasure
	Personal power and identity
	Social well-being
	Intellectual well-being, cultural enrichment
	Entertainment, gaming
	Nationalism, patriotism
	Organisational isomorphism, high status of the MNAA

Figure 4: Magi campaign donor motivations

THE PAINTED MYTH: THE “THINGLY SUBSTRUCTURE”

Could the success of the campaign be the result of hidden intrinsic qualities exuded by the painting *The Adoration of the Magi* – the “thingly substructure” in the words of Heidegger⁴⁴ – a painting that, incidentally, most art experts do not consider to be exceptional?⁴⁵ Significantly, as it would be warranted in such circumstances, the work of art popularised as “the Sequeira” depicting the “most joyous of Christian myths” created by the evangelist Matthew c. year 70 was not the focus of the expressive communication campaign -- no more than a single article in *Público* describing the actors in the painting and recalling the biblical story. Not sufficiently explained was “the Sequeira’s” presumed place of excellence in the history of Portuguese art.

The dissemination backbone was the convoluted political and artistic life of Sequeira. Adapting his artistic style to his evolving political sympathies, he admired and painted in succession, Napoleon’s general Junot, who invaded Portugal, the Duke of Wellington, who liberated Portugal from Napoleon, the liberal supporters of king João VI, and ended his life in Rome as a pious family man and painter of Christian religious scenes.

The formatted Western eye

The painted myth spoke for itself. The Magi myth is one of the most represented biblical events in Western art. It was graphically initiated in the Catacombs, visually developed in the Middle Ages, and endlessly exploited as a pervasive visual diagram and pictorial theme by greater and lesser names of Renaissance painting.⁴⁶ The Magi were so respected and prestigious that arts’ patrons and Renaissance artists sought to be depicted as actors-witnesses of the Magi adoration.⁴⁷

This paper argues that the first but absconded element explaining the appeal of Sequeira’s painting, and hence of the Magi campaign, is the extraordinary popularity that the Magi myth continues to enjoy. The second intrinsic and subliminal factor resides in the subjacent pictorial techniques used by Sequeira: The Renaissance proportions rulebook and the «turneresque» light.⁴⁸ The visual guiding process exudes clarity, harmony, and balance overcoming the blandness and stiffness of the depiction. The head of Mary is the focus point of the composition. The “turneresque” ball of light is the largest Bethlehem star ever. Or is it the sun?

The pictorial effect of the painting was exacerbated by two mnemonics. The figure of speech «hendriatis», efflorescent from the three Kings, passively emphasised the effortless absorption of the matter, as well as the diagrammatic triangular visual mnemonics endlessly exploited in the Renaissance -- Mary, Joseph, Jesus, Melchior -- and the pictorial compositional principles – the

Divine Ratio and the Golden Triangle -- dutifully employed by Sequeira in harmonious equilibrium. The formatted Western eye subliminally recalled graphs long stored in the mind of the putative donor. The impressive “turneresque” light – “the true protagonist” of Sequeira’s *Magi*⁴⁹ -- evokes the immemorial Sun worship imagery of Light is God, prompting preserved religious beliefs, and may have excited lay minds too.

CONCLUSION: A SECULAR SUSTAINED MUSICAL NOTE

Indeed, the painting is the discovery of millennial stories and mythological or expressive actors emanating from religious myths that continue to exude naturalized, symbolic weight. The painting is a “thing” of concealed, underlying, diagrammatic symbols that contributed to the desired outcome. The myth persists in the Epiphany as a pretext for annual social intercourse in several Christian countries.⁵⁰ The Magi “relics” contained in *Der Dreikönigenschrein*, the Mosan art reliquary at Cologne cathedral, Germany, continue to attract centuries-old pilgrimages.

The stories and mythological or expressive actors emanating from the religious myth produced a hitherto unaccounted for clinching effect on the donating publics. The painting exudes hidden attributes making it attractive and a motivational factor for donating, bestowing that culturally ingrained naturalized symbolic weight, myths, symbols, meanings, cultural practices have an affective, economic, and communicational value. Myths exert lay and religious actionable signifying power. The confluence of constructs had the effect of a secular sustained musical note acting on collective multi-generational minds prompting the will to give and a feel-good emotional reward. The Magi myth was the absconded driver of the MNAA campaign. In the words of Pessoa’s: “the myth is the nothing that is all.”⁵¹

NOTES

¹ This paper is inspired by Nuno Cintra Torres, “Social Capital for Action: ‘Let’s Put the Sequeira in its Rightful Place,’” (Supervisor Prof. Manuel José Damásio. PhD diss., Lusófona University, Lisbon, 2023) Recil, Repositório Científico Lusófona.

² The structured online collaborative funding campaign “Let’s Put the Sequeira in its Rightful Place” was launched by the MNAA. The museum was founded in 1884. It has been housed at the Palace Alvor for almost 130 years. It owns the largest public collection of Portuguese, European and Expansion art, including painting, sculpture, jewellery, ceramics, furniture, textiles, drawing and engraving, etc. from the XII to XX century, originating in religious institutions, in the former Royal House and in acquisitions, donations and legacies. “História,” accessed August 22, 2024, <http://www.museudearteantiga.pt/sobre-o-museu/historia>

³ The author’s thesis, construed on the habitus concept developed by Bourdieu. Bourdieu, Pierre. *The Logic of Practice*, translated by Richard Nice (Stanford: Stanford University Press, 1990).

⁴ “The most joyous of all Christian myths.” The Economist, “The rule of three” December 17, 2014. <https://www.economist.com/christmas-specials/2014/12/17/the-rule-of-three>

⁵ in a crystalized museological establishment. Pimentel in Torres, “Social Capital.”

⁶ smallest of the large European museums. Pimentel in Torres.

⁷ The MNAA’s awkward location in a narrow street in the old part of the city is a persistent handicap for visitors. The MNAA is located in a predominantly residential area, with a strong night life and an intense car traffic. The objective is to reaffirm its presence in the museum route of Lisbon. The expansion of the MNAA was planned in 2015/2016. In January 2024 the purchase of three adjacent buildings at Av. 24 de Julho was approved by the then government. Volumetry and space occupation have been decided but not the museography that is waiting for a “political decision” from the government elected in June 2024. “Expansão do Museu Nacional de Arte Antiga para edifícios já adquiridos na 24 de Julho é ‘absolutamente fundamental’”, Observador, June 6, 2024, accessed August 29, 2024

<https://observador.pt/2024/06/13/expansao-do-museu-nacional-de-arte-antiga-para-edificios-ja-adquiridos-na-24-de-julho-e-absolutamente-fundamental/>

⁸ to establish its brand as an “international reference.” Museu Nacional de Arte Antiga, MNAA2020. O futuro do primeiro museu de Portugal. (Lisboa: MNAA, 2020), accessed August 29, 2024

http://museudearteantiga.pt/content/files/mnaa2020_2.pdf

⁹ by the then government. “Histórico, XXI Governo,” República Portuguesa,” accessed August 22, 2024, <https://www.portugal.gov.pt/pt/gc21/governo/composicao>

¹⁰ leading to the resignation of the museum director António Filipe Pimentel. António Filipe Pimentel was the leader and soul of the campaign. Offering a rare blend of competencies in history of art, branding, marketing, and social skills he is since 2021 the director of the Calouste Gulbenkian Museum, Lisbon. “António Filipe Pimentel: no fim de um percurso polémico, um director consensualmente aplaudido,” accessed August 22, 2024, <https://www.publico.pt/2019/05/31/culturaipilon/noticia/antonio-filipe-pimental-sai-gloria-1874756>

¹¹ Sequeira’s “aesthetic and spiritual testament.” Museu Nacional de Arte Antiga. *Sequeira: Um português na mudança dos tempos (1768 – 1837)*, (Lisboa: Ministério da Cultura: 1996)

¹² He was a contemporary of Turner in Rome at who’s studio he may have seen his work.

Turner visited Rome in October in 1828, the year of the *Magi* by Sequeira. Turner travelled with his paintings and organised exhibitions in his studio. As Sequeira had been elected master of the Academy at the same time as Turner was in Rome it is quite possible that he was invited too. Alexandra G. Markl, “A luz é a verdadeira protagonista da Adoração dos Magos,” *Público*, accessed October 27, 2015, <https://acervo.publico.pt/culturaipilon/noticia/adoracao-dos-magos-1711904>

¹³ the “historical opportunity” to buy could be lost. Torres, “Social Capital.”

¹⁴ The agreed 600 thousand euros (equivalent to c. 800 thousand in 2024). In 2024, “*The Descent of the Cross*”, another of Sequeira’s four-part Palmela series in the possession of another Palmela descendant, was sold for reportedly 800 thousand euros to Fundação Livraria Lello who put it on itinerant public display at several national museums. “‘Descida da Cruz’, de Domingos Sequeira, em itinerância nacional,” Museu Nacional Soares dos Reis, accessed August 24, 2024, <https://museusoaresdosreis.gov.pt/descida-da-cruz-de-domingos-sequeira-colocada-em-itinerancia-nacional/>

¹⁵ social capital is scarce in Portugal. 55% of the Portuguese are not engaged with a civil society organisation while in top ranked Denmark it is only 32% not engaged. In Portugal, only 38% of citizens are convinced that their financial engagement will have a real impact, while in Denmark the figure is 55%, Eurobarometer – Public Opinion in the European Union, Eurobarometer 2020, accessed August 24, 2024,

<https://europa.eu/eurobarometer/surveys/detail/2355>

¹⁶ The austerity known as the “Troika years” provided a risky environment. Although the financial crisis was not objectively used by the campaign to spur a nationalistic donation wave, the feeling that the funding goal was an important national milestone was present in many donors. Torres, “Social Capital.”

¹⁷ the difficult economic situation would provide an opportunity for entrepreneurial activism. Venkataraman, Sankaran, with Jenny Mead. “Entrepreneurship.” (Technical note UVA-ENT-0147. Darden Business Publishing, University of Virginia, 2010).

¹⁸ the illusion of appropriation of the artefact or non-goods “experimental possession.” Judd, Robert, C. “The Case for Redefining Services.” *Journal of Marketing* 28, Issue 1 (1964): 58-69. doi: 10.2307/1249228

¹⁹ Pioneering examples in Europe were an inspiration. The MNAA’s entrepreneurial acceptance to learn and innovate from best-in-class museum crowdfunding examples provided a tested source on the mechanics of the campaign, such as successful campaigns in the UK or the pioneering Louvre. Torres, “Social Capital.”

²⁰ “tangibilisation of the request” or “gamification of the process” by introducing elements of gaming and of online shopping. Ribeiro in Torres.

²¹ The experience was fun, and the mechanics generated enthusiasm. “That feeling that with six cents you could buy a little bit of a painting, you were being entrepreneurial and building something for the common good. Then people galvanized themselves into this process. It was extremely interesting. (...) The Domingos Sequeira Leiria Schools Group gathered 1,900 euros and applied them to buy the horse's head and then, at the very end of the campaign we had to work the back office trying to ensure that those little squares would have the horse's head. It was almost the last point to be filled. It worked psychologically well. The country needed to feel that it was capable of doing something other than meeting basic everyday needs.” Pimentel in Torres.

²² The initial research that originated this paper. Research for Torres.

²³ an absconded social factor without a maestro. Bourdieu, *The Logic*.

²⁴ without being the product of the organising action of a conductor. Bourdieu, *The Logic*.

²⁵ Regular accurate public reporting the results of the donation process. The Sequeira campaign had a dedicated mini website in *Público* newspaper with the names of the donors and the amounts donated.

²⁶ the communication process at the core of social capital generation and dissemination. Manuel José Damásio. “Social capital: Between interaction and participation.” *Communication Management Quarterly*, (2011) 21. https://www.academia.edu/1151340/Interrogating_audiences_Theoretical_horizons_of_participation

²⁷ Social relations reinforced identity and recognition providing emotional support and public acknowledgment. Lin, Nan, *Social capital for action. A theory of social structure and action*. (Cambridge University Press, 2001).

²⁸ the Aga Khan Foundation, a Muslim charity long-established in Portugal. The Aga Khan Foundation describes its activities as based on ecumenical programmes that seek to respond to the challenges of social, economic and cultural change on an on-going basis. The network works in close partnership with public and private institutions, including amongst others, governments, international organisations, companies, foundations, and universities. The Muslim and Eastern affiliation of the foundation made its large contribution more significant. Torres, “Social Capital.”

²⁹ Mediated Discourse Analysis. Ron Scollon, *Mediated discourse: The nexus of practice* (Abingdon: Routledge, 2001).

³⁰ enlarging the classical circumference of discourse analysis. Scollon, *Mediated*.

³¹ “Let’s Put the Sequeira in its Rightful Place.” The slogan “Vamos Pôr o Sequeira no Lugar Certo” was created by João Ribeiro at the time the Creative Director of FUEL, a Havas group advertising agency. Torres, “Social Capital.”

³² open hierarchical networks. Ronald Burt, “The Network Structure of Social Capital”, *Research on Organizational Behaviour*, Vol. 22 (2000): 345-423. doi: 10.1016/S0191-3085(00)22009-1

³³ social media “weak” networks. Mark. S. Granovetter, “The Strength of Weak Ties.” *American Journal of Sociology* 78, Issue 6 (1973): 1360-1380. doi: 10.1086/225469

³⁴ quality newspaper *Público*. Bárbara Reis was the then Editor of *Público*, a newspaper owned by the Sonae corporation, was instrumental in the communication and online anchoring of the campaign. Torres, “Social Capital.”

³⁵ advertising agency FUEL. Miguel Barros was the then CEO of FUEL who authorized the large and risky investment in the Sequeira communication campaign. The return were over 30 national and international advertising prizes. Torres.

³⁶ a bank. Millennium BCP bank through its foundation. Torres.

³⁷ Group of Friends of the MNAA. José Blanco is the Chairman of the MNAA Group of Friends (GAMNAA), Torres.

³⁸ in total 173 institutions. Torres.

³⁹ a massive two million euros. AVE source CISION in Torres.

⁴⁰ more than the necessary funds. Total collected funds: €745,623.40. Torres.

⁴¹ over fifteen thousand identified private donors. Total identified donors: 15,430. Total unidentified donors (cash collected at the museum or auctions): unknown. Torres.

⁴² A study in 2003 on the motivations of collaborative crowdfunding. Yucheng Weng et al. "Assessing Motivation of Contribution in Online Communities: An Empirical Investigation of an Online Travel Community." *Electronic Markets* 13, (2003) 33-45. doi: 10.1080/1019678032000052934

⁴³ Belk's "romanticised" view of giving. Russ Belk, "Sharing." *Journal of Consumer Research* 36 (5) (2010): 715–734. doi: 10.1086/612649

⁴⁴ the "thingly substructure." Martin Heidegger, "The origin of the work of Art", Draft trans. Roger Berkowitz & Philippe Nonet, *Academia*, (2006), accessed August 24, 2024,

https://www.academia.edu/2083177/The_Origin_of_the_Work_of_Art_by_Martin_Heidegger

⁴⁵ a painting that, incidentally, most art experts do not consider to be exceptional? José Luís Porfírio argues that Sequeira is a good painter in Europe, but he is not a genius, like Turner. The art critic recognizes that death came too soon when the artist truly began to try something new. "If he had had more time, he could have been a better painter (...) He could have reached the future". Lucinda Canelas, "Sequeira: o Pintor a quem Portugal nunca chegou", *Público* January 4, 2016, accessed August 24, 2024,

<https://acervo.publico.pt/culturaipilon/noticia/sequeira-o-pintor-a-quem-portugal-nunca-chegou-1719017>.

Accessed 11/07/2022

⁴⁶ endlessly exploited as a pervasive visual diagram and pictorial theme. This trend is eloquently displayed in the work of Leonardo, Botticelli, Bosch, Dürer, Rubens, Velázquez, Rubens who included representations of donors and of themselves. Torres, "Social Capital."

⁴⁷ arts' patrons and the artists themselves sought to be represented as actors-witnesses of the Magi adoration. This representational device clearly is a prestige conferral process by association with the Magi. While it may seem surprising, the inclusion of portraits in an Adoration of the Magi is compatible with the traditions of that iconography. *The adoration of the Magi*, Museo del Prado, accessed August 24, 2024,

<https://www.museodelprado.es/en/the-collection/art-work/the-adoration-of-the-magi/7c00aa01-3162-49a7-9e75-4f885a4a2c83>

⁴⁸ the «turneresque» light. According to Markl, there is a "flagrant similitude" between some of Sequeira's drawings and those in the Turner's albums and also "flagrant approximations" between Sequeira's graphic production and that of Turner. Turner's treatment of light may have influenced the latter part of Sequeira's work. This is especially evident in the *Magi*. Part of the intrinsic enchanting nature of the *Magi* may reside in the same appeal that Turner's treatment of light produces in audiences. Markl, "A luz".

⁴⁹ The impressive "turneresque" light – "the true protagonist" of Sequeira's Magi. Markl, "A luz."

⁵⁰ annual social intercourse in several Christian countries. Notably in the culinary of several countries: the cake known as Bolo Rei in Portugal, Galette des rois in France, Rosca in Spain and Mexico, King Cake in New Orleans, USA, Torres, "Social capital."

⁵¹ "the myth is the nothing that is all. Fernando Pessoa. *Mensagem* (Lisboa: Parceria António Maria Pereira, 1934), (Ática, 10ª ed. 1972) - 25.

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OLD HOUSE AT THE EDGE OF THE SEA: SKETCHING PERSONAL AND PLANETARY HISTORIES

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INTRODUCTION

Just at the edge of the sea in South Bay, Te Waero o te Hiku,¹ Kaikōura,² Aotearoa³ sits an old, run-down family house. It's a tiny shed-turned-home hand-built in 1953. Earthquakes and southerlies have battered its yellow painted 50's optimism over the years, and it's more like flotsam from the sea and reef than a statement of human resistance. The little house seems to be in conversation with its vast context. It has complex miniature microclimates: tiny variations in surface, dust, light, air, sound, birds nesting in the roof—as well as memory, lost gardens, clumsy attempts at repair. Outside are enormous weather systems, immense sea, dynamic rock. *Old House* explores the strange architecture of this personal and planetary conversation through a multi-media architectural drawing installation.⁴ Multiple 'sketch creatures' roam through Te Auaha gallery drawn from hand bent music wire, projected images, graphite, stones, seaweed, as well as VR portals, smell and sound. Participants engage with these multi-sensorial architectural sketches, becoming immersed in unruly architectures of the old Kaikōura house and its dynamic landscape context. *Old House* is part of an ongoing project exploring relations between personal and planetary dynamics through 'expanded' architectural drawings.⁵ This paper attempts to articulate the research: its poiétic scalar relations—how intimate, personal histories of the house intersect and intra-act with abstract histories in the vast 'planetary' landscape beyond. The *Old House* research looks to destabilise relations between drawing, drawer and the worlds being drawn, and in doing so, highlight the intertwining of personal and planetary histories.



Figure 1. Old House, Nana's 35mm slide

Old House

I have strong memories of visiting my grandparents as a child in their little house in South Bay, Kaikōura. Them sitting at each end of a narrow folded-down table, with just enough room for their plates and cups of tea each end, in the 'dining room' that was really the kitchen hallway. My Nana, Bessie, offering us slices from an old biscuit tin, and the faintly rancid buttery smell, which mixed with powerful smells of drying seaweed. Nana's treasured ornaments, carefully arranged on windowsills, her elaborately formed and coloured glass dolphins behind glass in a special cabinet. There seemed a stillness to the air and time in the little house. The conversations were quiet, in both subject matter and tone - why are you still at school dear? – often accompanied by the slow buzzing of a trapped insect, baby birds chirping from nests secreted under the roofing iron, dust motes making schlieren-like forms in slithers of light.

The little house contains a complex miniature microclimate, not just of sounds, smells and atmospheric variations, but also clumsy attempts at repair, lost gardens, the complexity of overlapping memories: mine, Nana and Pop's, other family. This microclimate seems written into the fabric of the little house. It's like a sketch where the simple, 'undesigned' house becomes a series of fleeting marks: the cracks and wear in the walls, faded carpet, faded photographs, incomplete memories—Nana's broken stones collected from the reef and placed in the garden—the house becomes a complex record of tangible and intangible marks over time.

This intimate sketch seems to be in conversation with its vast coastal context. The tiny house is just at the edge of the reef, facing powerful weather systems sweeping in from the South, an immense sea that extends uninterrupted to Antarctica, and an undersea canyon landscape prone to vast seismic jolts, such as the one at midnight 14 November 2016,⁶ with my mother, the house, reef and ocean floor shuddering up two metres in one hundred and twenty seconds.



Figure 2. Reef in front of the old house

Old House Sketch Installation

Old House explores the strange architecture of this personal and planetary conversation through a multi-media architectural drawing installation. Multiple ‘sketch creatures’ roam through Te Auaha gallery, with each being hand made by the author, as a way to sketch the old family house through material gestures, drawn from hand bent music wire, projected images, graphite, stones, seaweed, as well as VR portals, smell and sound. Participants engage with these multi-sensorial architectural sketches, becoming immersed in unruly architectures of the old Kaikōura house and its dynamic landscape context, experiencing the strangeness of the personal and planetary – the old tiny house coming in close conversation with its vast coastal context.

The creatures are composed through wiry lines clumsily sketched in space. These are put to use to support a series of objects found in and around the house, such as Nana’s reef stones, or her prized 35mm slides—annotated in careful cursive ball-point pen. The various tangles of wire and matter that result hover in space in precarious ways, and wobble and sway when touched. Each is a sketch of a particular event, or condition, most messing with scale, crossing the miniature and personal with vast and planetary. Fractures in small reef rocks are employed to denote immense geologic faults, seaweed curlicues allude to intricate navigations of a small boat through the reef at low tide, an event always followed with intense interest by people in the house; hurriedly twisted wires align with the house’s fragility, its sense of it being ‘held together’ by ad hoc and temporary means. Each of the creatures was sketched in three-dimensional space as an architectural drawing, and thus a portal to worlds beyond the sketch, designed to conflate physical objects with remembered, felt, or imagined conditions and cross the personal world of the house with its planetary context.

*Creatures roam through the gallery in a sketch installation,
inviting participants to engage with miniature worlds,
with each being a portal to worlds at large scale beyond them.*

*Sketches are made in various ways,
with rapid gestures of wire arranging artefacts in space.*

*Meshing house artefacts: Nana’s garish carpet,
with gestures of wear, cracking surfaces, flaking paint,
fractured geometries of rock and landscape.*

Mirrors scrutinise the ambiguous scalar worlds.

Artefacts are used as drawing tools; their sketches spatialised.

*Shadows made by the creatures are sketched,
and placed in spatial conversation with one another.
And enter into further discussions, with various phenomena.
Single flakes of paint,
linoleum,
the parallel making of birds,
surface rubbings of the house.
Photographs torn up, scrutinised by fractured mirrors,
and surface rubbings of the house,
arranged into clusters.
Creatures are the ground for more sketches, shadows and smudged marks,
composed of gestures, rapidly sketched in wire, in three-dimensions.
Salt encrusted.
Creatures roam through the gallery as pixels in a single sketch,
at large scale,
down to miniature creatures,
with multiple interconnections across space.
And a parallel virtual sketch environment, presenting house and reef in difficult relation,
sketching the architecture of the old house as unruly, inter-connected, and not so easily known.
Old House is part of ongoing research in 'expanded drawing',
expanding the blurred, unfixed 'open' sketch,
to capture intangible, evasive spatial presences,
to discover an architecture drawn by personal and planetary gesture.*



Figure 3. Mirror photograph detail



Figure 4. Pointer, mirror sketch creature detail

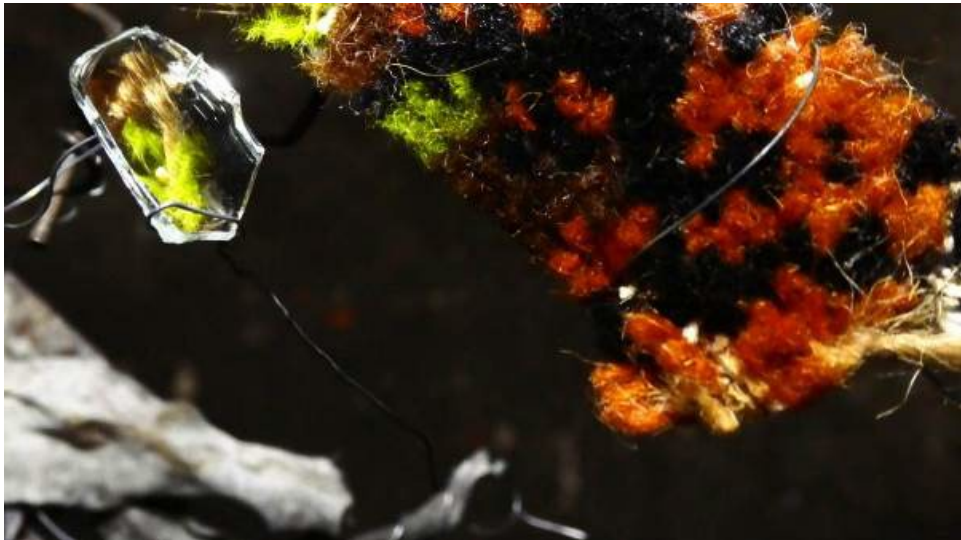


Figure 5. Nana's garish carpet sketch creature detail



Figure 6. VR sketch environment, detail

Old House installation was shown at Te Auaha Gallery, Te Aro, Wellington, 26 July - 8 August, 2023. It sprung from an impression that our old family house is already in many ways a sketch. It

seems to coalesce intimate personal stories and those of the wider marine landscape, with both written into its cracked and worn surfaces and personal ephemera. The intention was to explore the strangeness of this complex situation, mixing such things as oceanic immensity and seismic latency with minute adjustments of a line sketched in space, to discover what architecture the house might be sketching.

Positionality

The work draws from personal observation, and maps a landscape of understanding through stories from the author's family experience of the house. I am tangata tiriti (person of the treaty),⁷ someone who doesn't whakapapa (trace ancestry) from the land, and I have not attempted to tell the rich stories of the tangata whenua (indigenous people with rights to the land) of Te Waero o te Hiku and Kaikōura. Māori kinship with the area is written into its landscape, with urupā (burial sites) middens and many other evidence of continuous Māori occupation of the land near the old house. Te Rūnanga o Ngāi Tahu are tangata whenua of Kaikōura and hold customary tribal authority over the Kaikōura area (rohe). They are kaitiaki, meaning they exercise guardianship and ethics of stewardship over the area and its natural resources.⁸ *Old House* tells stories in parallel to those interconnecting tangata whenua with Kaikōura, and the relation or resonance between the stories is complex and interesting, but not expanded upon in this paper.

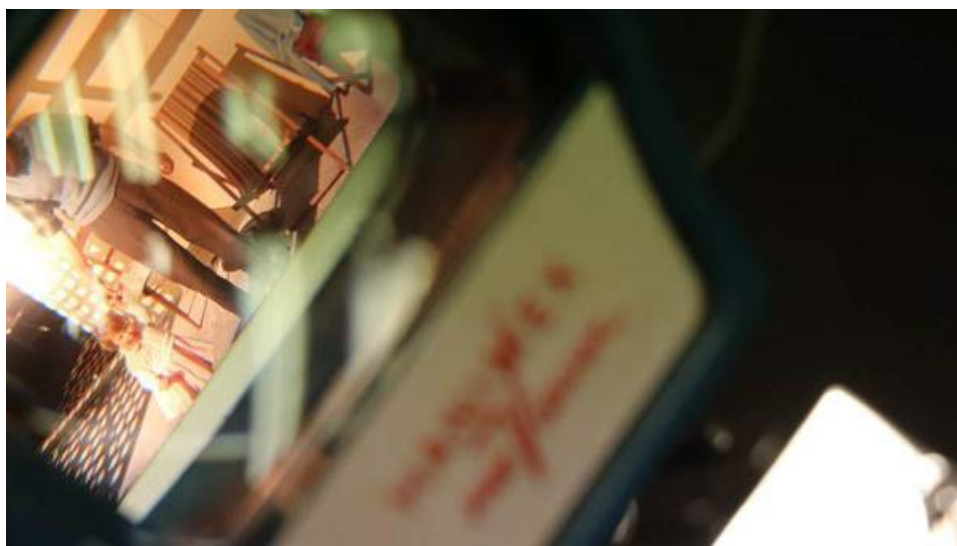


Figure 7. Hanimex slide viewer creature, detail

EXPANDED DRAWING

Old House is part of an ongoing project exploring relations between personal and planetary dynamics through 'expanded' architectural drawings, with the intention of making drawing interact with the world in strange ways. 'Expanded drawing' seeks to expand the agency of the blurred, unfixed 'open' sketch, as a way to capture intangible, evasive spatial presences, to discover an architecture drawn by personal and planetary gesture. It looks to 'expand' multiple dynamics in architectural drawing as a tool for thought: its unruly performances, intersecting agencies of human and non-human participants, its poietic scalar relations— how intimate, personal histories of the house intersect and intra-act with abstract histories in the vast 'planetary' landscape beyond. The work looks to destabilise relations between drawing, drawer, and the worlds being drawn, and in doing so, highlight stories co-authored between all three.

The work researches potentials of openness in the sketch, as well as the connectedness of architectural drawing to space beyond it, and the complex intangible influences commuting between both. It extends the architectural sketch to be more than a graphite mark over paper by making it three-dimensional and spatially occupiable, in multi-modal sketch installations. These are composed of a combination of traditional sketches, materials, objects and digitally augmented space, such as VR sketch environments. The installations are designed to conflate the space of drawing with the space being drawn, in order for both to become ‘inhabitable’ as a kind of architecture. This builds on the work of artist Fred Sandback who created drawings in space that people could experience spatially, which he described as ‘habitable drawings’.⁹ The intention is for this hybrid space, of drawing and its subject matter, to be a way of prompting new understandings, to somehow distil intangible conditions at the cusp of awareness, such as complex connections between personal and planetary dynamics. Earlier projects in the *Expanded Drawing* series sketched the undersea architecture of Kaikōura Canyon (*Canyon*, Venice, 2018)¹⁰ and the reef where the submarine canyon emerges at Te Waero o te Hiku (*Reef*, Sydney, 2020).¹¹ *Old House* (Wellington, 2023) extends the series by sketching the old house sitting just at the edge of these abstract conditions, closing the series.



Figure 8. Plan, seaweed sketch creature, detail

Poiétic Scalar Relations

The expanded drawing work stems from the power of the architectural sketch to be an irresolute capture of its subject matter, a characteristic of drawing described by Jean Luc Nancy as “an essential incompleteness, a non-closure or non-totalizing of form”.¹² It uses drawing’s inherent openness to align with complexities in the subject matter it draws, which are similarly smudged, intangible, complex, or evade representational ‘capture’. It engages “... the blur and the multivalences of the sketch... the creative vitality of our profession depends on it ... (by deploying) the full utilisation of the sketch and its approximations ...”.¹³ It also engages with the capacity of the architectural sketch to be a portal, or a projection to another space and time, “which, as its etymology (project) implies, is something thrown forward, representation awaiting existence. Drawing, then, is a statement of intention towards some artefact other than itself”.¹⁴ An architectural drawing projects to space beyond it, its marks are tied to the delineation of space at vast scale, so an architectural sketch projects an inherently blurred open, indeterminacy to conditions similarly irresolute and dynamic. It is this condition, of an open architectural sketch resonating with open, abstract conditions in the world it sketches, such as planetary dynamics, that we are engaging with in the *Expanded Drawing* project.

Each sketched mark is also made, so the ‘poetics of making’ the mark, through material, links them to poetics in the space they represent, “Architectural lines are material, spatial, cultural and temporal occurrences of refined multi-sensorial and emotional understandings of architecture”.¹⁵ In the case of Old House, marks are made in three-dimensions in response to dynamic planetary subject matter. This engages multiple crossings of authorship, between drawing and subject matter, to make the sketch sympoiétic, as Donna Haraway describes, to be made together - ‘a way to re-think the entangled relations between human and other-than-human actants’.¹⁶

The *Expanded Drawing* work gives us a way of interacting human and other-than-human agency, in the drawing of architectural space. Gestural action and the affordances and resistances of matter combine in the sketch in a poiétic ‘bringing forth’.¹⁷ Poiésis is linked to technē—the art of making – bringing something into being that did not exist before. It is also the etymological origin of poetry. Donna Haraway’s distinction to poiésis, which is relevant to our work and the agency of the planetary subject matter -sympoiésis - is a way to re-think our relations with other-than-human domains. In our work, we are interested in how matter pushes back, how sketches can be sympoiétic, ‘made together’ by human thought and action in concert with other-than human forces.

Expanded Drawing installations use this sympoiétic, smudged, irresolute capture as imaginative portals, as a way to project an architectural acuity, or ‘sense-making’¹⁸ to other worlds, to intuit what Henri Bergson calls “absolute knowledge” through “entering into the thing that is other”.¹⁹

This sympoiétic capture is extended to the virtual realm, through the integration of Virtual Reality and Augmented Reality into the fabric of expanded drawing installations. This has broadened the possibilities for immersive engagements in the sketch, expanding it beyond the immediate material and allowing it to be inhabitable as a virtual environment. The integration of Virtual Reality (VR)²⁰ and Augmented Reality (AR) applications into the fabric of expanded drawing installations has significantly broadened the possibilities for creating immersive and engaging user interactions. Our installations have incorporated VR experiences, creating a spectrum of experiences that range from highly abstract spatial interpretations to more lifelike experiences. *Old House* installation used VR represent a more grounded approach, where 360-degree photographs and videos of the old house were artistically manipulated to create a sketch-like world where the strangeness of the tiny house was amplified and made inhabitable as an irresolute sketch environment.

This ‘making together’ of space resonates with commentary on and critiques of the Anthropocene. Part of what emerges from the work is a sense that human intentionality, and exceptionalism, is deflected by the agency of things that are other-than-human. In making these sketches/ installations the unpredictable, irresolute, diverse aesthetics of planetary environments continuously impact on human motivations. The sketches are becoming vested with a shared pathos, between personal stories and those of the planet.

Art historian Susan Ballard comments on this as a haunting “in which art and nature in the Anthropocene are haunted by the planetary effects of catastrophic change”.²¹ She goes on to expand on various art projects that explore our intertwined connection to the rapidly changing environment. This haunting infuses the Expanded Drawing work. This work prompts speculation on worlds in flux through placing both within the open and unfixed space of a sketch, figured by affective registers, pathos and foreboding.



Figure 9. Nest sketch creature detail

CONCLUSION: INTERTWINING PERSONAL AND PLANETARY HISTORIES

[...]some [drawings] speculate about a place that doesn't exist, others about a place that does exist, and others are mixed up in nostalgia, the memory of a place that has existed." Fred Sandback²²

Old House is part of a series of work expanding drawing's capacity to give knowledge of ungraspable, unfixed characteristics, through intensifying "barely perceptible micro-movements at the cusp of awareness [...]" where the figure "always remains at the edge of its own explicitness".²³ This is to create space 'made together' by drawer, drawing matter, and planetary phenomena. Our work seeks to discover what this 'made together' architecture might be like to inhabit, in irresolute sketch form, and so allow people to be immersed in architectures where personal and planetary phenomena influence one another. In doing so, we hope to destabilise traditional relations in architectural drawing, which place a representational distance between the drawing, or sketch, and the worlds being drawn. We ask: How can massive, complex, powerful dynamics at planetary scale be merged with the personal motivations, memories and histories of humans? How might both histories author sketch architectural space, shared between us?

The tiny world of the *Old House*, with its equally tiny and personal dynamics, is one sketch in this, with its microclimate of memory, fracture and entropy scaled up to overlap with those of atmosphere and ocean, with the little sketch creatures portals alluding to both worlds, joining the personal with the planetary.



Figure 10. Wire sketch shadow detail

NOTES

¹ Māori translate Te Waero o te Hiku as: 'The fluke of a whale'. "One of the earliest relevant records is a small map signed by the Assistant Native Secretary, James Mackay, dated 30 March 1859. It depicts Native Reserve F, an area of a little over three acres (1.3 hectares) and gives the place name Te Hiku o te Waeroa (sic), with the bay itself being called South Kaikoura". Michael Trotter, "Archaeology at South Bay, Kaikoura." *Archaeology in New Zealand* 51 (1) (2009): 17-31.

² Kaikōura translates as: 'eat crayfish'. "From Tama ki te Rangi's feast on crayfish, the area was named, Te Ahi Kaikōura a Tama ki te Rangi – the fires where Tama ki te Rangi ate crayfish" <https://ngaitahu.iwi.nz/ngaitahu/papatipu-runanga/kaikoura/ngati-kuringai-tahu-relationship-whales>.

³ Aotearoa is the official Māori name for New Zealand. It is commonly translated as: 'land of the long white cloud', 'long bright world' or 'land of abiding day'. Jock Phillips, "Light - Experiencing New Zealand light" Te Ara - the Encyclopedia of New Zealand, accessed 23 August 2024, <http://www.TeAra.govt.nz/en/light/page-1>

⁴ Simon Twose, Anastasia Globa, Oliver Prisk, Ella Jones. Old House, an installation at Te Auaha Gallery, Te Aro, Wellington, NZ. 26 July - 8 August, 2023.

⁵ Simon Twose, Jules Moloney, Anastasia Globa, and Lawrence Harvey, "Drawing the Unfixed" *Interstices: Journal of Architecture and Related Arts* 21 (2022): 125.

⁶ The 7.8 magnitude earthquake in 2016 was the most complex earthquake recorded. It changed the landscape, moving the South Island 5M closer to the North, and created enormous sediment flows, which flowed into the canyon and on to the Hikurangi abyssal trench. NIWA, the National Institute of Water and Atmospheric Research, NZ, accessed 23 August 2024,

<https://niwa.co.nz/news/kaikoura-earthquake-provides-world-first-insight-submarine-canyons>

⁷ Te Tiriti o Waitangi (Treaty of Waitangi) is the first immigration document of Aotearoa. To be a person of the Treaty is to build a relationship with Māori, to understand the history of how this nation was formed and to commit to the ongoing fight for Māori self-sovereignty, accessed 23 August 2024, <https://thespinoff.co.nz/atea/06-02-2022/what-does-it-mean-to-be-tangata-tiriti>

⁸ For an overview of Māori history of the area, see Trotter, 2009; Fomison, 1963; Elvy, 1996.

⁹ Artist Fred Sandback quoted in Yves Bois, "A Drawing that is Habitable," in *Fred Sandback*, ed. F Malsch, C Meyer-Stoll, (Ostfildern-Ruit: Hatje Cantz Verlag, 2005), 28.

¹⁰ Simon Twose, Jules Moloney, Anastasia Globa, and Lawrence Harvey. Canyon, in *Time-Space-Existence*, Palazzo Bembo, XVI Venice Biennale, 26 May – 27 November, 2018.

¹¹ Simon Twose, Jules Moloney, Anastasia Globa, and Lawrence Harvey. Reef: Reimagining Architectural Drawing through a Multi-sensorial Installation. *Tin Sheds Gallery*, University of Sydney, Sydney, Australia, 5 March – 1 May, 2020.

¹² Jean Luc Nancy, *The Pleasure in Drawing*, trans. Philip Armstrong (New York: Fordham University Press, 2013), 1.

¹³ Neil Spiller, "In Praise of the Blur," *Architectural Design* 78(2) (2008), 133.

¹⁴ Ross Jenner, "Perplexity and Questioning: Design as a Mode of Thinking," in *Perspectives on Architectural Design Research: What Matters, Who Cares, How*, ed. Jules Moloney et al. (Baunach: Spurbuchverlag / ADDR press, 2015), 21.

¹⁵ Marco Frascari, "Lines as Architectural Thinking," *Architectural Theory Review*, 14(3) (2009): 200–212.

¹⁶ Donna Haraway, *Staying with the Trouble* (Durham, NC: Duke University Press, 2016), 4.

¹⁷ Martin Heidegger, *The Question Concerning Technology*, trans. William Lovitt (New York: Harper & Row, 1977), 5.

¹⁸ Nikolaus Gansterer, *Drawing as Thinking in Action*. Cat. Exhib, (Paris: Drawing Lab, 2019), 46.

¹⁹ Henri Bergson, *The Creative Mind*, trans. Mabelle Andison (New York, NY: The Citadel Press), 187.

²⁰ S Greuter, F. Mueller, T. Hoang, "Designing Public VR Installations" *Designing Interactive Systems*, (2022), 792-806.

²¹ Susan Ballard, *Art and Nature in the Anthropocene: Planetary Aesthetics* (New York: Routledge, 2021), 21.

²² Fred Sandback, accessed 23 August 2024, <https://www.fredsandbackarchive.org/texts-1986-remarks>

²³ Alex Arteaga, "Researching Aesthetically the Roots of Aesthetics," in *Choreo-Graphic Figures Deviations from the Line*, ed. Nikolaus Gansterer, et al. (Berlin/Boston: De Gruyter, 2017), 259.

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TRANSMEDIA COMMUNICATION AND RESPONSIBLE TOURISM. NEW NARRATIVES FOR NEW SCENARIOS

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INTRODUCTION: TRANSMEDIALITY, TOURISM, SUSTAINABILITY¹

Transmediality is a cultural and societal paradigm. It amplifies comprehension and experiences through the convergence of different media.² The typological increase of communication technologies and their extensive diffusion within our daily life enables constantly growing possibilities for the interaction between humankind and environment, and makes the access to an almost infinite quantity of information possible,³ opening new investigation fields through the integration between material and immaterial, space and time, places and communication.

In the framework of the tourist experiences in particular, the development of these processes enables new possibilities also for the definition of the tourist space.⁴ The different devices offer alternative ways to know, discover, interpret and engage with the territories, and by doing so contributing to the progressive construction of a cultural and geographical imaginary heritage that becomes part of a local identity⁵ and overcomes the mere promotion of tourist attractions. The transmedial narration enables to weave a deep entanglement between tangible and intangible issues, providing a rich and articulated perspective of the destination to which the various media contribute.⁶ Each one of them reaches a different public, implies different times of use, vehiculates specific messages and values. Combining real actions and virtual contents, the visitors can be accompanied in a multidimensional, immersive and persuasive journey, capable of showing alternative points of view, out of the mainstream logic. Furthermore, the choices of the tourist-consumer can be oriented in other directions.

From this point of view, transmediality offers unique opportunities for both the education and the active involvement of the visitors, as well as for the protection of natural and cultural resources. If aimed at promoting sustainable tourism models,⁷ it indeed generates a fertile ground to create meaningful connections through people, places and stories, understood as part of the cultural landscape, and it generates awareness in the visitor regarding the impact that human action and tourism have on a territory. The combination of different media, real and virtual, enables to spread these values not only in theory, as ethical principles, but also concretely, through the practice of direct experiences⁸ that become a crucial vehicle to foster a deep and personal understanding of the territory, through which an emotional and long-lasting connection is therefore generated.

WILL WE DIE OF TOURISM?

To check these hypotheses, the Alpine environment has been chosen as area of application,⁹ in order to develop a methodology that, starting from the criticality detected in the actual situation, can identify some potentials opportunities for sustainable development scenarios meant to be reached through the creation of new transmedial, non-stereotypical narrations. The reference territory, as widely confirmed by data and statistics,¹⁰ is one of Italy's and worldwide most frequented destinations. It is a territory that at present stands on a critical threshold and that faces significant challenges related to tourism, in particular concerning climate instability and the unsustainable tourist influx.

Climate change is an evident risk for the region.¹¹ Besides the environmental worries that threaten the stability of the mountain ecosystems and the safety of the local communities, the climate transformation raises structural questions on the rethink of the tourist offer that in the last century has concentrated almost exclusively on the development of the snow monoculture and its satellite activities,¹² neglecting other opportunities for diversification.

Another relevant risk factor is to be found in overtourism – especially during the high tourist seasons – that generates significant pressure on the environment and on the local communities. This issue is also shared with other cities like Barcelona, Venice and Amsterdam among others. The centralising locations, in particular, suffer from the effects of an excessive crowding that has direct consequences on the natural and urban environment,¹³ and consequently on the quality of the tourist experience. Furthermore, overtourism and specialisation of destinations depending on the touristic vocation, generate an increasing touristification,¹⁴ namely the homogenisation of locations and the annulment of local culture and traditions. The needs of the visitors dominate and determine the space, undermining the authenticity of the offered experiences and increasingly deporting the inhabitants from the built fabric, who start developing forms of dissent and tourismphobia – as fear and resentment towards tourists. In a mountain environment, even more than in the urban one,¹⁵ the displacement of the resident population and the interruption of the economically unsustainable traditional activities has serious repercussions that lead to the exhaustion of the original goods. The Alpine ecosystem was always based on a closely measured balance between production, consumption and the amount of population that allowed the conservation of biodiversity and the preservation of an ecological stability,¹⁶ in a compensation of nature and agro- and forestry-pastoral activities. If, on one side, the substantial reduction of a rooted community leads, indeed, to the disappearance of the local practices, culture and traditions, on the other side, the vulnerable natural resources can be easily damaged by an excessive influx of people. The stereotyping of the destinations' narratives produced by the mainstream cultural system, with the definition of essential marker and sightseeing,¹⁷ generates the paradox that exactly those aspects for which a location is considered attractive, are destroyed by their definition as such.

All the efforts to control overtourism to date are resolved through taxation or limiting the tourist flows, policies that generate new forms of exclusion and that alone are insufficient to address the identified issues. Tackling these challenges, instead, requires a strategic and multiscalar approach, reducing people density in few lumped centres, promoting less-known destinations, and diversifying the tourist offer; this in order to spread tourist flow on a wider timespan and actively involve local communities in tourism development, with the goal of producing new value forms, that allow to preserve the integrity of the original good.

NEW TOURISTS, NEW NARRATIVES

It is essential to define the limits within which sustainable growth is possible, finding a balance between tourist industry, territory evolution, and the role of the local communities: on one side, proposing new narrations capable of diversifying and decentralising tourist influxes, spreading them more evenly, fostering alternative routes networks and experiences, on the other side working on the cultural construction of a tourist awareness where the tourist becomes an active and responsible subject, conscious of their impact on the territory, capable of adopting sustainable behaviours in relation to the natural and anthropized environment. New narratives necessary to dissipate the excessive concentration generated by mass tourism, but also that, describing the real nature of the places, are detached from the stereotyped imagery, that the tourist expect to find even before they reach the destination; new narrations capable of generating deeper awareness among guests and in which also the hosts can identify themselves.

Several recent studies highlight a change in the tourist choices,¹⁸ particularly among the younger generations; a change towards an increasing interest for the experiential value of the travel.¹⁹ The contemporary tourist, rather than choosing standardised destinations, looks mainly for experiences, possibly unique and tailored. They are the means through which they self-represent themselves in the societal hyper-fragmentation, they show themselves and stand out through digital storytelling, conveyed mainly through social media²⁰ and playing a determining role in shaping narrations and generating interest in lesser-known destinations.

They are informed and educated tourists that show a high environmental and local sensibility. They choose accommodations, experiences, modes, and timing of travel that reduce the impact on the territory. They feel strongly engaged with social issues, as well as interested in specific leisure-related topics.²¹ Above all, they have a penchant for active way of enjoyment, as they prefer to personally participate in individual or collective activities that make the tourist experience unique and exceptional. An experience to share on social media and among their own relation networks.

The tourist experience is produced in real and virtual space, is broadcasted through different media according to the perspective of the different subjects involved in the process,²² and increasingly expands in space and time.²³ In the continuous blending of online and offline, defined as phygital experience,²⁴ the user is directly immersed and in constant interaction with the territory and its different actors, producing or reprocessing content. On the other hand, inhabitants and local players are stimulated to develop or reinforce more or less formal cooperation networks, often generating new forms of economies and professional figures and producing positive impacts whose benefits remain on the territory. The activation of these processes expands the duration of the tourist experience and deepens the relationship between guest, place and host, both before and during the journey – offering information, initiatives and proposals – as well as in the phase that follows them, through sharing and narrating the experience, that becomes an instrument of digital buzz and generates affection and rooting with the location.

The tourist becomes indeed an active part of the process and from passive consumer, they become co-producer of contents²⁵ and integral part of the location's narrative. The relationship between visitor and visited place becomes real and generates richness through the exchange with the local communities, surely economic, but above all cultural.

MANY WAYS, THREE STORIES

During the research, still in a development phase, a broad analysis on transmedial narration practices selected through the perspective of sustainable tourism²⁶ was conducted and reorganised in a taxonomy that enables to compare projects, actions, and results according to specific benchmarks. The proposed cataloguing attempt, although not exhaustive due to the dynamic nature of the examined

phenomena, is functional to provide useful interpretation to understand the impact connected to the transmedial experiences, on the intersection between media, geo-cultural characteristics, and tourist practices. The investigation focuses on the various implemented practices, on the effects generated, and on the relationships constructed by these practices with and between the involved actors, and also between the latter and the space in which these practices are developed. It is important to note that no experience is based on an exclusive practice; rather, they often operate in a transversal way. Nevertheless, in every examined case, a prevailing character emerges that serves as basis for the construction of the experience itself, aiming to achieve specific objectives.

Below the description of a few recurring practices, particularly important for the reappropriation process that they activate and for the meaningful effects produced on the urban and social fabric.

Building awareness through provocation and/or simulation

An especially efficient practice that benefits from transmediality is based on provocation and simulation, used as instruments to raise public awareness about certain crucial issues. Through communication and guerrilla marketing strategies, these projects prove how, for example, proposing a dystopic scenario can promote reflections and meaningful debates within a community. This approach highlights problems, generates awareness about them, and potentially influences social behaviour.

An emblematic example in this sense is the project *Intacta Ltd.*,²⁷ that explored the potentialities of spreading environmental fake news to stimulate South Tyrolean public opinion to question critical issues regarding the privatisation of nature and the ethical and social implication of these practices. The project revolves around the creation of a fictitious tourist company, promoting an absurd but plausible idea: to fence the last intact nature areas of the Alps with five-metres high concrete walls allowing access only to a wealthy tourist's élite.

To make the news credible, some concrete actions have been taken. First of all, a detailed corporate design for the company was realised, and real contact details were activated. The fictitious founder of the company appeared as author on a book on the future of the region²⁸ and, to make everything even more believable, some real figures, acknowledged by the community,²⁹ were involved as accomplices. Eventually, the copy of a fictitious correspondence between the *Intacta* president and an institutional developer containing secret negotiations for the realization of the first resort in a natural park was faxed to the local newspapers. Obviously, the news bounced on the front page of the local press. After the outbreak of the scandal, a press conference was organized to reveal the hoax and, with the support of some tourist experts, the underlying message was discussed, fostering a public discussion on the topic that continued also after the event.

Involvement of local communities in the tourism experience and industry

The use of transmedial instruments significantly facilitates the active involvement of the hosting communities in the production of the narration of the places and in the tourist experience itself. By integrating narration and technology, it is possible to create immersive and participatory experiences in which the local community becomes the active protagonist, and the tourists are welcomed as aware and respectful participants. This approach improves relationship between guests and inhabitants, preventing forms of hostility towards the visitors, and also generates economic benefits that remain on the concerned territory.

As in the case of *FLICS: memorie da esplorare*,³⁰ an application that allows to enter in a relation with the territory of Sutrio – a small mountain village in Northeast Italy – and its inhabitants through game and exploration. Through narration, *FLICS* enables tourists to deepen their knowledge of the community and the territory through the eyes and the words of its inhabitants that make the visitor relive traditions and parts of the collective memory. The application contains stories, memories,

traditions, curiosities and small anecdotes donated by the inhabitants, edited by an author, and recorded as audio tracks. These are the result of more than sixty hours of interviews with about fifty people, from eleven to hundred years old, that introduce the visitor into the life of the community. The stories, to be read or listened to, are accessible via QR codes hidden in the village and in its surroundings and can be found using a geo-localised map and additional clues that help the tourist-player to navigate through streets, paths and woods.

FLICS is a treasure hunt that involves the tourist in the exploration of places, starting from the digital realm and becoming real within the territory. Thanks to a non-linear narration, the tourist defines their path in the narrative reality of the application as well as in the physical reality of the territory and are included in an immersive, personal and creative experience. A score is assigned to every found story and, upon discovering them all, the participants receive a little prize and become honorary citizens of these places, since they know the people, habits, and anecdotes around which the community is cemented.

Understanding the territory through spatial experiences

Many of the examined cases are based on participation in a collective or individual action to be performed in space and constructed with and for an interested group. Among the different cases assessed, a kind of very widespread experience is related to the act of walking, understood as an aesthetic experience.³¹ The collective act of walking enables to perceive and interact slowly with the territory, deciphering it, in order to understand its deeper, and very often invisible aspects related to the cultural landscapes.

A virtuous example among these is *Walk the line*,³² an explorative-narrative project aimed at enhancing the historic and ethnographic heritage of a border characterized by a strong cultural, historic and political value, through the production of a new collective narration to be developed walking through the territory.

Each iteration involves an international group of students (Italian, Slovenian and Austrian), accompanied by a multidisciplinary team of experts,³³ walking fifteen to twenty kilometres every day and making stops in villages, towns, bivouacs and huts on both sides of the border. During the walk experts and inhabitants are invited to join the group offering multidisciplinary points of view on the crossed territories.

Once back, the students reconstitute stimuli and suggestions gathered during the walk in a choral work through different narrative forms,³⁴ eventually publicly accessible on an online platform. A new collective narration of the borderline, elaborated by the new generations of European citizen, and in which the personal gaze of each participant is fostered within the shared dimension of the experience.

PERSPECTIVES

The analysis carried out so far allowed to outline an integrated framework in order to understand how the narrative transmission and the content consumption/production through multiple channels can amplify the awareness of the visitors, improve the involvement and the participation of the hosting communities and generate a positive impact within the tourist industry on an economic, environmental and socio-cultural level. Transmediality represents a meaningful educational opportunity to orient the travel choices and the behaviour of tourists, inducing particularly younger consumers to adopt responsible and ethical travel practices. The many cases analysed highlight alternative development possibilities and allow, on one side, to codify strategies, practices, effects and hurdles, and on the other side, to understand the necessities and the needs of the different actors involved.

The continuation of this study is oriented towards the definition of methodological guidelines for the development of a multiplatform editorial project that will adopt an inclusive and participative approach, involving all the actors of the tourist industry, including the inhabitants. The aim is to create new narratives in which the user takes on an active role in the process. By offering a non-linear narration,³⁵ the tourist is invited to make a proactive effort: firstly, understanding deeply and secondly reconstructing in a personal way the complex meaning of the territory, putting together the stimuli coming from different media. This way the tourist can define their individual imagery, beyond the stereotyped narrations. The proposed platform aims to connect tourists with operators, producers, artists and local situations that adhere to a shared ethical code, representing specific cultural values and offering the possibility to gain real world experiences, closely linked to the territory and to the local identities. To work on the promotion of the experiences becomes in this sense a sustainable development model, because it can be renewed over time and, in most of the cases, without significant structural interventions. This means being able to expand and renovate the image of destinations without compromising their essence, preserving the existing resources and the characteristics of the places and of the cultural landscape, and at the same time creating new long-lasting value forms that do not consume the original good.

NOTES

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² Henry Jenkins, *Convergence Culture. Where Old and New Media Collide* (New York: New York University Press, 2006).

³ Rasmus Helles, "Mobile Communication and Intermediality," *Mobile Media Communication* 1, no. 1 (2013): 14-19, doi: 10.1177/2050157912459496.

⁴ Maria Månsson et al., eds., *The Routledge Companion to Media and Tourism* (London: Routledge, 2020).

⁵ Stijn Reijnders, "Imaginative Heritage: Towards a Holistic Perspective on Media, Tourism, and Governance," in *Locating Imagination in Popular Culture: Place, Tourism and Belonging*, ed. Nicky van Es et al. (London: Routledge, 2020), 19-33.

⁶ The concept of “media” covers a wide range of instruments and platforms through which the information are communicated and shared. The technological evolution has further expanded this spectrum, including traditional and digital media. In this sense video and audio, as well as augmented reality, interactive narration, mobile apps, websites, blogs and vlogs, social networks and sharing platforms, podcasts, QR codes and NFC, but also multimedia installations, interactive maps, gamification experiences and much more.

⁷ According to the United Nations World Tourism Organization (UNWTO), sustainable tourism is a responsible and aware of its environmental, social and economic impact in the present and in the future. It is a way of travelling attentive to the protection and the development of the environment, understood as cultural landscape, namely as the combination of the work of nature and mankind, so of the local communities, of the artistic and cultural heritage, of the natural landscape, therefore of the territory from every point of view.

⁸ Roger C. Mannell and Seppo E. Iso-Ahola, "Psychological Nature of Leisure and Tourism Experience," *Annals of Tourism Research* 14, no. 3 (1987): 314-31, doi: 10.1016/0160-7383(87)90105-8.

⁹ The territory identified as research field is the Alpine context, with a peculiar attention to the Alto Adige Südtirol area, Bozen-Bolzano autonomous province, in the north-east of Italy.

¹⁰ With 120 million of visitors per year, the Alpine chain is one of the first tourist destinations worldwide. In 2023 the Alto Adige Südtirol welcomed approximately 8.5 million tourists. Around 540,000 inhabitants live in Alto Adige Südtirol (data by The Alpine Convention e ASTAT Istituto provinciale di statistica - Landesinstitut für Statistik).

¹¹ Due to the global warming, in the twentieth century the glacial mass on the Alpine chain has shrunk of about fifty percent, causing – among other – an increased risk of extreme events as floods and landslides.

¹² Skiing and mountaineering are subject to change in accessibility and quality, due to the reduction of the snow covering and the increase in the rate of extreme climate events. Recent studies, as the reports *Climate Change 2023: AR6* (IPPC Integrated Pollution Prevention and Control), *Global Climate Highlights 2023* (Copernicus), and *Carovana dei ghiacciai 2023* (Legambiente), estimate an increase in the temperature of 1.5°C between 2030 and 2050; this will make impossible the functioning of the snow cannons that, already today, ensure the snowing of 95% of the slopes of the Alpine chain. It is estimated that by 2050, in 68% of the Italian Alpine destinations it will not be possible to ski anymore.

¹³ There are consequences on the environment, as the damaging of the natural ecosystems and cultural heritage, deforestation, uncontrolled land-use, but also overloading of infrastructures, increase in the waste, acoustic pollution, overuse of water and energy resources as well as social and economic consequences (i.e. increased cost of living, reduced purchasing power, housing affordability, casualised workforce, internationalisation of costs and externalisation of profits, etc.).

¹⁴ Dennis R. Judd and Susan S. Fainstein, *The Tourist City* (New Haven: Yale University Press, 1999).

¹⁵ Among the principal consequences in the urban realm, the services change, and the social fabric disintegrates. In particular, pandemic has made these processes extremely visible: with the absence of the tourists, the historical centres were completely emptied, becoming inhabitable also for the few remained inhabitants who found themselves deprived of the minimal neighbourhood services and of that functional mixité that is essential to generate urbanity.

¹⁶ Pier Paolo Viazzo, *Comunità alpine. Ambiente, popolazione, struttura sociale nelle Alpi dal XVI secolo a oggi* (Bologna: Il Mulino, 1990).

¹⁷ Dean MacCannell, *The tourist. A New Theory of the Leisure Class* (New York: Schocken, 1976).

- ¹⁸ Among which the research *Niche Tourism, 2023 Update – Thematic Research* di GlobalData and the 118th session report of the UNWTO Executive Council in May 2023.
- ¹⁹ Iis P. Tussyadiah, "Toward a Theoretical Foundation for Experience Design in Tourism," *Journal of Travel Research* 53, no. 5 (2014): 543-64, doi: 10.1177/0047287513513172; Nicole Basaraba et al., "Transmedia Storytelling and Cultural Heritage Tourism," in *Transmedia Earth Conference Medios, Narrativas y Audiencias en Contextos de Convergencia*, ed. María Isabel Villa et al. (Medellín: Editorial EAFIT, 2019), 11-26, doi: 10.17230/9789587206289ch1.
- ²⁰ André Jansson, "The Transmedia Tourist: A Theory of How Digitalization Reinforces the De-Differentiation of Tourism and Social Life," *Tourist Studies* 20 (2020): 391-408, doi: 10.1177/1468797620937905.
- ²¹ They choose eco-friendly, zero-waste accommodation, near destinations, sustainable mobility, travel in off-season, prefer the discovery of local products and tastes, practice local uses and traditions. They are interested in social issues (as, for example, women emancipation, development of communities, gender equality, etc.) and in peculiar leisure activities as adventure and sport (for example, experiential tourism along the paths, cycle tourism, equestrian tourism, river tourism), gastronomy, wellness, etc.
- ²² Host, guest, tourism professionals, administrations, inhabitants, producers, local realities, etc.
- ²³ Is meant the expansion of the tourist experience beyond the traditional borders of the physical journey, using digital technologies and media to continue the involvement with the territories; before, during and after the journey a reciprocal exchange among destination, visitors, actors and local communities stays open.
- ²⁴ Francisco Javier Ballina et al., "The Phygital Experience in the Smart Tourism Destination," *International Journal of Tourism Cities* 5, no. 4 (2019): 656-71, doi: 10.1108/IJTC-11-2018-0088.
- ²⁵ Donna Hancox, "From Subject to Collaborator: Transmedia Storytelling and Social Research," *Convergence* 23, no. 1 (2017): 49-60, doi: 10.1177/1354856516675252.
- ²⁶ About hundred case studies have been analysed. All of them are situated in mountain environments, internal areas or anyway in fragile contexts, and use transmediality in different ways to create new narrations finalised to the promotion of a sustainable tourism.
- ²⁷ Designed by the Brave New Alps collective as degree project at the Faculty of Design and Art of the Free University of Bozen-Bolzano.
- ²⁸ A descriptive essay by Marco Eggerz, the company funder, describing the *Intacta Ltd* philosophy and even accompanied by a fake CV, is included in the book *Pre visioni del giovane Sudtirolo/Un erhört Visionen des jungen Südtirol* that collects utopias, dreams and concrete measures for the development of the South Tyrolean territory.
- ²⁹ For example, the South Tyrolean green politician Hans Heiss, accomplice since the beginning of the fake project, has advertised *Intacta's* initiative in his personal website and, when addressed by the press, has confirmed the truthfulness of the news.
- ³⁰ A project designed by Puntozero, a no-profit multidisciplinary society for the cultural and cooperative promotion, on the initiative of a diffuse hotel association in Sutrio, small village of about 1,200 inhabitants, situated in the Carnia region, a mountain area in the Italian north-east.
- ³¹ Francesco Careri, *Walkscapes. Camminare come pratica estetica* (Torino: Einaudi, 2006).
- ³² The project of the Cultural Association Altememorie has reached its third edition and is funded by the autonomous Region Friuli-Venezia Giulia, situated in the Italian north-east.
- ³³ Anthropologists, writers, natural guides, architects, photographers, etc.
- ³⁴ For example, in an edition through a series of texts and images, in another one through video-stories.
- ³⁵ Marie-Laure Ryan, "Beyond Myth and Metaphor: Narrative in Digital Media," *Poetics Today* 23, no. 4 (2002): 581-609, doi: 10.1215/03335372-23-4-581.

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RE-ORIENT: RECLAIMING SPACES THROUGH PHOTOGRAPHIC SELF-PORTRAITURE

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INTRODUCTION

Melbourne's colonial legacy has been built on the wealth of the gold rush (1855-1873), where grandiose buildings were constructed as a representation of Melbourne's prosperity as a leading global city. Customs House was historically utilised to control who and what entered the country and led to the beginnings of the racist White Australia Policy. It is a building that represents Imperial Melbourne - designed by and for white men – and its vast white stature now reflects its problematic history in a contemporary city of diverse transcultural people and politics.

As a female Eurasian Australian artist, I use an autoethnographic and phenomenological approach to exploring ideas of transcultural identity, belonging and otherness. This paper presents how my practice-led photographic investigation can challenge colonial legacies. By utilising a performance-based methodology the photographic self-portraits reclaim a multigenerational presence of Australian women of colour and transcultural histories.

CUSTOMS HOUSE

On a bend along the Yarra River a white tent was erected in 1837, 5 years after the founding of Melbourne; its traditional place name 'Naarm' in the Woi wurrung language, which is from one of the 5 Aboriginal clans of the Eastern Kulin nation, who inhabited the area for around 40,000 years and prior to colonisation was a nation of more than 20,000 people. The tent represented the earliest form of a customs house, situated in an ideal location due to where ships docked with goods. As the maritime trade rapidly expanded in the 1840s, a larger bluestone building was constructed, and until the need for something bigger began during the 1850s, where there was a huge influx of people and trade due to the gold rush.¹

What stands there today, is a 150-year-old grandiose white building called Customs House. As Senior Curator of Migration and Cultural Diversity at Museums Victoria Dr Moya McFadzean states in the Re-Orient exhibition essay, 'The Customs House is a neo-classical building, constructed over 150 years ago on unceded Wurundjeri Woi Wurrung lands. It was and still is, an act of dispossession, and a statement of colonising power and economic control – of the people who did business here, and the people who were interviewed, welcomed, processed or rejected here.'² It was built, from the revenue of the gold rush, and the Victorian government commissioned Peter Kerr to design it. Kerr also was involved in other iconic Melbourne buildings: the General Post Office building and Victoria's Parliament House. Construction began in 1855, but was not completed until 1873, with a slightly

different design by Kerr and two other government architects John James Clark and Arthur Ebdon Johnson. The architecture draws on the Italian Renaissance Palazzo style, with the ground floor constructed of blue stone as a storage area, and the main activity of the building happening on the first level, or piano nobile (noble) level. The columns within the grand Long Room have been modelled on ionic columns from the Erechtheion temple in Athens, and the plaster decorations were ‘manufactured locally by British and Italian modellers, who established a local industry in the 1850s.’³ The intention of the Customs House was to signify Melbourne’s wealth and success as a new metropolis, connected to England and the Empire. ‘Customs was the treasure house of government income. Until the introduction of income tax in 1915, customs duties raised some four-fifths of all government revenue.’⁴ Proving it to be the jewel in Melbourne’s colonial crown.

In a proposal for the building to become government offices in the 1970s, Professor Lewis Dean Faculty of Architecture at the University of Melbourne is quoted that the Customs House ‘is the most distinguished of the very fine group of public buildings erected by the State of Victoria. ... I make that statement on the grounds that the building is both the purest and the most continuous in the English colonial tradition...’⁵ At the time this was seen to be celebrated by the city’s statemen, and continuous with the projection of Melbourne’s colonial beginnings.



Figure 1. The Long Room of the New Custom House, 1876. Source: State Library of Victoria

In the heart of the Customs House, and where most of the official business happened, is the grand ballroom style room called The Long Room. The hall as *The Weekly Times* stated has “noble proportions and is finished in a style which will secure unbounded admiration from all whose business leaves them free to appreciate the beautiful in art.”⁶ The Figure 1. illustration reveals how the Long Room was utilized, and it is worth noting that it is only men (and only white men) depicted, with no women or children present, or people of colour. This drawing would have been used to articulate its grand scale and appropriate use as a marker of wealthy civilization for Victoria.

Dictation Test

The importance of Customs House and its white representation of colonial rule was to uphold these aspirations of a white state and could be seen reflected not only in its protective measures concerning customs, but also for immigration. It was the role of customs officers to control immigration into Victoria, and the immigration restrictions in Victoria began during the gold rush targeting Chinese arrivals. ‘By the 1880s, Chinese immigration was barred. Restrictions soon applied to all non-

Europeans. The Immigration Restriction Act of 1901 introduced the Dictation Test, which enabled anyone to be excluded on racial grounds.’⁷ Quoted by Wall Moore, ex-Newcastle Customs Officer about administering the test in the 1950s: "If you wished to keep an immigrant out of Australia - and this could apply to anyone - you could apply the Dictation Test. That meant giving him a test in dictation in a language other than his own. We had to have an interpreter as well, to have it explained... It was intended that no one passed. It was the ultimate weapon to keep people out of Australia.”⁸ This test ultimately led to the establishment of the White Australia Policy, which was not until 1973.

Immigration Museum at Customs House

After being made into government offices, it was eventually turned into the Immigration Museum in 1998. The Museum speaks to and includes displays and objects that provide information about its location, construction and the people and activities it housed that represent the story of Victoria's trade, immigration and government. ‘It tells of Melbourne's achievements as well as its prejudices.’⁹ The choice of this building for my exploration came through a desire to understand how these colonial buildings still resonate in contemporary society. While the Immigration Museum lends itself to many migrant groups as a place of gathering, celebrating immigration and the chance for being the focal point of the vast multicultural nation that Australia and Melbourne is, I wanted to explore this through my own artistic practice, to come to terms with this history, and a space where my ancestors would not have been welcome or tolerated.

ARTISTIC RESIDENCY

Through utilising an artistic residency model across one year, I was able to spend time within the spaces of the Customs House, supported by the Immigration Museum and Creative Victoria Arts funding. I read all the museum displays, researched the intricacies of the building and its design, its uses and place within the history of Melbourne. I was able to just spend time within the various levels of the building, corridors that people did not use, sit along the stairwell, and watch the people who visited, children who came for school trips and staff who moved through providing tours and information for tourists. It was through this time that I phenomenologically read the building, tried to consider histories real and imagined, and take in the experiential feelings of being situated in the architectural contemporary and historical spaces.

As part of the residency, I also researched the archive and the collection of the museum, drawing out further narratives of migrant histories and stories linked to Melbourne from a range of different countries, times and perspectives. This research into the collection made me consider how the building, Australia's immigration policies (historical and current) have affected so many people's lives and journeys over time, it also enabled me to think further about my own family's migration journeys and how they had been affected by migration policies. The collection is filled within individual moments of lives now gone, and so I decided to include items that spoke to how the colonial legacies have played out over time.

Artistic Practice

Drawing on an established artistic career, my practice is positioned through the lens of being Eurasian Australia. ‘I perform my cultural identity, where the ‘signifying practices’ of my identity are inherited in both cultural and physical ways that influence and reveal themselves through a range of activities, gestures, costume and knowledge that make up my Eurasian Australian identity.’¹⁰ This type of performance-method enables me to visually explore ideas of agency, cultural belonging and identity,

as well as utilise the female body through negotiating ideas of orientation, space and place. I ethically utilise my own body within my arts practice to reveal my embodied experience.



Figure 2. Pia Johnson, *Threshold*, from *Re-Orient*, archival inkjet print, 2023

Self-Portraiture

The use of self-portrait photography is a specific and performative action in photography. For me to use self-portraiture as a device enables a self-reflexive action, a turning the camera onto oneself, but also for the transcultural woman, an act of safety and defiance. I am both photographer and subject/muse, and it is the perfect mode for exploring agency within the visual form. Artists utilising self-portraiture as revealed in the 2023 exhibition *Performative Self-Portrait* at the Rhode Island School of Design Museum of Art, US, is a way to harness ‘the materiality of their bodies or highlighting the ways they identify to those who situate themselves into history, play with narratives, or question the very limits of what identity can do.’¹¹ The photographs created through the residency aim to conjure a sense of play, of resistance and disruption to the building and its architecture (see Figure 2). Drawing on feminist photographic artists such as Claude Cahun, Valli Export or Carrie Mae Weems, the photographs use of performance and J.L Austin’s notion of performative utterances,¹² to assert myself within the architecture and fix this within the photograph.

Performance-based Method

The use of a performance-based method and situating it within the site-specific location of the Customs House enabled me to speak to the structures at play acutely. As Gay McAuley states ‘making performances in sites marked by their own histories of occupation and use means that artists and

spectators experience these places in new ways with the political issues that seem to be an inevitable consequence of being in place.¹³ While my performances are not durational nor are they witnessed by an audience, my photographs go one step further in embedding the temporal into a fixed and recorded moment that otherwise would not exist. This is supported by academic Joshua Chambers-Letson who states that ‘performance is a ‘fecund site for minoritarian objects to engage in the act of sociogeny by using performance to make and re-make the self and others within a threatening and unsteady landscape that is overwhelmingly constrained by the limits of the here and now.’¹⁴ Or as academic Letizia Modena describes Rino Bianchi’s and Carrie Mae Weem’s photographs of Rome as ‘counter-narratives that seek to invert the architectonic and monumental erasure of minority identities throughout history’¹⁵ my work sits within this same vein, of reclaiming my identity within the spaces. Inserting myself as a subject within the spaces provides a physicality that is performed in the photographs. I climb, scale, move through and interrogate the spaces and architecture. My aim is to upend the histories and known memories within the building, to use the body to inhabit space that women of colour were not visible in and demonstrate the multigenerational presence of women of colour and transcultural histories about their place in contemporary Australia.

Costume

Costume is also an important component within the artwork. It is as academics Sanja Pantouvaki and Peter McNeil state ‘an active-agent for performance-making; it is a material object that embodies ideas shaped through collaborative creative work.’¹⁶ The costume designed by my collaborator designer Kat Chan, is an adaptive and fluid garment, that aims to represent a blend of my own cultural background – Chinese and Italian heritage – and draws inspiration from the Han dynasty long sleeved robe, Italian lush jacquard, brocade and velvet textures, but also nods to contemporary streetwear, the bomber jacket and global street shoe. Not only a practical design, where I could take off layers and sections, it also enables me to embody and transform into different modes, meanings and times. The gold provides a link back to the gold rush, a critical time for Chinese and Italian migration to Australia, as well as the shared symbol of prosperity and luck associated with it.

SHIFTING PERSPECTIVES

The project leads to a transformation of the building, with its ability to reconsider the stories and histories, as well as shifting the perspectives of the building within the photographs. The artwork asks how can we find new ways of seeing the building? How can we reframe the metrics of the colonial legacy? The photographs present a new language of seeing the building, of claiming the spaces through activating them in different ways. Whether climbing onto the bench seat and making myself physically higher or by lying on the floor (see Figure 3), I move within the frame and ask the viewer to see something known in a new perspective. A way of re-orienting the body again, to shift the view of the body, and the feeling of lying on the cold floor, but this also engages with a mode to re-frame the histories and challenges us to think about the building differently.



Figure 3. Pia Johnson, *Still, from Re-Orient*, archival inkjet print, 2023

While some of these images reveal a sense of victory and defiance, there are also quieter moments reflected in the series also, articulating a sense of liminality, defeat, overwhelm or loss. These images speak to the unimaginable disappointment of not being accepted in, of journeying weeks or months across seas and lands to only be turned back, or perhaps the feelings of separation and anxiety as family members were interviewed to see what fate was ahead of them. It is revealed through the gesture of the body; its vulnerable corporeality within the building is reflected and witnessed through the image. There is no comfort in the building, the clothing or the photograph, we are left with a melancholy, and an awareness of dark times that provide awareness and consciousness only of what happened here, and still happens across the globe.

Incorporating the archival

The collection is filled within individual moments of lives now gone, and so I decided to include items that spoke to how the colonial legacies have played out over time. I selected images that resonated with historical Melbourne, displaying other colonial buildings, migrants from a range of different times and countries, and included photographs as well as certified documents (see Figure 4) to consider not only representation but also modes of translation, identification and the gaps or errors embedded in migration. An archival museum collection also reveals its biases, and it is within the modes of language and data that such important detail is revealed. Further to the general migration stories, I decided to specifically focus on feminist narratives, images and documents that presented everyday moments of social, cultural and economic change, and that represented a purpose of becoming within the collection.



Figure 4. Pia Johnson, *A Bias Cut with Certificate of Registration - Mary Louey Gung*, from *Re-Orient*, *Re-Orient*, archival inkjet print, 2023

The use of embedding archival imagery into the photographs creates a sense of magic and a larger-than-life presence. I am drawn to the talismanic properties of archival imagery with their ability to transcend past and present. The nature of an archive is that it organizes and legitimizes memory and can open up further temporal connections. In these images where I include the archival image my figure becomes faceless – an observer to the historical story, a witness and caring holder of the previous generations before me. An acknowledgement to the many people before us that have moved through the buildings, the harsh migration policies and hardships of being migrants.

The Exhibition

The final exhibition *Re-Orient: Reclaiming Spaces, Redefining Stories*¹⁷ was curated by placing the photographs back into the Community Gallery of the Immigration Museum, Customs House (see Figure 5). The images come together to envelope you in the space – to move the viewer in and out and articulate the space that they have just walked through anew. The artworks make the viewer think again, question and see the spaces with a different set of parameters, stories and voices. To reconsider histories, their own and those around them perhaps, and the responsibility of understanding migration cultures more fervently.



Figure 5. Pia Johnson, Re-Orient: Reclaiming Spaces, Redefining Stories, Immigration Museum, exhibition documentation, photo credit Phoebe Powell, 2024

CONCLUSION

The collective artworks present me, coming to terms with my transcultural identity, and making space for people like me within the legacy of colonialism. To reframe the buildings dark history, and imagine it as a space we might all belong in. The self-portraits are a continuous state of meditation and becoming within the architecture. They picture me as a way of seeing, of self-awareness but most importantly in the ongoing process of imaging oneself into the world. Re-Orient is a project that challenges the way we encounter historical buildings and architectural spaces in the contemporary day, so that we can acknowledge and understand our cultural histories and reclaim them for everyone to be welcome.

NOTES

- ¹ “Customs House,” Immigration Museum, accessed 20 June, 2024, <https://museums victoria.com.au/immigrationmuseum/resources/customs-house/>
- ² Moya McFadzean, *Re-Orient: Reclaiming Spaces, Redefining Stories*, Exhibition, Immigration Museum, Melbourne 2024.
- ³ “Customs House,” Immigration Museum.
- ⁴ “Customs House,” Immigration Museum.
- ⁵ Department of Works, *Melbourne old Customs House: historical background and conversion proposals as outlined by the Dept. of Works*. (Australia, 1966), 4.
- ⁶ “Customs House,” Immigration Museum.
- ⁷ “Customs House,” Immigration Museum.
- ⁸ “Customs House,” Immigration Museum.
- ⁹ Moya McFadzean, *Customs House*, Immigration Museum Exhibition, 1998-2015, Museums Victoria Collections, Accessed 16 August 2024, <https://collections.museums victoria.com.au/articles/10650>
- ¹⁰ Pia Johnson, “Being Eurasian: Negotiating identity through performativity and photography”, (PhD thesis, RMIT University, 2021), 42, <https://researchrepository.rmit.edu.au/esploro/outputs/doctoral/Being-Eurasian-negotiating-identity-through-photography/9922009505901341>.
- ¹¹ Conor Moynihan, “The Performative Self-Portrait”, Rhode Island School of Design Museum, May 13 – November 12, 2023, <https://risdmuseum.org/exhibitions-events/exhibitions/performative-self-portrait>.
- ¹² John L. Austin. *How To Do Things With Words: The William James Lectures Delivered at Harvard University in 1955*. Oxford: Oxford University Press, 1975. <https://doi.org/10.1093/acprof:oso/9780198245537.001.0001>.
- ¹³ Gay McAuley, *Unstable Ground: Performance and the Politics of Place*. (Brussels: P.I.E. Peter Lang, 2006), 17.
- ¹⁴ Joshua Chambers-Letson, “The Body Is Never Given, nor Do We Actually See It” in *Race and Performance after Repetition*, ed. Soyica Diggs Colbert, Colbert, Jones & Vogel, (Durham; Duke University Press, 2020), 275.
- ¹⁵ Letizia Modena, “The Architectonics of Memory: Space, Power and Identity in Contemporary Rome”, in *Annali d’italianistica* 37 (2019): 383.
- ¹⁶ Sofia Pantouvaki and Peter McNeil, Peter eds. “Introduction Activating Costume: A New Approach to Costume for Performance” in *Performance Costume: New Perspectives and Methods*. (London; Bloomsbury Visual Arts, 2021), 1.
- ¹⁷ “Re-Orient: Reclaiming Spaces, Redefining Stories,” Exhibition 2024, Accessed 5 April 2024. <https://museums victoria.com.au/immigrationmuseum/whats-on/re-orient-reclaiming-spaces-redefining-stories/>

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BUILDING HERITAGES FROM THE AIR: COMMERCIAL AVIATION AND THE CONSTRUCTION OF QUITO, ECUADOR'S HISTORICAL IMAGE, 1930-1970

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INTRODUCTION

Commercial aviation brought new ways of mass transportation to Quito, Ecuador in the 1930s, but also facilitated the city's inclusion in the maps of global tourism. Quito's positioning as a touristic destination began when commercial airlines, especially from the United States, "rediscovered" Quito's colonial architecture and urban structure and intentionally advertised them as desirable products for tourism and exploration. By then, the immense scale of the Andean mountains had kept Quito relatively disconnected and contained, giving the appearance of something remote. The long isolation and slow urban development since colonial times resulted in the unnoticed conservation of Quito, a factor which, by the time of the initial steps of commercial aviation, turned Quito into an ideal destination for international tourism as "a piece of Spain in South America." The promotion of Quito by commercial aviation, which pointed to the city's squares, narrow streets, and churches hinted at the rediscovery of an ancient city worth seeing, visiting, and preserving. This study considers the genesis and myth behind the construction of Quito's image for touristic purposes and how mass modern air travel positioned Quito as a universal and cultural destination. These historical narratives claimed the authority to speak of Quito as a city of the past.

QUITO, THE SPANISH CITY

Embedded high in the Andes, Quito's historic center, founded by the Spanish in 1534 over the Inca city of Quito, comprises an orthogonal plan. Like many other cities under Spanish rule, buildings representing the Catholic Church, the state, and local government sit around a major plaza, today known as Plaza de la Independencia. The surrounding blocks comprise colonial and aristocratic courtyard houses, convents, churches, and other plazas. Due to the number of churches and convents, travelers often claimed that "Quito, rather than a city resembles a monastery."¹ From the nineteenth century, whether through postcards, photographs, or paintings showing sixteenth-century convents and churches, the city has constantly been identified, nationally and internationally, as the "land of history and tradition," as a city full of antiquity and history, as a museum.²

In the first half of the twentieth century, this particular imagery of Quito perfectly fitted the purposes of modern tourism. In 1935, Ecuador's Ministry of Tourism issued a series of fifty postcards as part of an early attempt to develop a tourist economy in the country. Twenty-three postcards corresponded to Quito, where nineteen featured colonial-era churches. Undoubtedly, Quito boasted one of the best-

preserved colonial centers in South America, and the postcards explicitly described Quito as a “land of ancient and colonial art,” and place of “celebrated churches” like San Francisco. Since then, by embracing the identity of Quito within a mythologized past, the narrative allowed Quito to claim a global significance dating back to the sixteenth century—a history that propelled tourism to the city toward future decades.³ The narrative crafted a city of God, monumental, sublime, old, a sort of masterpiece of the Spanish in the Americas.

Municipal authorities had also discussed the idea of Spanish Quito in 1934 during the fourth centenary of the Spanish founding of Quito. The discussion of this narrative distinguished Quito, and its elites, from their indigenous past, connecting them with a more convenient, the Spanish, the European, the civilized, one that intertwined the idea of before and after. Since then, multiple celebrations with phrases like “Spain in colonial Quito” or “Glory to Spain” celebrated the Spanish past before locals, foreign guests, and diplomats.⁴ The Spanish heritage permeated all layers of popular culture to establish itself in the 1950s by holding longer and more complex narratives.

The development of commercial aviation in Ecuador coincided with the rise of this vision. At the height of the 1940s golden age of flight, when the first commercial airlines flying to South America consolidated their routes, infrastructure, and operated safer and bigger aircraft, the phenomenon of Spanish Quito resonated in the air and on the ground. Like the 1935 postcards, marketing campaigns created by multiple commercial airlines embraced the existing framework of Quito as a city of the past and provided it with enough credentials to become an attractive global hotspot for the nascent tourism.

Isolation and Un-intended Preservation

Various factors determined the conservation of Quito’s Spanish heritage from the sixteenth century to the early twentieth century. During the colonial period and before the construction of the Panama Canal, Ecuador’s geographic location kept it isolated from significant markets of the Atlantic world. The Andes had also forced Ecuador’s population living in that region to live in isolation under self-sustaining rural conditions. For this reason, by the mid-twentieth century, only 28 percent of Ecuador’s population lived in cities.⁵ The almost superhuman effort to overcome the Andes gave rise to intense geographic isolation, deriving into a “schizophrenic Ecuador.”⁶ This condition undermined the appearance of economic incentives and impacted urban development significantly.

The slow economic and industrial development prevented significant migratory flows that would allow sustained urban and population growth. For example, at the peak of the colonial period, Quito had barely 50,000 inhabitants, which grew to just 100,000 in the 1930s. Additionally, Quito’s location an altitude of 2,800 meters above sea level between harsh Andean geography also kept Quito isolated and uncommunicated for centuries. Any journey to and from Quito included surpassing cliffs, ravines, thick, rainy, hot tropical forests, cold and cloudy moors by foot, mule, or automobile through a practically inexistent network of roads.⁷ The city’s economy revolved little around industry but rather around the basic economy of various haciendas in rural areas.⁸ Quito’s essential economy and slow population growth prevented it from being subject to dramatic interventions, except in specific cases when new buildings disguised their presence following historicist designs as if they had been built during Spanish rule.

Quito’s physical reality produced the impression of something remote for travelers who visited the city.⁹ Due to Quito’s Andean surroundings, small scale, and the particular urban character, given mainly through narrow streets, small plazas, and hidden courtyards, people commonly qualified Quito as the “Cloister of the Andes.” As a traveler commented in 1913, Quito had the atmosphere of a “world apart, a peaceful, restful little sphere supplied with few modern conveniences, but with little of the complicated life of the twentieth-century cities.”¹⁰ Quito’s struggle with the Andes had become a

historical trope and myth in which *Quiteños* built the assumption that they had lived at the mercy of harsh geography.

Connectivity drastically improved with the arrival of the railway in 1908 but also marked the recognition of Quito as a touristic destination. The Guayaquil and Quito Railway Company (G.&Q. Ry. Co) promoted Quito “as the most picturesque city in the world” and its churches, like La Compañía, as “gorgeous examples of ancient and inspiring architecture.”¹¹ Travelers who arrived by train, like Uruguayan architect Guillermo Jones Odriozola, wrote that the city’s little “contact with the outside world due to its geographical location” had created a city of the “era of the [Spanish] conquest.”¹² This time coincided with a new sensibility before and after World War I where Western travelers began to embrace the primitive, the pastoral, the vibrancy of cultures unaffected by modernity. Quito, with its picturesque colonial churches, red-tiled roofs, and unique location in the Andes, appeared as the “quintessence of traditional Spanish America—a quaint idyll sought by nostalgic tourists eager to find traces of a simpler past.”¹³ The construction of roads between the 1920s and 30s also improved connectivity. Though very precarious and limited in length covered, they connected Quito to the Pacific coast and to sections of the Pan-American Highway finished by 1931.¹⁴

DISCOVERING A “BIT OF SPAIN” FROM THE AIR

Commercial aviation’s first operations in Quito from the late 1930s filled the gap of modern communications. With aviation, one traveler said that Quito finally could be reached “without tears” using three different methods: by train from Guayaquil, by motor from Bogotá along the Pan American Highway, or by plane floating on the “Andean air by Pan American clipper.”¹⁵ Indeed, between 1920 and 1940, the airplane and worldwide development of commercial aviation bridged distant territories only a few hours apart and broke physical and international boundaries. Aviation also offered access to new, fresh, and distant regions, which opened opportunities for a vast spectrum of new and exciting businesses in the fields of culture, sciences, and tourism.

In the United States, with easy access to new geographies, commercial aviation offered a map of new destinations, which as cultural and scientific products, seemed feasible for consumption by the American middle and upper classes. To entice potential travelers, airline marketing constructed influential images of specific geographies, such as Latin America, founded on contrasting descriptions, personalities, and landscapes that treated geography and difference as things to be enjoyed and gratify recreational needs.¹⁶ Once Quito appeared in these maps, local and international strategies to charm tourists comprised selling Quito’s colonial historical center and architecture as the main attractions. The reality that Quito had hardly changed from colonial times made the city the perfect product for selling an experience of grand adventure that integrated the advantages of modern travel with the magic of a picturesque city.

Without national airlines or local technology, the development of civil aviation in Ecuador landed on the vision of foreign companies and investors. The first commercial flights in Quito began in 1935 when German immigrants founded SEDTA. To compete with SEDTA, the American airline Panagra—a subsidiary of Pan American Airways—began operations in Quito in 1938, providing a similar service. By 1941, Panagra took over all SEDTA’s routes and connected the city internationally through other Pan American’s aerial routes, especially to the north.¹⁷

Panagra, and other airlines that began operations in the 1940s, like Braniff International Airways, advertised access to Latin American destinations through colorful brochures, maps, and travel magazines. The most common representations established apparent differences between North vs. South, North America vs. South America, modern cities vs. old cities, modern life vs. tradition (even backwardness), white tourists vs. indigenous people, modern vs. underdeveloped, pioneering vs.

dependent, dynamic vs. static. Such characterizations fostered the construction of specific nationalities like Brazilians, Ecuadorians, or Peruvians and their places.¹⁸ The emphasis on representing the South American cities differently converted them into symbolic forms capable of expressing meanings and value, which, like money, made them a sort of marketable commodities to be presented, represented, promoted, and sold in “package tours.”¹⁹ Thus, Latin America became the unknown place offering exotic, romantic, beautiful, and odd spectacles, and Quito the perfect fit that intertwined the modern excitement of crossing the equator while in the air and visiting a city of Spanish antiquity in the heart of a dramatic inter-Andine valley.

Various travelogues and books depicted this enthusiasm. In 1938, writer and traveler Harry A. Franck wrote how airplanes had contributed to a dramatic time-space compression and transformation of South American cities, such as Quito, making them more accessible from the United States.²⁰ After Franck had traveled South America, including Quito, by foot, train, or automobile to write his previous books before the airplane era, he returned to “rediscover” it, from the air, “taking full advantage of the speed, comfort, and convenience of modern transportation.”²¹ Franck’s most interesting receptions occurred in Quito, where he flew in 1943. After a Panagra airplane took him from Guayaquil to Quito in an hour, reporters asked Franck if he had seen enormous progress since he first walked into the city in 1913. He enumerated the signs of improvement but appreciated they had not affected the city’s character when he said: “There are automobiles and airplanes now, streetcars on the tracks, a few new buildings, repaved streets, more cleanliness in public habits...fortunately not enough yet to ruin Quito’s charm.”²²

US commercial airlines and tourism promoters exploited Quito’s charming character. An article entitled “A Bit of Spain in South America,” published in the *New York World Telegram* in 1938, showed how the narrative of Spanish Quito had reached the North American market. The note urged Americans to “discover, in travel way, many of the republics of the continent” below and suggested that Ecuador “should not be overlooked.”²³ The article incorporated a photograph of Quito’s emblematic Plaza de la Independencia, identical to the one G.&Q. Ry. Co had published in 1937—as illustrated in Figure 1. Underneath, a caption stated: “Here the camera virtually shows a bit of Spain transplanted in Quito... ‘Colorful’ as most visitors say. It is.”²⁴



Figure 1. View of Quito as promoted by the Guayaquil and Quito Railway Co. and by the *New York World Telegram*, 1937-38. Photo by Grace Line. Author’s Collection.

Soon after, Pan American published the 1939 poster *Quaint Quito in the Ecuadorian Andes via Pan American* as part of a series of exotic destination posters designed to depict the airline’s range of destinations. *Quaint Quito* summarized everything Ecuador’s capital signified: Geography, landscape, old architecture, and indigenous people. The poster depicted a Panagra DC-2 flying over Quito amid the Andes giving the city a sense of mystery and antiquity. Later in the 1940s, Panagra printed a collection of postcards depicting the Plaza Independencia from various angles and close-ups. Various showed the Cathedral, while others the Independence monument around which American tourists enjoy a walk—as seen in Figure 2. By 1949, Pan American also alluded to Quito’s yet undisturbed condition through the travel magazine *Can’t You Just See Yourself in South America*. “Quiet, quaint, and still unspoiled—that’s Quito,” it reported. For the airline, Quito and other destinations in Ecuador made the country “another world indeed.”²⁵



Figure 2. Quito’s Plaza de la Independencia. Panagra’s Postcard, 1940s. Author’s Collection.

Travelers flying with Pan American echoed what the airline had promised. After flying to Quito in 1941, writer Alice Dalgliesh described it in her travel memories as “almost as Spanish,” “as it was some four hundred years ago.”²⁶ Others like journalist W. Robert Moore, who arrived to Quito by train but returned via Panagra in 1941, considered the city “venerable” because its churches were “reminders of the Spanish days” and because the hundreds of tiny shops “have changed little through the centuries.” Moore also considered the church of La Compañía “an excellent example of Spanish baroque” and alluded to Quito’s sensation of antiquity and inclusion based on an aerial photograph he obtained from Fairchild Aerial Surveys. He hints, however, about Quito’s ongoing risks of losing its charm. He warns, for example, that modern buildings are gradually changing Quito, like a nine-story “skyscraper,” which, for him, contested the sole dominance of church spires over the panorama of low red roofs.²⁷

As Pan American consolidated its South American routes during the 1960s jet age, the 1966 marketing campaign “South America has two sides. And we can show you both” enticed travelers about the different destinations. By contrasting opposites such as “Outer Spaces” vs. “Inner Places” or “Tamed” vs. “Untamed,” the airline aimed to show the different “faces” of its destinations. While the

“untamed” corresponded to a couple dancing in a “fiesta in Quito,” the “tamed” showed an Argentinian-Chilean lake region. The most contrasting was the “Latin gold” vs. “Latin bold,” which shows the golden altar of Quito’s church of San Francisco against another displaying Brazil’s pinnacle of modernism: Brasilia. A caption reinforces the contrast between old and new: While in Quito, “whispers echo in the ancient church, a seventeenth-century calm,” Brasilia was “the Western Hemisphere’s first planned capital city” and the newest.²⁸

By 1968, Quito’s constructed association with Spain continued. In collaboration with Pan American, Braniff even incentivized travelers to enjoy a more adventurous experience by performing as “Spanish matadors” in bullrings near Quito. “The moment of truth has arrived,” indicated the ad “The Bull Flight,” which challenged travelers to “Come to Quito, where for a reasonable price,” could “rent” their “own bullring. And bull.”²⁹ Additionally, amateur toreros could enjoy “Spanish music” while a real matador showed them how to use the cape. “Bull flights” left for Ecuador eight times a week, indicating how reachable Quito had become.³⁰

In 1977, just one year before Quito’s declaration as UNESCO World Heritage, Braniff commissioned veteran travel writer Jim Woodman to write an inflight travel magazine about the airline’s destinations in South America. On the pages he dedicated to Quito, a city he lived in as a teenager, he was “relieved to find the old city essentially unchanged and unchanging.” For Woodman, Quito, more than any Latin capital, “truly reflect[ed] its colonial heritage.” Indeed, he wrote that travelers “may relive the South America of centuries ago better in Quito than anywhere.” For him, travelers only needed to “stand” in the Plaza Independencia and “look across at noble municipal buildings and the cathedral that have been unchanged for centuries.” He also recommended visiting La Ronda Street, a “superb example of Quito’s authentic colonial streets.” But Woodman’s satisfaction mainly consisted that “Old Quito” had changed “very little since the first Spaniards laid [it] down.” For him, travelers must feel the “history that is built into Quito.”³¹ Another 1977 Braniff’s travel planner brochure also mentioned Quito, “the city founded by Spanish conquistadors,” to be “enchanted,” not only because it boasted the “perfect springlike weather,” but for its “Spanish Colonial enclaves.”³² Local airlines also reinforced Quito’s historicist trope. Ecuatoriana de Aviación, an airline created in the 1950s, embarked on a solid marketing campaign to compete with Braniff in the 1970s. The national flag airline offered “special travel adventures” when visiting Quito, the “Ancient capital of Ecuador.”³³

CONCLUSION

As many historians agree, to trace the formation of an identity, national or of a city like Quito, it is necessary to look at the mobilization of stories and rituals. National identity, for example, as Prasenjit Duara posits, is the space in which very different versions compete and negotiate. Thus, the form and content result from adopting processes of imposition of historical narratives, where historical stories and other representations of the past become a territory for affirmation, reputation, or representation of different visions of a community or a city.³⁴ Often, the imposition of a “master” narrative on a specific sociocultural context generates an effect on the perceptions that one community has about another, such as when commercial airlines created illusions in the minds of their travelers about Quito and its history.

NOTES

¹ Eduardo Kingman Garcés, “Quito, Vida Social y Modificaciones Urbanas,” in *Enfoques y Estudios Históricos Quito a Través de La Historia*, ed. Paúl Aguilar et al., Serie Quito; 6 (Quito: Dirección de Planificación, I. Municipio de Quito, Ecuador, 1992), 130.

² These images provoked a romantic and melancholic vision of Quito which eventually turned Quito into UNESCO’s world heritage in 1978. Ernesto Capello, *City at the Center of the World: Space, History, and Modernity in Quito* (Pittsburgh, Pa: University of Pittsburgh Press, 2011), 4.

³ Capello, 1–5.

⁴ Guillermo Bustos Lozano, *El culto a la nación: escritura de la historia y rituales de la memoria en Ecuador, 1870-1950* (Quito, Ecuador: Fondo de Cultura Económica, 2017), 366.

⁵ Felipe Fernández Alonso, “Las comunicaciones en un país andino: Ecuador,” *Estudios Geográficos* 17, no. 64 (August 1, 1956), 423.

⁶ Victor Wolfgang von Hagen, *Ecuador and the Galápagos Islands* (Norman: University of Oklahoma Press, 1949), 10.

⁷ Many scholars of Ecuador’s development attribute the economic backwardness during the colonial and republican era to the geographical isolation and historical struggle against dense jungles and steep mountains. For example, historian and former President of Ecuador (1981-1984), Osvaldo Hurtado, states that thanks to the construction of the Panama Canal, Ecuador integrated more effectively to the international community. For more see Osvaldo Hurtado, *Las Costumbres de Los Ecuatorianos* (Bogotá: Penguin Random House Grupo Editorial, 2018), 12-13.

⁸ Quito’s environs belonged to the hacienda—an expressly feudal and colonial system, barely populated but owned by just a few families of Spanish or creole descent. Haciendas extended entirely throughout Ecuador’s territory, especially in the Andean region. For more read Eduardo Kingman Garcés, *La Ciudad y los Otros, Quito 1860-1940: Higienismo, Ornato y Policía* (Quito: FLACSO Ecuador, 2006), 51.

⁹ Eduardo Kingman Garcés and Ana Maria Goetschel, “Quito: Las Ideas de Origen y Progreso y Las Nuevas Extirpaciones Culturales,” in *Enfoques y Estudios Históricos Quito a Través de La Historia*, ed. Paúl Aguilar et al., Serie Quito; 6 (Quito: Dirección de Planificación, I. Municipio de Quito, Ecuador, 1992), 153.

¹⁰ Harry Alverson Franck, *Vagabonding down the Andes* (New York: The Century Co., 1917), 133.

¹¹ Guayaquil and Quito Railway Company, advertisement, *Ecuador, South America*, 1937.

¹² While in Quito, Quito’s Municipal Council invited Odriozola to design Quito’s first regulatory plan in 1941. His design is known as the Odriozola Plan. Guillermo Jones Odriozola, *Plan Regulador de Quito, Memoria Descriptiva* (Quito: Imprenta Municipal, 1949), 5.

¹³ Capello, *City at the Center of the World*, 61.

¹⁴ Nigel Caspa, “Historia de Las Carreteras Del Ecuador, 1930-1960: Infraestructura y Políticas de Transformaciones,” *Revista Uruguaya de Historia Económica* XII, no. 22 (December 2022): 25.

¹⁵ von Hagen, *Ecuador and the Galápagos Islands*, 12.

¹⁶ The treatment of geography as different can be referred to Edward W. Said’s concept of “Orientalism.” Edward W. Said. *Orientalism*. New York: Vintage Books, 1994. p 3.

¹⁷ SEDTA corresponds to Sociedad Ecuatoriana de Transportes Aéreos. Panagra comes from the joint venture between Pan American Airways and Grace Lines. Its original name was Pangai. By 1941, Panagra took over all SEDTA’s routes after the United States accused the German-Ecuadorian airline to plan the bombing of the Panama Canal during WWII and solicited Ecuador’s Government to cancel the company. Dan Hagedorn, *Conquistadors of the Sky: A History of Aviation in Latin America* (Gainesville: University Press of Florida, 2008), 231, 240, 290, 330.

¹⁸ Danielle Mercer et al., “Images of the ‘Other’: Pan American Airways, Americanism, and the Idea of Latin America,” *International Journal of Cross Cultural Management* 17, no. 3 (2017): 330, <https://doi.org/10.1177/1470595817720952>.

¹⁹ W.J.T. Mitchell talks about landscape as a cultural signifier and as a body of symbolic forms capable of being invoked and reshaped to express meanings and values. Like money, landscape is good for nothing as a use-value, while serving as a theoretically limitless symbol of value. In that sense, for Mitchell, landscape becomes a commodity. For more see W.J.T. Mitchell, *Landscape and Power* (Chicago: University of Chicago Press, 2002), 14–15.

²⁰ Steven L. Driever, “Geographic Narratives in the South American Travelogues of Harry A. Franck: 1917-1943,” *Journal of Latin American Geography* 10, no. 1 (2011): 61.

²¹ Harry Alverson Franck, *Rediscovering South America* (Philadelphia: J.B. Lippincott Company, 1943), 19, 21.

- ²² Franck, 56.
- ²³ “Bit of Spain in South America,” *New York World Telegram*, 1938.
- ²⁴ “Bit of Spain in South America.”
- ²⁵ Pan American Airways and Panagra, *Can't You Just See Yourself in South America* (Hayward, California: Hayward Travel Center, 1949), 9.
- ²⁶ Alice Dalgliesh, *Wings Around South America* (New York: Charl Schribner's Sons, 1942), 34.
- ²⁷ W Robert Moore, “From Sea to Clouds in Ecuador,” *National Geographic*, LXXX, no. Six (1941): 717–26.
- ²⁸ Pan American Airways and Panagra, advertisement, “Latin Gold, Latin Bold,” 1966.
- ²⁹ Braniff International Airways, advertisement, “Braniff Introduces, The Bull Fight,” *National Geographic*, 1968.
- ³⁰ Braniff International Airways
- ³¹ Jim Woodman, *South America Beyond the Expected*. (Braniff International Airways, 1977), 37–39.
- ³² Braniff International Airways, *South America Beyond the Expected. Travel Planner 1977-78* (Braniff International Airways, 1977), 16, 31.
- ³³ Ecuatoriana de Aviación, advertisement, “Fly the Colorful Tough Birds of Ecuatoriana,” 1977.
- ³⁴ Prasenjit Duara, “Historicizing National Identity, or Who Imagines What and When,” in *Becoming National: A Reader*, ed. Geoff Eley and Ronald Grigor Suny (New York: Oxford University Press, 1996), 152–68.

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REINTEGRATION OF MISSING PARTS ON STONE SCULPTURE: COMPARING TRADITIONAL AND MODERN TECHNIQUES

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INTRODUCTION

The reintegration of missing parts on stone sculptures has undergone a long historical development. For a long period, measures to supplement missing parts involved significant interventions in the original substance. Only towards the end of the 18th century did careful handling of originals become apparent. The fundamental theoretical justification for processing missing parts was developed in the 1960s. This suggested considering the artwork as a historical complex independent of time style and contemporary taste, preserving this complexity while simultaneously reintegrating missing parts from an aesthetic perspective. There are numerous traditional methods of missing parts supplementation used in restoration. The approaches can vary and have specific advantages and disadvantages. Recently, new possibilities have emerged in the digital realm for creating three-dimensional models of artworks and editing them digitally, providing new avenues for restoration of stone sculpture in problematic cases.

A BRIEF HISTORY OF THE REPLACEMENT OF MISSING PARTS

The varied history of restoration approaches can be traced particularly well by examining the treatment of missing parts on stone sculptures. Most sculptures have undergone additions or reworking, with few exceptions like the famous Torso from the Belvedere, which Michelangelo Buonarroti admired and refused to complete out of respect for its beauty.¹ Figure 1.

In many other cases, the sculptures show different approaches to supplementing missing parts, often involving considerable changes to the original substance.

The history of the deliberate replacement of missing parts is closely linked to the rediscovery and subsequent completion of ancient sculptures. In the 16th century, many famous sculptors such as Benvenuto Cellini and Alessandro Algardi set out to create complete sculptures from ancient fragments.² This process required the adaptation of foreign fragments, which involved not only working on the broken surfaces, but also modifying the remaining original surface.

In the late 18th century, a shift towards more careful treatment of originals began, influenced by archaeologists such as Johann Joachim Winckelmann.³ However, additions continued, often resulting in significant loss of original material. Bartolomeo Cavaceppi, a proponent of these new ideas, wrote recommendations for the restoration of ancient sculptures, influencing the treatment of missing parts.⁴



Figure 1. Four views of the torso of the Belvedere, 1st century BC. Museo Pio-Clementino, Vatican Museums, Rome.⁵

His methods gained acceptance, and followers like Francesco Carradori detailed the work phases in treatises, departing from the tradition of secrecy in workshop procedures.⁶

In the 19th century, the value of the original substance was recognized, and the feasibility of restoration was questioned. Examples include Bertel Thorvaldsen's complete restoration of the Aeginetes⁷ and the display of the unrestored Parthenon sculptures in the British Museum. Renowned sculptors like Antonio Canova refused to add to the "Elgin Marbles," resulting in their incomplete state.⁸ These parallel trends, on the one hand the completion of works and on the other the recognition of the importance of the fragment, were very characteristic of the 19th century.⁹ John Ruskin emphasized the beauty of authenticity,¹⁰ while Eugène Emmanuel Viollet-le-Duc saw restoration as a product of modernism.¹¹

In the early 20th century, the "*aesthetics of the fragment*" were discovered, leading to the preservation of original states and removal of later additions for scientific or aesthetic reasons.

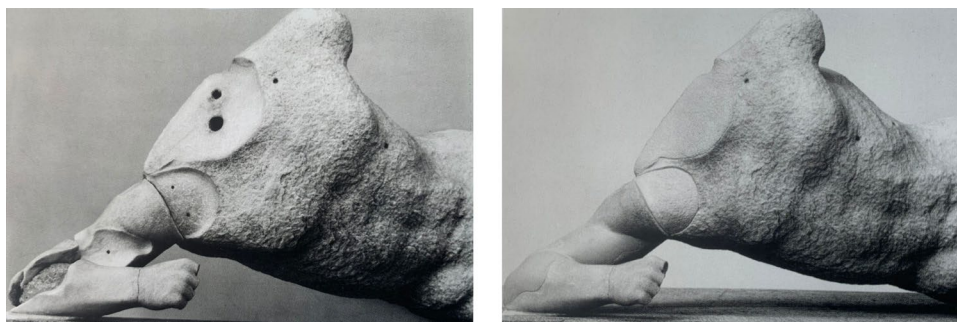


Figure 2. Sculpture of the dying warrior from the west pediment of the Temple of Aphaia, c. 510 BC, Glyptothek, Munich. Left: after the removal of Thorvaldsen's additions. Right: today's view with masked bedding.¹²

Such measures were often associated with great danger and often not without loss of the original substance.¹³ The risk of uncovering only sparse remnants of the original was readily accepted. These de-restorations often led to "*unaesthetic*" random shapes determined by earlier replacement techniques.¹⁴ This can be clearly seen in the disfigured fragments of the Aeginetes after Thorvaldsen's additions were removed in the 1960s. The visible bedding for the Cavaceppi style replacements then had to be covered with plaster. Figure 2.

In the 1960s, Cesare Brandi developed a theoretical justification for dealing with missing parts, viewing the artwork as a historically evolved whole. He advocated for additions based on meaningful findings and sources, clearly different from the original yet enhancing its perceptibility. His dialectical

method balanced restoration as both recovery of a hypothetical original state and conservation of the surviving state: ¹⁵

Restoration must aim to re-establish the potential unity of the work of art, as long as this is possible without producing an artistic or historical faux and without erasing the passage of time.

Despite Brandi's principles, restoration remains a critical interpretation bound to its time. Michelangelo Cagiano de Azevedo stated that restoration mirrors the taste and critical attitude of each age. Recognizable and removable additions are essential for preserving the integrity of the original artwork: ¹⁶

Restoration is a mirror of the taste and critical attitude of every age, and particularly the restoration of ancient works of art, which, from time to time, exalted or rejected, are those on which is most exercised the right that each generation has to relive the past according to its own experience.

This subjectivity of the additions has two serious consequences for the restoration. Additions should always be recognizable and removable without damaging the original.

Many sculptures around the world clearly show the long-term and far-reaching impact this can have. The most prominent example is the still unresolved question of whether the right arm of Laocoon, the so-called Pollak-Arm, found in 1905, is original and actually belongs to the Laocoon-Group. ¹⁷

In the 1980s and 1990s, the value of earlier additions was rediscovered, leading to re-restorations like that of the Barberini Faun. Figure 3.



Figure 3. Barberini Faun, 2nd half of the 3rd century AD, Glyptothek, Munich. From left to right: state after the additions by Pacetti 1799-1965; state after the removal of all additions in 1965; current state after the re-restoration in 1984. ¹⁸

The reassembly of Thorvaldsen's additions to the Aegina sculptures in the 1980s reflects a growing recognition of historical interventions' significance.

In the 21st century, trends show a shift away from the "culture of the fragment" towards reconstructing missing parts, as seen in the reconstruction of Antonio Rossellino's damaged Madonna relief. ¹⁹ There is a controversial debate as to whether this partial reconstruction increases clarity or impairs artistic and historical authenticity. It undoubtedly marks a departure from this tendency.

A particularly notable example was the exhibition "The Struggle for Troy" in Berlin (2015-16) highlighted the art historical significance of Thorvaldsen's additions to the Aeginetes. ²⁰ These additions are now seen as valuable testimonies of ancient art's reception history, reflecting changes in artistic and stylistic appreciations over time. The decision to exhibit Thorvaldsen's additions critiques past restoration practices and reflects on the development of methods and ethical standards in restoration.

IMPLICATIONS OF THE CONSIDERATIONS

The aforementioned examples clearly illustrate how our perceptions of artworks, their presentation, and their viewing evolve over time. They emphasize the dynamic nature of art history and the practice of reintegration of missing parts, which is always in flux and open to new interpretations.²¹ However, these examples also show that not all restoration problems can be solved with traditional methods and that new approaches need to be sought. Both re-restorations and new restorations executed in the classical manner are invasive and always carry risks to the original substance, both of the original parts and those added later, and they are rarely carried out without losses.

Today, it is more widely accepted that the varied history of use, transformation, reception, and restoration shapes the appearance and substance of artworks, and that the artworks, along with all the related historical evidence, are an important source for researching complex cultural and historical contexts. However, this is only possible if these sources remain readable, undamaged, and unaltered. Making all significant layers of history perceptible is difficult, if not impossible, with traditional methods. The statue of Demosthenes from the Ny Carlsberg Glyptothek in Copenhagen illustrates not only the eventful history of its restoration but also the problems in deciding which additions should be made.²² Figure 4. These examples confirm the limited possibilities with traditional reintegration of missing parts methods, highlighting the need to explore new paths that complement traditional methods.

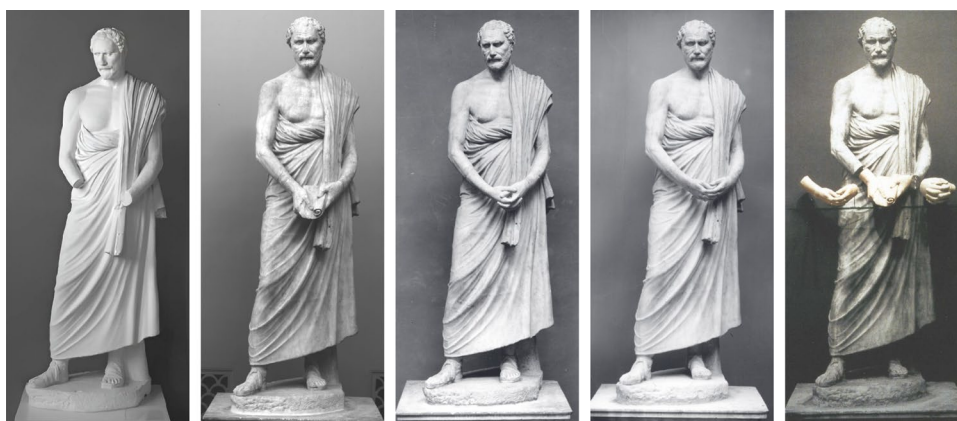


Figure 4. Statue of Demosthenes. Roman, first century A.D., Copenhagen, Ny Carlsberg Glyptothek. From left to right: plaster cast without additions; with hands made around 1770 with papyrus scroll; after insertion of the Hartwig-Barberini hands in 1954; later proposal by the conservator of the Glyptothek; presentation at the exhibition in 1980.²³

Regardless of the reasons that lead to replacement or the removal of previous additions and possible re-additions, there is a consensus that these measures must be carried out as safely as possible for the original. Examples from the past clearly show the negative consequences of careless handling.

It is now generally recognized that despite numerous attempts to formulate principles for the treatment of missing parts, the decision for a particular form of missing parts treatment and its execution will always be partly subjective, influenced by the prevailing taste of the time and linked to developments in the technical field. The short-lived phases of removal and re-restoration resulting from these varying tastes, with their mostly irreversible interventions, teach us to avoid invasive measures as much as possible, make our additions recognizable, and, if possible, design them to be reversible.

ADVANTAGES OF DIGITAL TECHNOLOGIES FOR REPLACING MISSING PARTS

Many completed restoration projects have shown that digital technologies offer significant benefits for reintegration of missing parts of stone sculptures, compared to traditional methods. Figure 5.

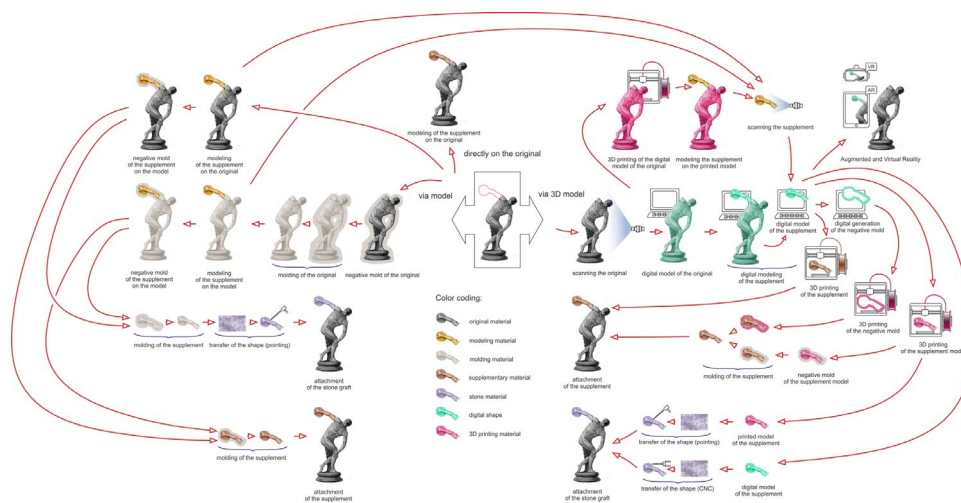


Figure 5. Schematic representation of the processes of reintegration of missing parts on stone sculpture. Comparison of classical (traditional) methods (left) and modern digital supported methods (right).

Risk Minimization through Non-Contact Methods

The use of digital technologies primarily enables a non-invasive approach. This preserves the physical integrity and condition of the original work throughout the entire process. Fully virtual procedures thus allow completely non-contact processing at all stages. Even with techniques that require physical intervention, the need for direct contact with the original is limited to the final step of applying the addition. This methodological approach aligns with stringent conservation standards²⁴ and aims to significantly reduce physical contact with the original work. Consequently, the risk of potential damage to cultural heritage is minimized, ensuring optimal protection of the original.

Support in Decision Making

Already in the restoration decision-making phase, the technology under discussion provides significant support. Whether the results of this process are materialized or remain as virtual constructs, this technology allows for targeted development of additions from the initial idea to the fine-tuning of details. Notably, it allows for the virtual simulation of various solution options before the actual restoration work on the original object begins. This ensures all modifications and adjustments can be made without unnecessary risk or damage to the original. Identical proposals in all details can be shared with stakeholders, enabling time- and location-independent collaboration and coordination, thereby speeding up the decision-making process. Additionally, digital technology facilitates access to existing reproductions or copies of the work that can serve as references for the additions. The necessary 3D models of these works can be digitally provided from anywhere without endangering the works themselves.

Support in the Completion of the Missing Parts Supplement

The development of digital additions can be carried out independently of the location of the physical original. This eliminates challenges like long travel distances, difficult locations, restricted access, or unfavorable weather conditions on-site. Virtual simulations of the selected concept and the implementation process significantly contribute to precise planning restoration measures. Before physical work begins on the original, steps can be more precisely determined, and processes more clearly defined. Visualization allows early identification of potential problem areas and risk avoidance. Modern digital technologies enable the high-precision capture and reconstruction of missing elements, crucial for complex structures and patterns.

Reversibility of Measures

The demand for reversibility of restoration measures, which according to Thomas Brachert *"raises the subsequent generation against us: to approach the original under the same conditions as we found it,"*²⁵ is mostly unattainable with traditional additions since they are physically carried out on the original. Petzet's critique of this demand and his suggestion to replace it with the demand for repeatability or *"re-restorability"* doesn't solve the problem.²⁶ He points out that the process of integrating missing parts with traditional methods cannot be reversed by an *"end-restoration"* and is rarely possible without impairing the original substance. Virtual additions, executed through Augmented Reality (AR) or Virtual Reality (VR), are absolutely reversible due to their non-invasive approach and fulfill this otherwise utopian restoration principle. These additions can be altered, removed, or replaced by improved versions without affecting the original in any way. Even all time-bound interpretations can be documented and viewed if necessary. The option of *"re-restorability"* includes, according to Petzet, *"restoration condition assessments,"* which should be conducted directly on the object in the future. This is often problematic with traditional addition methods, as much is physically altered or concealed. With virtual additions, the original experiences no changes, preserving the possibility of viewing it in its untouched state even after implementing the virtual addition.

Documentation, Knowledge Transfer, and Monitoring

Digital technologies allow precise three-dimensional documentation of all conditions of the original objects and all phases of restoration. The non-invasive approach enables capturing both discarded and realized concepts as well as the states before, during, and after restoration without affecting the original substance. These data can be easily stored, are accessible anytime and from anywhere, easily comparable, and represent a valuable resource for current and future research and restoration projects. They can be easily replicated, with all copies being identical, and shared with researchers worldwide. This facilitates accessibility, promotes scientific collaboration, and contributes to public education. The archiving of all conditions and processing phases provides a solid foundation for monitoring changes over time. These can be more accurately tracked, enabling early detection of potential dangers and timely responses. This, in turn, supports the continuous maintenance of the objects.

In-depth Reception through Interaction

Virtual addition methods significantly expand the reception of artworks through interaction. With methods carried out entirely virtually, the viewer can decide whether to view the original fragmentarily, without additions, or with virtual additions for better understanding. They can choose between additions from different eras or various interpretations that can be displayed either simultaneously or sequentially. The switch between fragmentary and reconstructed representation levels and direct comparison always take place without affecting the original.²⁷

Additionally, information in the form of audio material, texts, and images can be provided to illuminate various historical or technological aspects of the artwork. This enables a new quality of capturing the many hidden stories inherent in the object. Through interactive exchange, the original gains significance without compromising the material and ideological authenticity of the historical inventory. It is always at the viewer's discretion whether to engage with this interactive offering or focus solely on the original itself.

Conveying Complex Restoration Contexts

Public interest in restoration decision-making processes, especially the methods and foundations of restoration decisions and the visible and hidden insights of this work, is steadily increasing. This is evidenced by numerous responses to frequent and extensive exhibitions focusing on restoration aspects.²⁸

Given the growing importance of interdisciplinary studies that connect humanities, natural sciences, and restoration sciences, how this information is conveyed is gaining significance. The capabilities of digital technologies to visualize decision phases and individual processing steps in public presentations increase the comprehensibility and transparency of restoration work, making results more understandable. This enhances societal acceptance of these decisions, strengthening the professional image of restorers.

Preservation of the Original

Implementing 3D technology in restoration offers opportunities to place the original artwork at the forefront and push additions into the background. This prevents the original remnants from being visually overshadowed or covered by additions—a problem sometimes encountered with traditional reintegration methods when additions diverted the viewer's attention from the original.²⁹

With digital addition methods that include physical executions, their impact on overall artwork perception, particularly the original parts, can be assessed and adjusted in the virtual work step before real implementation. Additions can also be virtually marked afterward, e.g., through projection mapping. In fully virtual implementations, digital technologies allow interaction with the artwork, where the intensity of viewing individual parts is left to the viewer. Additions can be turned on and off, their intensity controlled, or marked according to the degree of occupation. This brings the original artwork to the forefront of consideration without losing the aura of the original in the sense of Walter Benjamin.³⁰ Experiences from the pandemic period show that additional virtual offerings increase interest in originals and enhance their appreciation.³¹

CONCLUSION

In summary, the use of digital technologies in the conservation and restoration of stone sculptures enables modern, precise, and sustainable approaches that complement traditional methods. Integrating digital technologies into restoring of missing parts on stone sculptures reduces invasive measures on the original, favoring monitoring and continuous care. These technologies allow representing various historical and technological layers without substantial interventions, relieving the original significantly. Simultaneously, they enhance the object's hidden stories with new quality. The interactive exchange between artwork and viewer leads to a new experience of the cultural monument, where the original gains significance without risks, preserving material and ideological authenticity. Time-bound interpretations and decision-making processes can be conveyed to the public, contributing to greater societal acceptance. The careful application of new digital methods can lead to new scientific insights, aligned with conservation requirements to protect the original. Despite the advantages offered by digital technologies in the reintegration of missing parts, restorers remain

responsible for the original object. All measures should aim to protect the original in all its dimensions. This is in line with the principles of restoration formulated by Cesare Brandi in the mid-20th century, which remain binding for both traditional and digital reintegration of missing parts on stone sculptures.

NOTES

- ¹ Reimund Wünsche, *Der Torso. Ruhm und Rätsel*. (München: Staatliche Antikensammlungen und Glyptothek, 1998): 28-29.
- ² Ursula Schädler-Saub, „Das Fragment zwischen realer und virtueller Ergänzung – zu den historischen und theoretischen Grundlagen und ihrer Bedeutung für unser heutiges Handeln,“ in *Das Fragment im Digitalen Zeitalter. Möglichkeiten und Grenzen neuer Techniken in der Restaurierung*, ed. Ursula Schädler-Saub et al. (Berlin: Hendrik Bäßler, 2021): 27, quoted: Licia Vlad Borelli, *Restauro archeologico. Storia e materiali*. (Roma: Viella, 2003).
- ³ Orietta Rossi Pinelli, “Capolavori del Destino”: la fortuna del Torso e i frammenti dell’antico,“ in *La forza delle Rovine*, ed. Marcello Barbanera et al. (Milano: Electa, 2016): 54.
- ⁴ Bartolomeo Cavaceppi, *Raccolta d'antiche statue busti bassirilievi ed altre sculture restaurate da Bartolomeo Cavaceppi scultore romano*, Vol. I-III, (Roma: per Generoso Salomoni, 1768–1772).
- ⁵ Reimund Wünsche, *Der Torso. Ruhm und Rätsel*. (München: Staatliche Antikensammlungen und Glyptothek, 1998), from left to right: cover inside, 20, 23 and 24.
- ⁶ Francesco Carradori, *Elementary Instructions for Students of Sculpture*, trans. Matti Kalevi Auvinen (Los Angeles: J. Paul Getty Museum, 2002); Italian original published 1802.
- ⁷ Raimund Wünsche, *Kampf um Troja. 200 Jahre Ägineten in München*. (Lindenberg im Algäu: Kunstverlag Josef Fink, 2011).
- ⁸ Astrid Fendt, *Archäologie und Restaurierung. Die Skulpturenergänzungen in der Berliner Antikensammlung des 19. Jahrhunderts*. (Berlin and Boston: De Gruyter, 2012): 450ff.
- ⁹ The evaluation of these different solutions was also contradictory at the time. The French art historian Antoine-Chrysostome Quatremère de Quincy (1755-1849) praised both the additions to the Aeginetes and Canova’s refusal to supplement the fragments of the “Elgin Marbles”. Thorvaldsen’s work was praised for the supposedly perfect adaptation to the archaic style, while Canova’s refusal was recognized as a sign of respect for the ancient artists. See: Ursula Schädler-Saub, „Das Fragment zwischen realer und virtueller Ergänzung – zu den historischen und theoretischen Grundlagen und ihrer Bedeutung für unser heutiges Handeln,“ in *Das Fragment im Digitalen Zeitalter. Möglichkeiten und Grenzen neuer Techniken in der Restaurierung*, ed. Ursula Schädler-Saub et al. (Berlin: Hendrik Bäßler, 2021): 28, quoted: Orietta Rossi Pinelli, “Capolavori del Destino”: la fortuna del Torso e i frammenti dell’antico,“ in *La forza delle Rovine*, ed. Marcello Barbanera et al. (Milano: Electa, 2016): 52-71.
- ¹⁰ John Ruskin, *The Seven Lamps of Architecture*. (London: Smith Elder, and Co., 1849).
- ¹¹ Eugene Emmanuel Viollet-le-Duc, *Dictionnaire raisonné de l’architecture française du XIe au XVIe siècle*. (Paris: Bance et Morel, 1854).
- ¹² Raimund Wünsche, *Kampf um Troja. 200 Jahre Ägineten in München*. (Lindenberg im Algäu: Kunstverlag Josef Fink, 2011): 98.
- ¹³ Orietta Rossi Pinelli, “Capolavori del Destino”: la fortuna del Torso e i frammenti dell’antico,“ in *La forza delle Rovine*, ed. Marcello Barbanera et al. (Milano: Electa, 2016): 65-67.
- ¹⁴ Lisa Giombini, “Authenticity and the Eye of the Beholder: Aesthetics and the Principles of Art Restoration,“ in *Aesthetics in Dialogue: Applying Philosophy of Art in a Global World*, edited by M. Rynänen and Z. Somhegyi. (Berlin: Peter Lang, 2020): 151ff.
- ¹⁵ Cesare Brandi, *Theory of Restoration*, trans. Cynthia Rockwell (Florence: Nardini, 2005); Italian original published 1963, original quotation: “*Il restauro deve mirare al ristabilimento della unità potenziale dell’opera d’arte, purché ciò sia possibile senza commettere un falso artistico o un falso storico, e senza cancellare ogni traccia del passaggio dell’opera d’arte nel tempo*”.
- ¹⁶ Michelangelo Cagiano de Azevedo, *Il gusto nel restauro delle opere d’arte antiche*, (Roma, 1948): 5, original quotation: “*Il restauro è lo specchio del gusto e della attitudine critica di ogni epoca, e in particolare il restauro delle opere d’arte antiche, le quali, volta a volta, esaltate o respinte, sono quelle su cui è più esercitato il diritto che ha ogni generazione di rivivere il passato secondo la propria esperienza*”.
- ¹⁷ Maria Wiggen, *Die Laokoon-Gruppe. Archäologische Rekonstruktionen und künstlerische Ergänzungen*. (Ruhpolding and Mainz: Franz Philipp Rutzen, 2011): 21-60.
- ¹⁸ Harald Schulze, „Die sinnlichste Statue der Welt,“ in *Das schönste Kaufbare. Untersuchungen zu Skulpturen der Glyptothek*, ed. Florian S. Knauß (Lindenberg: Josef Fink, 2018), from left to right: 150; 152 and 140.
- ¹⁹ Julien Chapuis et al. ed. *Das verschundene Museum. Die Verluste der Berliner Gemälde- und Skulpturensammlungen 70 Jahre nach Kriegsende*. (Petersberg: Michael Imhof, 2015), 102-109.

- ²⁰ Raimund Wünsche, *Kampf um Troja. 200 Jahre Ägineten in München*. (Lindenberg im Algäu: Kunstverlag Josef Fink, 2011).
- ²¹ Ulrich Schießl, „Restaurierungsmoden – ihre Auslöser und ihre Folgen.“ *Zeitschrift für Kunsttechnologie und Konservierung* 11/2 (1997): 180-185.
- ²² Mette Moltesen, „De-restoring and Re-restoring. Fifty Years of Restoration Work in the Ny Carlsberg Glyptotek,” in *History of Restoration of Ancient Stone Sculpture*. (Los Angeles: The Paul Getty Museum, 2003): 207-210.
- ²³ Figures from left to right: plaster cast without additions - <http://swop.gbv.de/2020/07/16/demosthenes-2/>; three versions of the addition - Ralf von den Hoff, „Die Bildnisstatue des Demosthenes als öffentliche Ehrung eines Bürgers in Athen,” in *Rollenbilder in der Athenischen Demokratie: Medien, Gruppen, Räume im politischen und sozialen System*, ed. Haake, Matthias et al. (Wiesbaden 2009): 26-27; presentation at the exhibition in 1980 - Mette Moltesen, „De-restoring and Re-restoring. Fifty Years of Restoration Work in the Ny Carlsberg Glyptotek,” in *History of Restoration of Ancient Stone Sculpture*. (Los Angeles: The Paul Getty Museum, 2003): Plate XV., see also: Claudia Valeri, "Il demostene di Polyeuktos e la ricostruzione Hartwig nella Gipsoteca di Emanuel Löwy," in *Studi Miscellanei*: 37, (Roma: "L'Erma" di Bretschneider, 2013): 109. In 1983 it was decided to restore the hands with the eighteenth-century papyrus scroll.
- ²⁴ Katrin Janis, *Restaurierungsethik im Kontext von Wissenschaft und Praxis*. (München: Martin Meidenbauer, 2005).
- ²⁵ Thomas Brachert, „Reversibilität aus der Sicht des Restaurators im Museum,“ in *Reversibilität. Das Feigenblatt in der Denkmalpflege?* ed. Deutschen Nationalkomitees ICOMOS (München Karl M. Lipp, 1992): 27.
- ²⁶ Michael Petzet, Reversibilität – das Feigenblatt in der Denkmalpflege? in *Reversibilität – das Feigenblatt in der Denkmalpflege?* ICOMOS Journals of the German National Committee 8/1992 (München: Karl M. Lipp, 1992): 11ff.
- ²⁷ In the case of the Pan statue in the Ny Carsberg Glyptothek in Copenhagen, whose missing head was added in 1550 and then removed during a re-restoration in the 1980s, it was decided around the year 2000 that the head from the 16th century should be reinstalled “with the option to take it off on demand”. In this case, it is in principle possible to switch between the levels of representation, but this cannot be carried out without specialised personnel and without endangering the original. see: Mette Moltensen: “I ri-restauri della statuaria antica nella Ny Calsberg Glyptotek di Copenhagen,” in *Il corpo dello stile. Cultura e lettura del restauro nelle esperienze contemporanee Studi in ricordo di Michele Cordaro*. (Roma: 2005): 97.
- ²⁸ Andrea Funck, *Verborgene Wissenschaft? Restaurierung als Vermittlungsthema in Museen*. (Bielefeld: Transcript, 2016).
- ²⁹ The additions to the Athena Parthenos figure from the Pergamon Museum in Berlin in 2002 were a clear example of such an effect. The highly criticized, abstractly added forms were revised again shortly afterwards in 2015. See: Wolfgang Maßmann et al., „Restaurierungsmaßnahmen an pergamenischen Marmorstatuen: Drei Fallbeispiele für Ergänzungen und Rekonstruktionen,“ in *Pergamon. Meisterwerke der Antiken Metropole und 360°-Panorama von Yadegar Asisi*, ed. Staatliche Museen zu Berlin – Preußischer Kulturbesitz, (Petersberg: Michael Imhof, 2018): 173-174.
- ³⁰ Walter Benjamin, *Das Kunstwerk im Zeitalter seiner technischen Reproduzierbarkeit*. (Frankfurt am Main: Suhrkamp, 2006).
- ³¹ Witold Kanicki. “The Work of Art in the Age of Digital Reproduction.” 2020, accessed July 06, 2024. <https://poznartweek.com/en/articles/the-work-of-art-in-the-age-of-digital-reproduction/>

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STATE VISIONS IN MID-TWENTIETH CENTURY: THE INTERPLAY OF HEALTH, ARCHITECTURE, AND PROPAGANDA IN TURKISH DOCUMENTARY FILMS

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INTRODUCTION

In cinema, the concept of truth is linked to that of its portrayal via the use of artistic cinematic techniques (such as use of lenses, colors, zoom shots, framing, sounds and most importantly editing) and narrative constructs.¹ These lead to a questioning of reality when analyzing documentary films. “Cinema verité”, the use of genuine film footage featuring a historical figure with a deliberate use of a shaky camera, can be effective in guiding viewers to perceive a film as a documentary,² however not all documentary films are cinema verité, especially propaganda films. After the First World War, many countries, especially the newly established nation-states, exercised the power of propaganda via documentary films. Ann-Louise Shapiro in her interview with Jill Godmilow states that even though she finds this claim exaggerated, nevertheless, the documentary films can consciously aim to transform the viewers’ perception via recontextualization of the film’s “temporal, spatial and intellectual framework”.³

This research draws upon the relationship between architecture/cinema, state propaganda, construction, healthcare architecture, and mid-century documentary films produced by the government of the Republic of Turkey. The aim is to examine the presentation of healthcare architecture as a propaganda tool in the mid-twentieth century documentary films prepared by two different Turkish governments in power during two periods of transition: the early republican period (1920-1930) when the founder Republican government (CHP) was in power and the mid-twentieth century when the political power shifted to its opposition: the Democrat Party (DP).

This study employs the documentary films preserved in the archives of the Republic of Turkey - Ministry of Culture and Tourism (*T.C. Kültür ve Turizm Bakanlığı*) as its main sources. The films’ accompanying narrative assesses the spaces and architectures of health, illuminating the spatial confrontation and utilization of the nation’s health discourse in mid-twentieth-century Turkey. Invaluable archives for architectural historiography, documentary films blended the socio-political motivations of generating political propaganda via a narrative of health, construction, and the empowering nature of architectural endeavors.

A quotation as a concluding statement to one of the documentary films⁴ is “always move forward and move forward more *efficiently* in the service of the country.” This research demonstrates that translating the term “efficient” as “aggressive” is a more accurate interpretation of the propaganda films produced by the DP government.

REPUBLICAN INFLUENCE ON NATIONAL HEALTH DISCOURSE

After its establishment in the 1920s, Turkey witnessed substantial changes during its transition from the imperial regime to the republican one with major socio-cultural transformations. The proliferation of written and visual mass media also spread contemporary ideas and agendas which in return transformed societal perspectives. The state was aware that the most effective way to generate propaganda in internal and external state affairs were propaganda films.⁵ The government used mass media, especially cinema,⁶ for propaganda to advertise and inform the people about the advent of industrial, technological, scientific progress, especially of the construction industry. Propaganda films aimed to spread the government's efforts to modernize/Westernize and gain the people's favor for their cause. The importance of subtle propaganda was also evident in an article, *Propaganda through Cinema (Sinema ile Gelen Propaganda)*, published in *Resimli Ay* in 1930.⁷

The propaganda endeavors of the republican government included the surveillance and prohibition of films that had the potential to damage the nation's image. The new state wanted to portray Turkey as modern and progressive, just like contemporary Western nations.⁸ Hence, the state supported and initiated the preparation of propaganda films in the documentary film format, which showed the progress of the nation via different achievements.

Concern for the nation's health with a focus on combating contagious diseases was a vital component of *Kemalist reforms*, i.e., reforms of Mustafa Kemal Atatürk who was the founder of the Turkish state.⁹ With a pedagogical goal to inform the public about contagious diseases, the government – the founder People's Republic Party (CHP) – distributed short documentary films throughout Anatolia. Even though these endeavors aimed to promote the establishments of the new “healthy” *nation-state*, they had a more pedagogical intention when compared to the subsequent political era. The documentary film titled “Trade and Teacher Schools and *Numune* (Exemplary) Hospital” from the early republican period demonstrated these intentions.¹⁰ The founding government prioritized the construction of education and cultural institutions and advertised the newly established facilities such as the Atatürk Education Institute in the new capital city Ankara (Figure 1). The film promoted this institution as the education center for the future instructors of Turkey who will raise “the new intellectual forces.”

The film emphasized the importance of raising healthy and robust new generations for the future of the republic. The cultural changes in the experiences of women and their role in the broader society also became part of the documentary films during the early republican period. Women started to assert their role in the emerging new social structure,¹¹ and emerged as a significant component of the national discourse on health, portrayed as actively engaged in employment and physical activity (Figure 1).

To contribute to the discourse of “health of the nation”, the scenes from the dining hall in the Atatürk Institution complex demonstrated and promoted following a healthy diet, with closer shots of the dishes of nutritious food. The scenes from the entertainment hall and open-air sports facilities demonstrated the importance of physical activities (Figure 1). The narration supported these scenes with a statement: “They [the educators] will raise the next generation to be not only knowledgeable but also physically fit and resilient.”



Figure 1. The Atatürk Education Institute in Ankara. Upper left: The carpentry workshop. Upper right: The sports facilities. Lower left: The entertainment hall. Lower right: The dining hall. Source: “Trade and Teacher Schools and Numune Hospital” (early republican period).

The construction of healthcare facilities and their promotion in documentary films further supported this discourse on raising healthy citizens. One of the first hospitals established in the early republican period was the Ankara *Numune* (Exemplary) Hospital in the capital city (Figure 2). The film adopted the discourse of the “provision of examination, treatment and medication to the economically disadvantaged”.

The scenes from the hospital spaces demonstrated the state-of-the-art facilities and machines, and the experienced doctors in these scenes ensured the citizens of their health, safety and security in the hands of the state. As the narration accompanying these scenes stated: “Turkey has the most advanced and contemporary machine-therapy clinic in the Balkans and the near East.” Tuberculosis was one contagious disease which took many lives;¹² thus, the state took it upon itself to establish new sanatoriums or tuberculosis pavilions in the hospital complexes.¹³ The film promoted the new state’s establishments by showcasing scenes of physicians overseeing the treatment of tuberculosis patients, and hygienic service spaces of the facilities such as the kitchens and dining halls (Figure 2). The narration acquainted the viewers of statistical data of individuals who received medical treatment at these public hospitals and with an insurance that these services will soon spread to the rural areas.

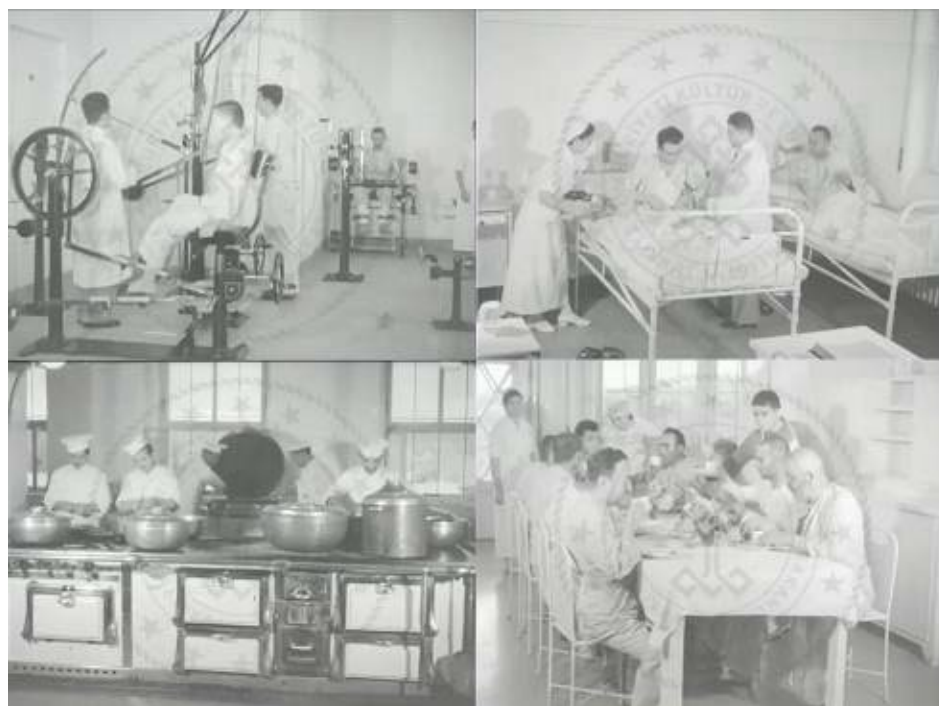


Figure 2. The Ankara Numune Hospital. Upper left: Machine-therapy clinic. Upper right: Tuberculosis wards. Lower left: The kitchen. Lower right: The dining hall. Source: “Trade and Teacher Schools and Numune Hospital”.

THE INTERSECTION OF POLITICS AND CONSTRUCTION IN MID-CENTURY

In 1950, the political power shifted from the founder Republican government, People’s Republic Party (CHP), to the opposition: the Democrat Party (DP). The Democrat Party was officially founded in 1946 and gained control in the elections of 1950. Its reign ended abruptly with the 1960 coup. The 1950s under the rule of DP government were characterized by: (1) a rapidly-developing economy due to industrialization followed by a mid-1950s financial crisis; (2) unplanned urbanization and formation of squatter (*gecekondu*) neighborhoods due to mass migrations from rural to urban areas; (3) the rise of populist Islam and resultant rejection of foreign identities; and especially towards the end of the 1950s (4) constitutional oppression and censorship to any opposing views to the DP government.¹⁴

DP was more capitalist than statist. This capitalist approach was due to its coinciding ascent to power with the postwar period’s globally thriving building sector, cold war period’s dilemma between capitalism and communism, when Turkey aligned itself with the capitalist half. DP assumed the responsibility of carrying on and surpassing the discourse of the founding government, which was “the building/construction power”. DP aimed to demonstrate that it would achieve more success compared to the founding Kemalist government in this arena.

To demonstrate the construction power of the new government, many documentary films were prepared in mid-twentieth century to promote the institutions and achievements of DP, and the new government filmed construction sites, renewed or newly built urban spaces, public buildings, with a specialized focus on healthcare architecture.

The documentary titled “Our Country is a Treasure”¹⁵ presented the activities and investments of DP. Even though early republican Turkey with CHP had established many projects, the DP government’s propaganda stated: “Our nation has just embarked on a fresh era of infrastructure projects and progress,” dismissing or diminishing the efforts of its predecessor. The narration which followed these

scenes incorporated subliminal messages. For instance, a statement followed the scenes of the cutting-edge road construction technologies: “aiming to swiftly remove any impediments in its path.” This was a message that the new government exercised power to overcome any difficulties (or *politically potential obstacles?*).

Housing for the increasing population was an important undertaking. Sanitary housing meant healthy and robust workers who would contribute to the advancement of the country. The documentary titled “Let’s get to Know our Country” (1955) which featured Izmir,¹⁶ the third largest city of Turkey and a port city, presented the construction site and the architectural model of a new housing project of 100 apartment flats with a promise of its “nearing completion” (Figure 3). The film promoted housing and new villages for factory workers with a message: “The government places significant attention to the housing and health of Turkish workers.” The development of agriculture was one of the aims of the DP government. The introduction of agricultural technology in mid-century Turkey heralded what historians would later refer as the “tractor years”.¹⁷ Meanwhile, the government deemed the construction of new villages as essential for the health of the nation and emphasized that villagers and urban inhabitants should live in similar “civilized living conditions” (Figure 3), and “only the highest-ranking officials of the DP state” could achieve this.



Figure 3. Upper row: The architectural model and the construction site of a new housing facility in Izmir. Lower row: Buca Sanatorium in Izmir. Source: “Let’s Get to Know Our Country: Izmir” (1955).

The act of construction of new infrastructural facilities such as new and more powerful power plants was another propagandistic discourse: The documentary film advertised the construction of 85 “regional hydroelectric facilities” and “coal-fired” power plants that produced affordable energy, all constructed “in just four years” after DP’s election. The films presented new educational facilities, however, the discussion differed from the early republican propaganda that highlighted the significance of education. Instead, investments of education became one of the components of the construction propaganda, contrasting the initiatives and discourse of the early republican government.

CONSTRUCTING POLITICAL NARRATIVES: THE PERSUASION OF HEALTHCARE ARCHITECTURE

The films highlighted the construction of healthcare architecture. As emblems of modern architecture,¹⁸ and as part of the ongoing public health project since the early Republican period,¹⁹ modern hospitals and tuberculosis sanatoriums have received special attention. Even though the medicinal achievements announced the antibiotic treatment in the 1940s, the government could not effectively distribute the medicine in Turkey. Thus, fighting tuberculosis via architecture became an effective tool of political propaganda. Tuberculosis was also correlated with the proletariat, thus the sanatoriums established by the Workers' Insurance were among the promoted healthcare facilities (Figure 3). The following subsections will focus on the two newly constructed healthcare facilities that constituted important sections in two documentary films. One was Süreyyapaşa Tuberculosis Sanatorium Complex for the Workers' Insurance Institution in Istanbul,²⁰ and the other was Istanbul Hospital of the Workers' Insurance Institution.²¹



Figure 4. Venues from Süreyyapaşa Sanatorium in Istanbul. Source: "Various Events" (1957).

Süreyyapaşa Tuberculosis Sanatorium Complex

Philanthropist Süreyya İlmen donated the site of the sanatorium in Maltepe region, along with the family's kiosk (a traditional vineyard house).²² In its inauguration, the state officials expressed their gratitude towards the deceased İlmen and his bust was placed at the site to commemorate him (Figure 4).

The film promoted the extensive number of beds, state-of-the-art sanitary/hygienic amenities (Figure 4), and not only featured the state officials but also the crowd in the opening ceremony, as well as the "happy" patients resting in the facilities. The scene from the film showed patients in the courtyard of an old building, relaxing and gazing optimistically at a new block-type structure, which served as a sign of their health in the future (Figure 5). The interior spaces of the sanatorium, i.e., the bedrooms, the dining halls, the cure terraces, were all showcased in their untouched state as a work-of-art of

modern architecture, demonstrating the hygienic and luxurious quality of the facilities (Figure 4). The narration, which accompanied these scenes, exalted the DP government.

The speeches of the state officials at the inauguration ceremony hinted at the strong relationship between the government and the proletariat, and the government's appreciation of their "collaboration and affection". The film promoted the *400-bed* sanatorium complex as a reward for *this* collaboration, and this could be read as a clear message: If the people continued to support the government, incentives like healthcare facilities would be provided.



Figure 5. Tuberculosis patients before the new block-type building in the Süreyyapaşa Sanatorium complex in Istanbul. Source: "Various Events" (1957).

Istanbul Hospital of the Workers' Insurance Institution

The discourse of the construction of the hospital complexes was similar to that of the tuberculosis institutions. The government constructed another example of healthcare architecture by the initiatives of the Workers' Insurance. The hospital complex was situated in the Samatya district of Istanbul, "offering scenic views of the sea and pure air". The narrator emphasized the healthy atmosphere of the city with these features and promoted the complex as a new asset of Istanbul. The indication of the number of beds was also significant as it meant more accommodation for the sick who would get better faster to contribute back to society. The scenes featured the quarantine service, physical therapy service, X-ray department, laboratories, operation rooms, and the quarters of the hospital staff. The film promoted the patient rooms/units in wards and advertised the luxuries of built-in sinks, built-in cupboards, radio installations, and private bathrooms (Figure 6).

Featuring President Celal Bayar and the people's affectionate reactions to the president was vital. Minister of Labor (Haluk Şaman) used this incident to promote the achievements of DP's rule of the past decade. He said:

"Our successes over the last decade are evident. In the future, our beloved motherland will receive many more masterpieces, each of which will be an asset to our country and play an important part in bringing Turkey to the level of one of the most advanced and civilized countries. We have a magnificent monument front of us, which will be operational soon."

Şaman promoted the new facility as the most expensive healthcare establishment in the country and introduced the architectural typology of the complex as a good example of a “block-type building of modern hospital architecture”. This was an announcement of a new building type and terminology which dominated the 1950s’ architecture in Turkey.²³



Figure 6. Venues from the Istanbul Hospital of the Workers’ Insurance Institution. Source “Various Events” (1960).

STATE POWER THROUGH HEALTHCARE ARCHITECTURE

In the documentary films, the political discourse accompanied scenes of construction or inauguration of healthcare facilities. This political discourse included state officials giving speeches, analyzing the building/site, or symbolically pouring the first cement to the construction site, “to set a strong foundation” (Figure 7). The state leaders delivering speeches at the construction sites or in front of architectural models (or both),²⁴ as seen in the documentary film titled “Various Events I” (1957),²⁵ sent a strong message. It was an assumption that quantity of construction was a display of power (Figure 7). To the larger public, these documentary films conveyed the reactions of the people – the crowds – at these events. The demonstration of the unwavering support by the public for the new government was an element of persuasion of the larger Anatolian audience/voters.

It was also common to show the state officials inspecting the new facilities accompanied by the hospital staff. To the spectators, the act of a thorough examination and endorsement by the highest authorities was an assurance of the success of the new healthcare facilities. This was also a message that conveyed the government’s genuine concern for the well-being of its people, particularly the labor force (Figure 8).

CONCLUSION

According to the DP government, size, multiplicity and visibility of construction were the most important elements to show success. DP propaganda used phrases such as “the most modern construction” and “the most developed technique” to indicate budget, size, materials, and speed.²⁶ In

the documentary film titled “Our Country is a Treasure” from 1954, following the introduction of the prominent state figures, the slogan of DP was announced: “Our duty is to always move forward and move forward more *aggressively* in the service of the country, which is a treasure.” Healthcare architecture and the coded acts – discussed here – became tools of state propaganda in mid-twentieth-century documentary films during Turkey’s turbulent 1950s’ transition era.



Figure 7. Upper left: “Construction of the (305 bed) Ankara Hospital of the Workers’ Insurance Institution. Project architect: Cevdet Beşe. Contractor: Emcet Zadi.” Upper right: The architectural model. Lower left: The state official giving a speech at the construction site before the architectural model. Lower right: The act of “pouring the first cement”. Source: “Various Events I” (1957).



Figure 8. State officials inspecting the facilities, accompanied and informed by the hospital staff in Istanbul Hospital of the Workers’ Insurance Institution during its inauguration. Source: “Various Events” (1960).

NOTES

- ¹ Richard M. Blumenberg, “Documentary Films and the Problem of ‘Truth,’” *Journal of the University Film Association* 29, no. 4 (1977): 20, <http://www.jstor.org/stable/20687386>.
- ² Dirk Eitzen, “When Is a Documentary?: Documentary as a Mode of Reception,” *Cinema Journal* 35, no. 1 (1995): 95, <https://doi.org/10.2307/1225809>.
- ³ Jill Godmilow and Ann-Louise Shapiro, “How Real Is the Reality in Documentary Film?,” *History and Theory* 36, no. 4 (1997): 82, <http://www.jstor.org/stable/2505576>.
- ⁴ *Yurdumuz bir hazinedir [Our country is a treasure]*, Documentary (Republic of Turkey Directorate of Culture and Tourism, 1954), <https://filmmirasim.ktb.gov.tr/tr/film/yurdumuz-bir-hazinedir>.
- ⁵ The first documentary film introduced in Turkey was a 1914 film that showed the destruction of a Russian victory monument in Istanbul during the 1876 war. See. Ceyda Aslı Kılıçkiran, “Women in Turkish Cinema,” *Insight Turkey*, no. 11 (1997): 89, <http://www.jstor.org/stable/26726577>.
- ⁶ Turkish cinema started developing its distinct identity in the “pro-cinema” era in the 1950s. Kılıçkiran, 89.
- ⁷ The author also argued: “it is clear from experience that it is meaningless to make a straight propaganda film. Nobody can bear watching a film made purely to propagate an idea. It is for this reason that propaganda is integrated into normal films.” See. Anon., “Sinema ile Gelen Propaganda [Propaganda through Cinema],” *Resimli Ay* 6, no. 11 (January 1930): 16–17; cited in Boyar and Fleet, “‘Mak[Ing] Turkey and the Turkish Revolution Known to Foreign Nations without Any Expense’: Propaganda Films in the Early Turkish Republic,” 129.
- ⁸ Boyar and Fleet, “‘Mak[Ing] Turkey and the Turkish Revolution Known to Foreign Nations without Any Expense’: Propaganda Films in the Early Turkish Republic,” 126.
- ⁹ Ceren Gülser İlikan Rasımoğlu, “Erken Cumhuriyet Döneminde Sağlıklı Bireyin İnşası: Pronatalist Politikalar, Çocuk Sağlığı ve Verem,” *İstanbul Üniversitesi Sosyoloji Dergisi* 39, no. 2 (2019): 329–57; Fatih Tuğluoğlu, “Cumhuriyetin ilk döneminde verem mücadelesi ve propaganda faaliyetleri,” *Yakın Dönem Türkiye Araştırmaları*, no. 13–14 (2008): 1–26.
- ¹⁰ *Ticaret ve öğretmen okulları ile numune hastanesi [Trade and teacher schools and Numune hospital]*, Documentary (Republic of Turkey Directorate of Culture and Tourism, 1930), <https://filmmirasim.ktb.gov.tr/tr/film/ticaret-ve-remten-okullar-ile-numune-hastanesi>.
- ¹¹ Kılıçkiran, “Women in Turkish Cinema,” 89.
- ¹² Cansu Degirmencioglu, “Serving the Nation on a Recliner: Public Sanatoria of Early Republican Istanbul,” in *13th International Congress the History of Modern Spanish Architecture for Health, Resting and Well-Being (1914-1975)* (Conference Proceedings, Pamplona, Spain, 2022), 235–42.
- ¹³ For more information on tuberculosis and architecture in Turkey, see. Deniz Avcı, Cansu Değirmencioğlu, and Orçun Kepez, “Architecture of Convalescence: Mapping the Sanatorium Heritage of Turkey,” *Modern Architecture Research Award* (Ankara: Mimarlar Derneği 1927, 2022); Deniz Avcı and Cansu Değirmencioğlu, “Between Medicine and Architecture in Mid-Century Turkey: Ankara’s Atatürk (Keçiören) Sanatorium,” *VEKAM Ankara Research Award* (Ankara: Koç Üniversitesi Vehbi Koç Ankara Araştırmaları Uygulama ve Araştırma Merkezi, 2023); Nuran Yıldırım and Mahmut Gürkan, *Türk Göğüs Hastalıkları Tarihi [History of Turkish Chest Diseases]*, ed. Muzaffer Metintaş (İstanbul: Türk Toraks Derneği, Aves Yayıncılık, 2012).
- ¹⁴ İpek Akpınar, “Menderes İmar Hareketleri Türkleştirme Politikalarının Bir Parçası mıydı? Arredamento Mimarlık, No. 290 (May 2015), 84–118.,” *Arredamento Mimarlık*, no. 290 (May 2015): 86.
- ¹⁵ *Yurdumuz bir hazinedir [Our country is a treasure]*.
- ¹⁶ *Yurdumuzu tanıyalım: İzmir-02 [Let’s get to know our country: Izmir-02]*, Documentary (Republic of Turkey Directorate of Culture and Tourism, 1955), <https://filmmirasim.ktb.gov.tr/tr/film/yurdumuzu-tanyalm-izmir-02>.
- ¹⁷ Afife Batur, *A Concise History: Architecture in Turkey during the 20th Century* (Ankara: Chamber of Architects of Turkey, 2005).
- ¹⁸ Margaret Campbell, “What Tuberculosis Did for Modernism: The Influence of a Curative Environment on Modernist Design and Architecture,” *Medical History* 49, no. 4 (October 2005): 463–88, <https://doi.org/10.1017/S0025727300009169>; Philippe Grandvoinnet, “Sanatoriums in Europe: Build Heritage and Transformation Strategies,” *Docomomo Journal*, no. 62 (2020): 45–51.
- ¹⁹ Deniz Avcı-Hosanli and Cansu Degirmencioglu, “From ‘Prototype’ to ‘Model’: Architectural and Spatial Development of Block A (1924–1945) of Istanbul’s Heybeliada Sanatorium,” *Frontiers of Architectural Research* 13, no. 1 (2024): 1–20, <https://doi.org/10.1016/j.foar.2023.09.006>; Deniz Avcı and Cansu Değirmencioğlu, “100. Yılda İstanbul Sanatoryumlarına Yeniden Bakmak: Yapı Tipleri ve Veremden Sonraki Yaşamları,” in *Cumhuriyet’in 100. Yılında Mimarlık*, ed. İpek Akpınar and Şebnem Hoşkara (Ankara: İdealkent, 2024).

- ²⁰ *Çeşitli olaylar [Various events] (Includes “Opening of the 400-bed Süreyya İlmen Worker Sanatorium in Maltepe”)*, Documentary (Republic of Turkey Directorate of Culture and Tourism, 1957), <https://filmmirasim.ktb.gov.tr/tr/film/eitli-olaylar-1957>.
- ²¹ *Çeşitli olaylar [Various events] (Includes “Opening of Istanbul Workers’ Insurance Institution Hospital”)*, Documentary (Republic of Turkey Directorate of Culture and Tourism, 1960), <https://filmmirasim.ktb.gov.tr/tr/film/eitli-olaylar-1960-1>.
- ²² Abit Köymen, *Süreyyapaşa Göğüs Hastalıkları Merkezi 25.Yıl*, Sosyal Sigortalar Kurumu Genel Müdürlüğü Yayınları 270 (İstanbul: SSK ve İstanbul Matbaası, 1977).
- ²³ Mete Tapan, “International Style: Liberalism in Architecture,” in *Modern Turkish Architecture*, ed. Renata Holod and Ahmet Evin (Philadelphia, PA: University of Pennsylvania Press, 1984), 105–18.
- ²⁴ Cansu Degirmencioglu and Deniz Avcı-Hosanli, “The Politics of Cutting and Gluing: Architectural Models as Propaganda in Early Republican Turkey,” in *Are You a Model? On an Architectural Medium of Spatial Exploration* (Darmstadt / Frankfurt, 2022); T. Elvan Altan, “Mimarlık Tarihi Bağlamında Maket,” in *Düşünme ve Görselleştirme Aracı Olarak Türkiye’de Mimari Maket: 20. Yüzyıldan Bir Kesit*, ed. Pelin Derviş (İstanbul: Mimarlar Derneği 1927, Müşterek Yapım, 2020), 70–91.
- ²⁵ *Çeşitli olaylar [Various events] (Includes “Ankara Dışkapı SSK Hospital”)*, Silent Documentary (Republic of Turkey Directorate of Culture and Tourism, 1957), <https://filmmirasim.ktb.gov.tr/tr/film/acilis-goruntuleri>.
- ²⁶ Akpınar, “Menderes İmar Hareketleri Türkleştirme Politikalarının Bir Parçası mıydı? Arredamento Mimarlık, No. 290 (May 2015), 84–118.” 86.

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CONTEMPORARY FREEJ

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INTRODUCTION

Dubai has not always been the way it is portrayed in the media, a shimmering skyline of glass and steel towers, a lavish and extravagant display of architecture, wealth, and luxury. The city was once a humble fishing village, small, compact, and organic. Bedouins settled by the Dubai Khor (now known as Dubai Creek) a different landscape with different living conditions when compared to the barren desert they are used to. Bedouins migrate back and forth between the coast and the deserts, depending on the seasons and food availability. This was more of a nomadic way of living. The creek's settlements emerged from the coast and expanded outward, split to either side of the creek and named Bur Dubai and Bur Deira (desert of Dubai and desert of Deira). The settlements were organic, and the population was densely packed by the creek, making it a major geological element in the development of Dubai's urban structure. On the micro-scale, the urban fabric was made up of Freej's,¹ which were made up of Sikka's.² The Sikka's were a place where culture thrived and of multiple use. Fast forward to the present time, we do not see the dense activities that used to happen in the Freej. We are faced with empty streets and barely any social interactions. After the discovery of oil, Dubai was heavily influenced by the British which led to some of the British architects becoming involved in the development of the urban fabric.³ This external point of view resulted in implementations that were not suitable to the urban conditions of Dubai.



Figure 1. Image showing the Dubai Creek and organic developments

Organic formation

The dwellings began as organic settlements that continued to develop throughout the years, growing outwards towards the desert. Emirati neighborhoods were not pre-designed but rather made through human intuition and instinct. Points in the urban fabric saw a congestion of multiple layers of activities happening at the same time, an example of these places is seen in old Dubai, most predominantly Al Bastakiya, and Al Shindagha. The Freej was known for its bustling streets and maze-like alleys between the houses, which also saw the formation of small businesses. One can be seen selling products right outside their house while their neighbor welcomes visitors to their open majlis by the street.⁴ The courtyard scheme adorned by most dwellings at the time allowed for the perimeter wall to be inhabited and used by the family, creating a porch-like interior condition that separated the outside from the more private parts of the house. Spaces like the majlis,⁵ or gathering space, were pushed to the outside where it was closer to the public, making it easier for people to pass by without disturbing the family. This allowed for less of a barrier between the outside and inside. Due to the nature of the found materials in the area, the color palette of the dwellings was rather earthy, and not much variation was happening on the exterior facades, other than some small openings created in order to protect the privacy of the inhabitants. Most of the larger openings were on the inside of the house facing the courtyard, allowing natural light into the spaces while further connecting the family together. The houses were often built right next to their neighbors with little to no space in between them, they followed no specific order. The leftover spaces formed “Sikka’s”, that were used for circulation. Looking at the old neighborhood plans, these streets were made more suitable to accommodate for the human scale. Tight alleys of around 1.5-2 meters wide made for quite a compact neighborhood (Figure 1). The conjunctions of many Sikka’s resulted in a central space for gathering. This was usually where mosques were located and were used as a magnet to bring people together.

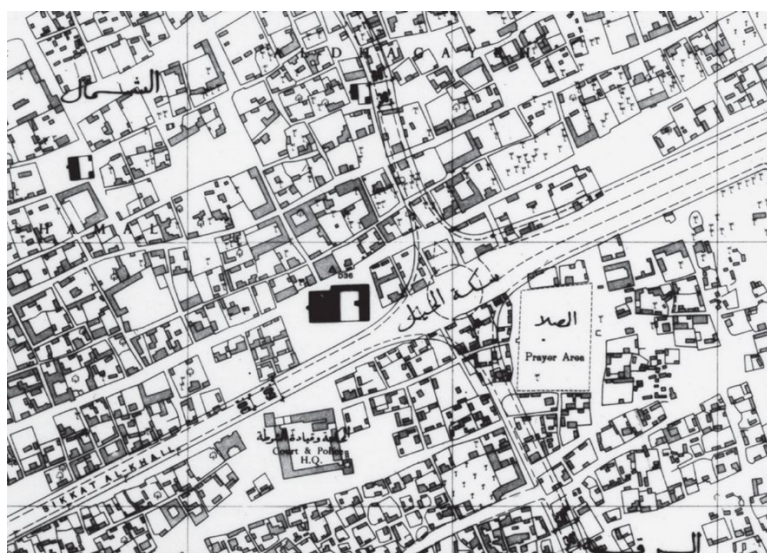


Figure 2. Details from Dubai's 1960 town plan. Courtesy John R. Harris Library

Post oil

After a while, the discovery of oil had more of a lasting impact on the architectural and socio-cultural values. This newfound wealth led to rapid urbanization and the emergence of a distinct architectural style characterized by modern infrastructure, high-rise buildings, and sprawling suburbs. The developments driven by oil wealth were spearheaded by notable figures like John Harris, who played

a crucial role in shaping the urban landscape. As was mentioned in Showpiece city: how architecture made Dubai, by Todd Reisz, the British set many of the foundations in the municipality and the building codes in Dubai.⁶ Due to this there was a jump in the timeline of advancement in the urban fabric of Dubai. The dwellings went from being organically organized to a rigid and grid like organization. The use of the grid on an urban scale can be seen in multiple city models, like Barcelona in Spain and New York in the United States. While it might have worked in some cases and in others not, the idea of a grid system in Dubai felt like an imposition on the region's natural urban identity. It is not surprising to see a western modernist implementation in the region due to the involvement of the British early in the country's development. However, it is important to note that this involvement hindered the region's ability to improve and develop its vernacular urban fabric. The use of the grid did not work together with socio-cultural values and the needs of the population living here. The region's culture is known to be of closeness and privacy. This can be seen in the 'old Dubai' plans, the houses were built close to each other with no setback, and the sikkas and roads were not more than 2 meters wide. This was before the municipality had a strong foundation and presence. But with development came compromises that did not favor human experience nor respect the pedestrian life that was present beforehand.



Figure 3. Image showing banality of the current existing

The race to innovation

Moving forward to the Dubai of today, most locals sometimes find themselves dissatisfied with the current existing which has been set. Dubai stands as an otherworldly utopia in the broader context of the global urban landscape, enticing investors and architects from all over the world to come and build the projects of their dreams, works that would not be possible anywhere other than in Dubai.⁷ This sentiment can be seen in a 2008 interview with Mohammad Al Abbar, the chairman of Emaar; when talking about the Burj Khalifa, he says: “It is upon us to demonstrate to the world some of the things you cannot realize anywhere except in Dubai”.⁸ Claiming that Dubai is unlike any other, a place of endless possibilities. For the first few years of Dubai's rise, the focus was to set the standard for innovation in the main city. This was to catch up to the leading countries in the world and to set its name in stone as a business city. While it was successful in that field, the speed of the development compromised some of the human living experience.⁹

THE CURRENT SCENE

The rapid urbanization and industrialization brought about significant changes in the urban fabric. Traditional community structures were replaced by new, more impersonal forms of housing, such as cookie-cutter community group housing. These developments often lacked the sense of community and connectivity found in organic settlements. The introduction of zoning regulations further segregated residential, commercial, and industrial areas, leading to a fragmented urban environment. The socio-cultural impacts of these changes were profound. The close-knit community bonds weakened, leading to social isolation and a decline in communal activities.¹⁰ One of the most striking contrasts in this transformation is the change in street design and layout. The traditional narrow pathways, known as "sikkas," have largely been replaced by wide, modern streets and highways. The streets were mainly modified to fit automobiles, and the pedestrian access was forgotten. A previously active neighborhood was replaced by empty streets. The sikka was known to be a place layered with activities and movement. These pathways were connections where neighbors knew bumped into each other, and the streets were lively and vibrant with daily activities. The sikkas were all things, oral libraries, cafes, and social gathering spaces. They were the tendons that held the neighborhood together. They were spaces for everyone of all ages, parents would even allow their children to play around the freej without worrying about their safety and wellbeing. In contrast, modern streets in Dubai are wide, multi-lane roads designed for heavy vehicular traffic, prioritizing efficiency and speed over intimacy and social connection.¹¹ People no longer inhabit the street; it has been left only for vehicular use. The concept of the sidewalk or alleyway is imposed mostly as a safety measure and rarely as a means of pedestrian transport. This shift towards car-centric infrastructure heavily impacted the life on the street and isolated individuals from their communities, leading to the weathering away of cultural heritage and the death of the freej.

Act of breaking free

As previously mentioned, the introduction of new zoning regulations played a significant role in fragmenting Dubai's neighborhoods and communities. Previously, neighborhoods in Dubai thrived on a mix of residential, commercial, and social activities occurring within a single area (like in Al Bastakiya), fostering close-knit communities and vibrant social interactions. However, the new city planning strategy fragmented all the activity that used to happen in one neighborhood and moved it all over the city, dividing it into multiple zones—residential, commercial, industrial, etc. This shift scattered activities across the city and made it more difficult for residents to access essential services and amenities, imposing a heavy reliance on cars and the need to drive to get from one place to another. Focusing on the residential communities, houses were not allowed any commercial use, meaning home businesses now had to be separate from the home. There are close to no shops or restaurants nearby the homes, removing any chance for social interaction amongst the residents of the neighborhood. Previously, in Al Bastakiya, residents would frequently encounter each other in the sikkas or public spaces, sparking impromptu conversations. This regular interaction meant that everyone in the freej knew one another. Another zoning issue is the implementation of a normative suburban grid onto the residential areas and a mandate that forced the inhabitants to build a bounding wall along the perimeter of their plots. This rigidity in layout confined residents within uniform boxes, detached from the outside world, and stripped neighborhoods of their unique character and flexibility, mirroring the negative aspects of American suburbia. This rigid suburban grid, characterized by monotonous, cookie-cutter housing designs and sprawling developments, is the biggest factor as to why modern Emirati neighborhoods are so bland. Another addition was that of a three-meter setback from the plotline, making it so the houses were moved further apart from one another. Gone were the days when neighboring houses shared a wall that separated them. The lack of physical closeness

between the houses disconnected individual families from the overall freej, diluting the sense of community. This also meant that the house and wall had to be treated as two separate things, limiting the design and functionality of the wall itself, forcing it to act only as a barrier between inside and outside the plot. The increased distance between homes disconnected individual families from the broader freej, further fragmenting the community. These sprawling developments, characterized by vast distances between residential areas, commercial centers, and workplaces, reduce opportunities for spontaneous social interactions and make it harder for residents to connect with their neighbors. It is important to note that there are few people who are currently aware of this problem and are documenting the residents' response to their environment. Khaled Al Awadi is one of the prominent researchers that documents and talks about the lack of activity in the Sikka. Al Awadi takes pictures of moments outside homes where people try to break free of their four-walled houses in search of a sense of community (figure 2).¹² Many pictures were taken of seating areas made outside of the house boundaries due to the excess, empty space and the desire for human connection.



Figure 4. Image from Khaled al Awadi's book "Lifescapes beyond bigness"

THE CHANGE

To address these challenges, we propose a series of zoning changes aimed at revitalizing Dubai's neighborhoods and restoring the social cohesion that once defined them.¹³ First, we advocate for the introduction of mixed-use zoning that allows for the integration of residential, commercial, and community spaces within the same area. By bringing shops, cafes, and local businesses back into residential neighborhoods, we can recreate the vibrant street life that encourages spontaneous interactions and strengthens community bonds. Additionally, revising the current setback requirements and relaxing the rigid suburban grid layout will allow for more flexible and organic neighborhood designs, where homes can be closer together and better connected to communal spaces. We also propose a zoning change that permits more than one dwelling to occupy the same plot of land, seen in figure 3, enabling higher density and encouraging multigenerational living within the same freej. Furthermore, housing should be allowed to be built directly against the boundary wall, transforming the wall from a mere separator of interior and exterior spaces into an integral,

inhabitable part of the dwelling. This approach would enable the wall to serve dual purposes, fostering a closer connection between neighbors and enhancing the functionality of residential spaces. These changes aim to restore the sense of togetherness and neighborhood identity that has been lost, creating more livable, dynamic, and connected communities in Dubai.

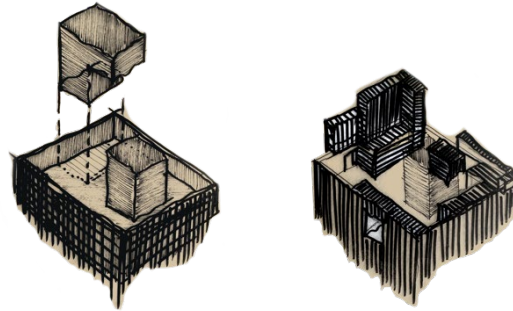


Figure 5. sketch Diagram showing the zoning changes.

Proposal for the contemporary Freej

This thesis explores the transformative potential of small-scale architectural interventions strategically positioned within the freejs, aiming to instigate positive change that ripples through the entire community and does this using watercolors, oil paintings and other mixed media to represent the findings and proposals. It is done in a more abstract and less literal way to suggest potential rather than impose exactly what should happen. By synthesizing local identity with contemporary design principles, these interventions aspire to be catalysts for inspiration, fostering a collective sense of empowerment and social cohesion. Delving into the personal intervention of the author's house, there is an emphasis on the integration of a new housing unit with direct access to the Sikka, in which the housing unit becomes one with the Sikka wall. Allowing for more than one house to occupy the same plot proposes a solution to combat sprawl and help densify the Freej. The hybridization of walls and houses blurs the lines between public and private and formal and informal to promote community interaction while respecting cultural values of privacy. Maybe even allowing home businesses to open their shops directly from their backyards.¹⁴ The concept of the Sikka can now also operate at multiple levels.

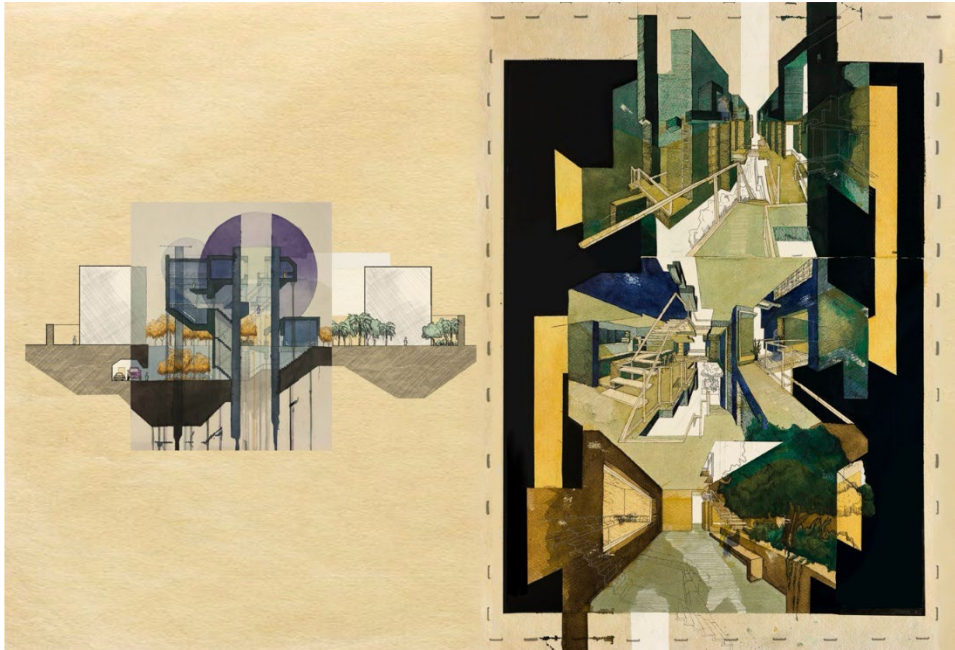


Figure 6. Paintings of layering of activity in the sikka in section and multilayered perspective.

Another way of envisioning this transformative approach to urban design in Emirati freejs is by proposing a central mosque that serves as a catalyst for community engagement and activity. The central mosque is not merely a religious space; instead, it becomes a hub for various programs that extend beyond prayer times, fostering a sense of unity and vitality reminiscent of traditional Freej life.¹⁵ Utilizing axonometric drawing principles and sections, issues of space are explored. The objective is to blur the boundaries between formal and informal spaces, recapturing the essence of community life that once thrived beyond walls. The research explores the augmentation of surrounding spaces by allowing the community to contribute programs based on their skills and interests. This flexible and communal mosque model accommodates diverse activities, from a kitchen cafe run by a food enthusiast mother to a grove tended by a grandfather with a passion for planting palm trees. We could imagine this as what would happen if we took two neighborhoods and folded them onto one another in an attempt to densify the Freej and fill in any empty gaps. The aim is to revive the spirit of communal living and break away from the confines of formal spaces by reintegrating informal activities into the urban fabric. It is, essentially, creating an environment where the community adds and augments what is needed for that community. By providing adequate space and intentionally placing elements that then act as a catalyst for activities to occur. The augmented space will act as an anchor for activities to gravitate toward it.



Figure 7. Abstract painting depicting the central mosque concept.

CONCLUSION

To conclude, the evolution of Dubai from a modest fishing village to a global metropolis has come at a significant cost to its traditional community structure and urban fabric. The rapid urbanization and the imposition of rigid zoning regulations have fragmented neighborhoods, eroding the close-knit bonds that once defined the city's social life. However, by proposing thoughtful zoning changes, such as the integration of mixed-use areas, the reduction of setbacks, and the allowance of multiple dwellings on the same plot, we can begin to restore the vibrancy and connectivity that have been lost. To enrich the city, one must create an environment where communities are flourishing in creativity. These interventions aim not only to revitalize the physical environment but also to rekindle the spirit of community that once thrived in Dubai's Freej's. Through strategic architectural and urban design, we can create neighborhoods that are both culturally resonant and socially dynamic, ensuring that Dubai's future development honors its rich heritage while embracing the needs of its contemporary residents.

NOTES

- ¹ Freej is a term used in Emirati/Khaleeji dialect to call a neighborhood.
- ² Sikka is a term used in the Emirati/Khaleeji dialect to call an alleyway.
- ³ Anne Coles, and Peter Jackson. *Windtower*. London: Stacey International, 2006.
- ⁴ Anne Coles, and Peter Jackson. *Windtower*. London: Stacey International, 2006.
- ⁵ A majlis is a space in a home where members of the household or neighborhood gather.
- ⁶ Todd Reisz. *Showpiece City: How Architecture Made Dubai*. Stanford Studies in Middle Eastern and Islamic Societies and Cultures. Stanford, California: Stanford University Press, 2021.
- ⁷ Esra Akcan. Global conflict and global glitter: Architecture of West Asia (1960-2010), in E. Haddad & D. Rifkind (eds), *A critical history of contemporary architecture: 1960–2010*, 2014.
- ⁸ Cameron Hu. “Where everything is political”: Architecture against politics in global Dubai. University of Pennsylvania Press, 2015.
- ⁹ Alawadi, Khaled. *Lifescapes Beyond Bigness*. (2018). London, England: Artifice Books on Architecture.
- ¹⁰ Jane Jacobs. *The Death and Life of Great American Cities*. New York, NY: Vintage Books. 1993.
- ¹¹ Khaled Alawadi. *Lifescapes Beyond Bigness*. (2018). London, England: Artifice Books on Architecture.
- ¹² Khaled Alawadi. *Lifescapes Beyond Bigness*. (2018). London, England: Artifice Books on Architecture.
- ¹³ Some of these zoning change proposals already exist in countries outside of the United Arab Emirates, but in this paper, it is a more direct response restrictions by the Dubai Building Code.
- ¹⁴ This zoning change idea stems from a problem where owners of family/personal businesses are forced to open their shops at a faraway location from their homes, further driving the notion that Dubai is a fragmented city.
- ¹⁵ In the past, the mosque was the heart of the neighborhood, serving as a vital gathering space for people of all ages and backgrounds, fostering a thriving sense of community. Today, it has transitioned into a place used primarily for worship during prayer times, after which people return to their homes.

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URBAN MANUFACTURING AS A VEHICLE FOR SOCIAL AND ENVIRONMENTAL JUSTICE: THE CASE OF NORTH BROOKLYN

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Figure 1. Urban Industries bordering Newtown Creek and Manhattan Skyline beyond. CCNY MUPUD Studio 2023.

INTRODUCTION:

The landscape of urban manufacturing in cities like New York is undergoing a profound transformation in the 21st century. The research delves into the intricate tapestry of urban manufacturing, focusing on the North Brooklyn Manufacturing Area, to illuminate initiatives fostering social and environmental justice. We explore the historical decline of manufacturing districts, their complex relationship with minority communities, and recent endeavors to reinvigorate urban manufacturing. These efforts aim to transform it into a source of economic opportunity for underserved communities and a potential hub for urban resource recovery (URR) programs within city limits to meet sustainability goals.

This exploration will take us through two pivotal initiatives: one led by the Association for Neighborhood and Housing Development (ANHD) in partnership with the Industrial Jobs Coalition, centered around social and economic justice. The other is powered by NYC's Town and Gown program, which strives for environmental sustainability through URR.¹ I have participated in this

research of the Town and Gown program, among my graduate students as Director of the Master of Urban Design in Urban Planning at The City College of New York.

Once vibrant contributors to the economic and social fabric of cities, urban manufacturing districts have witnessed a protracted decline over recent decades. However, our examination reveals how a confluence of community interest and city policies have the potential to induce metamorphosis in contemporary urban manufacturing in New York City, particularly in North Brooklyn. Guided by the compelling premise that urban manufacturing can serve as a potent catalyst for advancing both social and environmental justice, we unveil historical contours, their impact on marginalized communities, and novel strategies to rekindle their significance within the urban milieu.

Despite facing threats from development, these industrial zones, such as the North Brooklyn Industrial Business Zone (IBZ),² remain a potential source of economic opportunity for underserved communities. Our research uncovers the pivotal role these industrial sites can play in bridging the gap between lofty sustainability goals and practical implementation. The transformation of waste from a disposable burden into a valuable urban resource lies at the heart of our vision for a zero-waste future. Moreover, we explore how urban manufacturing districts, like the North Brooklyn IBZ, can thrive by embracing environmentally responsible practices, fostering resource recovery, and facilitating waste management within city limits. Our investigation underscores the importance of territorial distinctness, emphasizing well-defined boundaries that enable diverse activities and communities to flourish.

Organizations such as the Association for Neighborhood and Housing Development (ANHD), the Industrial Jobs Coalition,³ and Evergreen⁴ advocate for the preservation of industrial zones as vital contributors to a city's economic and environmental landscape. We also highlight the concept of environmental ingress within these territories, central to our research.

By integrating environmentally responsible practices into urban manufacturing districts, new NYC environmental policies seek to align with broader themes of environmental justice and sustainability. Urban density emerges as a key factor, enabling efficient resource utilization and localized waste treatment processes. Our research calls for a paradigm shift, emphasizing the significance of internal waste management as cities grow and evolve.

Lastly, we acknowledge the critical role of communities in the vicinity of industrial zones. Often situated near these areas, underserved and underrepresented communities face heightened environmental risks. Our study parallels discussions in the article concerning the challenges faced by such communities and the need for substantial investments to address environmental disparities and enhance well-being.

In essence, this comprehensive framework navigates the intricate landscape of urban manufacturing. It offers a vision of a future where urban manufacturing districts thrive, contributing not only to economic prosperity but also to social equity and environmental sustainability.



Figure 2. NB5_Current industrial areas render in purple with a blue outline for M3_1_Zoning in North Brooklyn_NY City Planning Data_Esri_2023.

Social Justice and Economic Sustainability: Urban Manufacturing as a Pathway to Community Prosperity

This section examines urban manufacturing as a potential driver of social justice for underserved communities, its historical role revealed complex dynamics in economic growth and its impact on minority communities. Up to the mid-20th century, New York City occupied a prominent position as a bustling manufacturing hub. However, a rapid and unsettling decline, often referred to as the 'runaway' phenomenon, began to take hold as factories relocated elsewhere. This period witnessed a swift and significant deindustrialization, with numerous factories departing New York City between 1945 and 1975. The remaining manufacturers, in their struggle for survival, frequently resorted to wage suppression, particularly among socially vulnerable groups. When workers attempted to organize and seek collective action through labor unions, many firms chose to flee the city in search of low-cost and vulnerable workforces in other regions. This pattern reflected manufacturers' pursuit of a 'spatial fix' to enhance profitability through regional relocation, ultimately contributing to the erosion of New York's distinctive social democracy.^{(Batle,2019)⁵} Despite the policy and community efforts outlined below, the process of deindustrialization in New York City continues vastly reconfiguring the urban landscape and economic livelihoods of many communities: From 2009 to 2017 the industrial zones decreased by 10%.^{(Davis, 2018)⁶}

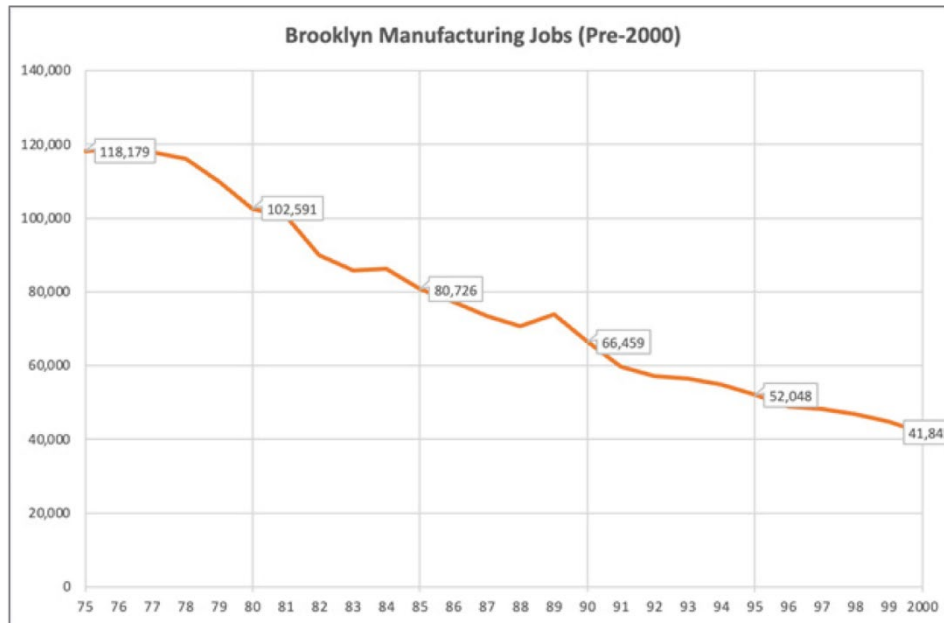


Figure 3. Brooklyn Manufacturing Jobs Pre 2000. Evergreen report 2023. Data from New York State Department of Labor.

Nonetheless, the significance of urban manufacturing persisted as a vital element in achieving diverse socio-economic sustainability objectives for the city, as well as bolstering its overall prosperity. In New York City, these transformative initiatives began to coalesce more prominently around the establishment of Industrial Business Zones in 2005, marking a pivotal moment in the city's efforts to reinvigorate its manufacturing sector and counter the trends of decline.⁷ Contemporary support for urban manufacturing often emphasizes innovation, hybridity, and economic integration as critical benefits. These newer policies and visions tend to see the dismantling of legacy manufacturing --in all its obsolescent physical manifestation and environmental challenges -- as inextricably bound for a diversified, hybrid and cross-programmed evolution.⁸ However, it is essential to acknowledge the historical significance and the newly recognized social benefit of urban manufacturing. While urban manufacturing centers have evolved and lost some significance in the urban economy, they remain home to diverse manufacturing sectors, serving niche markets and employing a predominantly immigrant and minority workforce with lower levels of education.⁹ Crucially, manufacturing employment serves as a vital engine for social justice and diversity in the city. Approximately 80 percent of manufacturing jobs in NYC belong to BIPOC, and 50 percent are held by immigrant communities. Moreover, manufacturing jobs offer significantly higher remuneration compared to most service industry positions, often at a multiplier of 3 to 1, without requiring a college degree.(ANHD 2020)¹⁰ In essence, manufacturing employment represents a pivotal pathway to economic prosperity for a broader community in the city.

As noted, support for urban manufacturing spans a spectrum, ranging from a call for innovation and hybridity to efforts to preserve traditional manufacturing uses and jobs. This divergence underscores a fault line where local communities and unions favor the latter forms of support, while academics and city planners advocate for new hybrid models. Gentrification, particularly in the North Brooklyn neighborhood, has posed substantial challenges by making industrial spaces attractive for residential conversions. Consequently, small manufacturers face active displacement through mechanisms such as buyouts, lease refusals, zoning changes, and rising rents. These trends jeopardize economic diversity and the employment prospects of unskilled and immigrant workers.¹¹



Figure 4. Association for Neighborhood for Neighborhood and Housing Development, Industrial Jobs Coalition project. Website.

To illustrate the current conditions, Evergreen published an extensive report in 2019 and key data underlined the dire reality of minority and manufacturing jobs in the study area: "In the last twenty years, North Brooklyn lost 15% of its industrial jobs while office-based, institutional, and local service jobs grew dramatically. Whereas manufacturing jobs made up 1 in 5 local jobs in 2002, by 2019 they made up 1 in 20; From 1990 to 2020, North Brooklyn's White population practically doubled and its Black and Hispanic populations declined; As the area has grown, almost all of its new residents work outside of the communities they live in and new local jobs have mostly been taken by people commuting in from outside".¹²

In response to these challenges, the ANHD has initiated a campaign for social and economic justice, focusing on supporting manufacturing employment by protecting Manufacturing and IBZ districts. The ANHD's advocacy revolves around policies that safeguard manufacturing uses, rather than promoting the potential hybridization of these sectors. A key partner, the Industrial Jobs Coalition, a union collective, actively champions the preservation of manufacturing. Their concern stems from the fear that permitting other zoning uses may lead to higher-yield development operations displacing manufacturing. This trend is already observable, with manufacturing programs yielding ground to housing, offices, large commercial spaces, and entertainment venues. Consequently, while the ANHD typically advocates for the expansion of affordable housing, conversely in this instance, it seeks to preserve the spatial limits and protocols of existing manufacturing districts against the encroachment of other potential configurations. This nuanced debate extends to the existing M1, M2, M3 districts and new contested planning tools that aim to regulate and provide for diversity and density, particularly within the North Brooklyn Industrial Plan.¹³

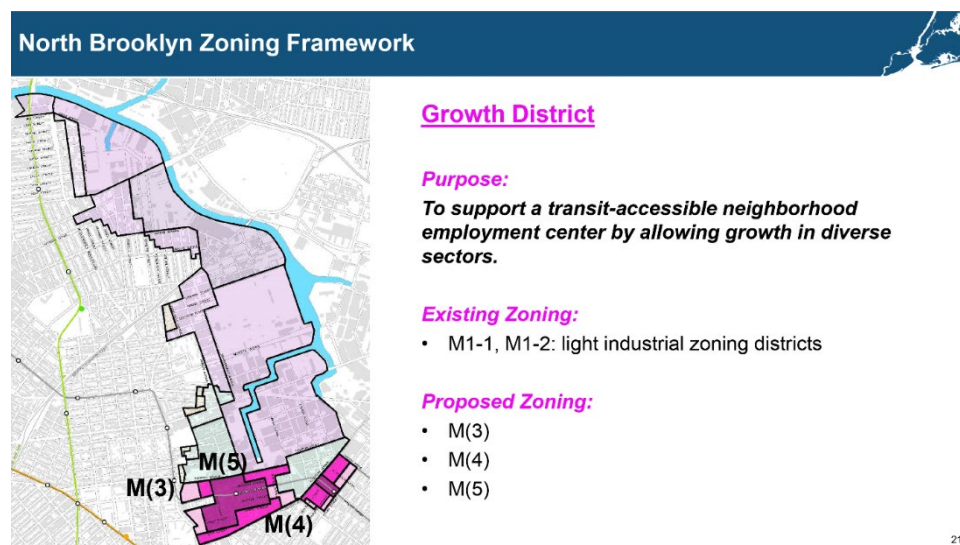


Figure 5. Page from Proposal of Draft Zoning Framework Community Board 4 - April 17, 2019. NYC Planning 2019.

However, as Evergreen has thoroughly accounted for, the picture of diminishing industrial jobs in North Brooklyn is, more complex. Evergreen has particularly been concerned with the impact of new zoning proposals, the lack of oversight of existing zoning, and the vast disparities in job growth in the area between non-industrial and industrial jobs. At first, they noted the influx of non-industrial jobs to the neighborhood: "In the last two decades, real estate developments and business ventures ushered in with the 2005 rezoning have correlated with the continuation of a socioeconomic shift away from North Brooklyn's working-class industrial past. From 2002 to 2019, the number of jobs in the area increased by a whopping 86% (51,000 more) for a total of about 111,000."¹⁴ These demographics vastly increased the cost of living and critically altered the affordability of North Brooklyn. Evergreen, however, uncovered a contradictory trend of a resilient need for industry: "Charting out trends in North Brooklyn's macro sectors shows how industrial employment declined in the first leg of the 21st century while office, local service, and institutional jobs all took leaps and bounds ahead. But the same analysis done at the borough and citywide levels yields different results. In Kings County (Brooklyn), non-industrial fields continued to show growth, though at a much slower rate than in North Brooklyn (with 75% more jobs, local services had the steepest gains in the borough). Most importantly, however, the industrial macro sector grew by 33%.¹⁵ In 2019, some 10,900 industrial establishments in Brooklyn employed 100,000 workers."¹⁶ The claim by Evergreen is that there is a stabilization and modest growth of industrial jobs but that this limited revitalization and return of some economic diversification away from service jobs is hindered by a City policy and development trends that favored the transformation of legacy industrial site. In this process, the aforementioned policy and development trends continue to disfavor the communities that benefit from industrial jobs. This resurgence of industrial labor as a source of economic livelihood underscores the significance of manufacturing sites as essential arenas for economic opportunity and social justice, signaling a return to the factory as a site of activism. In doing so, it reaffirms the importance of preserving the distinctive and discrete dimensions within the spectrum of community activism and the politics of public and representational spaces.

In parallel with the process of urban deindustrialization in New York, new arenas for economic and social activism emerged, shifting the focus to areas of both economic activity and relevance. Recent scholarly studies, exemplified by works like "The City is the Factory," have further elaborated upon the concept of transcending and anchoring on the confines of the factory. They expand into the

broader urban landscape, becoming new terrain for social, racial, and economic advocacy.¹⁷ Rooted in Henry Lefebvre's original formulation and Marcuse's elaboration of "the right to the city," these studies meticulously chronicle the progression of social and racial justice movements. These movements have reclaimed urban spaces as platforms for advancing principles of justice and equality, finding particular prominence in New York City through movements like Occupy Wall Street and the Black Lives Matter movement.¹⁸

In a broader context, social justice movements and labor unions have transitioned from viewing the factory solely as a locus of oppression and production to recognizing the significance of hybrid and public urban spaces. These spaces symbolize accessibility and empowerment, as seen in examples like Zuccotti Park and the reclamation of New York City streets. What makes the endorsement of the North Brooklyn IBZ intriguing is that it underscores the imperative of clear demarcation and safeguarding of industrial zones, setting them apart from public spaces. This demarcation not only functions as a shield for a vital segment of the economy but also provides opportunities for historically marginalized minority populations.

This evolving perspective accentuates an enduring division between the broader, multifaceted urban spaces and those requiring specialized protection to sustain spatial practices that have historically uplifted underserved communities. It underscores the persisting tension between the dynamics of urban transformation, often inclined toward prioritizing generalized spaces, and the crucial task of preserving spaces that have played a pivotal role in addressing longstanding social and economic disparities.

ENVIRONMENTAL JUSTICE AND SUSTAINABILITY: URBAN MANUFACTURING AS AN INSTRUMENT OF THE CIRCULAR GREEN ECONOMY

This section examines the historical and unquantifiable impact of urban manufacturing on the environment and the evolving understanding of the necessity for a sustainable vision of New York City. A historical ark that now has led to NYC public policy on an exploration of new, long-term environmental calculations. These considerations view areas historically laden with waste as potential remedies for broader environmental challenges, such as carbon emissions, sequestration, and upcycling. In these complex environmental calculations, underserved and underrepresented communities residing in the vicinity of the North Brooklyn Industrial Zone have and will continue to grapple with a complex dichotomy. The North Brooklyn industrial zone, while a source of livelihood, and a desired site to locate the sustainable aspirations of NYC, also poses significant environmental risks.

The environmental degradation of North Brooklyn IBZ and the adjacent New Town Creek is historical and of unimaginable proportions. These areas remain sites of legacy environmental degradation and pollution. It is marred by Combined Sewage Outflows,¹⁹ it was the site of the largest urban oil spill in North America – about half in size the Exxon Valdez disaster – and its territory is dotted by superfund sites affecting the health of minority communities in their use of legacy open spaces.²⁰ As summarized by one community activist in the neighborhood: “We have a layer cake of environmental pollution that is at a level I think most people can’t even comprehend. We have a bevy of brownfields, we have state Superfund sites, then we have federal Superfund sites, then we have places that are just kind of abandoned or not well cared for, that need cleaning up....”²¹

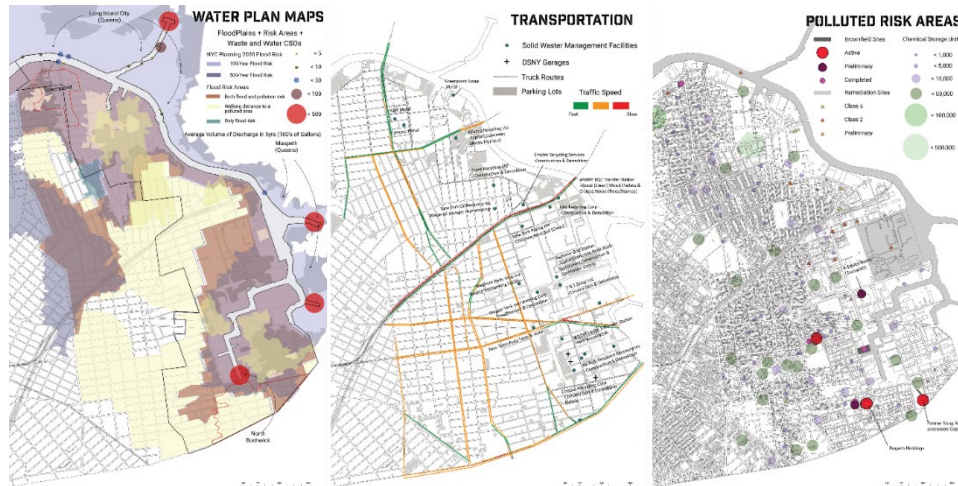


Figure 6. A series of environmental analysis describing in Map 1 Flood Plains, Risk Areas, Waste and CSOs; in Map 2 Transportation and mobility infrastructure in relation to Waste and Management Facilities; and in Map 3 A series of polluted risk areas. CCNY MUPUD Studio 2023.

This very condition of profound environmental degradation throughout its history has served as a flashpoint, a site of unavoidable examination of the environmental attitudes past and present. In turn, these examinations have helped generate the critical evolving attitudes towards the environment and waste. Carl Zimring's analysis of Newtown Creek reveals three distinct historical narratives that have shaped the area's relationship with the environment and waste that are currently informing NYC policy.²²

The first narrative of waste as legacy to overcome, portrays Newtown Creek as a polluted repository for hazardous waste from industrial activities, underscoring the need for remediation efforts. This narrative has played a crucial role in framing policy instruments aimed at cleaning the waterway. Clearly, both the magnitude of the environmental degradation and the asymmetrical response from the private and public sector, this narrative alone has failed to be instrumental.

The second narrative of waste as managerial process, views Newtown Creek as an essential component of New York City's urban metabolism. Here, sewage and waste management infrastructure evolved alongside the city's growth, highlighting the logical necessity of continued waste management to accommodate the city's expanding population. This narrative framework is of critical significance to current understanding of NYC of industrial land – often vacant – as a site for the sustainable goals of the city where calculation of local contamination and global benefits are often in conflict with residential underserved communities.

The third narrative of waste as a catalyst for future redevelopment, envisions the metamorphosis of Newtown Creek from a contaminated site into a coveted locale. This perspective postulates that effective remediation endeavors can lay the groundwork for redevelopment, offering the promise of a cleaner and more prosperous future. This narrative is deeply rooted in economic activities intrinsic to industrial society, with a particular emphasis on the commodification of waste.

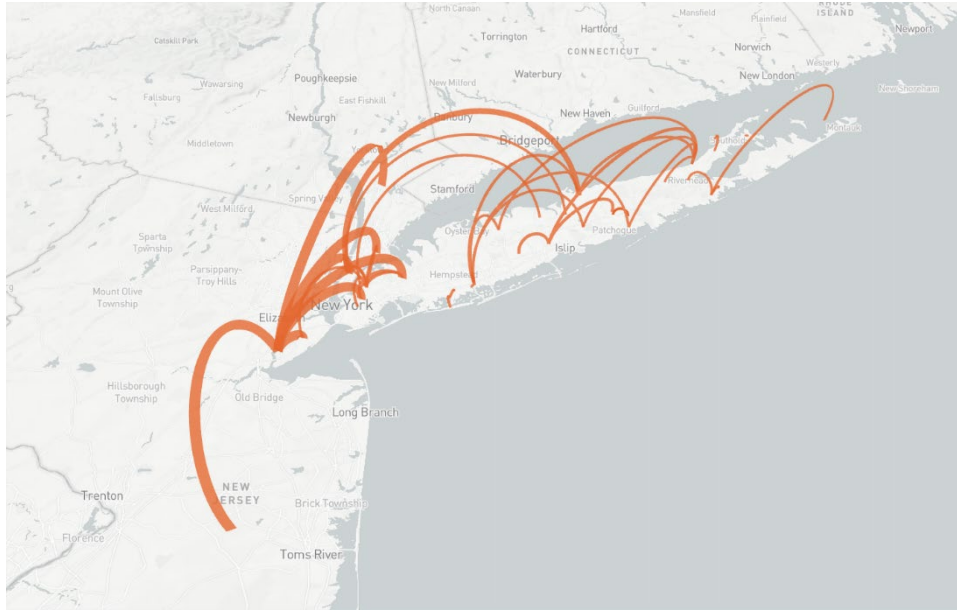


Figure 7a. Map of Incoming Construction and Demolition Waste to Transfer Facilities. 2019 Based on NYC DEP Data. NYU Center for Urban Sciences and Progress_MS_Students. www.accomplishedcode-mapping-cdw-in-nyc-main-6q8ax0.streamlit.app

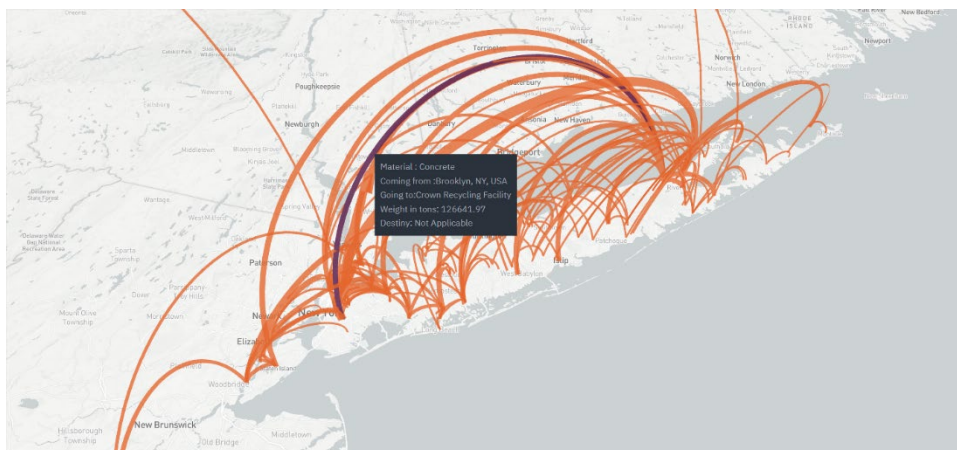


Figure 7b. Map of Incoming Construction and Demolition Waste to Transfer Facilities. 2019 Based on NYC DEP Data. NYU Center for Urban Sciences and Progress_MS_Students. www.accomplishedcode-mapping-cdw-in-nyc-main-6q8ax0.streamlit.app

Within the framework of the circular economy, waste is reconceptualized as a valuable resource that can be commercialized through both formal and informal reclamation systems. This historical trajectory encompasses recycling practices encompassing not only private-sector initiatives but also municipal collection programs. In contemporary contexts, the circular economy narrative serves as a guiding principle for evolving design and engineering methodologies, a trend that has gained momentum since the 1980s, exemplified by the emergence of the field of industrial ecology. Like the urban metabolism narrative, the circular economy narrative places faith in specialized professions' ability to address waste-related challenges.²³

Both in the aforementioned literature and current studies conducted by different agencies in NYC, one thing becomes abundantly clear: the roadmap to achieving zero waste within NYC necessitates a paradigm shift in the perception of waste itself. It evolves from being viewed as a disposable burden to being recognized as a valuable urban resource. In particular, and linked to the NYC Town and

Town study group that we collaborated with, this transformation sets the stage for the systematic recovery of urban resources – URR – and established the need for a circular economy. Within this broader category, the study group found the biggest opportunities in construction and demolition waste (CDW), the promotion of reuse practices, and the insistent closure of CDW material loops. These are the essential building blocks of a zero waste future.

Within this evolving narrative, New York City has begun to recognize the strategic significance of territories within its urban boundaries that can facilitate the processes and protocols necessary for non-displacement policies. Urban manufacturing is now seen not only as a site of production capable of invigorating the local economy but also as a hub for life cycle circularity. Emerging from life cycle assessment (LCA) studies conducted in 2015, a series of investigations into urban resource recovery conducted through the Town and Gown program have underscored the imperative of urban manufacturing in advancing a green circular economy.²⁴ Both the location and potential programs of manufacturing play pivotal roles in achieving multiple sustainability goals.

Concerning location, particularly concerning Construction Waste and Demolition Waste (CDW), studies have indicated that the current carbon footprint associated with transporting raw materials and exporting waste represents a formidable barrier to carbon reduction.²⁵ Furthermore, programs dedicated to Urban Resource Recovery (URR) are indispensable for accelerating and achieving the city's embodied carbon reduction goals. In the specific realm of manufacturing-dedicated URR, circular economies related to CDW, including Concrete Batch Plants and Green Asphalt Plants, are indispensable for preserving, refurbishing, and reusing essential urban and building materials. Nevertheless, the integration of these protocols into urban industrial geographies continues to present spatial and environmental challenges. Indeed, a compelling theme that emerges from the tested realities is the inextricable link between carbon emissions requirements and the localization of waste treatment processes within the confines of New York City (NYC). These studies present clear evidence to the fact that stringent carbon mandates cannot be effectively met if the practice of transporting waste out of the city for treatment persists. Consequently, the treatment of waste within the urban boundaries becomes a non-negotiable imperative.

In this context, the significance of industrial sites, particularly legacy industrial sites like the North Brooklyn Industrial Business Zone (IBZ), comes into sharp focus. These industrial sites represent not only a testament to the city's industrial heritage but also vital enablers of sustainable urban resource recovery. They serve as the linchpin in bridging the chasm between lofty sustainability goals and practical, on-ground implementation.

Zooming out to consider the broader NYC context, we uncover a dynamic interplay between the concept of "urban mining" and the intricate framework of a circular CDW economy. NYC, with its bustling population and incessant construction and infrastructure development, provides an ideal backdrop for exploring these dynamics. It's a city in perpetual motion, with an insatiable appetite for construction materials. This very characteristic underscores the critical need to identify and optimize urban spaces for advanced CDW operations. These spaces are where sustainability goals converge with the practical realities of stringent carbon mandates.

The rapid evolution of material technology, especially in the realm of low-carbon construction materials, presents a wealth of opportunities. Emerging technologies ingeniously leverage processed CDW components to dramatically reduce greenhouse gas emissions. A prime example is Executive Order No. 23 of 2022, the Clean Construction EO, which mandates the active integration of low-carbon concrete specifications, particularly in concrete sidewalks, within NYC capital projects.

Our comprehensive study goes further, identifying specific CDW elements ripe for direct reuse and others amenable to indirect repurposing through interim processing facilities. This strategic endeavor leverages the regulatory framework provided by the New York State Department of Environmental

Conservation (NYS DEC) Part 360 beneficial use designation (BUD) regulations.²⁶ These BUDs offer regulatory support for the reuse of CDW materials, effectively alleviating the stringent state solid waste regulations.

In tandem, NYS DEC directives emphasize the pivotal role of local governments in integrating CDW material flow considerations into their waste management strategies. NYC's recommendations to the New York State Climate Action Council are emblematic of its commitment to the cause.²⁷ The incorporation of horizontal infrastructure into the final blueprint of the Council's plan serves as a potent strategy to enhance the capture of greenhouse gas emissions and mitigate the carbon footprint tied to construction activities.

As we navigate these intricate pathways, the imperatives of sustainability, technological innovation, and urban spatial dynamics converge. The urgent need to locate these activities within the city to meet rigorous carbon mandates cannot be overstated. This reiterates the profound significance of legacy industrial sites like the North Brooklyn IBZ, which stand as resilient bastions of industrial heritage and essential contributors to the realization of urban resource recovery objectives. These sites, firmly rooted in the city's industrial legacy, serve as pivotal agents of transformation, where ambition and pragmatism coalesce to steer NYC toward a future of sustainable waste management, carbon compliance, and environmental stewardship.

Lastly, the complex interplay of policy implications between the benefits to the enhanced sustainability of the city and the risk to health of the community remains a critical issue. In North Brooklyn, the emergence of industries related to Construction and Demolition Waste (CDW) and urban resource recovery underscores the evolving economic dynamics of the region. However, as new industries take root, they bring with them a distinct set of environmental risks. These risks are compounded by the fact that technology and regulatory frameworks have yet to catch up with the demands of safeguarding these communities adequately. The challenges faced by underserved communities in the North Brooklyn Industrial Zone are emblematic of a broader national issue. The siting of industries with a propensity for environmental pollution in close proximity to residential neighborhoods is a longstanding concern. In this specific context, local residents contend with the duality of their relationship with the industrial activities that both sustain their livelihoods and jeopardize their well-being. In essence, the underserved and underrepresented communities of the North Brooklyn Industrial Zone find themselves at the intersection of economic necessity and environmental risk. The advent of new industries introduces fresh challenges, and the lag in technological solutions underscores the urgent need for proactive measures to protect the well-being of these communities. Environmental justice must be a paramount consideration in bridging the technological gap and ensuring that these communities are safeguarded from the adverse effects of industrial activities.²⁸

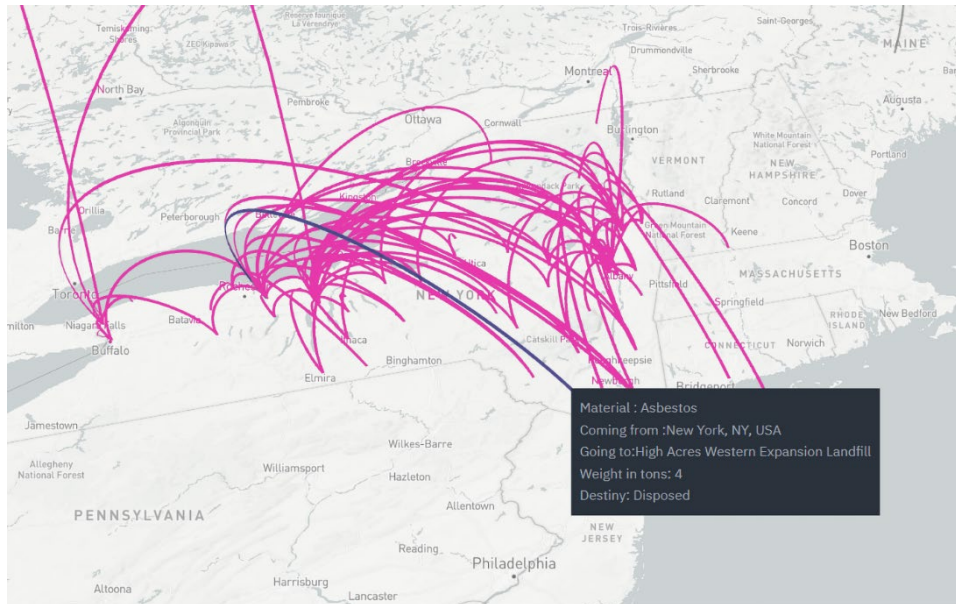


Figure 8. Map of Incoming Construction and Demolition Waste to Landfills. 2019 Based on NYC DEP Data. NYU Center for Urban Sciences and Progress_MS_Students. www.accomplishedcode-mapping-cdw-in-nyc-main-6q8ax0.streamlit.app

CONCLUSION

In conclusion, the North Brooklyn case study serves as a compelling illustration of the transformative potential inherent in contemporary urban manufacturing. It offers valuable insights into how this form of economic activity can simultaneously act as a catalyst for both social and environmental justice, and as a driver of circular green economies. The study highlights the importance of reevaluating the historical interplay between manufacturing and urban environments, presenting several key takeaways with practical implications.

The Social and Environmental in the Preservation of Industrial Zones in North Brooklyn

Central to the North Brooklyn case study is the notion of preserving distinct industrial zones within urban settings. Organizations such as the Association for Neighborhood and Housing Development (ANHD) and the Industrial Jobs Coalition advocate fervently for the preservation of these dedicated spaces. Their emphasis on safeguarding specific areas for manufacturing and industrial activities aligns with the concept of territorial accountability within a city's broader landscape. This approach recognizes these zones as essential economic and communal assets deserving of protection and it underscores the persistent necessity for delineated territories characterized by distinctiveness and discreteness, which in turn facilitate opportunities for diverse activities and communities.

Furthermore, the research underscores the intrinsic requirement for environmental ingress within these territories. This resonates with the broader theme of environmental justice and sustainability, as explored in the article's sections on urban manufacturing and circular green economies. The urban manufacturing districts, such as the North Brooklyn Industrial Business Zone (IBZ), are not isolated entities but integral components of a city's environmental landscape. Their sustainable operation necessitates the integration of environmentally responsible practices, particularly in the context of urban resource recovery (URR) and waste management.

The Role of Urban Manufacturing in Sustainable, Circular Practices

Moreover, the North Brooklyn case study highlights the role of urban density in enabling sustainable urban living. Concentrating resources and manufacturing activities within urban centers, as opposed to urban sprawl, embodies efficient resource utilization and localized waste management practices. This aligns with the principles of the circular economy framework, reducing the need for extensive resource transportation and waste disposal across vast territories.

The research also sheds light on the management of metabolic processes within evolving urban landscapes. The dynamic nature of industrial sites like the North Brooklyn IBZ reflects the increasing complexity of urban metabolic systems. It emphasizes the pivotal role these sites play in advancing urban resource recovery objectives and mitigating environmental impacts. Effectively managing these processes is central to a sustainable city and in turn to sustainable urban manufacturing.

Balancing Economic Necessity and Environmental Equity in North Brooklyn

Lastly, the North Brooklyn case study underscores the nuanced challenges faced by communities reliant on industrial activities. These communities, often situated in proximity to industrial zones, grapple with a dual relationship marked by economic necessity and environmental risks. The case study echoes broader discussions in this study regarding the unique struggles of underserved and underrepresented communities residing near industrial areas. It calls for proactive measures to safeguard the well-being of these communities while advancing environmental justice.

In summary, the North Brooklyn case study offers concrete evidence of the potential of urban manufacturing to drive social and environmental justice and to promote circular green economies. It provides actionable insights into preserving industrial zones, integrating sustainable practices, optimizing urban density, managing metabolic processes, and striking a balance between economic necessity and environmental equity within the context of a specific urban landscape. These findings contribute to a more nuanced understanding of the multifaceted dynamics at play in contemporary urban manufacturing.

NOTES

¹ The New York City Town+Gown is operated from the New York City Department of Design and Construction and it develops and supports applied built environment research projects, using NYC's built environment as a laboratory for the research. The project research Urban Resource Recovery was led by its director Terri Matthews. Some of the participants in the project included Professor Athanasios Bourtsalas – Columbia University, Department of Earth and Environmental Science, and Christopher Policastro – New York University, Tandon School and the NYU Center for Urban Sciences and Progress.

² The Industrial Business Zones (IBZs), established in early 2006 across the Bronx, Brooklyn, and Queens, emerged from the City's prior initiatives centered on In-Place Industrial Parks (IPIP). These earlier programs offered business support services to industrial and manufacturing enterprises within the IPIP while addressing infrastructure and business environment concerns. See also Davis, Jenna, "NYC's Industrial Business Zone Program: Examining the Intersection Between Economic Development and Land Use Policy", American Planning Association, News & Views, April 2018 Found in <https://www.umass.edu/larp/sites/default/files/News-Views-April-2019-EDD.pdf>

³ The Association for Neighborhood and Housing Development (ANHD) is a community organization that advocates for affordable housing and equitable neighborhoods in New York City. They collaborate with community groups throughout the city, using research, advocacy, and grassroots organizing to promote equity and justice.

⁴ Evergreen – a North Brooklyn industry NGO - is a membership organization that champions manufacturing, creative production, and industrial service businesses in North Brooklyn.

⁵ Andy Battle. "Runaway: A History of Postwar New York in Four Factories" (2019). CUNY Academic Works. https://academicworks.cuny.edu/gc_etds/3387

⁶ Jenna Davis. "NYC's Industrial Business Zone Program: Examining the Intersection Between Economic Development and Land Use Policy", American Planning Association, News & Views, April 2018 Found in <https://www.umass.edu/larp/sites/default/files/News-Views-April-2019-EDD.pdf> Data from the New York Economic Development Corporation.

⁷ Jenna Davis. "NYC's Industrial Business Zone Program: Examining the Intersection Between Economic Development and Land Use Policy", American Planning Association, News & Views, April 2018 Found in <https://www.umass.edu/larp/sites/default/files/News-Views-April-2019-EDD.pdf>

⁸ See planning documents from NYC Planning Department included below as policy support to newer visions of hybrid manufacturing. See also Rappaport, Nina, "Vertical Urban Factory", Actar, March 2020

⁹ William Curran, "From the Frying Pan to the Oven: Gentrification and the Experience of Industrial Displacement in Williamsburg, Brooklyn," *Urban Studies*, 44(8), 1427–1440. 2007 <https://doi.org/10.1080/00420980701373438>

¹⁰ "Strengthening the Industrial Economy", Report by the ANHD and IJC 2020, https://anhd.org/sites/default/files/industrial-jobs-coalition-platform_april2021.pdf (Most of the data is sourced from NYS Dept. of Labor, December 2020)

¹¹ William Curran, "From the Frying Pan to the Oven: Gentrification and the Experience of Industrial Displacement in Williamsburg, Brooklyn," *Urban Studies*, 44(8), 1427–1440. 2007 <https://doi.org/10.1080/00420980701373438>

¹² Gabriel Leffers, "Industrial Evolution: North Brooklyn's Adaptation to Decades of Social and Economic Change", Evergreen report on the current state of industrial North Brooklyn, 2022 <https://evergreenexchange.org/wp-content/uploads/2023/03/Industrial-Evolution.pdf>

¹³ New York City Department of Planning, Draft Zoning Framework Community Board 4, April 17, 2019. <https://www.nyc.gov/assets/planning/download/pdf/plans-studies/north-brooklyn-vision-plan/nbk-draft-framework-041719.pdf>

¹⁴ Gabriel Leffers, "Industrial Evolution: North Brooklyn's Adaptation to Decades of Social and Economic Change", Evergreen report on the current state of industrial North Brooklyn, 2022 <https://evergreenexchange.org/wp-content/uploads/2023/03/Industrial-Evolution.pdf>

¹⁵ U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics

¹⁶ New York State Quarterly Census of Employment and Wages, 2019.

¹⁷ Miriam Greenberg, and Penny Lewis, editors. *The City Is the Factory: New Solidarities and Spatial Strategies in an Urban Age*. 1st ed., Cornell University Press, 2017. The editors refer to the return to the urban factory as renewed "place based" territory for justice in the introduction "From the Factory to the City and Back Again". Pages (pp. 1-25)

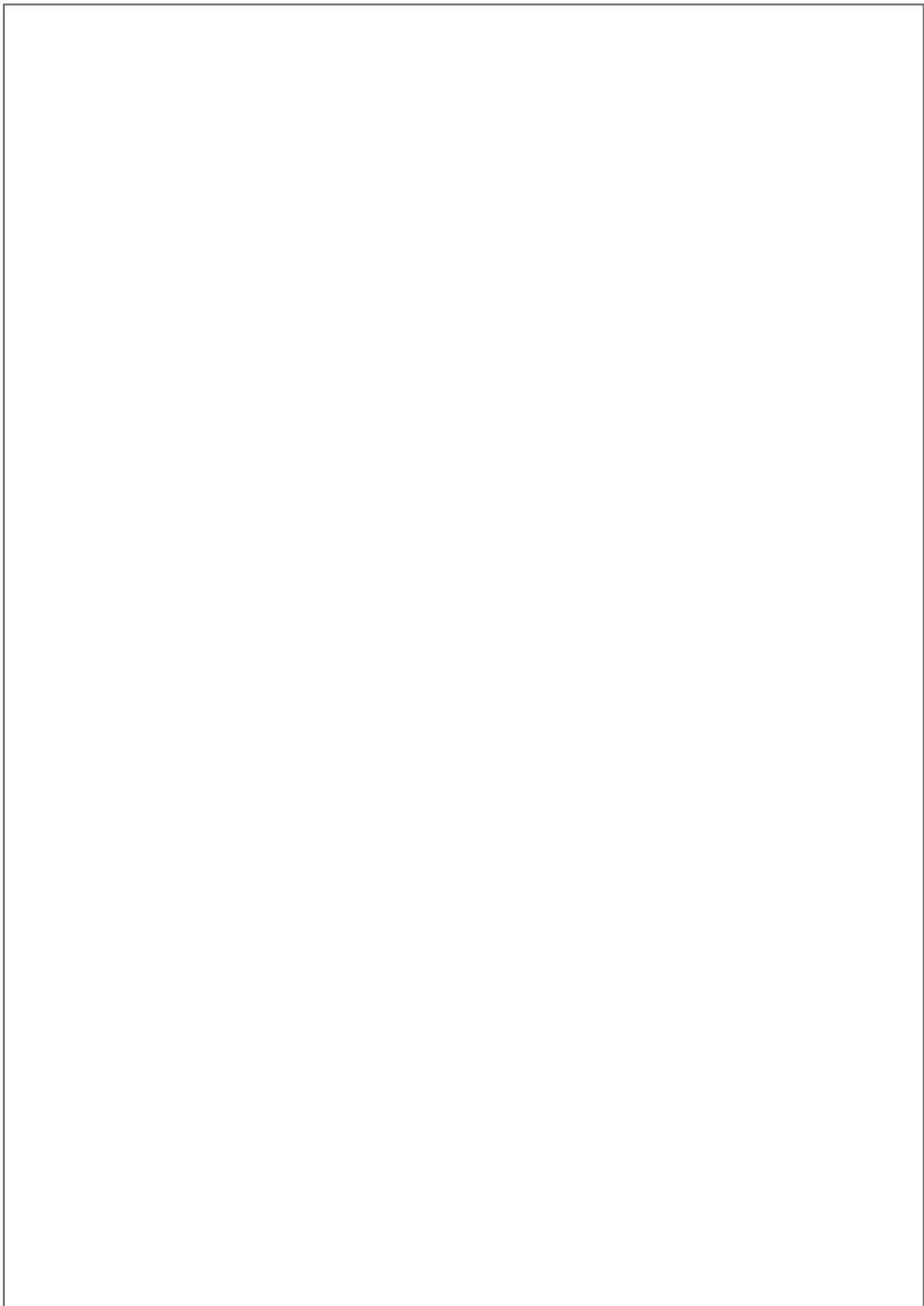
¹⁸ Peter Marcuse, "From critical urban theory to the right to the city", *City*, September 2 2010, 13:2-3, 185-197

- ¹⁹ Combined Sewage Outflows: outlets within the municipal release raw sewage to the creek when the municipal systems are overwhelmed by precipitation.
- ²⁰ Mireya Navarro, “Where Brooklyn And Queens Meet, A Quiet Parallel To the Gulf Spill”, *The New York Times*, August 3, 2010, Section A, Page 15
- ²¹ Nathan Kensiger, “‘A layer cake of environmental pollution’: Greenpoint struggles with rezoning 18 years on”, *Gothamist*, April 20, 2023
<https://gothamist.com/news/a-layer-cake-of-environmental-pollution-greenpoint-struggles-with-rezoning-18-years-on>
- ²² Carl A Zimring. “Reading Newtown Creek: Competing Narratives of New York City’s Aquatic Discardscape.” *Coastal Metropolis: Environmental Histories of Modern New York City*, edited by Carl A. Zimring and Steven H. Corey, University of Pittsburgh Press, 2021, pp. 202–220.
- ²³ Zimring. *Reading Newtown Creek*, pp. 202–220.
- ²⁴ “Urban Mining and CDW Circular Economy”, Report, December 13, 2022, New York City Department of Design and Construction, Town and Gown Program,
<https://www.nyc.gov/assets/ddc/downloads/town-and-gown/URR9AgendaandPrecisFinal.pdf>
- ²⁵ “Pushing the Urban Resource Recovery and Re-use Envelope: Closing Loops City Program Initiative” October 13, 2021, New York City Department of Design and Construction, Town and Gown Program
<https://www.nyc.gov/assets/ddc/downloads/town-and-gown/AgendaandPrecis.Final10-12-21.pdf>
- ²⁶ See 2022 Analysis of Proposed Changes to Part 360 Regulations (Brooklyn Law School) Update to 2021 Analysis of Part 360 Regulations (Brooklyn Law School) and <https://www.nyc.gov/office-of-the-mayor/news/023-002/executive-order-23>
- ²⁷ See <https://www.nyserda.ny.gov/About/Newsroom/2022-Announcements/2022-06-01-CAC-Extends-Deadline-for-Public-to-Comment-on-Draft-Scoping-Plan-to-July-1.4>
- ²⁸ Jill Johnston, and Lara Cushing. “Chemical exposures, health, and environmental justice in communities living on the fenceline of industry.” *Current environmental health reports* 7 (2020): 48-57.
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