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The current issue is the second of the eleventh volume of the *Athens Journal of Architecture (AJA)*, published by the [Architecture Unit](#) of Athens Institute.

Gregory T. Papanikos
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Building the Future Urban Structure: Kigali's Green City Project

*By Manlio Michieletto**

In the last decades, Africa's rapid urbanisation rate and growing metropolises have attracted the attention of urban studies, pointing to the need to prevent the cities' collapse (re)thinking about their urban future. Kigali - the capital city of Rwanda, reacted first in 2008 by adopting a master plan recently revised and approved in 2020. Nonetheless, the Kigali City Master Plan's core aim is to transition to a sustainable satellite city composed of green settlements. The purpose of this research is to examine the response to address the issues raised by the 11th SDGs (Sustainable Development Goals) - titled "Sustainable Cities and Communities", launching over time a series of new settlements' projects: Kigali 2020, Kigali Vision and Green City Kigali. It studies the use of a well-known urban development plan. This satellite city must match with the goal of "make cities inclusive, safe, resilient and sustainable" in a specific built and unbuilt context where tradition and modernity have to find a way to establish an architectural dialogue. Therefore, the paper explores the three case studies through a comparative method and concludes by providing advice for a correct approach to the vision of Kigali as a sustainable city.

Introduction

The world in the 21st century is experiencing unprecedented urban growth. According to the United Nations, the urban population is expected to rise by 2.5 billion persons, from 4.2 billion to 6.7 billion. In contrast, the world population is projected to grow by somewhat less, 2.1 billion, from 7.6 billion in 2018 to 9.8 billion in 2050¹. Most of the growth is occurring in developing regions, and the World Health Organization predicted that seven out of ten urban dwellers will be African or Asian in 2030². The current global urbanisation is not only purely a demographic phenomenon. Still, it is also a transformative force that continually shapes societies, their economies, political systems and environments, both built and unbuilt. The new cosmography of the African continent shows a diffuse macrocephaly with three large conglomerations: Cairo, Lagos and Kinshasa (see Table 1). For these reasons, Sub-Saharan Africa is usually regarded as the world's fastest urbanising continent, and it will host two of the three above-mentioned largest megacities shortly. According to the predictions, Kinshasa, the Capital city of DR Congo, will count in 2050 a population of around 35 million inhabitants

*Associate Professor, German University in Cairo, Egypt.

1. United Nations Department of Economic and Social Affairs. (2022). *World Urbanization Prospects*. UN-Habitat.

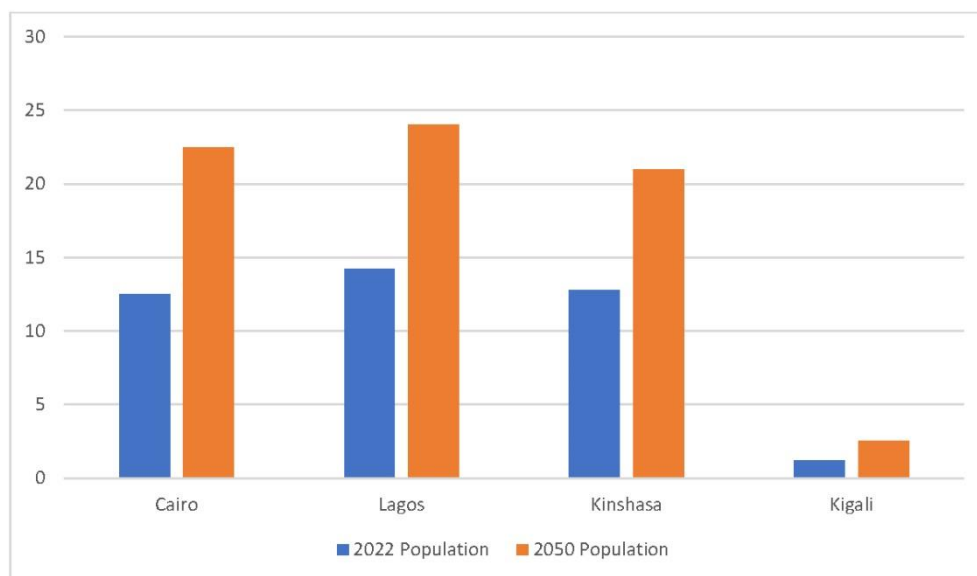
2. World Health Organization. (2010). *Why urban health matters*. World Health Organization (2018), 8.

and Lagos, the Nigerian Capital city, will have about 32 million.³

Ranked as a rapidly growing city, Kigali accounts for almost 60% of the Rwandan urban population, with an annual incremental rate of 9%. The country aims to reach 35% of urbanisation by 2024⁴. According to the Rwanda National Institute of Statistics, the “Rwandan population is expected to increase from 10.5 million in 2012 to 16.3 million in 2032”⁵ In the same period, Kigali will also register a significant growth from 1.3 million to 3.7 million inhabitants.

Kigali became the capital city in the early 1960s and is living today in a vibrant urban rebirth driven by the adoption of a sequence of Master Plans. The design process began in 2008 with the Singapore-based firm called “Surbana”, with the first Kigali Conceptual Master Plan (KCMP). After that, the municipality approved an integrated and detailed plan for the entire city as part of Vision 2040, also named the Kigali Master Plan 2013⁵. Since 2018, the same Singaporean firm has been identified as leading the revision of the Master Plan, extending its validity under the Strategic Vision 2050. Recently, the municipality presented to the public the updated Master Plan identified by the motto “KigaliYacu! OurKigali”, thus emphasising the inclusive nature of its approach and its vision of the city’s development as a project.

Table 1. *Diagram Representing the African Megalopolis Population Growth from 2020 up to 2030*



Source: UN World Urbanization Prospects.

This paper aims to analyse the urban strategy adopted by the Rwandan capital

3. Hoornweg D. & Pope K. (2014). Population predictions for the world’s largest cities in the 21st century. *Environment and Urbanization*, 29 (1), 195-216.

4. REMA. (2017). *State of Environment and Outlook Report*. Rwanda Environment Management Authority.

5. City of Kigali. (2013, May). *Kigali City. Masterplan Report*. Republic of Rwanda.

city to cope with the issues raised by the 11th SDGs (Sustainable Development Goals) - titled “Sustainable Cities and Communities”. Most of the actions have been focused on launching a series of new settlement projects over time: Kigali 2020, Kigali Vision and Green City Kigali (see Figure 1). It studied the use of a well-known urban development plan, the satellite city, that must match with the goal of “make cities inclusive, safe, resilient and sustainable” in a specific built and unbuilt context where tradition and modernity must find a way to establish an architectural dialogue. Therefore, the paper explores the three case studies through a comparative method and concludes by providing advice for a correct approach to the vision of Kigali as a sustainable city.

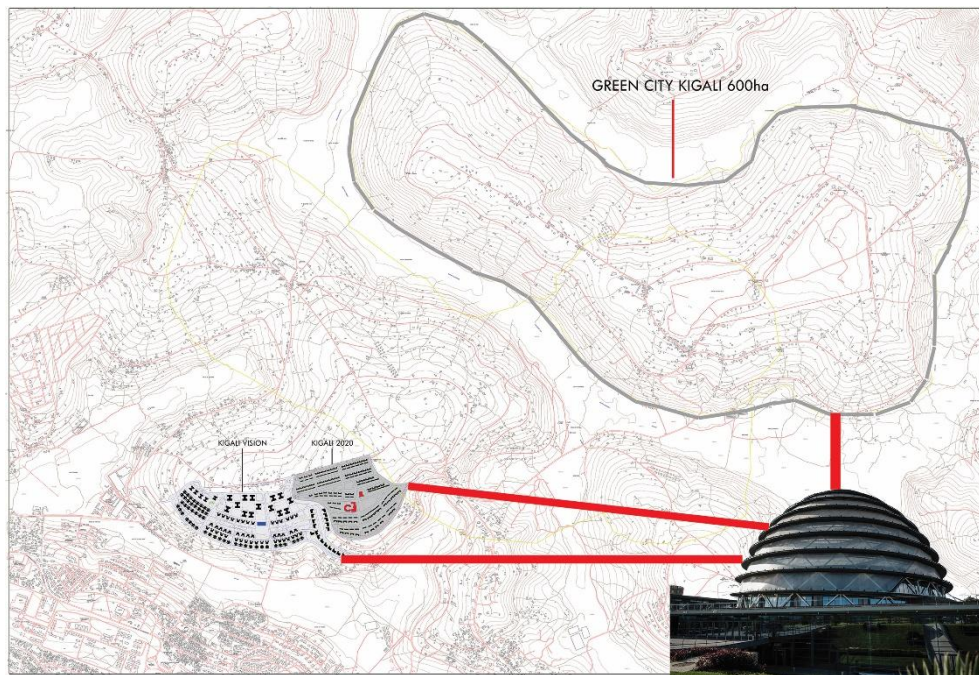


Figure 1. *The Satellite City Structure of Kigali: The Gacuriro Satellite*

Source: Collage by Manlio Michieletto.

Sustainable Cities and Communities Subsections

Unfortunately, the building sector remains the prime greenhouse gas (GHG) emitter per the Paris Climate Accord ratified in 2016. Hence, urban and building design, construction and operation significantly affect the chances of meeting the 2°C target and pursuing efforts to stay well below 1.5°C⁶. Therefore, the definition of Green Urbanism and Green Architecture is based on a precise design approach that focuses on increasing the efficiency of exploiting the resources while targeting a reduced urban and building impact on human health and the environment during their life cycle.

Therefore, the definition of green embeds a variety of necessary actions: to

6. Government of Rwanda and GGGI. (2015). *National Roadmap for Green Secondary City Development*. GGGI.

promote energy & water efficiency; to benefit from the ambient climate; to reduce the use of air-conditioning; to implement the natural cross-ventilation; to maximise the use of local and sustainable construction materials; to provide superior indoor Environmental Quality (IEQ); to protect the natural environment and to promote biodiversity. Green Architecture is also relevant to several UN Sustainable Development Goals (SDGs) targets included in the Agenda 2030 for Sustainable Development that forms the Global Development Framework.

The concepts of sustainable development and sustainability are founded on the assumption that there is an improvement in the quality of life, substantial equity, conservation of biodiversity, and promotion of human survival. In this respect, sustainable urbanisation ensures that urbanites have an excellent standard of living through access to essential services and equity in allocating services to promote social justice. Together, it is necessary that urbanisation harms the environment and that human survival is maintained by reducing diseases and crime and ensuring safety.⁷

Despite Goal number 11, “Sustainable Cities and Communities”, which argues for making cities inclusive, safe, resilient and sustainable, and that is directly connected to the vision of Kigali as a green city, it is worth listing the other goals directly linked with it among the 17 established and adapted in 2015 by United Nations: Goal 3 (Good Health & Wellbeing), Goal 7 (Affordable and Clean Energy), Goal 8 (Decent Work & Economic Growth), Goal 9 (Industry, Innovation & Infrastructure), Goal 12 (Responsible Consumption & Production), Goal 13 (Climate Action) and Goal 15 (Life on Land).

Rwanda has adopted different policies to achieve the mentioned goal(s). The National Green Growth and Climate Resilience Strategy for Climate Change and Low Carbon Development, adopted in 2011, has been followed by the National Urbanization Policy (2015). The National Roadmap for Green Secondary City Development (2015) identifies building and construction as one of the key pillars to achieving green urbanisation in Rwanda. Then, the National Urbanization Policy (2015) and the latter approved Rwanda Green Building Minimum Compliance System (2019). The policies and strategies aim to support good urban development that can enhance local and national economic growth and ensure a good quality of life for all citizens.

Rwanda Green Building Minimum Compliance System

Conceived as simple, effective and environmental performance-oriented regulation, the Rwanda Green Building Minimum Compliance System collects a series of indicators identified to foster energy & water efficiency, environmental protection, a better IEQ for the inhabitants and green innovation⁸. The System aims to apply the indicators in the design and construction of the following public buildings:

7. Matamanda A.R., Nel V. (2020) Sustainable Urbanization in Africa: The Critical Enablers and Disablers. In Leal Filho W., Azul A., Brandli L., Özuyar P., Wall T. (eds) *Sustainable Cities and Communities. Encyclopedia of the UN Sustainable Development Goals*. Springer.

8. Republic of Rwanda. (2019b). *Official Gazette n° Special 16/04/2019, Rwanda Green Building Minimum Compliance System*. Republic of Rwanda.

- Commercial buildings (excluding warehouses and retail shops)
- Public administrative and institutional buildings (excluding correctional services, police, and fire department)
- Social, cultural & assembly buildings
- Health facilities
- Educational buildings (excluding living areas for students)

The approved System that is not yet targeting the residential buildings comprises 5 main modules or focus areas. The first was conceived to improve energy efficiency concerning the orientation given to the building, the overall design, the construction materials used, and the choice of equipment. Afterwards, the building must optimise the water efficiency, mainly based on appropriate devices to harvest the rainwater, install water-efficient features, and provide a wastewater treatment plant that reduces potable water use. Then, the name “environmental protection” is more oriented toward reducing the building’s environmental impact through a contextualised design, adopting good practices, and selecting materials to implement the project properly. Further, the IEQ enhances the fresh outdoor air and thermal and acoustic comfort. The last module, Green Innovation, targets applying green practices and innovative technologies with potential environmental benefits.

The Rwanda Green Building Minimum Compliance System counts 29 green building indicators cutting across five modules defined in the draft document and is weighed at 190 points. Each green building indicator is allocated points based on the relative importance of its contribution to green building goals⁹ (p. 817). To some extent, the Green Building Minimum Compliance System is a step forward from the results of the so-called Tropical Modernism in Africa.

Tropical Modernism or Tropical International Style refers to a specific period in continental Architecture, identifiable through the application of a series of grammar elements that have been employed since the early decades of the twentieth century, mixing Western modernism with the local climatic conditions, a perfect symbiosis and synthesis between the human being, the environment and the traditions. Therefore, green architecture is the updated or modernised version of tropical architecture, especially regarding water efficiency and environmental protection. Furthermore, new technologies in these 60 years have been introduced and have started to be produced locally, avoiding the unsustainable import process.

The City as a Project

The paper aims to tackle the nature of Kigali’s urban future. The starting assumption is to intend the city as an architecture that builds itself over time. In the book *Architecture of the City*, Aldo Rossi reminds us that the city “is to be understood as architecture. By architecture, we do not only mean the visible image of the town and all its architecture. It’s more about architecture in terms of construction. It wants to talk about the structure of the city over time¹⁰. Therefore,

9. Republic of Rwanda (2015b). *Rwanda report. Habitat III*. Habitat3.

10. Rossi, A., (1966). *L’Architettura della Città* (The Architecture of the City), Marsilio.

the city built itself over time, a time that is becoming more and more sustainable in the sense of a continuous comparison with its history and its identity towards the future.

The Kigali Master Plan is a comprehensive long-term plan intended to guide the growth and development of Kigali City¹¹ and, at the same time, provide a road map for future expansion. Kigali's Master Plan from 2013 underlines the principles of sustainable development, and its vision is to make Kigali "The Centre of Urban Excellence in Africa" with a satellite city model focusing on decentralisation and transit-oriented growth. As Rwanda urbanises, the satellite model, adapted from Ebenezer Howard's Garden city principles, addresses the need for decentralised green nodes¹² (African Centre for Cities, 2022). The Master Plan adopts the structure of a satellite city, with decentralised growth nodes and development meant to intensify along transit corridors mainly directed east and south, with the Central Business District (CBD) being the centre point of the growth. The adopted satellite structure is meant to be extended to the country with six secondary cities (Rubavu, Huye, Rusizi, Muhanga, Musanze and Nyagatare) network around the Rwandan capital (see Figure 2). Therefore, the Country and Kigali must be part of a unique plan designed to shape the built and unbuilt environment. As the result of political intention, often in the form of specific architectural projects¹³, an accurate compositional strategy triggered from the single cell, the house.

According to Monestiroli, the actual task of the architect consists precisely in interposing reality by structuring it with the intervention of thought and trying to make it intelligible, which means equipping it with architecture" (p. 18)¹⁴. Therefore, architecture has to regain its fundamental role in shaping the city and paving the urban future. The project of Kigali as a green town begins with a peculiar city model, the satellite one, composed of architectural projects and green settlements. The research will analyse the contribution of three main components of the satellite city and three territories to demonstrate the initial thesis.

11. Republic of Rwanda. (2013). *Kigali Master Plan*.

12. Kamana, A., Radoine, H., Nyasulu C. (2024) Urban challenges and strategies in African cities – A systematic literature review. *City and Environment Interactions*, Elsevier, 2024, 100-132.

13. Aureli, P.V., (2013). *The city as a project*. Ruby Press.

14. Monestiroli, A., (2004). *L'Architettura della Realtà*, Allemanni.

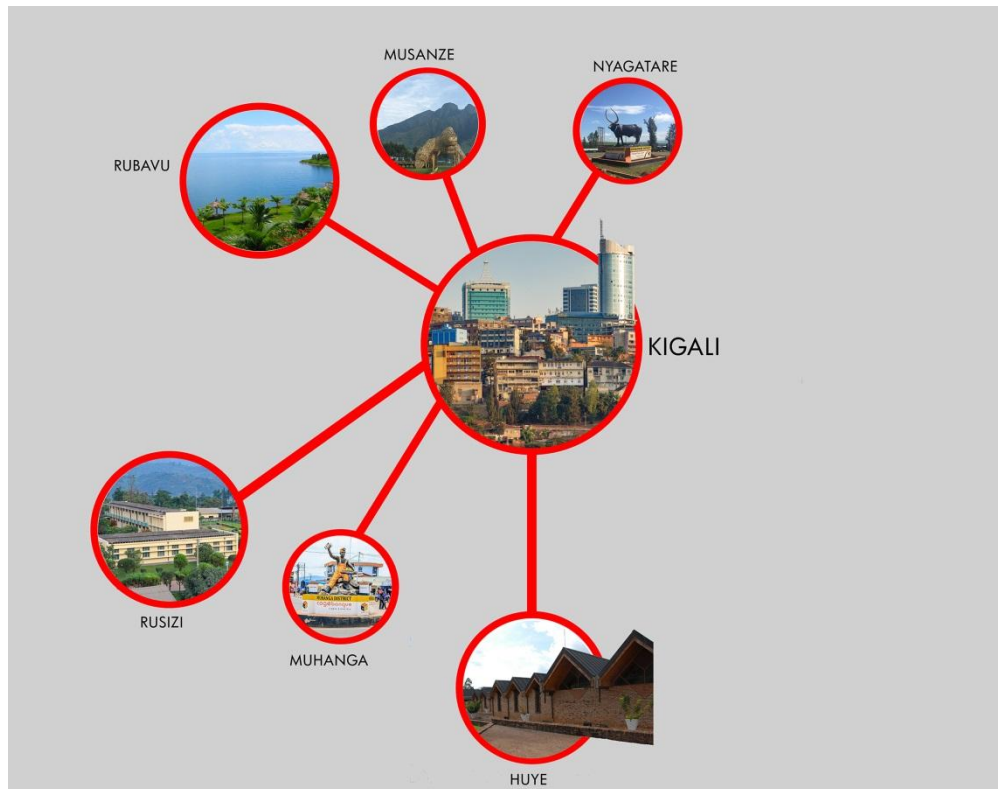


Figure 2. *The Rwanda Satellite Structure*

Source: Collage by Manlio Michieletto

Research Method

The methodology implemented in the paper was split up into two different phases. The first phase includes the comparative analysis of three case studies that exemplify the path towards the vision of Kigali as a green city. It talks about Kigali 2020, Kigali Vision and Green City Kigali, which were studied in their compositional structure and for their effective contribution to the abovementioned vision. The three settlements are part of the Masterplan's idea to design the development of Kigali as a satellite city. Therefore, the selection of case studies that focus on the descriptive nature of the urban concept ensures that the findings are subjected to a comparative process to examine the relationship between the past and the ongoing situation in Rwanda. At the same time, the second phase was conducted by collecting the retrieved elements from the first phase and combining them with the existing policies to establish a road map for future similar projects that are part of the approved Master Plan.

Findings and Discussion

The extremely rapid rate of urbanisation that the African Continent is experiencing has to be seen as an opportunity for green development because cities are the main

engines of economic activities. However, the process of growth in population density, socio-economic inequalities and infrastructure-related problems are stressing the need for sustainable city planning to result in the efficient running of cities¹⁵.

The perspective of achieving the 11th SDG is leading even the Rwandan development of cities and towns; otherwise, the failure in managing the ongoing rapid urbanisation will resolve inevitably in the continued growth of unplanned, poorly executed, chaotic, and unsustainable cities that may be categorised as “slum cities”¹⁶. The main drivers of urbanisation in Rwanda can be summarised in the factors listed by the Rwanda Environment Management Authority: “Natural growth and migration drive urbanisation in Rwanda. Limited land and poverty in rural areas motivate people, especially youth, to move to cities and towns, attracted by the promise of a better life.”¹⁷ There is significant cross-country variation in Africa as a whole, and in South Africa, Rwanda and Namibia, for example, rural to urban migration accounts for more than half of the country’s urban population growth.”¹⁸

Kigali over the Time

The physical growth of Kigali began effectively around fifty years ago after its official proclamation as Capital and has been intensifying since 1994¹⁹. The urban evolution of the Rwandan Capital must be considered in strict relation to the morphological and topographical features of the countryside and the sprawl of smaller urban centres. The declared intention was to strengthen the existing polycentric territorial situation and, at the same time, to rationalise the propagation of informal settlements. The traditional settlement pattern with families living isolated for cultivation started to change during the colonial era when the first planned communities were introduced, and urban areas evolved from administrative posts.

In 1907, Kigali was the site residence of the doctor by the name of Richard Kandt, who established the first German post and with an estimated population of 357 people located close to the colonial fort called “Boma” in the Swahili language (see Figure 3). After the short German colonisation, Kigali passed during the Second World War under Belgian control that considered it a peripheral location, privileging Astrida (today called Huye) as the future capital of the new protectorate made by two countries, Rwanda and Burundi, and located in the southern region. The Independence of Rwanda in the 60s pushed the designation of Kigali as the Capital City, counting about 6,000 inhabitants. The figure-ground of 1940 reveals a city with a central *castrum* where most public buildings and European dwellings were placed (see Figure 4). In 1970, Kigali showed an

15. Chrysoulakis, N., de Castro, E.A., & Moors, E.J. (2014). *Understanding urban metabolism: A tool for urban planning*. Routledge.

16. Davis, M. (2006). *Planet of slums*. Verso.

17. REMA. (2017). *State of Environment and Outlook Report*. Rwanda Environment Management Authority.

18. Bello-Schünemann, J., & Aucoin, C. (2016). African urban futures. *Institute for Security Studies*. 1 (1), 1-34.

19. Smith, K. H., Berlanda, T. (2018). *Interpreting Kigali, Rwanda*. The University of Arkansas Press.

increased density for the planned and unplanned areas.



Figure 3. Old Postcard of the German “Boma” Fortress in Kigali
Source: <https://www.delcampe.net/>.



Figure 4. Kigali’s Grid Structure before the Independence was the So-called “Plateau”
Source: Drawing by Manlio Michieletto.

The government provided in 1982 the so-called Schéma Directeur d'Architecture at d'Urbanisme (SDAU), which was set up under the vision of 20 years of urban development and based on reaching half a million inhabitants by 1995. Anyway, the tragic events in 1994 determined a drastic and rapid fall in terms of the population, reduced at the end of the same year to around 50,000 inhabitants. On the other hand, the National Institute of Statistics of Rwanda reports that the population has grown sensibly in the last two decades, estimating it at 1.2M inhabitants. The demographic explosion brought to retrace and extend the city's administrative boundaries, planning for the first time the urban development through settlements like the ones in the Gasabo district. The project of a Satellite City developed through new settlements ensures that they fit into the overall goal of the Master Plan, thus controlling the growth of the city and assuring that the town shaped itself in such a way that can be recognised by the citizens recalling the scattered nature of Rwandan built environment.

Satellite City Model

The famous diagram of the Three Magnets –coined in 1898 by Ebenezer Howard- proposes an extension towards the promise of fresh air and nature, offering sufficient work and a new social life. Built on the idea of a polycentric Social City, the Garden City of Tomorrow was able to host 32,000 people living on 1,000 acres of land and surrounded by a vast green belt. Once it reached the population limit, another satellite would have been initiated a short distance away, remaining all interconnected by a rapid transit system²⁰. Howard's idea of the satellite city is put into practice for the first time by Barry Parker and Raymond Unwin in the design of Letchworth and Hampstead. A young German architect, Ernst May 1906, was working with Unwin on the translation of *Town Planning in Practice*, Unwin's work on urban design theories.

The link between May and the development of the Satellite city in the East African Region is based on his decision to move from Europe before the clash of the Second World War by buying a farm in Arusha, Tanzania. Afterwards, May worked for the Uganda Government in the definition of the Kampala Extension Scheme, and 1945, he signed a contract for the British colonial authorities to conceive a plan for the rapidly growing post-war building market; the program will stand out for its progressive idea to include large settlements for low and middle-income Africans, one of the first in East Africa to do so²¹. The German architect started to design the plan by observing that the existing city was a beautiful garden city. May traced several panels representing the settlements of the overall satellite masterplan. The founding architectural element is the so-called *Zielenbau* or row house adapted to the tropical context: central axis facing east-

20. Hall, P., (2014). *The City of By-Pass Variegated. The Mass Transit Suburb*: London, Paris, Berlin, New York, 1900–1940. In Hall, P., *Cities of tomorrow: an intellectual history of urban planning and design since 1880*. Wiley Blackwell.

21. Gutschow, K.K. (2012). *Das Neue Afrika: Ernst May's 1947 Kampala Plan as Cultural Program*. In Demissie, F., *Colonial Architecture and Urbanism in Africa: Intertwined and Contested Histories*. Ashgate, 236-268.

west sides; use of local materials; employ of features to enhance the sun protection and the cross ventilation; flourishing greenery surrounding the dwellings. In 1952, the oil company Shell offered the opportunity to design a settlement in Port Tudor, west of Mombasa in Kenya. Port Tudor was intended as a satellite for workers, characterised by a large standard green zone around which he located different housing typologies (see Figure 5).

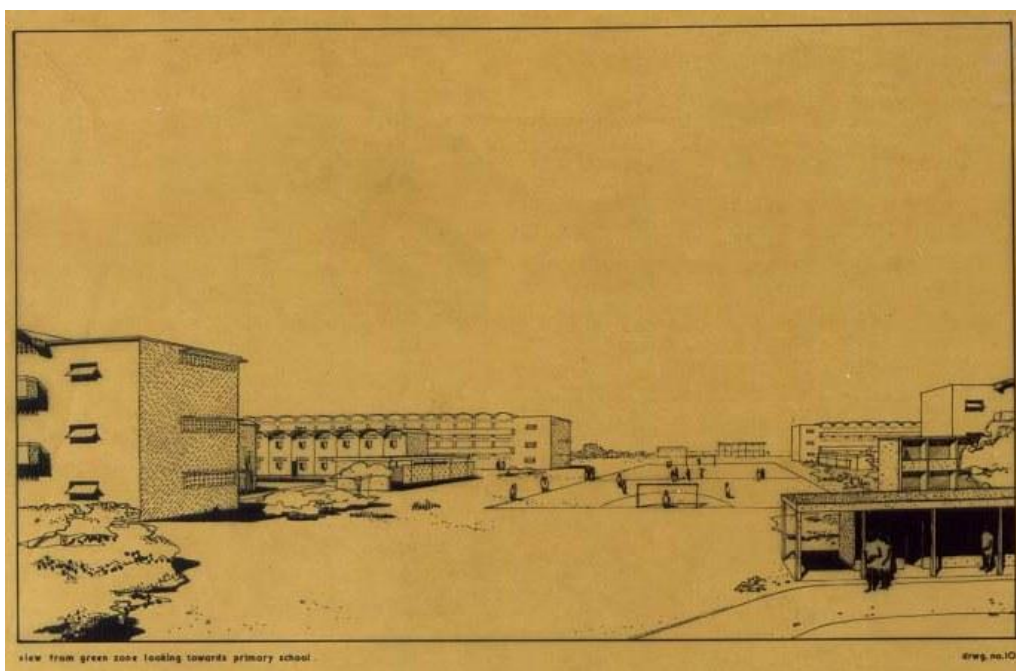


Figure 5. *Port Tudor Settlement View of the Central Green Area*

Source: Quiring, C., Wolfgang, V., and Cachola Schmal, P., (2011), *Ernst May 1886-1970*. Prestel GmbH & Co KG.

Analysing these completed projects, the intention of May to introduce some architectural principles typical of the tropics is evident: orientation, wind and ventilation, shading, protection against heat transmission and extensive use of natural lighting. The climatic problem, connected with the composition of the constituent parts of the buildings, gave birth to an identity that must be remembered: simple life forms are the closest to perfection²². These features also reveal a green approach or sustainability before sustainability. Around fifty years later, in the same African Region, the City of Kigali is building its urban future following the past traces. Therefore, rediscovering tropical architecture seems to be the fundamental point to achieving the country's Renaissance: to make cities inclusive, safe, resilient, and sustainable.

22. Dequeker P., Kanene M., (1992). *L'Architecture Tropicale. Théorie et mise en pratique en Afrique tropicale humide*. Centre de Recherches Pédagogiques.

The Three Satellite Settlements

Kigali builds itself and its green future over time. The 21st century has seen the reshaping of the capital city, directing its development through a very peculiar project: the satellite city. The paper focuses on analysing three settlements, Kigali 2020, Kigali Vision and Green City Kigali, that represent the quintessential green urban examples of the Masterplan. All are located on the northeast side of the Capital, and Kigali 2020 and Kigali Vision are part of the Gacuriro area. Instead, Green City Kigali is a project under realisation on Kinyinya Hill (see Figure 1). In the Satellites, the single cell is articulated in different dwelling types and, jointly with the public facilities, constitutes an entire settlement. The three *Imudugudu* in Kinyarwanda shape the whole City design. They also seek to address issues related to urban sprawl, poor connectivity, special urban functions, poor allocation of social infrastructure, lack of socioeconomic mix and poor connectivity of movement, infrastructure and ecological networks. These principles ensure that socioeconomic and environmental sustainability is protected and promoted as urban growth occurs through controlled expansion and upgrading/densification of existing and future areas. In addition, enabling a sustainable economy via local production, employment, and consumption is a crucial development area within the Planned City Extension (PCE) principles. All these aspects are strictly connected with the initial assumption of green urban development.

Kigali 2020

Kigali 2020 represents the first compositional element of the satellite city. Located on the Gacuriro hill, the settlement is characterised by the aggregation of 4 different semi-detached housing typologies placed along the contour lines to protect the existing context from invasive site works. The available public facilities – the church and the schools- have built the central green area as the community's main space (see Figure 6). All the buildings are realised using locally produced materials, thus augmenting the environmental protection, such as granite stone for the foundations, fired bricks for masonry, tiled/pitched roofs, timber ceilings and other details that guarantee high indoor environmental quality comfort. Moreover, the use of clay increases the thermal mass and, at the same time, decreases energy consumption. The principal elevations of the units follow the north-south orientation while the east-west facades present few and small openings due to the more sun exposure during the day. The typical overhanging roof protects from the north side heat but is not exploited to harvest rainwater, thus reducing the water efficiency. A front and back yard provide each unit with two traditional spaces that enhance the outdoor life and activities. Residents should be able to enjoy the social and economic benefits of urbanisation while minimising ecological footprints (green innovation).



Figure 6. Central Green Area

Source: Photo by Manlio Michieletto.

Kigali Vision

The *Umudugudu* Kigali Vision completes the second phase of the Gacuriro Satellite. It comprises various dwelling typologies: apartment blocks, townhouses and villas (see Figure 7). The 544 units composing the settlement are in different hillside areas, with the highest building at the top and the lowest at the bottom between a narrow green strip connecting the project's east and west parts. Unlike the Kigali 2020 project, where the common facilities in the middle of the settlement are grouped around a central green cluster, the ones in Kigali Vision are scattered along the green common area. The whole project is surrounded by a fence, giving it a protected compound nature while rejecting the connection with future urban expansions. The main goal of Kigali Vision is to bid for the modern citizen to have a “modern” lifestyle in a safe, quiet, and natural environment. Still, despite these premises, its construction reveals some criticality regarding green innovation.²³ First of all, the design of the houses needs to respect the basic principles of the tropical architecture found in Kigali 2020. The rule of orienting the main facades facing north-south and the shortest east-west dwellings is only sometimes respected and following the slope's contour lines to achieve adequate environmental protection. The fact that the buildings are not oriented correctly affects the indoor environmental quality with an increased temperature, which requires an inevitable rise in energy consumption. As seen for Kigali 2020, the Kigali Vision settlement

23. Michieletto, M., Adedayo, O., (2019). African Housing Renaissance: The Case of Gacuriro Valley Satellite Settlements, Kigali, Rwanda. *Urban Planning*, 4 (3), 265-290.

doesn't adopt a harvesting system for rainwater, with the roof not adequately sized to protect the elevations.



Figure 7. Signpost of One of the Housing Typologies in the Kigali Vision Settlement
Source: Photo by Manlio Michieletto.

Green City Kigali

Green City Kigali (GCK) is a 600ha project of sustainable community intended to occupy the Kinyinya Hill site (see Figure 1), which will be realised as part of Vision 2050. The Green Vision Kigali project aims to combine social, economic, and environmental targets with solid governance to create a liveable and resilient urban community, a shining example of a future sustainable urban community in the East Africa Region. The project is also designed to transform the region into an economic hub that, starts from a renewed urbanisation process. Residents of the updated Kinyinya Hill should enjoy urbanisation's social and economic benefits while minimising the ecological footprint for environmental protection and optimising green innovation. It will be composed mainly of affordable housing (see Figure 8) linked with climate change adaptation and mitigation measures setting standards for sustainable urban development in Rwanda. The new city will also assist in healthy urban growth, maintaining Kigali's low carbon footprint by using local materials and resources for indoor environmental quality and constructing energy-efficient buildings. Another goal is to promote a sustained and inclusive economic growth cycle for financial well-being supported by non-vehicular internal and external connectivity.



Figure 8. *View Depicting the Green City Kigali Proposed Project*

Source: <https://greencitykigali.org/>.

Conclusions

The paper depicted the state of the art regarding the rapid rate of urbanization that the African continent is experiencing, a phenomenon that, in Rwanda's case, has been tackled following a sustainable and green approach. The achievements envisaged by the 11th SDG and the other related goals focusing on technology, poverty and climate change engage the urban agenda and the new Master Plan of Kigali City. The six secondary cities are the foundations for sustainable, inclusive, resilient, and safe urbanisation. The country's vision for 2050 is built on the Green Growth and Climate Resilience Strategy. It is mainly grounded in a developed climate-resilient, low-carbon economy with a strong services sector and low unemployment and poverty levels. All these objectives reflect the orientation given to urban and national development through adopting a precise structure: a polycentric regional plan composed of six secondary cities interconnected with the Capital City, Kigali. Kigali is shaped according to a satellite model already applied in the Region, and green settlements make each satellite. Starting from the assumption that the city builds itself over time, it has been demonstrated that the green future began in the past and is proceeding through a series of architectural interventions: Kigali 2020, Kigali Vision and Green City Kigali. Even though Kigali 2020 reveals more sustainable features than Kigali Vision, the two artefacts represent the government's commitment to reach the targets of the 2030 Agenda. The Green City Kigali project collects previous experiences and provides guidelines for the following urban developments regarding housing and climate change. New settlements must focus on affordable housing and how to integrate housing with climate change adaptation and mitigation measures. In conclusion, paraphrasing the words of the Congolese writer Sony Labou Tansi, Kigali will never be New York; each city has its soul, the *genius loci* that contextualises the global green model to each specific environment.

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Implications of Two Colonial Approaches on Urban Expansion of Tripoli, Libya

*By Fathia Elmenghawī**

Colonizers interpret their colonies differently and many urban and planning approaches can be traced. The aim of this paper is to examine the colonial approaches of urban expansion in the city of Tripoli, Libya. It focuses on two distinguished colonial periods, the late Ottomans and the Italians (1830s to 1940s). Both colonizers have approached the concept of modernizing the city differently and both had perceived their approaches to the city's expansion as means of practicing dominance over the colonized under the disguise of facilitating the process of modernization. The striking difference between the two colonizers' plans for the expansion of the city resided in the way they had treated the old city. Under the claim of respecting the 'indigenous culture,' the Italians ghettoized old city while endowing the new one with an intense architectural and urban planning orders to project on the ground an Italian national representation. By exploring some archival documents and maps as well as the literature related to these colonial periods, the paper will illustrate how these two colonial approaches influenced the urban growth of the city in the post-independence period (1950s – 1990s) and also became an integral part of the subsequent planning visions of the city.

Introduction

Tripoli, Libya, has a long history under colonialism starting with the Phoenicians in 7th century B.C. and ending with Italians who have left the city around mid-twentieth century. Each of these periods has left its impact on Tripoli's urban layout. Thus, the city -and its residents- is a product of long foreign hegemony and domination. Throughout the ages architecture and planning were the means used by the colonizers to express their power and ideas. Out of this experience the city has collected a variety of styles that are still attesting to how planning and architecture were used as material instruments in history's relentless drive. Each colonial experience has left its own articulation due to the actions and reactions of both colonizer and colonized. Such a tumultuous history has characterized almost all Middle Eastern and Maghreb cities where the spatial transformations were driven more by the whims of the colonizers,¹ than the wills and practices of their inhabitants.

The two distinguished colonial periods under investigation of this paper are: the late Ottoman rule and the Italian occupation, spanning the period extending between 1850s to 1940s. Though the Ottomans had ruled Libya for more than three and a half centuries, this paper will only concentrate on what is known in Libyan

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1. Zeynep Çelik, *Empire, Architecture, and the City: French-Ottoman Encounters, 1830-1914* (Seattle: The University of Washington Press, 2008), 71.

history as the Second Ottoman Rule. This period has followed the initial take-over of Libya by the triumphant Ottoman Empire in mid-sixteenth century when its Navy controlled most of the Mediterranean basin. In total the Ottomans ruled Libya from 1552 to 1912. This long arc of time was divided into three historic periods, the first Ottoman rule lasted from 1553 to 1711, followed by the Karamanli Family's rule (a formally autonomous dynasty) from 1711- 1835²; and finally, the second Ottoman rule, which extended from the defeat of the Karamanli family to the Italian occupation of Libya at the end of 1911.³

The aim of this paper is to examine the colonial approaches of urban expansion in the city of Tripoli, Libya under the two above mentioned historical periods. The analysis will focus on each period's influence on the city's physical growth and transformation. The paper will then illustrate how these two colonial approaches not only influenced the urban growth of the city in the post-independence period (1950s – 1990s) but also have become an integral part of the subsequent planning visions and proposals of the city.

Examining the colonial approaches to urban expansion in the city of Tripoli will reveal how each colonizer⁴ has used ideological and practical ideas to express its power and dominance. The planning and architectural approaches followed by both the Ottomans and the Italians, have used urban contexts as a display to their power, albeit with some significant differences. The similarities and differences can be traced in the way in which both colonizers had treated the old city of the colony as either contexts for expansion or mere relics to marginalize and ignore. Both the Ottomans and Italians have approached the city's expansion as a way to express their dominance over the colonized, though disguising it under the cloak of modernization, albeit with different notions of modernizing cities through urban growth strategies.⁵

A noticeable difference, between the two colonizers' plans for the expansion of the Tripoli, could be found in how both treated the old city. When Ottomans ventured outside the city walls, they related the new growth to the existing city. Italians, on the other hand, have shown little interest to connect the new expansion of the city to the urban fabric of the old city. Thus, Italian massive works to transform and expand the city outside of the old compound have ushered

2. Tripoli was the seat of the Karamanli dynasty, which ruled most of what later became Libya with little control from Constantinople (now Istanbul).

3. Rasim Rushdi, *Ṭarabulus al-Gharb fī al-maḍī wa-al-ḥādir* (Tripoli, Libya: s.n., 1953), 27.

4. At this point, I would like to emphasize the ambiguity of whether to consider the Ottomans as colonizers or as conquerors given that they have the same religion of some countries, over which they took power. However, in terms of some political practices they install in these countries, certain amount of colonial manifestations was appeared. Thus, as it is not the task of this paper to dig into the nature of the Ottoman rule in the Arab-Islamic countries, the term colonizer, in some instances, is metaphorically used.

5. Although the Ottomans had primarily shaped the Arab provinces they ruled, the European colonizers who came after (who subsequent them) outpaced them in terms of the implementation of modernity. Another argument says that the Ottoman and the European colonists were looking at each other while constructing the colony, particularly at the time when both were coexist the Arab Middle eastern and North African countries. For more on the mutual influences between the ottoman and French development projects in the colonies see Çelik, *Empire, Architecture, and the City*.

in an entirely new Italian colonial city. Under the claim of respecting the ‘indigenous’ culture, Italians have, for all practical purpose, made the old city a ghetto, while providing their new city with the needed architectural and urban planning orders that would realize on the ground an Italian nationalistic representation. Thereafter, the walled city was left to its own fate, drifting rudderless untouched, so that Italians could still lay claim on preserving the indigenous culture and architecture.⁶

Establishing borders between the colonizer and the colonized was another clear difference between Ottomans and Italian’s ideological processes of expansion. Ottomans did not use racial or ethnic segregations in their spatial transformations, whereas Italians’ policies on settlements followed separating residential and commercial areas for the European settlers from those for the indigenous people.⁷ Though these strategies appear sometime to have been relaxed particularly when creating those “hybrid, or technocratically created, ‘organic’ (or pseudo-organic) spaces,”⁸ the fact remained these spaces were part and parcel of what came to constitute the new Italian urban texture. It has been argued that spaces such as piazzas and the like were designed to encourage the coexistence of different ethnic groups for furthering colonial interests.⁹ Consequently, public spaces came to express ideas of dominance, which in turn, have shaped the spatial manifestations of Tripoli urban expansion. In this regard, the paper will argue that another similarity between the Ottomans and the Italians in treating the city’s spatial growth can be traced. Both of them made public spaces as the nucleus for expanding first and then connecting to the new open spaces in order to make room for buildings in between. By and large, the following sections will argue that the colonial interpretation of Tripoli’s urban fabric by two different colonizers carried similarities as well as differences.

The Walled City of Tripoli

The old city of Tripoli (Figure 1) the Medina, a result of a long history has survived several periods of domination. The basic street pattern, which still exists today, was laid down by the Romans who also had surrounded the city with walls to protect it against attacks from the interior. This layout of the Roman city, named Oea, later renamed Tripoli, was almost wiped out by the Spanish invaders who controlled the city between 1510- 1551. But such destructions had also stimulated further development of the city and facilitated the process of urban reconstructions under the Ottomans in the following centuries of their rule of *Trablusgarb* – as Tripoli was named during the Ottoman period. The street pattern planned by the

6. For more information about the Italian perspectives and practices regarding indigenous aspects in the colonies see Mia Fuller, *Moderns Abroad: Italian Colonial Architecture and Urbanism* (New York: Routledge, 2007); Brain McLaren, *Architecture and Tourism in Italian Colonial Libya: an ambivalent modernism* (Seattle: The University of Washington Press, 2006).

7. Krystyna Von Henneberg, “Public Space and Public Face: Italian Fascist Urban Planning at Tripoli’s Colonial Trade Fair,” in Ruth Ben-Ghiat and Mia Fuller , eds., *Italian Colonialism* (New York: Palgrave Macmillan, 2005), 156.

8. Ibid.

9. Ibid.

Ottomans did not follow the historic Roman layout. The direction of the main roads Sciara Arbaa Arsat and Sciara Jama el-Druj is slightly different from the orientation of the Arch of Marcus Aurelius, which was at the intersection of *Cardo* and *Decumanus*, the main axes of the Roman city.¹⁰ Hence, a series of urban patterns began to distinguish the articulation of Tripoli planning structures. Each of these patterns referred to a specific historical period of the city. The classic Roman layout was based on *Cardo* and *Decumanus* as can still be visualized in the original orthogonal grid of the main streets. The Arab-Islamic city with its irregular, curvilinear, and dead-end alleys was superimposed on the Roman grid. The Ottomans' sixteenth-century fortified city can be still seen in the polygonal geometry of the city walls.¹¹



Figure 1. Tripoli's Old City, Where the Original Roman *Cardo-Decumanus* can still be Recognized

Source: Map collection-Perry-Castaneda Library, The University of Texas at Austin. [http:// www.lib.utexas.edu/maps/](http://www.lib.utexas.edu/maps/).

The resulting complexity of the Ottoman Medina of Tripoli was perhaps to the amalgamation of these various foreign influences with their different ways of urban life into a compact urban structure.¹² The walled city saw its flourishing days during the late Ottoman rule, in the late nineteenth-century, when the new reform

10. Ludovica Micara claims that the identification of the Cordo of Roman Tripoli with the mentioned streets of the Arab-Islamic city is questionable. The author further states that it might be due to the destruction caused by the Spanish troops and the knights of Saint John in the urban area to the west of the Castle as well as the demolition made by the Ottomans in some parts of the city to facilitate conquering it that a shift in the ancient Roman Cordo to the west has occurred. Ludovica Micara, "The Ottoman Tripoli: A Mediterranean Medina," in Salma Khadra Jayyusi, Renata Holod, Attilio Petruccioli, and André Raymond, eds., *The city in the Islamic world, Volume 1*, (Leiden; Boston: Brill, 2008), 383.

11. Ibid, 384.

12. Ibid, 406.

(*Tanzimat*) had spurred the establishment of many public and civic institutions¹³ throughout the city. The attempt was part of the Ottomans spreading their notion of modernization throughout the provinces.

Modernizing Tripoli During the Second Ottoman Rule: Growth of the City Outside the Walls

The Ottomans, in the last decades of the 19th century, had embarked on urban reform programs in their Arab provinces as part of a larger modernization project. Ottoman interventions on urban fabric in the provinces of Northwestern Africa were not as radical as those carried out in the eastern Arab cities. The principal difference was these interventions, on Maghreb cities, came decades later and were not motivated by military purposes.¹⁴ The programs were carried out under the umbrella of *Tanzimat* reforms, which were aimed at introducing modernity through innovative (modern) urban planning. However, these reforms were not limited to the physical context only, but also brought some administrative and municipal system innovations.¹⁵ For example, the first municipal system in Trablusgarb was established in 1867 and the first municipal building (*Baladiyya*) was a small house inside the walled city.

In Trablusgarb, the Ottoman governors carried out urban reforms¹⁶ that were significant in directing the growth, outside the walled city, toward the south. Ali Riza Pasha, the Ottoman governor who took office in 1867, for instance, was a leading figure in implementing the municipal reform. He was also a fervent partisan of the modernization movement. Because of his efforts, Tripoli started on the path of modernization. Ali Riza, driven by his ambitions to apply what he learned in France, and inspired by the French colonial projects in Algiers, was eager to implement a Western urban management to Tripoli. Hence his many civic projects were based on a strong “desire to modernize following a French template.”¹⁷

13. According to the census of July 1911, the year of the Italian occupation the city's population was 29,869 inhabitants – of Muslim, Jews and European christens – distributed in 2,750 houses. The city contained “1,309 shops, 35 Funduqs, 72 cafes, 95 taverns, 3 hotels, 5 inns, 2 cinemas, 1 Arab theater, 1 military steam mills, 45 mills moved by cannels, 43 bakeries, 4 soap factories, 3 leather tanneries, 33 mosques, 22 synagogues, 1 catholic church, 1 orthodox church, ..., 5 Italian schools, 2 French schools, 3 Muslim schools, 1 Turkish military college, 2 Jewish schools, 21 Arab schools for boys ... , 2 Muslim schools for girls ... 1 Muslim high schools, 6 Turkish primary and secondary schools, 1 Christian hospital, 1 Italian surgery, 5 drugstores, 3 hammams, 1 Turkish town hospital, [and] 1 military hospital. Ibid., 399.

14. Çelik, *Empire, Architecture, and the City*, 98.

15. Jean-Luc Arnaud “Modernization of the Cities of the Ottoman Empire (1800-1920)” in Salma Khadra Jayyusi, Renata Holod, Attilio Petruccioli, and André Raymond, eds., *The city in the Islamic world, Volume 1*, (Leiden: Boston: Brill, 2008), 957.

16. Here I mean in comparison to projects done by the Italians in Tripoli, particularly outside the Walled City.

17. Yet as Lafi claims, Ali Riza Pasha's projects were not just a copy of Western methods. In fact his goal was to set up genuine technical co-operation with the French by forming modern machinery that included French engineers, who worked in Algiers, as assistants. Lafi, “From Europe to Tripoli in Barbary,” 195.

The successive governors of Tripoli had continued Ali Riza Pasha's mission. Many new projects were carried out in the city of Trablusgarb; new quarters were built outside the walls in accordance to 1909 city plan.¹⁸ It was under Ali Riza Pasha's governorship that Mazhar Bay, a military engineer, was ordered to draft a map of Trablusgarb. The map outlined the growth outside the walled city. In the early 1860s there were still not that many constructions outside the walls of the city. Expanding commercial activities outside the walls resulted in building the Suq Azzizia market, named after Sultan Abdulaziz. In order to reflect modernity, the Suq was not designed in line with traditional Arab markets. The shops were situated under arcades that lined both sides along the avenue (Figure 2). Admiring French boulevards, Ali Riza Pasha's Suq Azzizia resembled those arcaded French boulevard of Algiers. Thus Suq Azzizia came to far from a typical common commercial establishment. Gathering commercial facilities along an extended avenue stimulated further growth of the city in the desired direction. It became a catalyst for the new buildings in lands and gardens nearby.¹⁹

The successive governors of Tripoli had continued Ali Riza Pasha's mission. Many new projects were carried out in the city of Trablusgarb; new quarters were built outside the walls in accordance to 1909 city plan.²⁰ Ahmed Izzat Pasha (1879-80), Ahmed Rasim Pasha (1881-96), and Hafiz Mehmed Pasha's (1899-1900) implemented governmental and public buildings. All these projects resulted in stimulating a gradual growth of the city outside its walls. Part of these walls was demolished in 1909 to make room for new quarters and for more urban developments.²¹ The flourishing of the area outside the walls was highly praised in many publications of the time (Figure 3).

18. Ibid, 105.

19. Çelik, *Empire, Architecture, and the City*, 103-104.

20. Ibid, 105.

21. Mia Fuller, "Preservation and Self-Absorption: Italian Colonization and the Walled City of Tripoli, Libya," in Ruth Ben-Ghiat and Mia Fuller, eds., *Italian Colonialism* (New York: Palgrave Macmillan, 2005), 134.



Figure 2. *Trablusgarb, View of Suq Azzizia*
 Source: Çelik, *Empire, Architecture, and the City*.

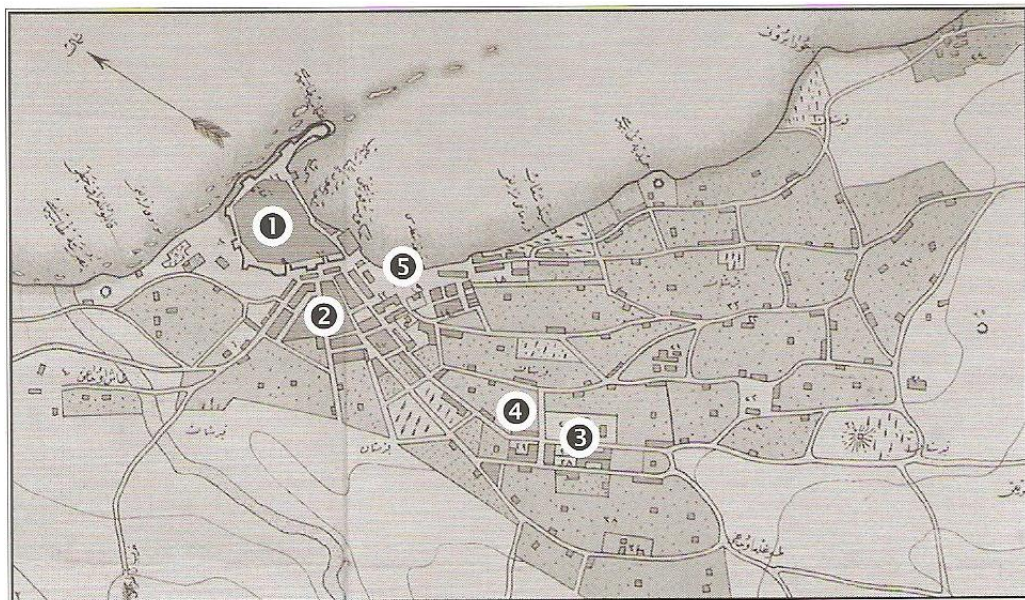


Figure 3. *Trablusgarb, the Growth Outside the City Walls During the Ottoman Rule*
 Source: Çelik, *Empire, Architecture, and the City*.

Ottoman's Approach to Tripoli's Growth: Connecting Public Spaces

Ottomans' approach for expansion outside the walled city was relating it to what was taking place inside the walls. The continuity of space was central to the growth of the city and the building of new quarters outside the walls. The

expansion was conceived as an addition, that's enlargement, to the old city. Thus, the building of Suq Azzizia, at a focal point of the new Azzizia Avenue, which was an extension of intra-muros Saray Avenue, was a good example of a modern planning approach at that time. What distinguished this planning approach was its way of connecting such public spaces, between the old inside the walls with the new ones south of city walls, by the new Azzizia Avenue, an artery which was designed specifically to form a path for further growth to the south (Figure 4).

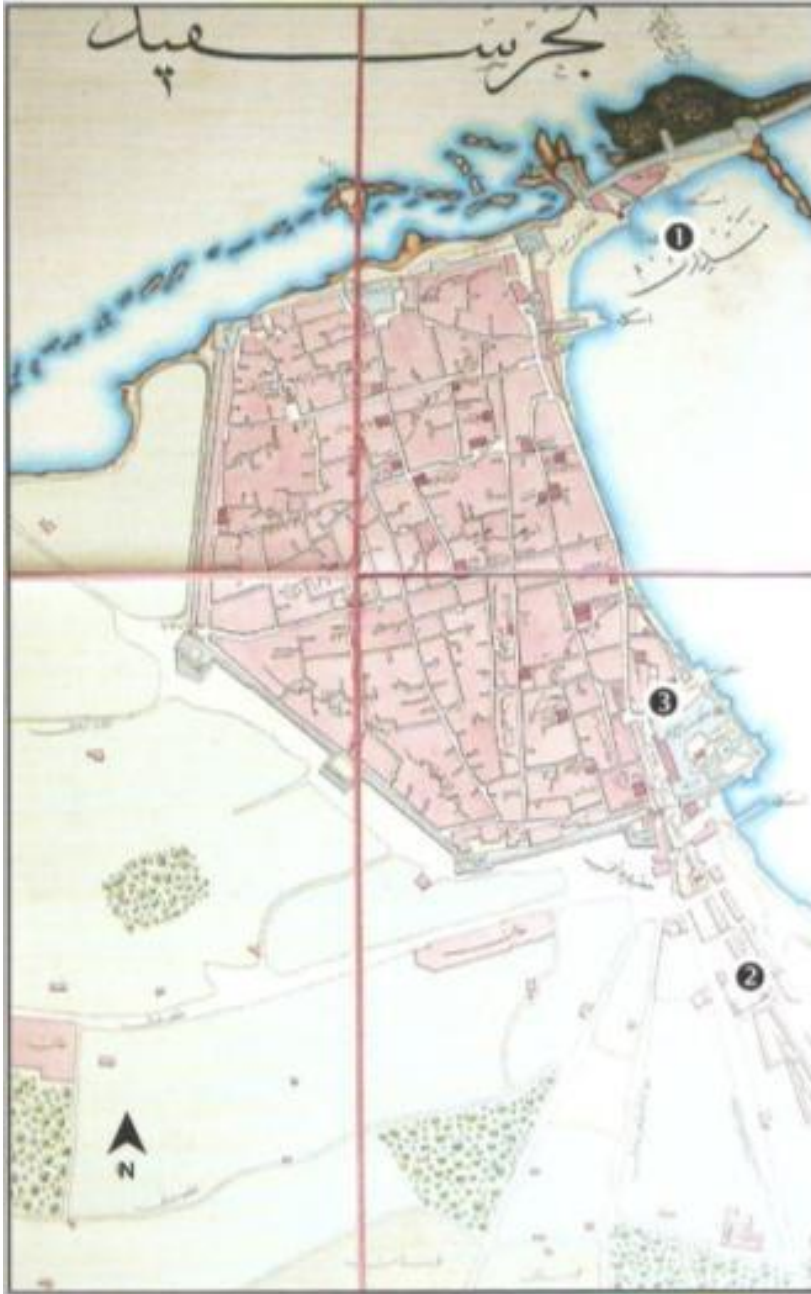


Figure 4. *Trablusgarb, Plan of (1883) Showing the Connection of the Clock Tower Square (3) with Suq Aziziya (2) via Aziziya Artery*
Source: Çelik, *Empire, Architecture, and the City*.

As in most Arab-Islamic cities, Tripoli has no large open public spaces, besides those modest spaces attached to mosques.²² However, during the late Ottoman rule, clock tower squares started to appear in cities ruled by the Ottomans, and Tripoli was not an exception to this new type of public space. Erecting clock towers in the Ottoman provinces during the late nineteenth century and early twentieth century took a phenomenal pace. They were seen to “express the modernity of the post-Tanzimat period.”²³ They became a symbolic feature of Ottoman public monumental planning, during a period when the creation of new public squares or the expansion of the already existed ones was taken as synonymous for modernity. These spaces with their clock towers became prominent places for public display. Clock tower and their squares were also built to commemorate important political events and royal ceremonies for the Sultans’ ascension to the throne, etc.²⁴

The first clock tower was built in Trablusgarb, in 1860s during Ali Riza Pasha’s (Figure 5).²⁵ governorship. Since the markets in the Arab-Islamic cities not only link public spaces together but also serve as the community’s focal point, the Ottomans have erected their clock towers in their centers. To differentiate these towers from mosques’ minarets, they were given a different shape and limited height. Most of these structures were freestanding and square-shaped or polygonal easily distinguishable from rounded-shaped minarets. In 1898, a grandiose clock tower was built in an open space at the end of Suq al-Mushir. This square-shaped structure was in a graceful neoclassic Ottoman piece of 18 meters high, square-shaped and ornamented with marbled Corinthian columns, with a clock on each of its four sides, and topped with an elegant dome (Figure 6).²⁶

22. Hasan-Uddin Khan, “Identity, Globalization, and the contemporary Islamic City,” in Salma Khadra Jayyusi, Renata Holod, Attilio Petruccioli, and André Raymond, eds., *The city in the Islamic world, Volume 1*, (Leiden; Boston: Brill, 2008), 1036.

23. Çelik, *Empire, Architecture, and the City*, 146.

24. These plazas with their iconic watchtowers became central public spaces in regional cities of the Ottoman Empire, such as Izmir, Tripoli, Jaffa, and Jerusalem. See Salim Tamari, “Confessionalism and Public Space in Ottoman and Colonial Jerusalem,” in Diane E. Davis, Nora Libertun De Duren, eds., *Cities & Sovereignty: Identity Politics in Urban Spaces* (Bloomington: Indiana University Press, 2011), 62.

25. Çelik, *Empire, Architecture, and the City*, 146-47.

26. James Azema, *Libya handbook: the travel guide*, (Chicago: Footprint Handbooks Ltd, 2000), 73.



Figure 5. *Trablusgarb, a Clock Tower Built by the Ottomans*
Source: Çelik, *Empire, Architecture, and the City*.



Figure 7. *Trablusgarb, Another Clock Tower Built During the Reign of Sultan Abdulhamid*
Source: http://www.slide.com/s/vvooUgmN1D_AfMBc8wS8BXCcwo1rNSqH?dir=1.

With such an important clock tower square and prominent location, Ali Riza has planted a reference point for the city's future expansion. The clock tower was close to the residence of the Ottoman royal family, *al-Saraya al-Hamra* (the Red Castle) occupying the eastern quadrant of the old city. Starting from this clock tower square through an old arch one passes to the Suq al-Mushir commercial street before crossing the walls from one of its gates – an open arch, an artery was created connecting to the new Azzizia Avenue (Figure 4). The square became a triggering point for old city's extension, opening the doors for further systematic growth to the south, which was carried out under new reforms for modernizing the city. This artery led into a commercial public space of Suq Azzizia. Hence, new quarters flourished and new public buildings were built along the new artery, which has become one of the principal streets of the radial system which formed the city's urban fabric. Once again, we see how the growth was promoted through linking open public spaces with each other.

The radial pattern can be viewed as dictated by typography as by the need to connect the old city to the new expansion. These new paths took their reference points in the castle, the city gate, and the public space outside the city walls. This public space was to become later a significant Italian architecture showcase in the southern part of the city. Thus, continuing the notion of systemizing the city growth through the concept of connecting public spaces in the city.

Tripoli Under Italian Colonialism 1912-1940s

Italy invaded Libya at the end of September 1911. A combination of resistance and negotiations were followed by the already declining Ottoman Empire in the hope to thwart Italian attacks on their last remaining North African province. Italy mounted its campaign against Libya in part out of jealousy from other European powers and in part to find a solution to its chronic high unemployment. Italy suffered from lack of 'living space' and wanted to catch up with her French and British counterparts in Africa. Italians planned to show the world's colonial powers how the Roman heritage could be claimed again. Their plan was to convince the world they were not invading Libya but merely returning to their ancestors (Romans) lands in Africa (Figure 8). Moreover, they shared European slogans and were eager to prove being more modern and efficient colonizers that what they had been replacing, the Ottomans.²⁷

27. Nora Lafi and Denis Bocquet, "Local Elites and Italian Town-Planning Procedures in Early Colonial Tripoli 1911-1912," *The Journal of Libyan Studies* 3, no. 1, (2002), 60.



Figure 9. *An Image Depicting Italians as Returnees Not Invaders*

Source: Fuller, *Moderns abroad*.

Italian imperial dreams to be established in Libya were from the start built on the notion of *Romanità*. But the Fascists have recognized the political value of *Romanità*, enlarging it greatly and rapidly, in the same enhancing it through Roman archaeology, which bound the concept to itself.²⁸ On the other hand, the neo “Roman colonizers” were intent as their ancestors on projecting their imperial ideologies on the ground

28. D. J. Ian Begg, “Fascism in the Desert: A Microcosmic View of Archaeological Politics,” in Michael L. Galaty and Charles Watkinson, eds., *Archaeology Under Dictatorship* (New York: Kluwer Academic/Plenum Publishers, 2004), 20-21.

in practice as in theory. Indeed, the Fascist's strong belief in their supremacy has established a direct connection between the notions of hegemony and the building of the colony. Italian colonialism, like all the European colonialism, was carried under the ideological banners of the superiority of their races and civilization, summarized by the French slogan of '*la mission civilisatrice*' and by Rudyard Kipling's 'the white man's burden'.²⁹ Thus, exploitation packaged in ideological overtones of superiority, drove Europeans to settle and build cities in many parts of the world, Africa was no exception. Tripoli, among other cities in North Africa, thus became an active theater for such theoretical colonial fantasies, translated into destructive campaigns interrupted by vast physical changes in the fabric of the city.

The Italian Interventions in the Walled City

The Roman ruins in the old city of Tripoli became the main focus of Italian officials and practitioners. The Arch of Marcus Aurelius, dating to 163 AD, was the most important single Roman-era's vestige in the area. This relic was the focus of Italians since as soon as they took over Tripoli. Many attempts were made to revive it through architectural and planning efforts.³⁰ For Italian administrators of Tripoli were not happy to see the proof of their ancestor's presence in Libya in such appalling conditions (Figure 9). Surrounded by Arab and Ottoman buildings, which Italian administrators had little interest to save, the 'magnificent' arch was so cramped to be nearly invisible. Consequently, an extensive clearing was carried out in the area around the historic arch, demolishing almost all the surrounding structures to abstract the cramped arch from its historical roots, its surrounding background. Thus, Italians' priorities came to be limited to searching and preserving what remains of the Roman Era (Figure 10).

Italians claimed their work done inside the walled city was to preserve the Arab city while restoring the Roman ruins. Italians did not intervene extensively inside Tripoli's old walled city. The debate about how to preserve the indigenous architectural and cultural artifacts while modernizing the colony was at the centre of planning colonial discourse from the 1910s and beyond. Italian officials called for the preservation of the culture and environment in the colony as part of their "*politica indigena*" (indigenous politics), which they thought would support their modernization attempts.³¹ But this call was done out of Italian respect for the indigenous culture *per se* but rather "according to the demands of metropolitan society."³² Hence, the little preservation to indigenous culture that was done; it was defined primarily by Italian authorities according to strictly western perspectives.

29. Peter P. Ekeh, "Colonialism and the Two Publics in Africa: A Theoretical Statement," *Comparative Studies in Society and History* 17, no. 1, (Jan., 1975), 95; Edmund Burke III, "Theorizing the Histories of Colonialism and Nationalism in the Arab Maghrib," *Arab Studies Quarterly* 20, no. 2, (Spring 1998).

30. Fuller, *Modern Abroad*, 77.

31. McLaren, *Architecture and Tourism in Italian Colonial Libya*, 81.

32. *Ibid*, 7.



Figure 9. Arch of Marcus Aurelius During the Ottoman Period

Source: <http://younis71.maktoobblog.com/category/>.



Figure 10. Arch of Marcus Aurelius After the Italian Rehabilitation

Source: http://www.temehu.com/Cities_sites/Tripoli.htm.

The old city was given some attention by early 1920s and in the second master plan of the early 1930s. The intention was translated in rehabilitation forays to strengthen what already existed without causing drastic changes or widespread demolition. For instance, the main objectives of Tripoli's master plan, drafted in the beginning of the 1930s, were to implement new modern infrastructure of roads

and public services while preserving the existing character of the old city and the oasis located on its periphery.

Areas that contained some traces of Roman heritage in the colony, specifically in the Old City of Tripoli, were placed at the center of action. Most significant work, therefore, was carried out in areas, which have attracted Italian administrators and their architects' interests. Florestano Di Fausto, for example, was one Italian architects whose work in Tripoli included proposals for the ongoing master plan of Tripoli. He actively participated in projects that have addressed a wide gamut of areas from the restoration plans of Roman ruins in the old city, to the relationship between the new and the native city, and to modernizing the colony through planning and architecture. Restructuring the area around the Arch of Marcus Aurelius was one of his well-known projects, which came to embody a model of a colonizer's intervention in a colonized setting carried out under the banner of historic preservation (Figure 11). His preservation model required a considerable amount of demolition of the many 'native' humble structures, which surrounded the Roman ruins to disconnect them from what has been regarded as dissimilar historical contexts.³³

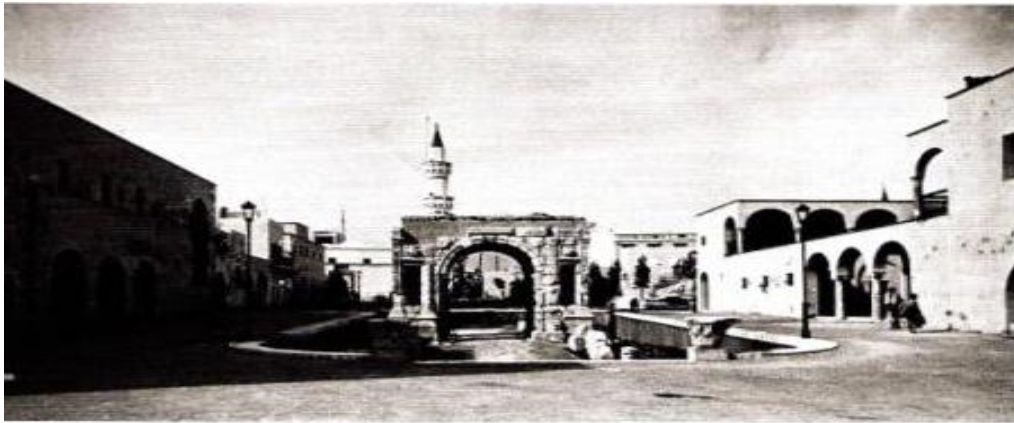


Figure 11. *Arch of Marcus Aurelius, Area Restructured by Di Fausto (1938)*
Source: McLaren, *Architecture and Tourism in Italian Colonial Libya*.

Di Fausto has given good examples in other projects in lending attention to the transition areas between the indigenous architecture and the modern colonial city. This was clearly shown in his proposal of restructuring Suq al-Mushir (Figure 12), where the difference between the historic structure and new construction was perfectly blurred.³⁴

33. McLaren, *Architecture and Tourism in Italian Colonial Libya*, 98.

34. Ibid, 91.

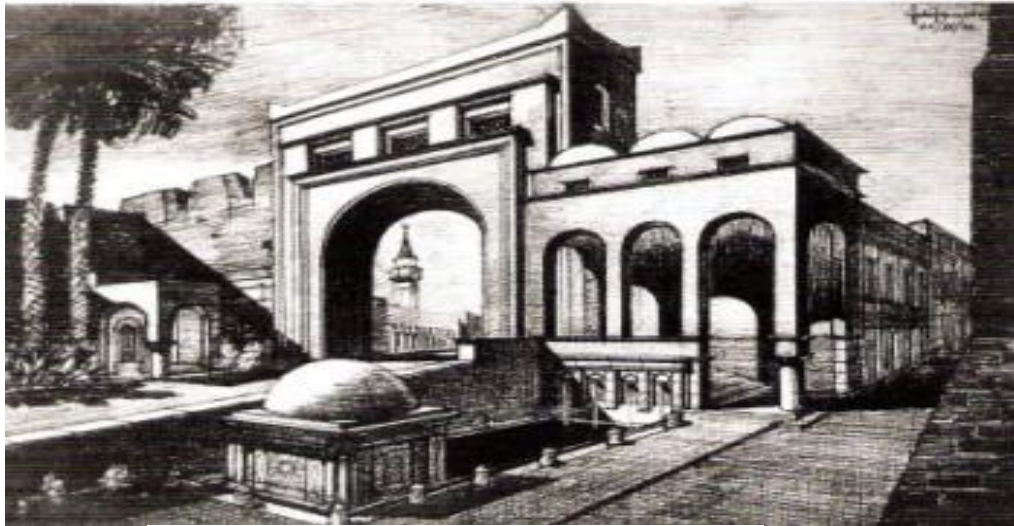


Figure 12. *Plan of Reorganizing Suq al-Mushir by Di Fausto*

Source: McLaren, *Architecture and Tourism in Italian Colonial Libya*.

Tripoli's Urban Fabric Transformation During Italian Occupation

As soon as Italian troops set foot in Tripoli, they formed a colonial administration with the dual mission of settling the newcomers as well as pacifying the native resistance. Tripolitania thus stayed under direct military governorship during the first years of the occupation. Even though the uprisings and resistance were still in full gear, Italians lent great attention to planning and built environment issues in general. Earlier, in the winter of 1912, there were heated discussions about what constituted the fundamentals for the city's future master plan. Luigi Luiggi, a high-ranking engineer, was sent by the Ministry of Public works to Tripoli in January of the same year to inspect the situation of urban projects there. His mission was to advise a plan for the colony based on his findings and to set then the priorities for the development of the infrastructure according to what existed already. Luiggi came up with ideas of reforming the port and how to redistribute both private and public buildings in Tripoli.³⁵ His proposals underlined the issues of costs and pressing time problems. After spending nearly two months in the city, Luiggi went back to Rome to publish his plan for Tripoli, which became the first master plan for a colonial city drawn by the Civil Corps of Engineers in Rome (Figure 13).³⁶ Marida Talamona has reviewed the architectural implications of this plan.³⁷

The essentials of this first Italian master plan of Tripoli dealt mainly with the construction of new quarters and how to guide their future expansion while limiting interventions on the Arab City (the walled city) to a minimum.³⁸ Luiggi's suggestions came to constitute a radical approach for the growth of the colonial

35. McLaren, *Architecture and Tourism in Italian Colonial Libya*, 23.

36. Fuller, 2007, 73.

37. Lafi and Bocquet, "Local Elites and Italian Town-Planning Procedures in Early Colonial Tripoli 1911-1912," 62.

38. Fuller, 2007, 151.

city that would amount to a complete and new city for the metropolitan population. The city was named the “garden city” and its center was located next to the existing castle. The land to the southwest was allocated for industrial uses, and the rest of the surrounding areas were designated for agriculture.³⁹ Luiggi, in his plan, has proposed additional streets to connect the existing routes that radiated from the castle. In his view, the new roads would function as “the Rings of Vienna, the Boulevards of Paris, or the Crescents of London.”⁴⁰ Furthermore, a tramway system was also suggested to make movement between home and work – for the Italian workers – as easier as in modern cities. The main intention behind these proposals was modernizing the region to make it suitable for the program of demographic colonization. Despite this Master Plan’s innovative features, Luiggi’s scheme for Tripoli remained largely unrealized due to political instability in the region.⁴¹

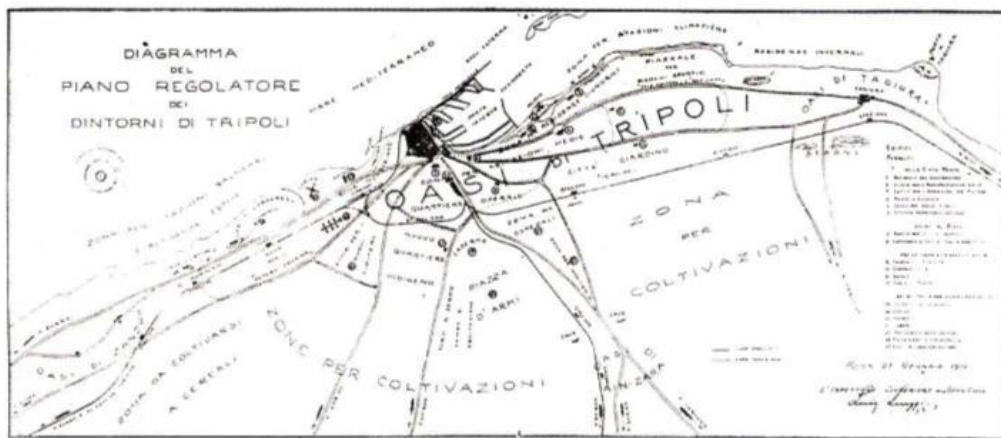


Figure 13. Tripoli's Master Plan (1912) by Luigi Luiggi

Source: McLaren, *Architecture and Tourism in Italian Colonial Libya*

Back in Rome, however, colonial cities were increasingly becoming a subject of national concern, particularly when officials concerned with planning considered architectural and planning policies essential to represent Italian control over the colony.⁴² Consequently, a major wave of construction took place during the 1920s under Giuseppe Volpi and Emilio de Bono leaderships, as governors of Tripolitania between 1921-1925, and 1925-1928 respectively.⁴³ some public works were initiated

39. McLaren, *Architecture and Tourism in Italian Colonial Libya*, 23.

40. Ibid, 21.

41. The reason for Luiggi plan not to be realized was the conflict between the civil and the military administrations about who was responsible for the urban planning in the colony. The conflict was of civil engineers in Rome vs colonial administration. In addition, the conflict between the colonial administration and the Luiggi mission reached its optimum when the civil engineer, a chief of civil engineers in Tripoli, adapted Luiggi's plan to local conditions, a direct intervention from the Prime Minister was required. The Prime Minister's wise involvement was a significant factor behind preventing the Army to take control of the city's urban space transformation. Lafi and Bocquet, "Local Elites and Italian Town-Planning Procedures in Early Colonial Tripoli 1911-1912," 63-64.

42. Fuller, 2007, 76.

43. von Henneberg, 1996, 383.

to establish an Italian presence in the colony. For example, the erection of an open public space, Piazza Italia, to connect a major artery named Corso Vittorio Emanuele III, previously was known as Sharah Azzizia. Surrounding this square were public institutions that were essential to Italian civic life, as the town hall, cathedral, and the courthouse (Figure 14).⁴⁴ In addition, a beautiful boulevard was erected along the waterfront, extending the city toward the east. The boulevard was designed by the Roman architect Armando Brasini, and was named Lungomare Conte Volpi. It exemplified the European boulevard with magnificent buildings such as Miramare Theater, the Grand Hotel, and the bank of Italy aligned along its course, forming the new skyline of the modern Italian colonial city (Figure 15).⁴⁵



Figure 14. Tripoli, Corso Vittorio Emanuele III (1925)

Source: McLaren, *Architecture and Tourism in Italian Colonial Libya*

44. McLaren, *Architecture and Tourism in Italian Colonial Libya*, 24.

45. Ibid.



Figure 15. Tripoli, Lungomare Conte Volpi, (Late 1920s)

Source: Old Libyan Photos Collectors <http://www.facebook.com/groups/25522864778/>.

By mid-1920s, Italians began to transform Tripolitania from little known neglected Ottoman province to a vibrant modern European colony. Colonial press of the time had described the changes brought to the capital of the region, Tripoli, “from a crowded and unsanitary conglomeration of Ottoman structures, with unpaved streets and open sewers, into the ‘pearl’ of the Mediterranean.”⁴⁶ The new city, full of multi-story decorated buildings and with beautiful wide boulevards, was contrasted in many publications to the old city with its filthy narrow streets and low modest buildings. Most of the changes to the city were to accommodate the influx of Italian migrants.

The 1912 master plan was already overtaken events Balbo, in 1934, approved a new plan for the city. This plan was drawn by the Milanese architects, Novello, Cabiati and Ferrazza,⁴⁷ between the years 1931 and 1933, aimed to double Tripoli’s population, following the basic principles of 1912 plan.⁴⁸ When the city spread to the east the roads connecting the new areas were not enough to handle the traffic to center of city. Therefore, a number of new arteries were added to the radial grid to link with the existing street network. Thereafter, the city was divided into separate districts⁴⁹ (Figure 16). McLaren indicated this scheme was

46. Von Henneberg, “Imperial Uncertainties,” 383.

47. They are members of *Novecentisti*, which is one of Italian Leading architects’ offices in the 1920s and 1930s. They also contributed in the planning of the city of Benghazi. Fuller, *Moderns abroad*, 158.

48. The census of the Tripoli stated that between 1928 and 1933 the population of the city had grown from 63,400 to 88,900 inhabitants. Ibid.

49. McLaren, *Architecture and Tourism in Italian Colonial Libya*, 29.

common in the Italian planning approaches of multiple centers, where each center has its own local facilities. A separation of high-density areas, as the waterfront from other areas located in the vicinity of the city in order to keep some balance between buildings and green open spaces.⁵⁰

The Separation of the new European quarters from adjacent native settlements has created dual cities, which were features of colonial urbanism.⁵¹ Mia Fuller listed three colonial urban models deployed by Italians in their colonies. One of these models and the most related to the topic of this paper is the colonial dual city model, which was based on leaving untouched the existing city, the indigenous city, but with diminishing role.⁵² Italian architects in the 1920s and 30s, operating under the Fascist government, have used their colonial possession to experiment on a larger scale their urban planning methods and architectural forms. A clear distinction, thus, was made separating “Italian” from “primitive” architecture, and favoring the former at the expense of the latter (Figure 17).



Figure 16. Tripoli's Master Plan (1933) by Novello, Cabiati and Ferrazza

Source: McLaren, *Architecture and Tourism in Italian Colonial Libya*

50. Ibid, 30.

51. Çelik, 2008, 86

52. Fuller, *Moderns abroad*, 8.

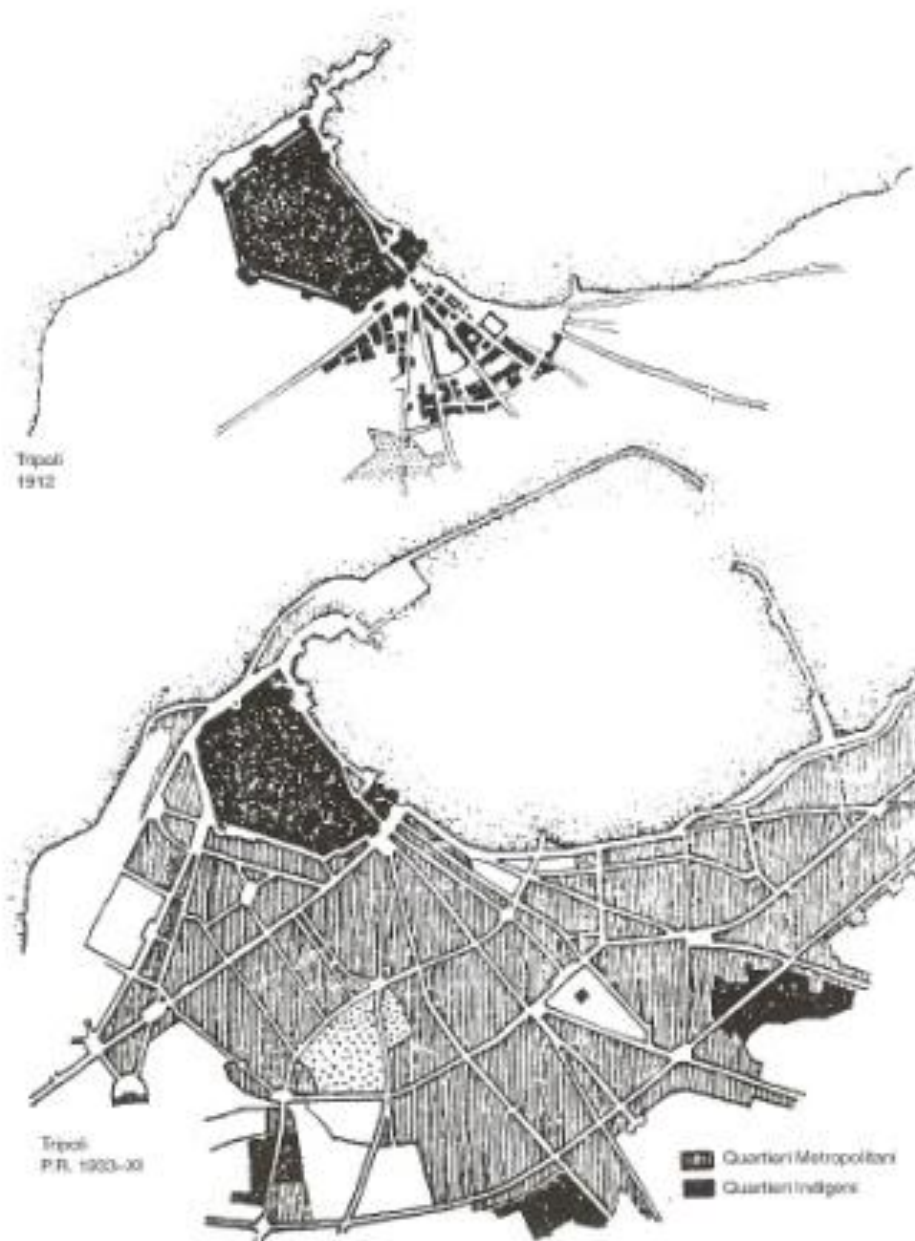


Figure 17. *Tripoli in 1912 and 1933 Master Plan, European and Native Quarters*
Source: Fuller, *Moderns Abroad*.

An Italian Approach for Tripoli's Expansion: Connecting Urban Public Spaces

The city of Tripoli grew dramatically during the Italian occupation. Most of the constructions began to expand the city, outside the walls of the old city, southward along the new boulevards. Italians, at the beginning, have adopted what the Ottomans had already demarcated as paths for growth of the city. Even the

street names were kept the same as mentioned by Ethel Braun when describing the day she met with the Italian military governor, General Garioni, at the beginning of Tripoli's occupation. At the time most of the area was still vacant and the few existing buildings dominated the city as Braun described the scene: "It is a blazing hot day, and the rose-pink walls of the old castle glow in the sunshine as we pass out of the Via Azizzia up the long slope of the ramparts leading to the entrance."⁵³ Eventually, Italians have begun creating their own image of benevolent patrons for the city by partial urban and architectural makeovers that have paid some attention to the public face of the city. A major and significant project that has been previously mentioned was the formation of the public open space, Piazza Italia, just outside the walls in front of the historical castle (Figure 18).



Figure 18. *Piazza Italia, Tripoli (1920s)*

Source: Old Libyan Photos Collectors <http://www.facebook.com/groups/25522864778/>.

In Tripoli, Piazza Italia was the first Italian conception of public space in a colonial context where the natives' city layout constituted a significant part of the setting rivaling the new colonial modern city. The piazza was meant to mark the difference between native architecture and its colonial rival, set the transition area between them, where many of the public buildings erected around it have still an ambivalent architectural style. Limongelli's 1931 proposal was to restructure Piazza Italia by merging the two stylistic traditions, those of the colonized and the colonizer, in one urban public space (Figure 19). Limongelli's work was "tempered by an abstract modernist aesthetic. The modern *Romanità* of his work is adjusted to integrate with environmental qualities and characteristic forms of the local architecture."⁵⁴

53. Ethel Braun, *The New Tripoli and What I saw*, 53.

54. McLaren, *Architecture and Tourism in Italian Colonial Libya*, 28.

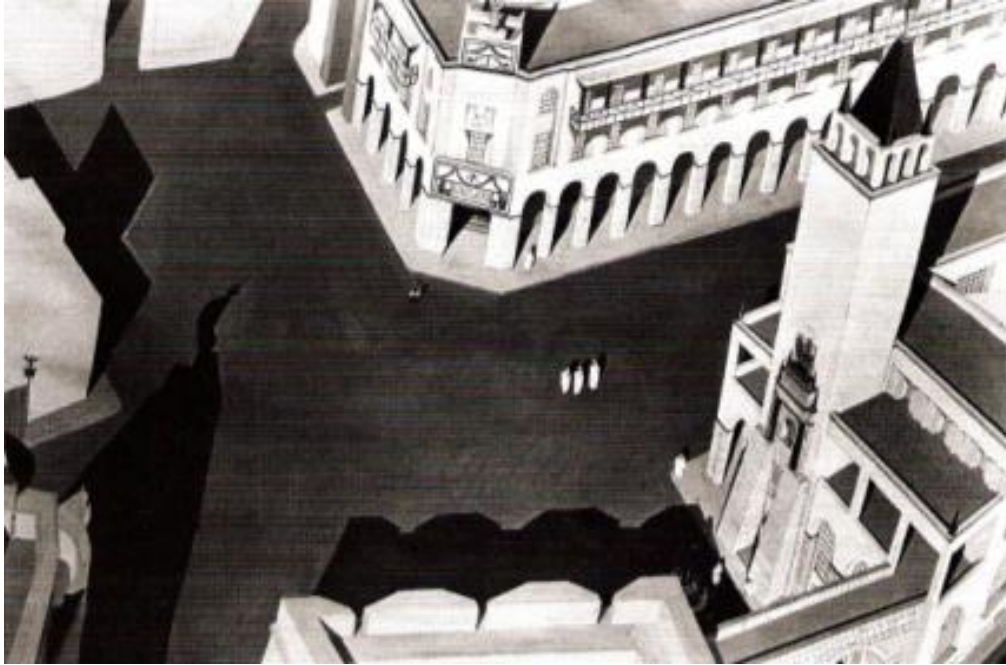


Figure 19. *Proposal for Restructuring Piazza Italia (1931) by Limongelli*

Source: McLaren, *Architecture and Tourism in Italian Colonial Libya*.

The spatial formation of Piazza Castello, which was named after the historic castle, can be attributed to two reasons: the diminishing role of the old city defensive walls and the growing importance of the new modern city center.⁵⁵ When the historic castle no longer functioned as a citadel, its surrounding area was opened up for architectural use. This area was a marginal piece of land encompassed by the open market outside the city walls, and extended across the waterfront (Figure 20).⁵⁶ The master plan of 1912 required a significant part of the city walls be demolished to open up “the luminal area between the medina and the new town to European constructions.”⁵⁷ The Piazza, then, marked the boundaries between the Arab medina to the west and the modern city to the east and the south. It was open to the port from the north side and formed an extended apex to a set of seven radiating streets running through the heart of the new city.⁵⁸

55. Krystyna von Henneberg, “Piazza Castello and the Making of a Fascist Colonial Capital” in *Streets: Critical Perspective on Public Space*, ed. Zeynep Çelik, Diane Favro, and Richard Ingersoll, 135- 150 (Berkeley: University of California Press, 1994), 138.

56. Ibid, von Henneberg, 136.

57. Ibid, 139.

58. Ibid, 137.



Figure 20. Open Market Area beside the Castle Before it was turned into Piazza Castello

Source: Old Libyan Photos Collectors. <http://www.facebook.com/groups/25522864778/>.

Tripoli's image kept changing when a number of government and architectural enterprises were built during the 1930's. A significant change occurred with the shift of the city center away from the Piazza Castello towards the newly built Piazza della Cattedrale in the recently added areas in the southeast.⁵⁹ The new piazza, completed in 1928, named after the cathedral of San Cuore di Gesu, was the work of Governor Italo Balbo's favorite architect, Di Fausto, who was credited to have launched the piazza as a colonial public space. Di Fausto labored to create direct visual and physical connections between the piazza and the waterfront. For him, the connection to the Mediterranean Sea, as an end-in-itself, and at the same time a link back to Rome, was symbolically significant also for reinforcing the notion of Mediterranean-ness.⁶⁰ Di Fausto's passion to fuse the Mediterranean-ness' notion into architecture was clear in his article "The Mediterranean Vision of My Architecture," which has grounded his entire body of work on the notion of Mediterranean-ness. Adding that "Architecture was born in the Mediterranean and it triumphed in Rome.....thus it must remain Mediterranean and Italian."⁶¹ His vision of *Mediterraneità* can be clearly found in Piazza della Cattedrale where Di Fausto has promoted an Italian space, in clear contrast to Arabic-North African space, yet forcefully harmonized with it.⁶² Di Fausto's task was to face "complex negotiation of economic, social, and historical practices

59. Fuller, *Moderns abroad*, 168.

60. Fuller, *Moderns abroad*, 168.

61. Fuller, 130.

62. Sean Anderson, "The Light and the Line," 10.

captured within the interlocking piazzas of the city and buildings themselves.”⁶³ In this set of intricate problems, he was able to assert the cultural and historical primacy of the Mediterranean region and to emphasize geographical and climatic influence on architectural manifestations.⁶⁴ Thus, his notion of distinct Mediterranean architecture was based on the idea of adjusting the general plan to fit with local forms and the environmental demands.

Tripoli’s Urban Fabric: From Independence and After (1951 – 1990s)

The urban form of Tripoli’s Center was transformed during the Libyan regimes ruled the city after Independence. During the period of the monarchy (1952-1969), no significant projects were erected in the city center nor were building blocks or public spaces altered.

Between 1966 and 1968, Whiting Associates International (WAI) and Henningson, Durham & Richardson prepared Tripoli Comprehensive Master Plan based on the Five-Year Development Plan (1963-1968). The final report was submitted in November 1969. The report alluded to the city’s Corniche and its splendid boulevard, along which the Italians in the 1920s placed a row of magnificent buildings, as one of the city’s main attractions. Despite this, the master plan proposed reclaiming a piece of land from the sea for building an express road parallel to the Italian boulevard, which, in 1952 and because of its importance in the city, was renamed Adrian Belt Boulevard, after the United Nations envoy who helped in the process of Independence of the country.

The main purpose for erecting the Express Road was to facilitate transport of goods from the port to the cities located the east of Tripoli. The suggested area of sea reclamation was on average 50 meters in width along a segment of the seafront approximately 1,100 meters long. The proposed road would be built at the edge of the reclaimed land, and the strip remained between the new road and the old promenade to be used as parking lots. Additionally, a helicopter-landing platform was proposed near the parking lots (Figure 21).

63. Ibid.

64. McLaren, *Architecture and Tourism in Italian Colonial Libya*, 184.

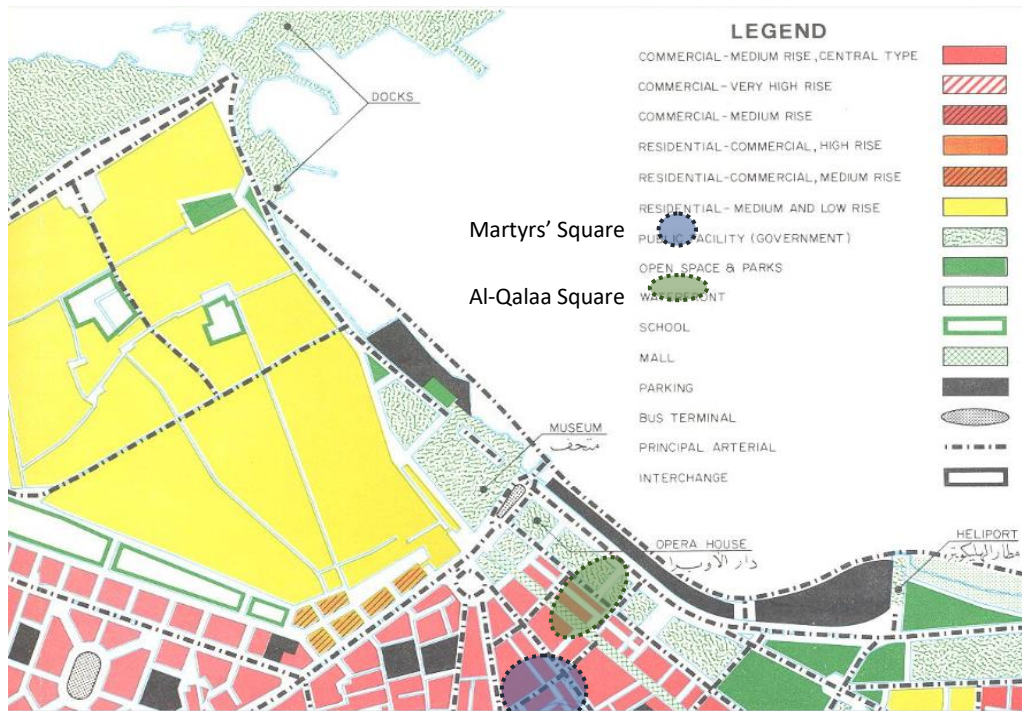


Figure 21. Tripoli Master Plan by WAI, 1969

Source: Report of Tripoli Comprehensive Master Plan, 1969.

Then, during Gaddafi's regime (1970 – 2011), Tripoli's Center underwent dramatic physical changes, particularly after the 1970s. Two major master plans for Tripoli were proposed and carried out in 1981 and 2007 with a focus on the city center. The layout of the city was remarkably altered, especially its main urban space, Martyrs Square, and along the seafront.

During the 1970s and 1980s, the city's magnificent waterfront, which was built by the Italians in the 1920s, was subjected to destructive alteration. Three of the most significant Italian buildings, located along the seafront, were demolished: the Grand Hotel, Al-Mahary Hotel, and the Bank of Rome. Moreover, a large amount of land was reclaimed along the waterfront as a result of the government's intentions for redeveloping the commercial port, building the express road, and introducing new recreational spaces along the sea promenade. The alteration in the seafront allowed for introducing new urban spaces for recreational activities. After implementing the Express Road on the reclaimed area in the late 1970s, a vast area remained between this road and the sea line. A wide promenade, the Corniche, and the Grand Park were proposed (Figure 22).



Figure 22. Existing and proposed Green Spaces in the City Center and along the Waterfront

Source: The Urban and Architectural Character. Land Use Regulations, 2010.

A dramatic change in the city fabric took place during Gaddafi's Regime. This change in urban fabric was driven by political intentions rather than to achieve urban planning solutions. Gaddafi chose Martyrs Square (previously Piazza Castello), the chief historic square in Tripoli, to showcase his political ideology and military power. The political ambitions of the leader surpassed the historic significance of the space and the display of power came with a large price. The enlargement of the square required the demolition of some of the buildings that had defined the space over five decades. The ground surface of the square was painted green and the square was renamed the Green Square to reflect Gaddafi's political ideology expressed in his book, the *Green Book*. Although the square carried significant political meaning, it continued to be used as a parking lot, which was desperately needed at this commercial hub in the city center.

Another significant transformation in the city fabric driven by economic and political forces was the filling in of the waterfront in the city center that resulted in a disconnection of Martyrs Square from the waterfront. Again, one purpose of this change was to display the regime's accomplishments through infrastructure projects. At the beginning, the new public spaces established on the new waterfront were used for political ceremonies and events, but eventually those spaces became part of the recreational facilities in the city center.

Conclusion

This paper examined the colonial approach in urban expansion of Tripoli. It demonstrated that public space was a key tool used by each political regime to express its political ideology and to respond to economic conditions and social events. Both the Ottomans and the Italians used public space to transform the city and to organize its future expansion. Creating connections between public spaces was central to the growth of the city and the building of new quarters outside the walls. Similarly, the Italians focused on public space in their expansion of the new

colonial city established just outside the Old City walls. Public spaces such as Piazza Italia and Piazza Castello were employed as the main vehicles for implementing their modernization scheme and for expanding their new city in the colony. The Italian approach of building new European quarters adjacent to native quarters resembled the renowned colonial concept of dual cities.⁶⁵

After Independence of the country in 1951, no significant alterations happened in the city although important master plan was proposed. Based on this proposal, a dramatic change in the city fabric took place during Gaddafi's Regime. This change in urban fabric was driven by political and economic intentions rather than to achieve urban planning solutions. The enlargement of the main public square and the filling in of the waterfront in the city center with the newly established recreational spaces were the examples of this change in the city's urban fabric. With all this dramatic expansion of the city, the traces of the two colonial approaches – happened during the Ottoman and the Italian periods – are still evident in the city fabric and were used as the catalyst for the further growth of Tripoli in the subsequent political periods.

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65. Janet Abu Lughod. *Rabat –Urban Apartheid in Morocco*. (Princeton: University Press 2016), 146 & Zeynep Çelik, *Urban Forms and Colonial Confrontations: Algiers under French Rule*. (Berkeley: University of California Press, 1997), 5-6.

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Reciprocal Architecture – Non-Places That Are Not Fully Such

*By Amos Bar-Eli**

Super-modernity's reality is characterized by non-places, places that cannot be defined as relational, historical, or concerned with identity. Contemporary architecture struggles with tension between the desire to create 'places', and culture's compulsion of generating non-places. The paper examines the notion of reciprocal architecture, that accommodates conflicting aspects of place and non-place. Traditionally towers functioned as focal places, establishing identity and projecting stability. On the other hand, towers' observation decks can be understood as non-places, advocating superficiality, detachment, and self-referential experience. Through the case study of the 'observation deck', the possibility of reciprocal architecture mechanisms of place/non-place is questioned and theorized.

Introduction

Architecture's critical discourse deliberates the difficulties of creating meaningful spaces that relate to place, history, memory, and community within contemporary developments and changes in society and culture. This discourse stems from changes related to technological advances emerging since the industrial revolution. The fast processes of urbanity, changes in production, and division of labor, have changed the way society is operating. It has changed our perception of time, psychology, and identity. It gave rise to the proliferation of an architecture that reflects rapid movement, decreased social interaction, and detachment from history and identity. By 1903 German Philosopher and sociologist Georg Simmel has already observed the tremendous effects that the new metropolis inflicts on the individual. Already by that period, economic, political, and technological mechanisms have rendered accustomed bonds of identity, history, and place, as redundant. Simmel points out the general regressive effects of the metropolis on the individual, but concludes in a call to refrain from mere critique and an obligation for finding balance, or means of expressing conflicting tensions:

(it) ...is the function of the metropolis to make a place for the conflict and for the attempts at unification ... it is our task not to complain or to condemn but only to understand.¹

Technological advances throughout the 20th century have by no means resolved architecture's conflicts and tensions, but rather intensified as continuous developments in transportation, communication, and optics have further transformed culture in a

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1. Donald Levine, ed., *Georg Simmel, On Individuality and Social Forms* (Chicago, USA: University of Chicago Press, 1971 (1903)), 45.

continuous revolutionary process. This evolution is critically interpreted by such thinkers as Walter Benjamin and his conceptions regarding the loss of authenticity of works of art, following the possibilities of photography and reproduction,² Tehodor Adorno's critique of mass-culture and the breakdown of ideology following WWII,³ and the post-modernist concepts of simulacra and hyperreality; the inability of consciousness to distinguish reality from a simulation of reality, put forward by Jean Baudrillard.⁴ Socially reality is marked by solitude, alienation, loss of stability and continuity, and deteriorating bonds of space, place, history, and identity.

Many architects, and architectural theorist attempted to negotiate possibilities of an architecture that can cope with these currents. These diverse concepts emerged as reactions to, and sometimes practical solutions to the complexities of contemporary reality. The concept of place-making originated from ideas of American activist, and urban theorist Jane Jacobs, as presented in her 1961 seminal book "The death and Life of Great American Cities", advocating active participation of communities in space-making and sharp critique of urban planning ideas, of the time.⁵ In the late 60's the Italian group known as Tendenza or 'new-rationalism' advocated a sort of return to ideas of pure enlightenment. They were centered around Aldo Rossi's 1966 (1982 first translated into English) text: "The Architecture of the City". In which he writes of the importance of monuments as expressions of the collective memory of the city, and the idea of place as an expression of both physical reality and history.⁶ His ideas were rightly critiqued as:

*...for all their good intentions, (they) amount to nothing more than pure historicism. With their fine words and noble aims, they constitute merely nostalgic attempts to return to supposedly authentic roots...*⁷

In a 1983 article titled: "Towards a Critical Regionalism: Six points of an architecture of resistance" Kenth Frampton suggests a dual approach that on the one hand embraces modernist functional and aesthetics, and mixes them with regional uniqueness and historical features, and an attitude marked by 'resistance'. A resistance to contemporary downsides of modernity, alienation from history and place⁸. Spanish architect and philosopher Ignasi de Solà-Morales presents a complex idea of 'weak architecture', which he explains as:

2. Walter Benjamin, "A Short History of Photography," Screen 13, Issue 1, (1972 (1931)), 5–26.

3. Hilda Heynen, "Architecture between Modernity and Dwelling: Reflections on Adorno's "Aesthetic Theory"," Assemblage, No. 17 (1992): 78-91.

4. Jean Baudrillard, Simulacra and Simulation (USA: University of Michigan Press, 1994 (1981)).

5. Jane Jacobs, The Death and Life of Great American Cities (New-York, USA: Vintage Books, 1992 (1961)).

6. Aldo Rossi, The Architecture of the City (USA: MIT Press, 1982).

7. Rubió Ignasi Solà-Morales, & Sarah Whiting, *Differences: Topographies of Contemporary Architecture* (USA: MIT Press, 1997), 63.

8. Kenneth Frampton, Towards a Critical Regionalism: Six points of an architecture of resistance (In Hal Foster, eds., Postmodern Culture (London, UK: Pluto Press, 1985), 16-30).

*...that strength which art and architecture are capable of producing precisely when they adopt a posture that is not aggressive and dominating, but tangential and weak.*⁹

Solà-Morales concept of 'weak architecture' incorporates three ideas together: 'the fold', 'the decorative', and 'monumentality'. Solà-Morales borrows the concept to 'the fold' from French philosopher Gilles Deleuze, explaining it as the diversity and multiplicity of time/times in which the object and the subject move and meet (juxtaposed) as if by chance. As they re-fold back on themselves, as opposed to single time and linear movement. In 'Decorative' Solà-Morales points to secondary functions of architecture, not the unnecessary of which the term usually implies to, but to the acknowledgment that only by providing secondary layer\architecture can be meaningful. By the last term 'monumentality', he aims to embed architecture with lingering effects of memory and recollection, not the classical meaning of monument, but rather the effect of such. Solà-Morales explains this not as a technique but as an effect:

*...as the tremulous clangor of the bell that reverberates after it has ceased to ring...as recollection...(like) the lingering resonance of poetry after it has been heard, with the recollection of architecture after it has been seen.*¹⁰

As a rejection to culture's preference for the visual Finnish architect Juhani Pallasmaa suggest an architecture of the senses, which he refers to in multiple terms, as fragile, weak, sensory, and more often as 'haptic architecture'. Pallasmaa critic is aimed at the overabundance of images and overemphasis of the ocular, and their dominance in the appreciation of architecture. Pallasmaa advocates architecture that is sensory in regard to whole of the senses: smell, touch, sound, and even taste. Haptic architecture means the totality of the way the senses participate in the experience of space. It also means that architecture and architects should be sensual and sensitive toward the role of time upon materials and eradication of materials.¹¹ Pallasmaa's approach gained much applause through architecture schools for its poetic feel and its call for sensitivity, yet it lacks theoretical force and response of social and technological processes that plot contemporary reality.

This brief overview, of some theoretical and practical approaches, shed light on the architectural discourse prevailing throughout recent decades as to what are the possibilities of architecture to relate to contemporary reality. How can we reconcile the loss of sense of place and time with the blessings of technology? Are we only to think of technological issues as a fate, doomed to conclude in dystopia? Should we constantly look back toward the past as if it contains qualities which we abounded hastily and should reclaim now as sort of salvation? I will not attempt to answer these questions but rather look at a conflicting condition within a specific type of architectural space. A spatial place which can understood, using Marc

9. Solà-Morales, *Differences: Topographies of Contemporary Architecture*, 71.

10. Solà-Morales, *Differences: Topographies of Contemporary Architecture*, 71.

11. Juhani Pallasmaa, *The Eyes of the Skin: Architecture and the Senses* (New-York, USA: John Wiley & Sons, 2012).

Augé's terms, both as a non-place and a place. As such it can be defined as an architecture that balances, by intent or by its nature, the conflicting tensions of contemporary society. As such it is referred to as reciprocal architecture, an architecture that is both a place and a non-place at the same time, an architecture that simultaneously contains and reconciles these two conflicting attributes.

Non-places and Places

In 1992 the French sociologist and anthropologist Marc Augé first published, what is to become, his most influential book: "Non-Places, An Introduction to Supermodernity" (Originally in French: "Non-Lieux, Introduction à une anthropologie de la surmodernité"), in which he introduced the concept of non-places. The book is a social interpretation of effects and changes caused by technology, urbanization, and most pronouncedly continuous alienation, have on society and the individual. These processes manifest themselves, according to Augé, in the production of non-places, defined as counter to places:

If a place can be defined as relational, historical and concerned with identity, then a space which cannot be defined as relational, or historical, or concerned with identity will be a non-place.¹²

Contemporary reality is referred to by Augé as supermodernity. Supermodernity is where history wither to a series of seemingly unrelated fleeting event, space diminishes to panoramic and kaleidoscopic images, and the individual is abstracted to a self-referenced gaze. Supermodernity is characterized by three figures of excess: time, space, and the individual. Excess of time is the accelerated events constantly bombarding us, a constant flood of images and events. News, entertainment, commercial, personal, continually overwhelm us with perpetual demand for attention. It diminishes our ability to interpret, contextualize, or comprehend the relationship between the unrelated events and postulations. Excess of space means the ability to move, travel, experience multitude of places, remote from one another with no apparent sequence or connection. We can travel and experience many places, the planet has shrunk to mere hours of flight, everywhere is just a video chat away. This shrinking does not imply less space but rather the availability of a lot more spaces. And finely excess of the individual, meaning that individuality is referenced only on itself, turning constantly inward, without ability to connect to others. With diminishing of stability, continuity, and sense of community, the individual folds back on the self with overabundance of self-references.¹³ In the world of supermodernity the individual loses the ability to understand his position in the continuum of space-time of history:

12. Marc Augé, *Non-Places: An Introduction to Supermodernity* (New-York, USA: Verso, 1995), 63.

13. Augé, *Non-Places: An Introduction to Supermodernity*.

*...the difficulty of thinking about time stems from the overabundance of events in the contemporary world, ... For it is our need to understand the whole of the present that makes it difficult for us to give meaning to the recent past;*¹⁴

This supermodernity is marked by three major trends that effect our lives and our experience of space. Fast travel and the rise of the tourist industry, image-based experience of space, and the overall ephemeral sense of time resulting in lack of sense of space and history, as such: "(the)... themes that haunt the contemporary era: advertising, image, leisure, freedom, travel."¹⁵

Tourism, then, becomes central manifestation of the individual experience in today's world. It is the realization in effect of the forms of excess identified by Augé. These currents produce spaces and places in which people pass through without regard for their history or regard for their cultural values. Traveling fast, moving from one place to another, with disregard to its place-ness, without any contribution for its continuation. Consuming events, experiences and fast paced memories, which have only fleeting connection to the history and memory of a place or community. This is done with a focus on the individual whom constructs this experience constantly and furiously, with the aid of the image and its sharing abilities. Architecture, in such a reality, creates places that have no connection to history, identity, or relations, such places Augé explains as non-places. Non-places, and the loss of historical memory, are a direct result of contemporary life in urban technological lifestyle, a lifestyle marked by excess, overabundance of experiences, events, a world contrasting to deeper meanings, growth, continuity, memory and stability.¹⁶ This connection Augé makes between social theory and architectural reality is used as the basis and departure point for this paper.

Augé's ideas have received some critique of neglecting the diverse and complex human experience,¹⁷ claiming that such anthropological scrutiny will resolve to the fact that non-places cannot really exist. This understanding that non-places are fundamentally also places, was also acknowledged by Augé himself stating that non-places are never 'fully-such', they are always also places:

*In the concrete reality of today's world, places and spaces, places and non-places intertwine and tangle together. The possibility of non-place is never absent from any place.*¹⁸

Like Simmel, 90 years before him, Augé also suggests that we are obliged to investigate society's condition, not to think of it as dystopia but rather attempt to understand it and comprehend its possibilities in relation to our experience of space:

14. Ibid, 25.

15. Ibid, 67.

16. Ibid.

17. See for example: Maximiliano Korstanje, "Non-places and Tourism: Towards an understanding of travel," *Antrocom* 5, no. 2 (2009): 103-106. And Peter Merriman, "Marc Augé on Space, Place and Non-Places," *Irish Journal of French Studies* 9 (2009): 9-21.

18. Augé, *Non-Places: An Introduction to Supermodernity*, 86.

The world of supermodernity does not exactly match the one in which we believe we live, for we live in a world that we have not yet learned to look at. We have to relearn to think about space.¹⁹

The paper takes this obligation and looked for examples of architecture that can be understood simultaneously as non-place and place. Intertwining their contradictory traits, assuming that a reciprocal equilibrium takes place in architecture and its experience. This opportunity was found, in a most profound way, in observation decks, touristic and symbolic, non-place and place.

The complexity of vision and image

Society gives preference to the sense of vision, and specifically Western culture. Starting from Renaissance understanding of the ability to portray the visible in precise perspective mathematical method. It is by vision that we judge, reinterpret, and examine. It is through vision that the form, mass, and shape of space is made explicit and appreciated. It is by vision that the atmosphere and intangible qualities of space are revealed. This attitude of primacy of vision has been widely acknowledged, as pointed out by Pallasmaa:

The dominance of vision over the other senses - and the consequent bias in cognition - has been observed by many philosophers. ...western culture has been dominated by an ocular-centric paradigm, a vision-generated, vision-centered interpretation of knowledge, truth, and reality.²⁰

The notion that the gaze is not merely passive but rather have a profound effect was noticed by French Philosopher Michel Foucault in his elaboration of Jeremy Bentham's "Panopticon" design for prisons. According to Foucault the possibility of a gaze of a single prison guard, centrally located, ordines and moralizes the many prisoners around him. This power of the gaze is, for Foucault, important for society but can also have dire consequences, "visibility is a trap."²¹ French Philosopher Jean-Paul Sartre discussed the effects the gaze has upon not only the object gazed on but also the subject gazing. A mutual inter dependency of effects, gazing\gazed, presence\absence of the gaze, eventually, the subject is redefined and established by its own gaze at the same time that its gaze re-frames and defines the objects gazed at.²² The gaze does not only ordinate, it also establishes reality of cultural space even to the point that a strong enough illusionary vision reaffirms itself as physical presence.^{23,24}

The American philosopher and filmmaker Susan Sontag published in 1977 her book titled: "On Photography", in which she argues that the proliferation of

19. Augé, *Non-Places: An Introduction to Supermodernity*, 29.

20. Juhani Pallasmaa, *The Eyes of the Skin: Architecture and the Senses*, 16.

21. Ariela Azoulay, in Michel Foucault, *Heterotopia* (Tel-Aviv: Resling, 2003): 61-74.

22. Jean-Paul Sartre, *Le regard* (Tel-Aviv: Resling 2007 (1943)).

23. Henri Lefebure, *The Production of Space* (Cambridge, USA: Blackwell, 1991 (1974)).

24. Rem Koolhaas, *Delirious New-York* (Tel-Aviv: Babel, 2010 (1978)).

photographic images had begun to establish within people a "chronic voyeuristic relation" to the world around them. Among the consequences of photography is that the meaning of all events is leveled and made equal. Sontag claims that the individual who seeks to record cannot intervene and that the person who intervenes cannot faithfully record, for the two aims contradict each other²⁵. French semiotic philosopher Jean Baudrillard is best known for his analysis of media, contemporary culture, and technological communication, as well as his formulation of concepts Simulacra, he explains, refers to copies that depict things that either had no original, or that no longer have an original, and Simulation is the imitation of the operation of a real-world process or system over time. In the text, Baudrillard seeks to examine the relationships between reality, symbols, and society, in particular, the significations and symbolism of culture and media involved in constructing an understanding of shared existence.

In light of the above understandings, it is clear that the visual is not merely the content of the seen, it is always about potential, of unfolding, of possible interpretation, of a hint toward something else that resides elsewhere. There is mental depth in what is seen. Images do not really copy, they rather obscure, make things lose their undeniable and concrete manifestation while in turn, they gain an existence as potential, as open to interpretation. The image opens up windows toward new ideas and feelings which the visible cannot unveil. In turn the visible is neither passive, never completely objective, it is always dynamic and changing, it creates and establishes while simultaneously consumes and flattens. Vision, gaze, image, their role in contemporary society and possible consequences has gained much critical attention, as for example this notion by British architect and theorist Neil Leach:

*A society awash with images will experience a consequent reduction in social and political sensibilities, as the intoxication of the image leads to a lowering of critical awareness, the saturation of the image will therefore promote an uncritical acceptance of the image.*²⁶

The complex, simultaneous, sometimes contradictory attributes of gaze\gazed, establishing\consuming, and empty\full, co-existing mutually are essential for the creation of reciprocal architecture.

The Touristic Gaze

As Marc Augé claims one of the main features of 'supermodernity' is travel and tourism. The growth of tourism is a process that goes parallel to technological advances in transportation and the reproduction of images. In the 18th century travels were almost exclusively reserved for the wealthy, excited from curiosities and the unknown. Some travelers were seeking cultural affirmation and knowledge, such as

25. Susan Sontag, *On Photography* (Tel-Aviv: Am Oved Publishers, 1979 (1977)).

26. Neil Leach, *The Anaesthetics of Architecture* (London, England: MIT Press, 2000), 55.

what was established as the 'grand tour'. In the 19th century the attitude toward the environment as "visual consumption" greatly evolved as nature was increasingly connected to prevailing ideas of the sublime, uncanny, and romantic. Consequently, it experienced a growth in mobility, travel, and the emergence of the connection of nature to ideas of leisure, pleasure, and spectacular entertainment. The commercialized technologies of fast, reliable transport, flight and rail, has by the 20th century made our planet small and accessible, and the tourism to an industry which is one of the fastest growing and determinant in contemporary society.²⁷ Tourism its promotion, its construction, economic consequences have become a crucial and conscious endeavor for cities everywhere:

*For old and new cities, the active production of spectacle and consumption opportunities is now a crucial feature of the political economy. In this case, tourism can no longer be a tertiary concern for urban theory.*²⁸

Tourism is, predominantly, concerned with sight. The experience of tourism is not restricted to the act itself; it is rather conditioned and re-conditioned. As such it can be seen as having three phases: construction, experience, and re-affirmation. In the first phase preconceptions are established via multitude of visuals, such as guide books, advertisements, movies, etc., these are used to establish connection and anticipation. In the second phase tourists experience the sites\sights by actually visiting them. In the last phase the tourist experience needs to be re-affirmed through the act of photography and sharing of the images collected, this is done in order to establish proof, validating the experience. The vision by itself is not sufficient, it needs to be reaffirmed. In many instances photographing our personal presence within the site, preferably in the midst of the act of seeing is one of utmost importance:

*In most discourses surrounding travel, there is an emphasis on the centrality of the seeing and collecting of sights, sometimes, tourism indeed appears to be understood as little more than the collection of a range of often disparate and relatively unconnected sights, which are then given an objectified form in photographs, ... In some cases, the process of collection comes to dominate the process of travel.*²⁹

This complex vision of the traveler appears as detached and unconcerned from the history and sense of place in which it takes place. It is rather much more of a contract with the self and the establishment of a preconceived identity of the tourist. The tourist gains some knowledge of a place he\she is about to see, then sees it, and takes an image of the place which re-establishes the place as important, interesting, and beautiful. This superficial cycle flattens many places to non-places:

27. John Urry, "The Tourist Gaze "Revisited"," *American Behavioral Scientist* 36, (1992): 172–186.

28. Richard Lloyd, *Urban Tourism* in George Ritzer, ed., *The Blackwell Encyclopedia of Sociology* (New-York, USA: John Wiley & Sons, Ltd., 2013): 1.

29. Urry, "The Tourist Gaze," 177.

*Travel constructs a fictional relationship between gaze and landscape. ... The traveler's space may thus be the archetype of non-place.*³⁰

Observation Decks - Reciprocal Architecture

This possibility of non-places being simultaneously a place, dynamically fluctuate between contradictory attributes, is the main issue of the paper. In order to examine this in real space a concrete example manifesting this contradiction was found in towers' observation-decks. These places are on the one hand a popular tourist attraction, illustrating a superficial view of a city. On the other hand, towers are one of the more profound symbols of stability, beacon of the community, a monument, source of pride and place, and an historical focal point. The ability to view from above provides protection, safety, and deterrence. Together with the gate, the square, and the palace, towers can be considered as the most prominent symbols of place in architecture. On the other hand, and in a complete contradiction, observation-decks on towers are major tourist attractions in almost every city or tower. They provide instant photo-op for seeing a whole city or region in a panoramic, voyeuristic, and conquering overview effortlessly and instantly. Traveling the few minutes up to the top of a tower, spending few minutes taking in the view in all directions of the city, having the few essential photographs, and you can say with certainty: "I have been to..., I have seen the city of ...". In this respect the observation tower has become one of the most genuine non-places we can think of. Bringing such contradictory terms to the fore, observation-decks are a unique example through which the reciprocal place/non-place condition can be examined.

Towers are one of the most visible monuments in almost every city. Manifesting ideas of power, control, and focal point for the identity of the community. Conceptualizing profound human psyche of achievement and superiority. Through practical need for protection and security, to contemporary symbolic monument uniting city's sense of identity, such as Paris's "Eiffel tower", Seattle's "space needle", or Tokyo's 'SkyTree' discussed later in the paper. In a research about relations of continuity, stability, and sense of community in the fast-paced world of supermodernity, British anthropologist Richard D.G. Irvine delineates the role of architecture in defining and sustaining these concepts through visibility and presence of a tower, he states:

*... the Abbey's tower, with its bell ringing out, not only announces the monastery's presence and its continuity with the past; it also asserts the perpetuity of a cycle of prayer which transcends the here and now. ... the tower is a monument to an order which, to all appearances, remains still amidst the vicissitudes of time.*³¹

And further in the research the role of the tower, its function, and the importance of its visibility emphasized even more:

30. Augé, *Non-Places: An Introduction to Supermodernity*, 69-70.

31. Richard D.G. Irvine, "The Architecture of Stability: Monasteries and the Importance of Place in a World of Non-Places." *Etnofoor* 23, No. 1 (2011): 37.

*The individual life cycle of the monk is incorporated within this stable social order, and this is reflected in an architecture which connects all aspects of daily activity. ... This stability, this sense of commitment to place, is part of a monastic self-identity built on a contrast to rapid movement, fleeting interaction and detachment. ... This is made particularly evident in the Abbey tower...*³²

On the other hand, not contradictory but simultaneously, the observation-deck is most-likely one of the top-rated tourist attractions. One that utilizes vision in its most superficial and flattened manifestations. Tourist wishing to 'see' the city they visit, maybe for only a single day, cannot pass the temptation to view it from an observation-deck. Taking your picture as you view a place from an observation deck is one of the most common fulfillments of the touristic experience. As explained by British tourism theorist Caroline Scarles:

*Photographs and photography facilitate the enlivening and creation of place and experience and ... allow tourists to take part in rather than reflect upon the world. As co-performers, photographs frame place and allow experiences to be created, encountered, and preserved via physical, intellectual, and cognitive activity.*³³

Augé identifies the space of the interior as relating to identity, and the space of the threshold to relations with others. The interior as the quality of the haptic and human in architecture can be diagrammed as a circle with the hearth at its center, symbolic for values of unity and communality. The threshold is a liminal space within which interactions can take place, stabilizing and redefining relations and continuity. In this quote from Augé, he identifies these qualities in our distant mythological roots:

*Hestia/Hermes couple, Hestia symbolizes the circular hearth place in the center of the house, the closed space of the group withdrawn into itself ... While Hermes, god of the threshold and the door, but also of crossroads and town gates, represents movement and relations with others. Identity and relations lie at the heart of all the spatial arrangements classically studied by anthropology.*³⁴

Interestingly the observation-deck answers to neither of those. Its center is a structural core and means of transport, most likely a fast elevator with single destination. Its periphery provides panoramic views, neglecting any possibility of interaction or relations. The fact that the tourist experience of visiting an observation deck is considered a collective experience, meaning it depends on the presence of many for the assertion of its importance (as opposed to solitary experiences of intimacy and reflection), does not imply any human contact with others, they are mere participants in the same activity. It is a place that has many reactions and reviews and as such also generates and receives more responses, from those who have been there to those who plan to visit in the near future. It is marked by its own success. The tower is a much more comfortable\controllable touristic event, compared to the stroll and the

32. Ibid, 45.

33. Caroline Scarles, "Becoming Tourist: Renegotiating the Visual in the Tourist Experience." *Environment and Planning D: Society and Space*, 27(3) (2009): 466.

34. Augé, *Non-Places: An Introduction to Supermodernity*, 47.

wandering. In that respect the cruise can be seen as the horizontal manifestation of the tower\observation deck experience, also a carefully staged\managed\choreographed conquest.

According to Foucault one of the definitions or rather functions of Heterotopia is to establish a space outside of regular spaces, one which stands as a contradiction, that by its distance or remoteness from lived spaces it can accommodate things that are excluded, like brothels or road motels for sexuality, or can be an illusory space which views the disorder and chaos from afar and by this position can reaffirm the real. Foucault mentions 17th century colonies and ships, sea going vessels as such heterotopias. This intriguing role of the vision from afar and from a detached privileged position is correlative to the contemporary tower observation deck. It is not necessary anymore to sail across the planet, nor to sneak through back alleys, one can fly to another city, take an elevator to the top floor and from a contained illusory landscape of the observation deck take in the whole panoramic and chaotic reality of a city.

Examples of Tower's Observation Decks

Three different types of observation decks were analyzed, rather in anecdotal fashion, in other words the towers were not compared but rather looked at separately as for each tower's uniqueness. As such each of the towers (observation deck) was selected for its distinctiveness. Each deck has its uniqueness allowing to portray the idea of reciprocal architecture in elaborate and dynamic nature. The chart provided shows in concentrated form each of the towers distinctive attributes and allows for a quick overview of the three case studies that follow (see Table 1).

Table 1. The Three Towers – Main Attributes

	SkyTree	Lucca	Tate
Main Observation Deck	455 floor	232 steps	10 floor
Additional observation decks	340 fl. - transparent floor, 345 fl., 350 fl., circular ramp 450-455 fl.	none	restaurant 6th floor on TM1
City	Tokyo	Lucca	London
building type	communication tower	renovated tower-house	museum
placeness	fake' history, choreographed sequence	historical context	public building
History	opened 2012	original built 1384. renovated and opened to public 1980's	addition to TM1 opened 2016
Additional views	Circular ramp, glass elevator, glass floor	windows along the climb	none
View type	closed	open platform	round the building open terrace and some closed area
Viewing enhancements	telescopes, VR stage, night viewing, locator map application	none	none
Narrative enhancements	historical gallery, fake mythology, mascot	advertisement	advertisement, "ceremonial route"
Photography	VR stage, 3 specially designated locations. Exterior mounted "selfie" camera	none	A sign: "Please respect our neighbours' privacy"
Additional facilities	gift shops, restaurants, theme park, historical exhibition, theatre.	giftshop, roof garden	coffee shop
Voyeurism	Zoom telescopes	Along the climb	Proximity to glass apartments

Lucca Guinigi Tower

The city of Lucca is a picturesque town located on a plain, just north of Pisa in the heart of Tuscany, Italy. Originating as a Roman city, of which its remains are still visible today, it flourished through the middle-ages. Lucca is described as:

*one of the cities most loved (in) all of Tuscany, a stop that cannot really miss in a classic itinerary to the discovery of the region. The city can be visited in a day...*³⁵

One of its many charming attractions is the Guinigi Tower. Once part of a tower-house built by a wealthy silk merchant of the Guinigi family. It is a typical example of local Romanesque-Gothic architecture. The height of the tower is 45 meters with a total of 232 steps to reach the top. It was built at around 1384. At that time adding towers to the family house was a necessary addition as the city grew condensed, it allowed some free space with ventilation and vistas. Not less importantly towers served as symbols of power and wealth, a status symbol of the family and its loyalties. As such it highlights a particular trait of human nature, the need to boast oneself and to mark your territory, sometimes via architectural symbols, visible architectural symbols, mainly a tower, the taller the better. Building such towers became sort of a 'craze' in many towns of Tuscany, until they were halted by city officials. Some towns boasted hundreds of towers puncturing their skyline, today only handful remain. The Guinigi tower is one of these historic relics, it was restored and made open to the public at the 1980's. The tower is of historical significance, an essential part of the heritage of Lucca and its residents. Its monumental presence, is visible far around, much more so due to the group of old trees crowning it, symbolizing rebirth and renewal³⁶ (see Figure 1).

35. "Discover Tuscany", accessed May 22, 2019, <https://www.discovertuscany.com/lucca/>

36. "Atlas Obscura", accessed May 22, 2019, <https://www.atlasobscura.com/places/torre-guinigi-guinigi-tower>.



Figure 1. *Guinigi Tower Seen from Lucca's Streets*

Source: by the author.

The trip to up the 232 stairs, the only way to the top, is rewarded by panoramic view of the city and its surroundings. This experience is considered a 'must' when visiting Lucca. According to 'tripadvisor' it is the 4th most popular 'thing to do' in Lucca, actually it means the 4th most visited tourist attractions in Lucca. Visitors reviews from 'tripadvisor' mention the climb up the stairs as "worth it" due to the rewarding panoramic views of the city, the relatively low price of 4 euros is mentioned repeatedly, making it even more: "worth it". One typical of such tourist review is:

*Never heard of the place - was recommended by a friend. What a pleasure, lots of stairs. But the views were great. There are trees on top, a nice touch. Only 4 euros, well worth the climb.*³⁷

There are no facilities or explanations of any kind on the climb or on the top, only at the gift shop at the bottom. The observation deck at the top is referred as the “top of the tower” or the “roof garden”. It consists of a square open terrace about 5X5 meters, its central area has brick planters with a group of oak trees in them. Common to all observation-decks that they have gift shops selling memorabilia related to the city and its history and of course of the tower itself. Though promoting, reaffirming, and enhancing the touristic experience while promoting the affirmation of the position of the tower as a symbolic place.³⁸

The observation deck (roof garden) is a reciprocal place. It is historical monument with importance and meaning for the community and the history of the region. On the other hand, it is a non-place, touristic point for establishing presence and gaze upon the flat surroundings and Lucca’s old-town roofs. In the touristic experience it stands out by two of its distinct features, uncommon to the many observation decks experience, one is the trees on top, the other is the climb by stairs. The tree garden is a peculiarity, mainly due to the uncommon and strange experience, yet very welcome. More than anything this marks the distance between the touristic, non-place, experience and the historical loaded meaning of the tower as a place. The other is the climb of the stairs. The absence of elevator makes it not only inaccessible but also a difficult problem as a touristic attraction. As one climbs the stairs there are small windows offering various views of the city as you gradually rise through the tower. The lower floors offer a voyeuristic gaze to the experience, as hundreds of tourists climbing the tower gaze curiously into the higher floors of adjoining residential apartments. The climb is thought of as an experience by itself, sort of challenge, reinforcing the view from the top as a ‘reward’ for the worry tourist.

Tokyo SkyTree

In 1958 the radio\TV communication ‘Tokyo Tower’ was completed. Standing 333m tall it was just a bit taller than the ‘Eiffel tower’, boasting the new economic\ technological revival of Japan\Tokyo. 50 years past and new demands required a newer, taller tower to be erected. The 634m ‘Tokyo SkyTree’ was opened at 2012 considered as the tallest tower in the world (excluding towers, the tallest structure in the world is the 828-meter ‘Burj Khalifa’ in Dubai). It was originally planned 20m lower, but as a response for a 610m tower built at the time in China it was raised to its current height. It replaced the old ‘Tokyo Tower’ as the main telecommunications tower. In the eyes of many it also replaced it as the

37. "Tripadvisor", accessed May 22, 2019, <https://www.tripadvisor.co.il/>

38. Jerry C. Jaffe, "Two Views of Japan: The Tower Experience and the Performance of Cultural Identity," *Current Issues in Tourism* (2004): 523-534.

symbol of Tokyo, although among tourist the ‘Tokyo Tower’ still remains an extremely popular site (see Figure 2).



Figure 2. The 'SkyTree' High Above the Streets of Tokyo

Source: unsplash.com royalty free image.

The ‘SkyTree’ has two observation decks one at 350m and one at 450m. The higher observation deck is the pinnacle of a visit to the tower, but the whole tourist experience is complex and well-choreographed. It includes many gift shops, restaurants, an aquarium, and a theme park. It has a gallery, opened 2018, exhibiting information related to the tower itself, and a theater, called “Find Japan”, dedicated for promoting Japanese culture.³⁹ In addition, it promotes the viewing and self-referential tourist theme by supplying many features that enhance this. VR experience (operational in bad weather), a glass floor, night time viewing gallery, several designated spots for taking photos, a glass elevator called a “shuttle”. A VR stage, called "Sorakara Point", providing a virtual surrounding\floating image of the view, it is used for "memorable" self-photographs. One can reach the highest

39. "Tokyo SKYTREE" accessed MAY 25, 2019, <http://www.tokyo-skytree.jp/en/>

observation deck through a 5 meters ascent by a circular ramp called "Tembo Galleria", enhancing the whole experience:

*Walk the sloped galleria from Floor 445 to Floor 450. Experience the amazing feeling of reaching the summit by walking there on your own two feet.*⁴⁰

These vision related possibilities do not show more, rather their accumulation is more symbolic in character. Their role is to communicate a metaphor of Japan\ Tokyo as a technological and economic success, and a:

*Promise of fulfillment, of a bountiful future, is the implied story, the future-vision offered by the ... Observation Deck. In its highly visible form, it declares a new, better, technological future. But also in ascent, for what better place for the community to join together and watch the birth of the new technopolis.*⁴¹

The way up is direct, on the way down the elevator stops at every floor, suggesting various attractions, such as gift shops, play areas, lower observations, photo opportunities, and restaurants. Overall, there are 4 types of areas in the tower: Shopping, Entertainment, Viewing, and history related. This corresponds to the need to carefully stage and choreograph the tourist experience, as explained by British researcher Tim Edensor:

*Tourism takes place within meaningful spatial contexts. ... These settings are distinguished by boundedness, whether physical or symbolic, and are often organized – or stage-managed – to provide and sustain common-sense under-standings about what activities should take place. Indeed, the coherence of most tourist performances depends on their being performed in specific 'theatres'. ... Tourist performance is socially and spatially regulated to varying extents.*⁴²

The strengthening of the tourist experience, relating heavily on its height and the panoramic view from the top observation deck is a double-edged sword. As the viewing from the top itself is rather an empty, meaningless experience it needs more and more auxiliary additives enhancing this viewing, this turns the whole tower experience to:

*The overtly commercial character of the layout of the Tower's observatory and other attractions as embodied by the dedication to souvenir shopping surely acts to suggest a narrative of consumerism to those visiting. Even for site guests with no overt interest in shopping, and who imagine a personal experience interacting with the view, must pass through such an environment and be confronted by the consumerist narrative.*⁴³

40. "Tokyo SKYTREE"

41. Jaffe, "Two Views of Japan", 532.

42. Tim Edensor, "Performing tourism, staging tourism (Re)producing tourist space and practice," *Tourist Studies* 1, (2001): 63.

43. Jaffe, "Two Views of Japan", 528.

And this has its price, as can be read in a tourist review, which is not common, mainly because its negative, and reviews on general tend to be positive, yet it is telling in the way it sums the touristic experience and its choreography:

This over-priced tourist trap is worth a miss. It's so crowded you can barely get near a window. They have displays and vendors set up blocking several windows that limits even more your ability to get a view. It's so crowded you have to wait to take the escalator down a floor to get the elevator to the ground floor. The "glass floor" is about 12 panels of glass you quickly walk over in the exit line. Skip this and go to the Metropolitan Government Tower for free. The 45th floor observation deck has great views and you don't have to drop \$50 per person for the view.⁴⁴

The voyeuristic additive is not missing from this observation deck, the tower boasts zoom telescopes enhancing the meaning of the panoramic view, adding to the tourist gaze a penetrating, intruding, and controlling dimension:

The high-powered zoom capabilities of these instruments enable one to see into the windows of condominiums and apartments present in the landscape. ...I can peer directly into the private lives of private citizens⁴⁵

The 'SkyTree' promotes its role as both a tourist attraction and symbol of the community via creating a new self-promoted, fake, mythology, stories about the construction of the tower, about its meaning, and made-up myths, all targeted to creating and enhancing its connection to the history and the place. The name for the tower was selected as a popularity contest. 'SkyTree', boasting 30% of the votes, comes from the concept of "a tree growing into the sky", an attempt to convert the rational of the structural engineering into a metaphoric symbol. The height of the tower was capped at 634 meters because the Japanese syllables for 6 (mu), 3 (sa) and 4 (shi) spell out Musashi, the old name for the district in which it stands. On the other hand, names of train stations and areas were converted from their older, "irrelevant", names as to accommodate the new presence. The tower has its own mascot called "Sorakara-chan", literally translated means: "From the sky-chan". Her clothes are imprinted with a design based on the framework of the SkyTree itself.⁴⁶ The role of the mascot along with the other narratives is to make a non-place into a place by injecting it with stories and histories that can be verbalized and shared. Creating a sense of continuity and belonging for a place that does not, yet, achieved them by a natural process of evolution. This is crucial for the creation of a place, as explained by American sociologist Patricia Stokowski:

44. "TripAdvisor"

45. Jaffe, "Two Views of Japan", 528.

46. "Japan Today" accessed May 25, 2019, <https://japantoday.com/category/national/tokyo-sky-tree-mascot-sorakara-chan-introduced>.

*No place is a place until things that have happened in it are remembered in history, ballads, yarns, legends, or monuments. Fictions serve as well as facts.*⁴⁷

Tate Gallery New Addition and Observation Deck

The new wing of London's Tate Modern Museum (TM2) also known as the 'switch house' has a viewing terrace on its top 10th floor. The Tate advances the experience of visiting the terrace as:

*It boasts spectacular 360-degree views of the London Skyline. Enjoy a drink and snacks from the bar as you see across the River Thames, St Paul's Cathedral, and as far as Canary Wharf and Wembley Stadium.*⁴⁸

The museum itself is a spectacular building, an architectural accomplishment of sensitivity and thoughtful cultural value. A large-scale world-class art museum, a renovation of an interesting existing building, and a complex urban redevelopment. The Swiss architecture firm of Herzog and de Meuron scheme for the building was selected following an international architectural competition. They continued to the development of the new wing completing almost a decade of planning in which they designed a world-renowned building and a local urban success, leading a profound change to the whole area as well as a unique approach of museum design. The Tate Modern first and second phases with their many architectural and urban features has definitely created a place.

The new wing, TM2, includes an open viewing terrace on its 10th floor. Reaching the terrace there is a small coffee-shop and an open terrace going all around the building. From the modest height of the 10th floor there are views of London and across the river. The panoramic views, as you walk around the terrace, include some unfortunate views of the roof of TM1, and glass apartments to the south just a few meters away from the terrace. The viewing terrace is not spectacular, height wise, neither common part in the art museum experience. The terrace is reached by a separate elevator, allowing visitors to go directly to the terrace without experiencing any of the museum spaces. It is not direct continuation to the rather sophisticated museum interior movement scenario, of which the architects refer to as "the ceremonial route". In the book describing in detail the many ideas and concepts of the design of TM2 the issue of the viewing terrace is not explored, neither mentioned. The viewing platform two problematics, the proximity to the flats toward the south and the view of the mechanical undeveloped rooftop of TM1, are ignored. One chapter is dedicated to an interview with the landscape designer of the complex, Gunther Vogt, as a response for a direct question about the issue he mentions an idea to create a 'landscaped' roof on TM1, yet this idea was never advanced. Although the London views are extensive, the decision to add the terrace is somewhat obscure.

47. Patricia A. Stokowski, "Languages of Place and Discourses of Power: Constructing New Senses of Place," *Journal of Leisure Research* 34, No. 4 (2002): 373.

48. "Tate" accessed May 25, 2019, <https://www.tate.org.uk/visit/tate-modern/viewing-level>.

It may be understood as a result of the many observation opportunities abundant in the TM1, that is looking over the river from the 6th floor restaurant and the interior views into the large open space of the boiler room. Most likely it is also sort of a chance opportunity arising from the distinct horizontal slits which are a major design feature of the TM2.⁴⁹

The tenants of the apartments just adjacent to the viewing terrace had filed a law suit against the museum, following a trail, it was turned down by the court. The tenants claim was backed by such telling testimonies:

*... visitors 'subject the flats to an unusually intense visual scrutiny', with some 'using binoculars and zoom lenses' to look into the flats. ... 'When our blinds are open and the viewing platform is in use, we are more or less constantly watched, waved at, photographed and filmed by people on the viewing platform.'*⁵⁰

In response the museum claimed the terrace to be: “a valued resource” and suggested the tenants to draw curtains in their apartments, something which they are reluctant to do. The museum ambiguous relations with this view are reinforced by the modest but well visible sign asking visitors to: “Please respect our neighbours’ privacy” (see Figure 3). This problematic is noticed by many visitors that share a sense of unease from the situation:

*The views are just great; however, I've got a little bit of an issue with the few nearby residential buildings... it made me feel like a dirty snooper; I don't know who was first, but it just feels plain wrong.*⁵¹



Figure 2. Tate Viewing Terrace Looking "Into" Glass Apartments

Source: by the author.

The viewing terrace itself is a non-place and a touristic experience, very popular, with inconclusive connection to the museum experience, both conceptually and physically. This is evident from common tourists' reviews attesting to this rather peculiar relationship:

We only had the opportunity to make a short visit to the Tate Modern. Although we were hoping to see some of the exhibits, we only had time to visit the viewing gallery

49. Chris Dercon, & Nicholas Serota, eds., Tate Modern: Building a Museum for the 21st Century (New York, NY: Tate Publishing, 2016).

50. "Mail Online" accessed May 25, 2019, <https://www.dailymail.co.uk/news/article-6346829/Flat-owners-overlooked-Tate-Modern-viewing-platform-gallery-court.html>.

51. "TripAdvisor".

on the 10th floor. ... The view over London in each direction is great. Definitely worth including in your trip to London!

...

A great alternative to the hassle and expense of getting into the Shard or the Eye. You can get a great view of London from the top floor of the Tate Modern at no charge. 360-degree observation deck, but it's the view across the river that you are probably going for. Learned about this from locals. Highly recommend it ... PLUS-there's the Tate Modern!⁵²

Discussion

The contemporary reality of supermodernity is characterized by three forms of excess: overabundance of events, spatial overabundance, and the individualization of references. These are manifested in society's preference for travel and the touristic experience, and the creation of non-places. Non-places are defined as contrary to places, though non-places are spaces which cannot be defined as relational, or historical, or concerned with identity. In this context the complexities and importance of the gaze and of photography were discussed with the intent of contextualizing non-places and related touristic experience. Re-reading through Augé's concepts of non-places the reservation that non-places are never fully such aroused, not necessarily as critic dismissing the idea of non-places but rather as emphasizing simultaneous contradictions of spaces being at the same time non-places and places. Observation decks on tower tops were analyzed as case study which contains these contradictory concepts, and offered a varied field for exploring the issue. The tower with its observation deck is a place with strong symbolic presence and historical significance that is visually obvious for both the surrounding community and short-term visitors. Its monumental presence is fundamental in creating a sense of place, accentuated by the panoramic view, seeing the whole city/countryside as if controlling, understanding and possessing it. This gaze, from a tower's observation deck, establishes place and at the same time is a manifestation of the touristic 'flattened' experience. This makes the observation deck experience simultaneously non-place and place, reciprocal in nature.

The three observation decks explored in the paper offered multitude of experiences and approaches to the tower and observation experience, sometimes conflicting experiences. The Lucca tower role as an historical place, long gone, is reaffirmed today by the presence of tourists. The touristic experience of place is enhanced by the peculiarity of the garden and by the need to climb its many stairs. This established or rather reestablishes the meaning of the tower as an historical place. Tokyo's SkyTree is functional technological achievement presenting a well-choreographed viewing-experience, branded, and prompted with make-up narrative of historical connotations and mythologies. The viewing terrace of the new Tate Modern in London is an ambiguous unique condition. Strange to the museum experience just as it is for the touristic experience in observation decks. It offers a multitude conflicting experiences, leaving visitors somewhat confused as

52. Ibid.

to how to relate to it. All three towers offer additional enrichment of the viewing experience. From the modest gift shop in Lucca, to the multi complex entertainment/shopping experience in the SkyTree, to the careful 'walking-among-the-drops' attitude of the Tate Museum. In all of them the erotic and voyeuristic experience is not absent, in Lucca slit windows accompanying the climb, the SkyTrees zoom telescopic lenses, and the Tate's unintended, unplanned proximity to the glass apartments.

For the tourist an observation-deck is not a non-place, such as the airport, the motorway, train station, or elevator, it is a place. It is THE place; it is where the notion of the place is defined and consumed. The photographs he takes are marks and proof for that, by sharing them with others he repeats the prescribed behavior expected, it reaffirms his sense of place. It can be argued that the people who live in proximity to the tower think of the observation deck as a non-place, as non-meaningful way to connect to the history and sense of place, yet the tourist, experiences this in a different way. By viewing from the observation deck the tourist reaffirms his connection and continuation of being in a place, the presence of others strengthens this notion. We cannot dismiss the tower as being non-place, and definitely not solely in the negative sense. We can understand it as reciprocal architecture, much along the same line as suggested by British researcher Peter Merriman:

*... rather than coin a new species of space/place — i.e. non-place — we need to rethink 'place' as open, dynamic, inclusive, relational and in process, rather than as closed off, organic, static and localized.*⁵³

It is not a question of 'either or'. It is not about reviving something which is of the past, neither about defining the present as response to utility or demand alone. It is about the understanding or rather of accepting and reconciling with complexities of reality. This is acknowledged by researchers critical of Augé, for example:

*In brief, there is no place in the world that can be named non-place or emptied of sense. Any sites where people pass or reside are spaces with less or more symbolic liaison.*⁵⁴

As well as by Augé himself:

*what for one is a place can be a non-place for other and vice-versa. An airport -for example-is conditioned to the involving eyes of passenger who occasionally are en-route whereas inversely for workers this stand-point will vary substantially on.*⁵⁵

53. Merriman, "Place and Non-Places", 10.

54. Korstanje, "Non-places and Tourism", 106.

55. Marc Augé, *Toward an anthropology of contemporary Worlds* (Barcelona, Spain: Gedisa, 1998): 147.

Conclusions

There exists a possibility of a reciprocal approach. One that respects, equally the nostalgic, historical, and symbolic. One that equally respects the ephemeral attitude of contemporary life, touristic in nature, detached and self-referential as it is. This does not imply that we should treat it without criticism, yet it can be improved only by respecting the needs and attributes of this part of our way of life. We can't advocate vernacular architecture, it is merely anecdotal, even selfish approach. We cannot adopt a modernist functional, utilitarian approach, it leaves society detached and isolated, with no means for creating stability or continuity. It is my continuation that contemporary reality offers the opportunity to understand, positively, places as being reciprocal. An architecture that is not intimidated by its past, nor refrains from altering it, at the same time that it appreciates its relevance and importance. We should create architecture that can balance and reconcile, and at the same time contain conflicts and resist, welcome the other, the detached, and the unfamiliar. Non-places are never fully such, they are an opportunity rich with complex layered experiences, responsive for contemporary reality, culture, and society. An architecture of reciprocal nature, architecture for simultaneous and continuous conflicting reality.

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Archaeology and Modern Architecture: A Comparative Reading

*By Gregorio Froio**

*This essay explores the relationship between archaeology and modern architecture, moving beyond the conventional examination of modern archaeology to examine the role of archaeology in a modern context. It traces the influence of archaeology from the Renaissance to the early 20th century, through the Modern Movement and Italian Rationalism, arguing that historical context is essential to architectural knowledge. The essay criticises the contemporary neglect of historical consciousness and promotes the past as a key contributor to shaping the present. It debates the nature of archaeology, suggesting that it fuses a scientific discipline with antiquarian elements such as excavation and esotericism. The narrative reflects on how archaeology has been perceived through the ages, incorporating both scientific and initiatory perspectives. Through a series of images, the text reveals a hidden archaeology in various artistic expressions, from Roman frescoes to literary works such as *Hypnerotomachia Poliphili*. It highlights Giovanni Battista Piranesi's engravings for their conceptual importance. Arguing for a unified vision of Roman and Greek antiquity, the essay uses the Villa Adriana as a case study to discuss the continuing relevance and evocative power of ancient architecture in modern contexts, demonstrating the enduring value of archaeology in contemporary architectural discourse.*

Introduction

The study is part of a research conducted by the author within the doctoral programme in Architectural and Urban Composition at the Department of Dastec, Mediterranean University of Reggio Calabria (Italy). A broader research on the relationship between archaeology and architecture subsequently culminated in a monographic volume and a series of other publications in specialised journals.¹

The essay proposes an iconographic study of archaeology and its relationship with modern architecture. Its purpose is not simply to deal with the archaeology of the modern age, a subject that has already been extensively studied, but rather to deal with the idea of archaeology in the modern context. The aim, therefore, is to analyse the presence of archaeology, particularly as it is understood in relation to antiquity, from the Renaissance to the first half of the twentieth century, including the Modern Movement and Italian Rationalism.

It emphasises the importance of considering history as an integral part of architectural knowledge, opposing the contemporary idea of architecture without

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1. G. Froio, *La componente archeologica nel progetto moderno*. (Soveria Mannelli: Rubbettino, 2013); G. Froio. *Fragment and composition. Hadrian's dispositio in the modern architecture*. || *FAmagazine* 32 (2015): 49-56; G. Froio. *Architectural Bodies in the Flowing Time. Ruins and zero degree of architecture*. || *Urban Corporis. To the bones*, (2023): 16-23.

historical roots. The work explores the relationship between archaeology and modern architecture through an analysis of the influences of ancient Rome and Greece. For example, it highlights a duality in the interpretation of these two concepts: on the one hand, Le Corbusier shows a preference for ancient Greece, as evidenced by his sketches of the Parthenon and the Acropolis; on the other hand, he also acknowledges Roman architecture, with illustrious examples such as aqueducts, baths and Hadrian's Villa.

The reference literature on the subject is vast and complex. On the subject of the relationship between historical evocation and modernity, the theoretical contribution of Manfredo Tafuri² is fundamental. On the subject of memory, particularly from a philosophical perspective, references include Bergson (1959) and Benjamin, as well as literary works such as Proust's "Remembrance of Things Past". Studies on the relationship between time and memory, focusing on the artistic movements of the early twentieth century, by Elena Pontigia,³ Stefano Gallo and Guido Zucconi,⁴ as well as the direct contributions of Giorgio de Chirico (1919) and his brother Savinio,⁵ are also significant. There is a rich literature on the concept of the fragment as an artistic expression which offer an updated vision, especially in the Italian context.⁶

The research focuses on the important literary filter offered by odeporic literature, in particular the Grand Tour, on which important studies and international conferences have been held in recent years.⁷

The theme of travel as a collection of memories allows for an interesting comparison between texts from different periods, but of paramount importance: Goethe's "Italian Journey" and Le Corbusier's "Journey to the East".

The ancient is then reinterpreted in some literary works of the humanist period, highlighting the contribution of authors such as Francesco Colonna, who anticipates Freudian themes in his relationship between ruin and psychological discomfort. In the modern era, the eighteenth-century period is fundamental in bringing the archaeological discipline to a theoretical and practical operational level. The ancient thus becomes a kind of figurative constant, a particularly fertile cultural unconscious: figures such as Pirro Ligorio, Giovanni Battista Piranesi, Schinkel, leading up to the twentieth century with figures such as Mies van der Rohe and Adolf Loos, with surprising and provocative architectural projects.

Finally, there is a focus on Hadrian's Villa as an exemplum of late antique architecture, on which important conferences have been held in recent years, demonstrating its absolute originality and relevance.⁸

2. M. Tafuri. *Teoria e storia dell'architettura*. (Roma Bari: Laterza, 1973).

3. E. Pontigia. *Il ritorno all'ordine*. (Milano: Abscondita, 2005).

4. S. Gallo, G. Zucconi. *Arte del novecento. 1900-1944*. (Milano: Mondadori, 2002).

5. P. Vivarelli. *Savinio*. || *Art dossier* 185, (2003). Milano: Giunti Editore.

6. F. Purini. Dal progetto. *Scritti teorici di Franco Purini 1966-1991*. (Roma: Kappa, 1992); F. Purini. *Comporre l'architettura*. (Roma-Bari: Laterza, 2000); F. Purini. *Discorso sull'architettura. Cinque itinerari nell'arte del costruire*. (Venezia: Marsilio, 2022).

7. M. Formica. *Roma e la Campagna romana nel Grand Tour*. (Roma-Bari: Laterza, 2009).

8. P. Caliarì. *Tractatus logico sintattico. La forma trasparente di Villa Adriana*. (Roma: Edizioni Quasar, 2012); P. Caliarì. *La composizione policentrica di Villa Adriana e il tecnografo post-alessandrino*. || *Ananke* 84. (2018): 67-69; P. Caliarì. *Nuovi contributi sulla composizione architettonica*

The methodology is conceived as an iconographic reading of selected images, reasoned and extrapolated from the world of art, cinema and architecture, without following a strict chronological continuity. Another comparative criterion, based on Robert Venturi (1966) and Colin Rowe (1971), associates two or more images, noting formal analogies and differences.

Time and Memory

The work shows how modernity draws on its past in a complex way. Filippo Brunelleschi and Leon Battista Alberti are two key figures: while Brunelleschi subjectively interprets the ancient to construct his modernity, Alberti remains ambiguous, oscillating between the desire to convey classical idealism and the seduction of linguistic pluralism. This tension manifests itself in the sixteenth century, when Raphael's school explores the grotesque and more extreme currents that distort classicism. The dialectic between historicist experimentation and rigorous abstraction intensified in the Baroque, epitomised by figures such as Francesco Borromini. The Enlightenment saw a split between historical-archaeological design and anti-historicism, culminating in the crisis of historicism highlighted by Giovanni Battista Piranesi.⁹

The complex relationship between classical and anti-classical codes in modern and contemporary architecture reveals a continuous interaction between past and present. This interaction is manifested in a series of conflicts and oscillations between innovation and tradition, futurism and metaphysics, exemplified by various artistic and architectural trends. Twentieth century Italian architects such as Saverio Muratori, Bruno Zevi, Ludovico Quaroni and Mario Ridolfi address this duality with different approaches, ranging from the reinterpretation of classicism to Wright's organic renewal, from the integration of the Italian vernacular tradition with contemporary themes to the importance of utopia as a tool for urban planning.¹⁰ Archaeology is emerging as an influential discipline that informs design thinking, as evidenced by Muratori's project for the headquarters of the Christian Democratic Party at the EUR, which integrates archaeological studies into the spatial and compositional organisation of the building (Figure 1).

Memory is a central theme that has been addressed from different philosophical perspectives throughout history. At a basic level, memory is seen as the preservation of past events, with examples ranging from Aristotle to Hume. However, beyond simple recollection, memory is also seen as a human ability to classify past experiences, as emphasised by Plato and other medieval and modern philosophers. Memory also has a complex psychological dimension, as emphasised by Freud (1929), who linked it to trauma and unconscious associations. Bergson and Proust, on the other hand, describe memory as a vital force that manifests itself through involuntary associations and sudden recollections. Walter Benjamin adds a further

di Villa Adriana. || Bruciati et al. *Le grandi ville romane del territorio tiburtino*, (Tivoli: Tipografia Palombi, 2021).

9. M. Tafuri. *Progetto e utopia*. (Roma-Bari: Laterza, 1973).

10. F. Purini. *La misura italiana dell'architettura*. (Roma-Bari: Laterza, 2008).

dimension to memory, linking it to tradition and to awakening as a moment of reconnection with the past.

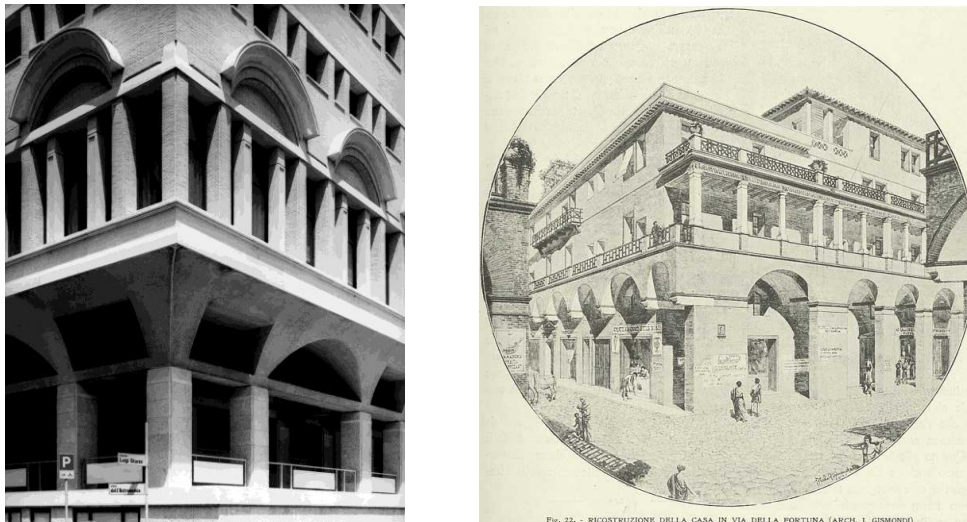


Figure 1. Saverio Muratori's *Palace for the Central Office of the Christian Democracy* (left) Compared with Italo Gismondi's *Reconstructions of the Insulae of Ostia Antica* (right)

Source: Benedetti 2013 (1) - Public domain (2).

The “Return to Order” artistic movement, which emerged in Europe at the beginning of the twentieth century, focuses on expressing a return to the roots of art, with a profound reflection on time, memory and remembrance. Coined by Jean Cocteau, this movement represents an art governed by rules and order, in contrast to futurist tendencies that challenge the past. The central idea is that of an eternal contemporaneity of the ancient, reflected in works of art through the use of ancient elements such as clothing, objects and places from the past. This desire to suspend time in eternity evokes a sense of melancholy and reflection, as in the works of Picasso, which depict huge, primordial female figures immersed in painful meditation. In these works, the ancient becomes an unattainable mirage, but also an enigmatic experience that reflects the uncertainties and precariousness of the modern world.

In Italy, between 1918 and 1922, artists such as Carlo Carrà, Giorgio de Chirico and Alberto Savinio gathered around the art journal “Valori Plastici”. This group of artists aimed to redefine the role and language of Italian art after World War I. De Chirico, in particular, explored the concept of time in his metaphysical painting. In his paintings, such as “The Riddle of the Hour” from 1911, space is defined around architectural models inspired by 15th-century Florentine art. The image of the clock suggests a motionless atmosphere, and time becomes a metaphysical hour, a petrified enigma. The architecture, which features prominently in the painting, helps to describe this sense of immobility. The human figures present, such as the philosopher-poet-artist and other mysterious figures, add another layer of meaning to the composition, suggesting a sense of the unconscious and mystery. In “The Virgin of Time” (1919), de Chirico presents an imposing female figure, the guardian of time, symbolised by the hourglass, suggesting a reversal of time and a return to

origin. In the Self-Portrait of 1920, de Chirico adopts a Northern Renaissance style, highlighting a new pictorial approach. In the writings of “Valori Plastici” (1919), de Chirico emphasises the importance of drawing and presents himself as an artist of tradition, defining himself as classical. In works such as “Mannequins on the Seashore” (1926), changes in metaphysical language are noticeable, with a revival of the pictorial past. Alberto Savinio, de Chirico’s contemporary, explored similar themes, as in “The City of Promises” (1928), which represents a prehistoric age through the accumulation of figures in a kind of surreal and fairytale collection, with colourful geometric structures suggesting a labyrinthine and enchanted city.

Grand Tour, Souvenir

The Grand Tour, a forerunner of modern mass tourism, was a cultural initiation ritual undertaken by young people from all over Europe, with Rome as its unmissable destination. Artists, poets and writers completed their cultural education through this journey. Vedutism, a popular artistic genre in the late sixteenth century, conveyed the image of Roman ruins, exalting the fascination of the past and the specificity of the place visited. The ruins were not just relics of the past, but an integral part of the landscape, a source of aesthetic inspiration. The Roman landscape, with its ruins and surrounding countryside, represented an ideal desired by travellers, who encountered this ideal physically by touching and experiencing the majesty of the ruins. The Grand Tour was animated by a cosmopolitan spirit, with Rome as a fundamental meeting place between the sacred and the profane, the past and the present. Visiting the Roman countryside, with its variety of landscapes and memories, enriched the traveller’s experience.¹¹

From the sixteenth century onwards, travel became a process of knowledge acquisition. Odeporic literature became a form of narration of the travel experience: ‘The link that odeporic maintains with the concepts of spatiality and representation of the territory, besides constituting a source for the possible description of the “images” that constitute a given place (to offer possible “readings” of the latter, intending the text as an example of the construction of a spatial image), can also reveal the cultural modalities through which the observation of the new landscapes observed along the travel route shapes the literary description’.¹²

From the second half of the 18th century, the view of Rome underwent a profound change, as a new concept of antiquity emerged. There was a selective approach to historical periods, privileging antiquity and adopting an eclectic approach to art and architecture. The validity of classical experience for the present became central, leading to the idea of neoclassical art theory. Artists such as Piranesi systematically explored Roman ruins, influencing European painters and architects who adopted a freer treatment of the landscape and drew inspiration from classical models. The discovery of the ruins of Herculaneum and Pompeii in 1748 and 1764 respectively

11. M. Formica. *Roma e la Campagna romana nel Grand Tour*. Op. cit. IX.

12. G. Trecchio. *Lo sguardo del viaggiatore: la letteratura odeporica e l'osservazione del mondo*. || Treccani on line (2019).

revolutionised the artistic imagination, bringing to light fragments of ancient life and inspiring a new artistic taste, even in the applied arts.¹³

The Grand Tour represents an interweaving of modernity and the past, with the past becoming available and ready to be staged since the Enlightenment. This vast “treasure trove”¹⁴ transforms the past into a repertoire of scenes ready for use, losing its compactness and disintegrating into different styles. History becomes a sequence of dated scenes that coexist in the various rooms of the house of modernity. This concept fuels Baudelaire’s idea of modernity, which feeds on the chaotic fusion of this repertoire, in a continuous process of contamination. In the nineteenth century, antiquarianism takes on a new value, becoming an analytical system of images in museums and also influencing the souvenir industry in Rome, with workshops of craftsmen and artists dedicated to antiquity.¹⁵



Figure 2. *Andy Warhol's Reinterpretation of Goethe's Portrait in the Roman Countryside, Compared with Le Corbusier's Photographs of his Visit to the Parthenon*
Source: Public domain.

In his “Journey to Italy” (1816-1829), Goethe expresses his ideal of classicism by finding a source of inspiration in the ruins, buildings and people of Italy. Tischbein’s portrait of Goethe in the Roman countryside becomes a symbol of his aesthetic experience and journey. The construction of the image as a montage allows for a deconstruction that Andy Warhol would later popularise, introducing Goethe’s image into the global circulation as an empty and perpetuated icon (Figure 2). The journey to Italy is a classic model for exploring the country, reflecting the allure of ancient ruins and the atmosphere of the Roman countryside. This journey has been evoked in works such as Roberto Rossellini’s film “Journey to Italy” (1954), which follows an English couple travelling through Naples and Pompeii. The film captures the dual face of Campania, with its bourgeoisie in search of identity and the daily rituals of the local population. Archaeology emerges as the secret theme of the film itself, serving as both background and contrast to the narrative.

13. C.M. Sicca. *Lo scavo e la rovina*, in *Europa 1700-1992: storia di un'identità. La disgregazione dell'Ancien Régime*. (Milano: Electa, 1987), 229.

14. R. Calasso. *La Folie Baudelaire*. (Milano: Adelphi, 2008).

15. A. Pinelli. *Souvenir. L'industria dell'antico e il Grand Tour a Roma*. (Roma-Bari: Laterza, 2010).

“The Voyage d'Orient” (1911) by Charles-Édouard Jeanneret, later known as Le Corbusier, tells of his journey through Eastern Europe. The journey is marked by contrasting impressions and a fear of life and experience. Le Corbusier discovers the appeal of places like Istanbul and Athens, rediscovers the ancient in its contemporary manifestations, and feels the modern urgency to start anew. Athens was the climax of his journey, particularly the encounter with the Parthenon, which evoked intense and complex emotions. The descriptions of the Parthenon reveal the author's psychological unease, with suggestions of death and destruction alternating with scattered remains on the Acropolis. Le Corbusier seems to want to distance himself from the monument, to exorcise it and recognise the need to create something new. The ancient thus becomes an ambiguous enigma, revealed only through its fragmentation and distance from us, but which will forever weigh as a regret.¹⁶

Archaeology and the Ancient

The relationship between archaeology and antiquity is deep and symbolic. Archaeology etymologically means ‘discourse on the ancient’, and its meaning has expanded over time, evolving from the scientific study of ancient civilisations to *ars antiquaria*, collecting associated with the Greco-Roman world. In the humanist era, archaeology includes an iconic and descriptive dimension, privileging the *auctoritas antiqua* (Pallottino, 1968). This concept transcends conventional temporal limits and transforms the ancient into a myth, an aesthetic and poetic dimension that transcends historical time. The myth of the Iliad, the fall of Troy and the destruction of the Temple of Solomon are examples of how the ancient is associated with images of destruction and catastrophe, but also of creation and origin. The ancient therefore lives in a dreamlike and disturbing dimension, reflecting the deepest fears and desires of mankind. Franco Purini assimilates the ancient to an ‘unconscious depth’ that provokes temporal vertigo.¹⁷

There is archaeology as a scientific discipline that studies the remains of the past, and archaeology as an iconic concept of the ancient, representing an insurmountable frontier and a mythical source of inspiration for art and architecture. Finally, there is an archaeological aspect of antiquity that we could define as ‘the antique within the antique’, where classical Roman frescoes and bucolic representations of Pompeii represent a fusion of archaeology and mystery cults, with secret rites and initiation scenes taking place in suggestive architectural contexts.¹⁸

The “Hypnerotomachia Poliphili”, published in Venice in 1499 by Aldus Manutius, is a work characterised by a fairy-tale and dreamlike tone, full of vivid sensuality and visionary imagery. In the narrative, antiquity represents the true goal of the journey of the protagonist, Poliphilo, and provides a mythical backdrop that combines archaeological references and imaginative creations. Structured like

16. C. E. Jeanneret (Le Corbusier). *Il Viaggio d'Oriente (Le Voyage d'Orient)*. (Faenza: Faenza ed., 1974).

17. F. Purini. *Tre forme dell'antico*. || *Metamorfosi* 1-2 (1985).

18. E. Gombrich. *The story of art*. (London: Phaidon Press Limited, 1950).

a dream within a dream, the narrative reflects a mixture of Neoplatonic philosophy, Christianity, esotericism and magic typical of the Renaissance. Through a dreamlike diary rich in antiquarian inventions, Poliphilo explores different dream levels that reflect his inner moods, using architectural structures as graphic symbols of these states. The work is dense with hermetic and alchemical symbolism, intertwined with the theme of love and initiation into the mysteries of Venus. The novel presents itself as an initiatory journey in which the protagonist encounters alchemical figures and cosmic symbols, exploring the creation and origin of the world. This narrative synthesis is nourished by a complex network of symbols and contrasts, contributing to the creation of an enigmatic and fascinating work that continues to challenge interpretation.¹⁹



Figure 3. Drawings from Francesco Colonna's Text (left) Compared with Scenes from Andrea Mantegna's 'Triumphs of Caesar' (right)

Source: Public domain.

The iconography of the emblems in the *Hypnerotomachia Poliphili* has interesting parallels with the cycle of paintings of the “Triumphs of Caesar” by Andrea Mantegna. These paintings, painted between 1485 and 1505, are associated with the literary and figurative experiences of Francesco Colonna. According to Giovanni Romano,²⁰ Colonna's hieroglyphic language and exuberant inventiveness reflect the metaphorical-descriptive process present in Mantegna's works. In particular, the theme of “The Triumph of love”, present in the *Hypnerotomachia*, finds a powerful visualisation in Mantegna's paintings, laden with suggestion and mystery (Figure 3). This connection highlights a possible mutual influence between Colonna's works and Mantegna's paintings, both representative of the artistic and cultural fervour of the Italian Renaissance.²¹

Andrea Palladio's drawings of the Roman Baths mark a crucial moment in the reflection on antiquity, characterised by the loss of its mystical value and the transition to a scientific and rational approach. These drawings represent a meticulous analysis of the ancient world, using surveying as a measuring tool to understand the proportions of monuments. Palladio recorded measurements and dimensions in

19. M. Calvesi. *Il sogno di Poliphilo Prenestino*, (Roma: Officina edizioni, 1980); F. Colonna. *Hypnerotomachia Poliphili*, ed. M. Gabriele and M. Ariani (Milano: Adelphi, 2004).

20. G. Romano, *Verso la maniera moderna: da Mantegna a Raffaello*, in *Memoria dell' antico nell'arte italiana, III. Dalla tradizione all'archeologia*, ed S. Settis (Torino: Einaudi, 1986) 16.

21. A. Martindale. *I Trionfi di Cesare, nella collezione della regina d'Inghilterra ad Hamph Court*. (Milano: Rusconi, 1980).

plan and elevation, analysing lights, volumes and masses with extraordinary precision.²² In his drawings he reproduced lost architectural details, offering a modern and systematic view of interiors and structures. Although he mistakenly confused the Pantheon with the Baths of Agrippa, his drawings reveal the grandeur and spatiality of ancient monuments and in many ways anticipate the modern approach to restoration and conservation.

Pirro Ligorio's 1561 engraving "Antiquae Urbis imago" offers a powerful representation of ancient Rome, combining antiquarian erudition with modern archaeological knowledge. Ligorio reconstructs the monuments according to literary models, using an axonometric view that gives scientific precision to details and overall views. In the Vatican area, for example, Nero's Circus, the Obelisk and the Pyramid are reproduced with archaeological sensitivity. This vision presents a harmonious fusion of order and chaos, with monuments superimposed and listed to recreate the ancient city. According to Marcello Fagiolo, Ligorio's work synthesises the multiple contradictions of the city, combining scientific investigation, criticism and compositional inventiveness, both as a memory of the past and a prophecy for the future.²³

In the eighteenth century, archaeology became crucial to the development of a modern architectural language. The discoveries at Herculaneum and Pompeii aroused great interest throughout Europe, leading to a proliferation of treatises on architecture and a reinterpretation of classical orders. Louis-Gérard de Cordemoy challenged the Vitruvian conception of architecture, while Marc Antoine Laugier introduced the concept of the primitive hut as the origin of architectural order. Jean Nicolas Louis Durand (1819) introduced the concept of composition, simplifying architectural elements to create building typologies. As neoclassical architecture consolidated, Jean-Baptiste Rondelet and Auguste Choisy developed classicist ideas with a new archaeological rigour.

Manfredo Tafuri points out that during the Enlightenment, architecture began to dissolve into the uniformity of predetermined typologies. Giovanni Battista Piranesi represents the culmination of this dissolution, with his engravings mixing rationality and irrationality, challenging traditional notions of antiquity and architecture. Piranesi reduced antiquity to distorted fragments, questioning the very concept of architectural form and the city. His work highlights the internal contradictions of Enlightenment rationalism and marks a crisis in the formal idea of architecture and the city. In Campo Marzio, Piranesi intensifies this crisis by pushing axonometric representation beyond the limits of the absurd, evoking the past in its scientific objectivity and denying it at the same time.²⁴

The antiquarian and archaeological taste of the 18th and 19th centuries is reflected in the watercolours of Joseph Michael Gandy, particularly those for John Soane (1813). Influenced by Piranesi and others, these works combine architectural styles and languages in an esoteric and funereal atmosphere. The design for the Lincoln's Inn Fields residence, now the Soane Museum, depicts a cavernous space

22. G. Zorzi. *I disegni dell'antichità di Andrea Palladio*. (Venezia: Neri Pozza ed., 1959).

23. M. Fagiolo. *La scena tragica di Roma antica secondo Piranesi: autopsia, radiografia, rigenerazione*, in *Le Arti di Piranesi*, (Venezia: Marsilio, 2010).

24. M. Tafuri. *Progetto e utopia*. (Roma-Bari: Laterza, 1973).

with fragments of ancient ruins and cinerary urns. Gandy powerfully captures the evocative atmosphere of this space, creating nocturnal effects and a sense of mystery. Soane's museum, described as 'a union of the arts',²⁵ brings together fragments from an ancient Greek-Roman, Egyptian, Neo-Romanesque and Neo-Gothic world.

The Ancient as the Unconscious of an Architecture

The ancient is a recurring theme in modern architectural culture. Since Pirro Ligorio, we must ask why it has aroused so much interest, to the point of being considered a permanent element (at the critical moment of the Enlightenment) of architectural languages. In authors such as Karl Friedrich Schinkel (1781-1841) and the revolutionary architects Étienne-Louis Boullée (1728-1799) and Claude-Nicolas Ledoux (1736-1806), the antique is interpreted through a series of themes that would be revisited as archetypes in twentieth-century architecture.

In this sense, Adolf Loos's (1870-1933) proposal for the Chicago Tribune competition is emblematic and deliberately provocative: the short circuit between ancient and modern is condensed into the monumental and solemn icon of the towering Doric column. The international competition announced in 1922 by Chicago's major newspaper, the Tribune, called for the design of a new headquarters in the Loop area of Chicago. The editors wanted an office building that would express the prestige of the newspaper through its monumentality. Architects from around the world responded to the competition, including Walter Gropius with Adolf Meyer, Bruno Taut, Eliel Saarinen and Marcello Piacentini. The Tribune Factory, clad entirely in black granite, would reach a height of 120 metres.

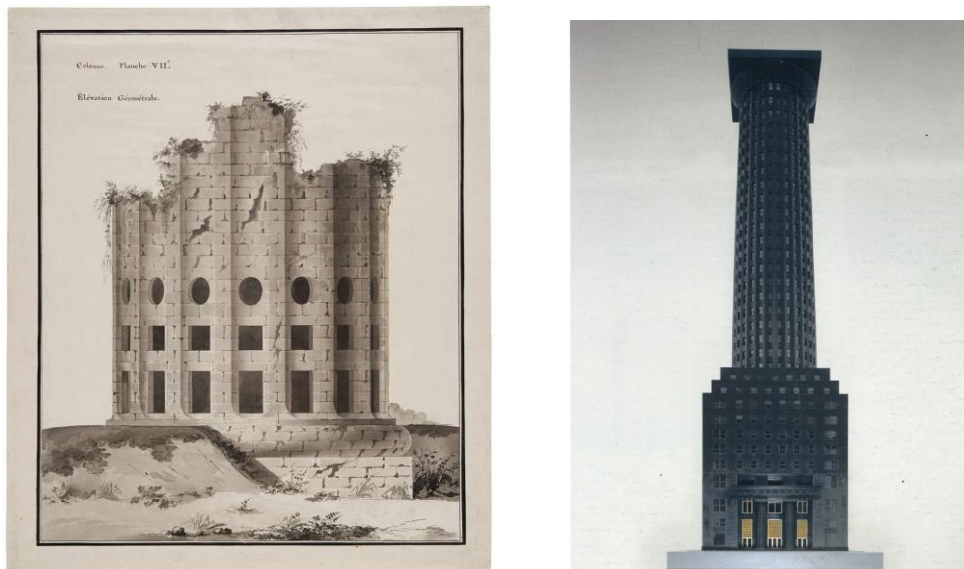


Figure 4. Drawing from *Desert de Retz*, House in the Shape of a Ruined Doric Column (left) Compared with Adolf Loos' Project for the Chicago Tribune (right)
Source: Public domain.

25. J. Summerson. *Union of the arts. Sir John Soane's museum-house*, || *Lotus International* 35, (1982): 64-74.

The base, a cube that serves as both base and building, is simply articulated with regular openings along the nine floors and the levels of the two upper staircases. At the bottom of the façade, the entrance is marked by a pair of two-storey Doric columns. The central element, the fluted column, has twenty-eight flutes: each one is occupied by a row of windows arranged from one end to the other. The supporting structure is concentrated in the corners. The interior spaces are arranged around a central core formed by the lift shaft: a square shaft, the true structural core of the skyscraper. By analogy with the Doric order, the building has an entasis, an upward tapering. The crown of the building is in the form of a capital of the Greek Doric order, composed of an echinus and an abacus. Adolf Loos intended to place a statue of a seated tribune at the top of the column to emphasise the monumentality of the whole.

Among the various interpretations, the column alludes to the column of a newspaper; according to Loos, the idea of the isolated column of gigantic proportions was an archetype going back to the origins of architecture, as one of the seven wonders of the world. According to Bruno Zevi (1950), the project has a sarcastic tone: 'Loos preferred the architecture of ancient Rome, but not its rhetorical accents, its military poses, its oratory, its imperial magniloquence; the Rome that inspired him was that filtered through the exegetics of the Viennese School of Art History, the prosaic city of the building continuum'.²⁶ The column, defined as 'hyperbolic, grotesque', is perhaps, for Zevi, an insult to Sullivan's America.

According to Tafuri, it is a veiled hypothesis of irony, but also a polemic against the contemporary metropolis. In the land of 'timeless forms', the Viennese architect 'moves masterfully in a precarious balance between kitsch and renunciation: the space that separates the two concepts is that of the desperate loneliness of the alienated object, of formal alienation, of the metropolitan disillusionment to which Loos refers'.²⁷ Joseph Rykwert has highlighted the symbolic value attached to the choice of column.²⁸ Renato de Fusco defines it as 'the most rigorous iconoclastic case',²⁹ attributing to its gesture, on the one hand, a Dadaist-Surrealist vein shared with other American architects, and, on the other, a postmodern ambivalence, since it represents an instance of eclectic inspiration filtered through ancient models and references. With reference to some writings by Franco Purini, Loos's column recalls the metamorphic value of architectural elements, their transformation as in a mysterious alchemy from one dimensional order to another.³⁰

Adolf Loos's project can be compared with the Desert de Retz project (1774-1784) by François Racine de Monville: the obvious formal analogy in plan and elevations (base and shaft), however, reveals a difference in the idea of the picturesque with an effect of incompleteness: in Monville's project, the idea of ruin in this case assumes a provocative and visionary evocative value, and is also part of the widespread practice in the neoclassical period of inserting fake ruins in the design of historical gardens between the 17th and 18th centuries (Figure 4).

26. B. Zevi. *Storia dell'architettura moderna*. (Torino: Einaudi, 1950) 91.

27. M. Tafuri, F. Dal Co. *Architettura contemporanea*. (Milano: Electa, 1976) 191.

28. J. Rykwert. *The Dancing column. On order in architecture*. (Cambridge: The MIT Press, 1996).

29. R. De Fusco. *Storia dell'architettura contemporanea*. (Roma-Bari: Laterza, 2007).

30. F. Purini. *Comporre l'architettura*. (Roma-Bari: Laterza, 2000).

Hadrian's Villa

The Emperor Hadrian, who was born in Rome in 76 AD and died in Baiae in 138 AD, was a man of many facets: cultured, passionate about the arts, a skilled military leader and perhaps even an architect. Hadrian's Villa, which he commissioned, reflects his complex personality and the experiences of his travels. As Marguerite Yourcenar wrote in her "Memoirs of Hadrian",³¹ the villa was an artistic refuge and a synthesis of his interests, with names such as Canopus and the Valley of Tempe evoking both a poetic atmosphere and an architectural narrative.

Hadrian's Villa is a unique architectural complex. It is more than just a villa: it is a miniature city that recalls the places the emperor loved and visited most during his lifetime. This monument of memory, as defined by Oswald Mathias Ungers³² (1979), is an open-air museum that combines elements of history, art and science. Situated in a vast area to the south-west of Tivoli, the villa has an unconventional urban layout, characterised by multiple polarities and units rather than a regular chessboard layout. The presence of a complex road system, both above and below ground, suggests a detailed and coherent planning.³³ However, the lack of a defined distributive organisational chart has led to debates about the nature of the project and its evolution over time.³⁴

The Hadrian's complex (figure 5) was built around the remains of an ancient Republican villa, restored and incorporated into the new layout by Emperor Hadrian. The Palace, one of the two imperial areas, stands out for its architectural complexity, use of precious materials and security measures. The Academy, the other imperial area, served as a separate residence for Empress Sabina. In addition to the imperial residences, there are buildings for the collective housing of different social classes, such as the *Hospitalia* for members of the court and the Hundred Chambers for the service staff. The differences in status are also reflected in the thermal baths, with the Small Baths for the court and the Large Baths for the staff.

31. M. Yourcenar. *Mémoires d'Hadrien*. (Paris: Édition Gallimard, 1974).

32. O. M. Ungers, *Architecture of the collective memory*. || *Lotus international* 24 (1979): 5-7.

33. E. Salsa Prina Ricotti. *Villa Adriana: il sogno di un imperatore*. (Roma: L'Erma di Bretschneider, 2001).

34. P. Caliarì. *Tractatus logico sintattico. La forma trasparente di Villa Adriana*. (Roma: Edizioni Quasar, 2012); P. Caliarì. *La composizione policentrica di Villa Adriana e il tecnigrafo post-alessandrino*. || *Ananke* 84. (2018): 67-69; P. Caliarì. *Nuovi contributi sulla composizione architettonica di Villa Adriana*. || Bruciati et al. *Le grandi ville romane del territorio tiburtino*, (Tivoli: Tipografia Palombi, 2021), A. Viscogliosi. *Adriano e la sua Villa*. In Bruciati et al. (ed): *Le grandi ville romane del territorio Tiburtino*. (2021): 163-170; A. Viscogliosi. *L'architettura Adrianea: di Adriano, per Adriano, sotto Adriano, dopo Adriano*, in *Hispania Antigua. Arqueologica* (2020):11; Bozzoni C. et al. *L'architettura del mondo antico*. (Roma-Bari: Laterza, 2006).

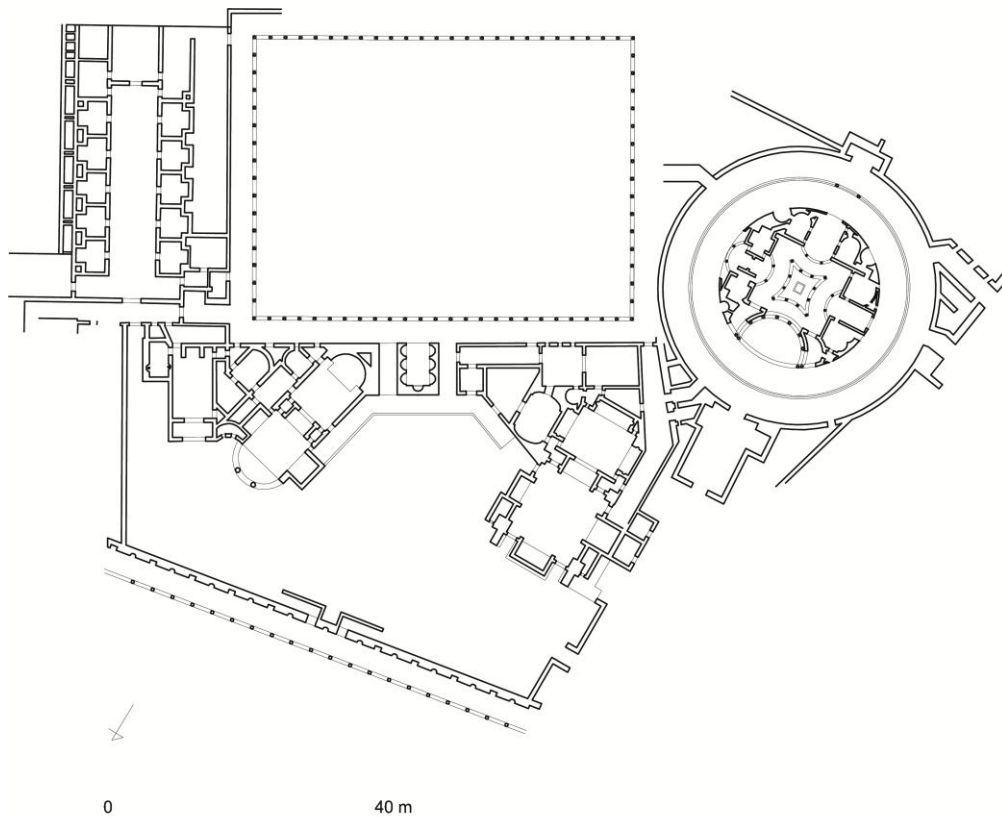


Figure 5. Part of the Ground Plan of Hadrian's Villa

Source: Froio 2013.

The architectural structure of Hadrian's Villa is organised around four main nuclei, each with specific characteristics. The first is the Imperial Palace, which includes the Throne Room, the Upper Gardens and other areas, as well as the Hospitalia. The second nucleus includes the Pecile and the Winter Palace, with the Nymphaeum Stadium and other elements. The third is centred around the Great Vestibule, with the Small and Great Baths and the Hundred Chambers. Finally, the fourth axis concerns the Academy and the Fortress of Bruna. This organisation reflects the different functions and spaces within the villa.³⁵

In Hadrian's Villa, each architectural element has an internal formal coherence, accentuated by the orthogonality of the walls. The compositional approach involves the juxtaposition of rotated and translated volumes, creating formal tension at the points of contact. The Maritime Theatre, a cylindrical volume, acts as a compositional node, linking and contrasting the different parts of the villa. This architectural element brings together the spaces of the Library Courtyard, the Hall of the Seven Philosophers and the Eliocaminus Baths. The eclectic architecture of the island shows the influence of Mediterranean residences and palatial derivations.

35. G. Froio. *La componente archeologica nel progetto moderno*. (Soveria Mannelli: Rubbettino, 2013) 177-183.

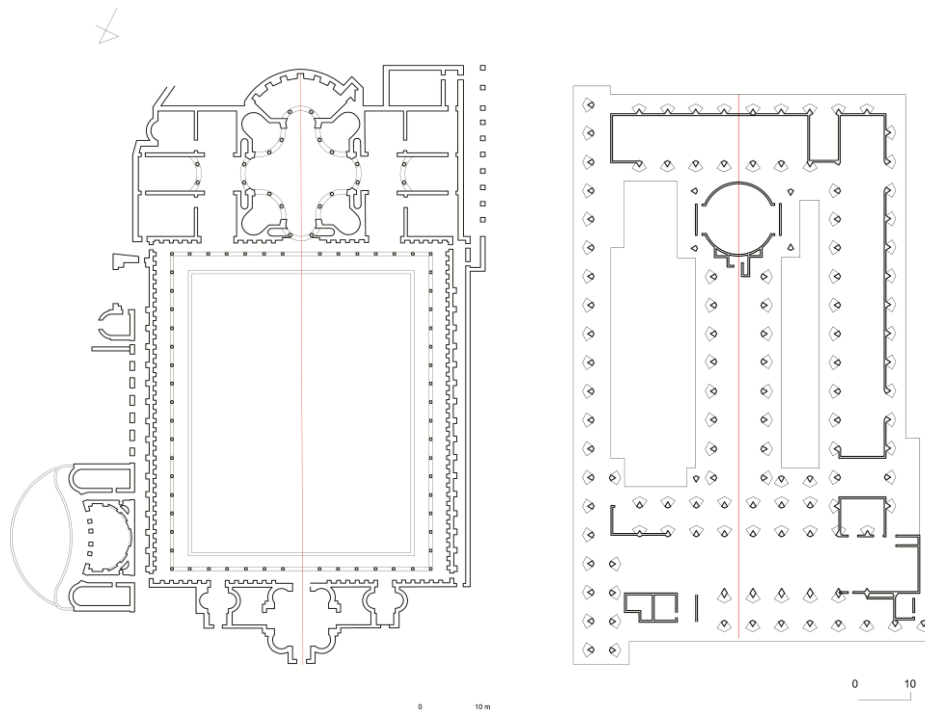


Figure 6. *The Golden Square of Hadrian's Villa (left) Compared with the Seminar Building of Florida Southern College (right)*

Source: Froio 2013.

Hadrian's idea was to create a miniature villa, a prototype of the entire complex, so that a number of different places could be visited and collected.³⁶

The distinctive quality lies in its complex planimetric composition, characterised by intricate vaulted spaces that translate into a series of interconnected forms. This arrangement presents a tight rhythm, with a concatenation of spaces that develop in a coherent yet seemingly disordered manner. Bruno Zevi emphasises that this villa is an extreme example of late imperial architecture, in which the spherical interior of the Pantheon is used for a narrative of disjointed spatial pieces, but orchestrated coherently within the landscape.

The peculiarity of Hadrian's Villa lies not only in the arrangement of its architectures or in their singularity, but rather in the ability to integrate different architectural episodes and to resolve the contrast between them into a coherent order of forms. This complex order manifests itself as a three-dimensional parataxis or as a theatrical narrative in which the buildings are placed in a scene reminiscent of a montage of characters. The architecture of the villa not only selects buildings, but also reveals a process of appropriation and juxtaposition of figures, transforming

36. Kahn draws inspiration from the complex form of Hadrian's Villa in the Salk Institute for Biological Studies by manipulating and reinterpreting historical elements to create a new aesthetic. The residences, arranged along a terraced path, evoke the image of a Mediterranean village. The complex is characterised by a search for order based on a rhythmic succession of solids and voids, integrating dissonant elements to create a sense of depth and complexity. See: V. Scully. *Louis I. Kahn*. (Milano: Il Saggiatore, 1963); M. Tafuri. *Storicità di Louis Kahn*. || *Comunità*, 17 (1964); W.L. MacDonald, J. A. Pinto. *Villa Adriana. La costruzione e il mito da Adriano a Louis Kahn*. (Milano: Electa, 2002).

their original meaning and finding its full meaning only in the overall narrative of the villa.

Hadrian's Villa is an example of late Roman architecture. It is a highly fertile compositional model that has inspired various modern and contemporary architectural projects. The pavilion system is one of the most convincing compositional interpretations. Emil Kaufmann gives a clear definition of it, referring to the forms of Baroque architecture and its progressive loss of centre: 'The living integration of the parts is over, the new complexes have the character of decentralisation. To remove a part from a Baroque complex would be to destroy the whole. (...) In the pavilion system, the hierarchical division into parts is essentially no longer recognised; it is nothing more than a collection of independent elements'.³⁷

The loss of unity in the case of Hadrian's Villa is expressed in the dissonant relationship between the different architectural bodies. The formal relationship between Villa Adriana and the Baroque landscape has been highlighted, especially in the gardens of Versailles.³⁸ In particular, the landscape dimension is what the Adriana complex shares with Frank Lloyd Wright's Florida Southern College³⁹ or the more recent Getty Center by Richard Meier.⁴⁰

37. E. Kauffmann, *Von Ledoux bis Le Corbusier. Ursprung und Entwicklung der Autonomen Architektur* (Wien: Verlag Dr. Rolf Passer Leipzig, 1933).

38. J. Jacobus, *Twentieth Century architecture. The middle years: 1940-1965* (London: Times and Hudson, 1966).

39. The Florida Southern College, designed by Frank Lloyd Wright between 1938 and 1957, is one of his lesser known but highly innovative works. Located in Lakeland, Florida, the campus blends harmoniously with its surroundings, with buildings nestled among citrus trees on a hillside overlooking Lake Hollingsworth. Wright designed the campus as a living organism, with architecture that blends into the landscape and fosters a subtle dialogue between buildings and nature. This approach eschews the solemnity and repetition of traditional university buildings and instead offers a dynamic identity open to future development. The layout of the campus has been compared to that of the Hadrian's Villa in Tivoli, suggesting an organisation reminiscent of the emperor's memories of his travel. See: V. Scully, *Frank Lloyd Wright*. (Milano: Il Saggiatore, 1960); L. Zevi, *Una miniatura della città-territorio wrightiana*. || *L'Architettura: cronache e storia*. (1991): XXXVII; M. Argenti, *Il Florida Southern College di Frank Lloyd Wright, progetto di un organismo aperto*. || *Palladio* (2020): 141-152.

40. The Getty Center, designed by Richard Meier and completed between 1984 and 1997, is a cultural and museum complex located on a hill north of Los Angeles. Described as a "city in miniature", the Getty Center houses a major museum with permanent collections of painting and sculpture, as well as the Center for Art History. The complex is characterised by cubic buildings and opaque volumes arranged around the converging edges of two ridges separated by a canyon. Access is via the Propylaea at the foot of the hill, from where visitors can ascend by funicular railway or a winding road to reach the 'Acropolis'. The surrounding landscape is an integral part of the design, with a central park linking architecture and nature. The buildings are organised according to two overlapping grids and include spaces for exhibitions, offices, libraries and public areas. The design reflects the concept of a museum villa, combining ancient traditions of rest and contemplation with a modern vision of architecture and culture. See: Costanzo M, et. al. *Richard Meier Frank Stella*. (Milano: Electa.1993); K. Frampton, *Richard Meier*. (Milano: Electa, 2003).

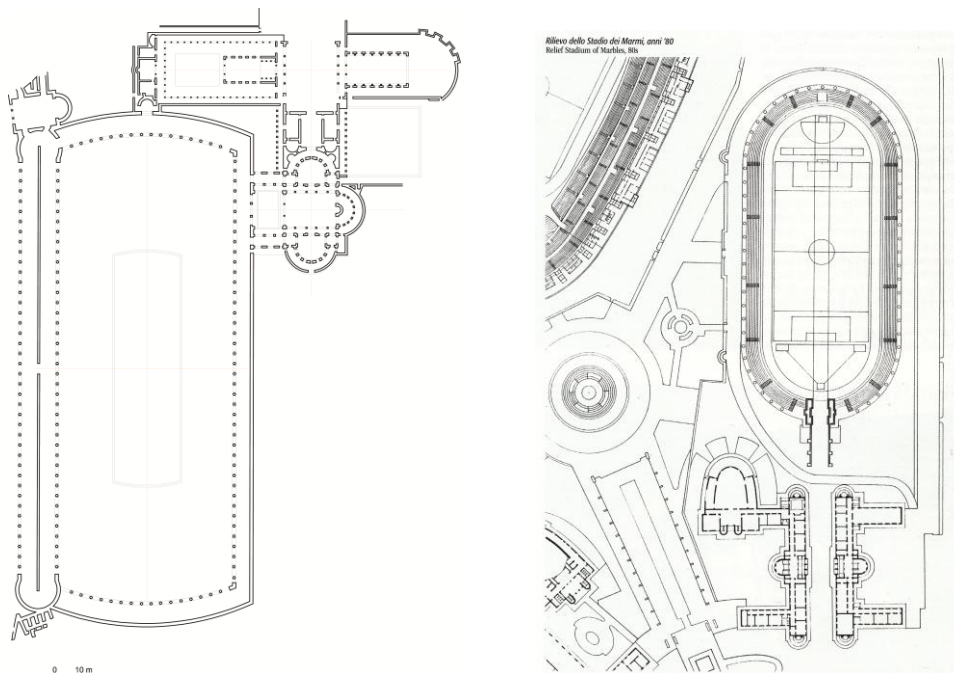


Figure 7. Part of the Ground Plan of Hadrian's Villa (left) compared with the Stadio dei Marmi at the Foro Italico (right)

Source: Froio 2013.

But the same relationship with the landscape can also be reinterpreted in one of the most famous complexes of Italian rationalism, in the architectures of the Foro Italico by Del Debbio and Luigi Moretti.⁴¹

The formal analogies of the layout of the Roman villa, when compared with these modern projects, show more specific similarities in detail. For example, if we analyse the layout of the "Piazza D'Oro" we can make a compositional comparison with the Industrial Art Building (1942) of Florida Southern College (Figure 6): in both cases there is a defined geometric axis that runs longitudinally through the two buildings. In Wright's building, the central axis traverses the refectory and, as a focal point, reaches the circular space of the small amphitheatre through the central series of columns of the pavilion. In the "Piazza D'Oro" the presence of an axis is in turn defined by the series of spaces that cross it: the vestibule, the double portico, the expanse of the Water Mirror, and finally the Imperial Triclinium with its bold structural forms that, together with the lateral triclinia, form a single complex vaulted building. The almost perfect symmetry of the Piazza d'Oro becomes an

41. The Foro Italico, also known as the Mussolini Forum, is a celebratory architectural complex of Fascist power in Rome, designed as the northern entrance to the city. Based on historical axes such as the Via Flaminia and the Via Cassia, the Foro Italico includes several buildings and sports facilities distributed along a main axis perpendicular to the Tiber River. The original project by Enrico Del Debbio in 1928 has undergone various modifications and additions over the years, including works such as the Stadio dei Marmi and the Casa delle Armi by Luigi Moretti. Despite the stylistic differences between the two architects, the overall design reflects the original intention to create a monumental and sports centre, incorporating elements of Italian rationalism and archaeological references. See: M.L. Neri, *Enrico Del Debbio Architetto*. (Roma: Idea Books, 2007).

asymmetrical sequence in Wright's building. In the Industrial Art Building, the two courtyards, parallel to the axis of the pavilion, are doubled in section. The more compressed courtyard is balanced by the presence of laboratories.

A second example is the comparison between the layout of the "Pecile" in Hadrian's Villa and the "Stadio dei Marmi" in the Foro Italico (Figure 7). The Pecile is defined by a longitudinal axis that culminates in the atrium of the cross-shaped Nymphaeum Stadium. This, in turn, is connected to the external longitudinal side of the Pecile with the addition of the Building with Three Exedras. In the case of the Foro Italico, the two end buildings designed by Del Debbio, although not perfectly symmetrical, form a kind of propylaea of the entire complex: they define an axial direction that channels and crosses the Stadio dei Marmi.

Conclusion

The themes discussed here - memory, the presence of the ancient as an unconscious entity in the modern, travel as memory, and the theme of the pavilion system in Hadrian's Villa - resonate in other examples, leaving this conclusion open-ended.

Memory is a particularly important theme in Italian architectural culture. For Aldo Rossi, for example, in the project of the Scientific Theatre, the concept of memory is intertwined with the idea of recollection, of analogical association, a form of involuntary memory that recalls other architectures: 'It was a box with a tympanum that reminded me, as I have written, of the theatre of Roussel, the theatres of the Po Valley, the white theatre of childhood. The beauty of the scientific theatre is its atmosphere, what I called the prestige of the theatre'.⁴² For Rossi, memory is the sentimental construction of a chain of images, architectures of memory, which in turn become other architectures.

On the theme of architecture as a collection of memories, the souvenir we discussed earlier, of which Hadrian's Villa remains the historical reference example, we can cite Philip Johnson's buildings in Connecticut, in New Canaan. In this example, the composition of buildings scattered in the landscape as a modern and deconstructed pavilion system is evident. In one of these buildings, the Pavilion, Hadrian's citation of the ancient returns in the form of a dimensional distortion defined as neo-mannerist. As Lina Malfona argues: 'The pavilion is a kind of small sculpture that you look at when you are inside the house (...). The small pavilion on the lake is a folly, a whim, a device that creates a surprise effect, but it is also a reflection on the dissolution of human measures and the uselessness of conventional canons'.⁴³

Finally, regarding the relationship between the past and the modern, or rather the presence of the ancient in the modern, other scholars have highlighted the key figure of Ludwig Mies van der Rohe. In particular, Antonio Monestiroli wrote: 'Mies is the architect who most refers to the principles of ancient architecture and who furthest departs from its forms. (...). Mies's form is never captivating, it never

42. A. Rossi. *A Scientific Autobiography*. (Cambridge: The MIT Press, 1981).

43. L. Malfona. *La condizione manierista*. (Siracusa: LetteraVentidue, 2021) 131-132.

stands out for its particularity, which is reminiscent of Albertian mediocrity. (...). Mies's forms are forgotten, they do not remain in memory, but reappear as necessary forms whenever one is confronted with them'⁴⁴. In Mies's architecture, the temple-like dimension that refers to the classical world is present, even if it is not explicit. Think, for example, of the Barcelona Pavilion and the way Mies constructs the proportions of the internal partitions with a refined and delayed use of the golden section. Finally, we think of the New National Gallery in Berlin (Figure 8) and the way in which Mies, for example, establishes a deferred comparison between the image of the Parthenon on the Acropolis in Athens and a perfect, building in steel and glass that is at the same time modern and ancient.



Figure 8. *The New National Gallery by Mies van der Rohe*

Source: Froio 2024.

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44. A. Monestiroli. *La metopa e il triglifo. Nove lezioni di architettura*. (Roma-Bari: Laterza) 62-63.

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Mapping the Invisible: Problems of Interpretation and Representation of Hormuz Island, Iran

*By Giuseppe Resta**

The article discusses methods of combining visual and literary sources to study heritage sites with rich narratives and scarce material traces. It also examines the use of GIS in historical research and the challenges of integrating historical sources with digital mapping technologies. Taking as a case study the European maps and description of Hormuz Island, Iran, and their impact on the perception of that emporium in a global trade network, the ideological agency of representations can be approached by studying the untold, the invisible. Two main spatial practices have been analysed: the organisation of the built environment due to the lack of fresh water on the island and the disappearance of its main architectural landmark, a monumental minaret represented in many travellers' accounts. The research problem is approached in a three-stage methodology: comparative analysis of historical maps and descriptions dating from the sixteenth to the nineteenth century; visual material analysis by redrawing architectural features; GIS-based spatial analysis. Overall, the article emphasises the importance of critically examining historical maps, integrating various sources of information, and employing multidisciplinary approaches to gain a deeper understanding of the historical urban pattern and cultural significance of heritage sites. This perspective provides scientific knowledge but also leaves space for imagination, hinging on the state of latency historical artifacts provide.

Introduction

Cartographic representation visually reflects the ways of thinking or interpreting our existence in the world; however, like other forms of expression, it is a non-integral reproduction of reality, with gaps that expose deliberate biases and limitations. Several cartographers addressed the bias of the mapmaker, challenging how Modernist cartography professed to have reached the stage of a neutral science. Selectivity, as put in the seminal work of Denis Wood¹ on the power of maps, is how social constructs act on the representation. What is left out, the blanks, lack a legitimation that postmodern thinkers connected with the very condition of existence. In this vein, Geoff King clearly translates Jean Baudrillard's formula that the map precedes a territory into the unfoldings cartography has in its practice.² Mapmakers are important members of the community because they affirm the existence of this or that entity; what is not on the map has no voice and is often forgotten. Beyond King's deconstructionist

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1. D. Wood, *The power of maps* (New York, 1992); D. Wood, *Rethinking the power of maps* (New York, 2010).

2. G. King, *Mapping reality. An exploration of cultural cartographies* (New York, 1996).

thesis, it is now hard to deny that maps retain a discursive agency. John Brian Harley, the curator of the *History of Cartography* project together with David Woodward, which will be referenced later in the text regarding Portuguese cartography, developed the idea that cartography not only represents places, but creates them.

In this frame, this essay intends to explore the gaps, the lack of information in historical maps of Hormuz Island, Iran, as potentially active agencies, thereby contributing to a more balanced and nuanced understanding of its cultural heritage. The combination of early-modern representations with accounts written by travellers and merchants could widen the interpretational perspectives through which the Portuguese presence in Hormuz is usually addressed in the field of architectural history, hinging on viewpoints intrinsic to European expansionist politics. Namely, the fact that Portuguese buildings or settlements are usually seen as isolated facts from the less detailed hinterland that surrounds them. This approach sees heritage entangled with the narrative space in line with what Ali Reza Shahbazi argues in his article in *Athens Journal of Architecture*: place is not simply the outcome of material transformations, but rather a space that co-emerges with narratives. Through narrative, a place becomes meaningful and is imbued with a sense of identity and history. Naming a landscape or associating it with an origin story, for example, can contribute to the creation of a meaningful place.³ From this perspective, I will take the story of Hormuz as a case study to explore the visibility of travel narratives and obtain a fresh spatial understanding of the ruined city.

Some authors have suggested the curation of digital assets for GIS-based research as a gap-finder strategy in contexts such as urban planning⁴ or mobility studies.⁵ In this essay, I point towards a qualitative, critical use of GIS for studies with a historical perspective. But on the downside of the widespread use of GIS, Harley foresaw a possible return to scientific positivism while cartographers started to embrace the use of Geographical Information Systems.⁶ In the 1980s, normativity and standardisations threatened once again the impervious path towards a new epistemology, grounded in social theories that were being developed by historians of cartography. And critiques of employing GIS, even more trenchant than Harley's, came from many scholars encompassing a wide range of motives.⁷ For what concerns our aim, I tend to agree with those positions that see Historical GIS (HGIS) as a common ground for interdisciplinary studies

3. A. R. Shahbazi, "Placed Appearances: Narrative, the Space of Appearance, Place," *Athens Journal of Architecture*, 7, 3 (2021), 403-14.

4. C. Hein and Y. van Mil, "Mapping as Gap-Finder: Geddes, Tyrwhitt, and the Comparative Spatial Analysis of Port City Regions," 2020, 5, 2 (2020), 152-66.

5. R. D. Wikström, "The potential of combining qualitative GIS and map elicitation in daily mobility studies," *Journal of Transport Geography*, 108, (2023), 103573.

6. J. B. Harley, "Deconstructing the Map," *Cartographica: The International Journal for Geographic Information and Geovisualization*, 26, 2 (1989), 1-20.

7. J. W. Crampton and J. Krygier, "An Introduction to Critical Cartography," *ACME: An International Journal for Critical Geographies*, 4, 1 (2015), 11-33.

across history, architecture, geography, and archaeology, rather than a standalone evolution of digital humanities.⁸

This quest for a qualitative approach is immersed in the climate of the seventeenth century, when maps became truly available to many people, but before their normativisation through scientific models. Early modern period travellers relied on advanced devices to navigate various territories. They combined visual elements and text, using itineraries, bird's-eye views, and symbolic systems to provide qualitative information. Where cartography and literature overlap, the results "mix observation and fantasy, elements vital to poetry and fiction and to representation in general."⁹ Indeed, the fact that we started to call complex graphic notation systems "maps" is an oversimplification of older artefacts that probably were not distinguished from other outputs mixing text and images.¹⁰ A pre-modern map and a modern one are ontologically different. The hybrid nature¹¹ of the former calls for studies that analyse the artefact as a rhetorical device, something that resembles a cultural text open to interpretations and re-elaborations, including myths or invented facts.¹² Whether such creative, artistic components are compatible with GIS is a matter of experimentation.

Understanding Hormuz by what is missing in early-modern representations is a slippery task. The reasons for something to be invisible are manifold: technological limitations, ideological postures, thematic focus, lack of knowledge, and secrecy, among others. However, methods have been developed to interpret latent contents. One way to examine the margins of a map is by analysing the cartouche, including its decorations, emblems, and the text that accompanies the main image. Clarke interprets eighteenth-century colonial maps by reconstructing the claims made within them, treating the decorative elements as a cultural text.¹³ The discourse on invisibility for archaeological research has been debated in the pages of *Athens Journal of Architecture* with a special reference to interdisciplinary approaches to reveal the potential of hidden sites as ongoing "building sites of knowledge."¹⁴ In addition to material traces, which are scarce in some cases as Hormuz's, it is crucial to resort to memories, imagery, and imagination. A combination of visual materials analysis, literature review, and

8. V. Maluly, T. Gil and M. Grava, "Do Historical GIS and Digital Humanities Walk Hand in Hand?," *Cartographica: The International Journal for Geographic Information and Geovisualization*, 58, 2 (2023), 59-63.

9. T. Conley, "Early Modern Literature and Cartography: An Overview" (2007), in *The History of Cartography. Cartography in the European Renaissance*, Woodward (ed.) (Chicago, 2007), 401-11, 401.

10. Wood, *Rethinking the power of maps*.

11. The word hybrid is used to underline that pre-modern maps are not bound to the geometrical representation of the world, but combine artistic qualities and narrative aims. See the cited volume 3 of *History of Cartography* for a complete overview.

12. Harley, "Deconstructing the Map," 1-20.

13. G. N. G. Clarke, "Taking possession: the cartouche as cultural text in eighteenth-century American maps," *Word & Image*, 4, 2 (1988), 455-74.

14. P. Miano and F. Coppolino, "Architecture as Infrastructure for Archaeology: A Design Strategy for Crapolla's Abbey in the Sorrento Peninsula Landscape," *Athens Journal of Architecture*, 10, 1 (2024), 35-54.

observation aids the analysis of relationships and contradictions between the historical urban pattern and the current image of the city.¹⁵

This encourages us to look at the evolution of spatialised behaviours in terms of cultural interactions between people and their resources, beyond what is visible. Human geography demonstrated, on one hand, the importance of social practices in the production of places, on the other hand, that maps are embedded in a network of relations between people that should be studied together with the artefact. With a more localised approach, one can cross-reference sources of different domains, and look at conflicts between societal actors, to capture such social topography composed of human and non-human actors immersed in their diachronic existence. It is now clear that micro histories in overseas territories¹⁶ like Hormuz's are so complex that the essay will try to focus only on two invisibilities of a different nature. One is related to the lack of fresh water on the island, and the other to the disappearance of its main architectural landmark. The spatialisation of these phenomena, among others, will be tackled in a second stage of the research in which the tension between visible and non-visible aspects of the Portuguese expansionist agenda will be formulated in original outputs with the help of HGIS. This contribution stems from the PORTofCALL research project¹⁷ that examines the impact of African-Asian-European encounters during the Early Modern period on the cultural heritage of the Indian Ocean's port settlements with Portuguese influence. The project focuses on how cultural encounters and negotiation impacted and shaped the built environments and the landscape of the *Estado da Índia*'s network of port settlements, and their respective hinterlands. Looking at aspects such as indigenous agency, settlement patterns, building technologies, spatial traditions, arts, and agrarian customs, PORTofCALL proposes new readings for cultural heritage via digital and hard-copy maps of five representative case studies. Hormuz is one of the port cities and was selected for this essay because it resonates with methodologies and places previously addressed in the *Athens Journal of Architecture*. Additionally, port cities like Hormuz facilitated the connection between local networks of settlements and global routes such as Portugal's *carreira da Índia*, highlighting the often conflicted nature of cultural encounters across different scales.

As mentioned above, I will focus on travellers and their writings. The development of a travel account is driven by the desire to discover diversity in all forms.¹⁸ The social construct of a city is shaped by the memories of those who live in or visit it. This has led to the development of various interpretative models of

15. T. Sari, "Changing Urban Pattern of Eminönü: Reproduction of Urban Space via Current Images and Function," *ibid.*, 4, (2018), 115-32.

16. It refers to the territories beyond Europe affected by European colonial expansion.

17. PORTofCALL: African-Asian-European Encounters (<https://doi.org/10.54499/PTDC/ART-DAQ/4357/2021>), is funded by the Portuguese Science and Technology Foundation through 2022-2024, and is based in the Faculty of Architecture of University of Porto, with the Centre for Social Studies of the University of Coimbra as its main partner institution. The project mainly focuses on Sofala, Hormuz, Chaul, Jaffna, and Mylapore/São Tomé during the early modern period.

18. M. Gharipour and N. Ozlu (ed.), *The City in the Muslim World. Depictions by Western Travel Writers* (London - New York, 2015); G. Resta and B. Göl, "The City and the Myth: Narrating Heritage through a Travelogue," *The Plan Journal*, 9, 1 (2024), 271-93..

Middle Eastern cities since the early-modern explorations. Accounts on Hormuz are inevitably partisan, drafted from the “superior” perspective of the European visitor, but are produced by multiple authors in different circumstances, which still give a multifarious image of the island. At the end of the fifteenth century, southern Iran was an unstable, depopulating territory, in which the bureaucratic elite had little time to spare for chronicles. Regarding the life in Hormuz, if not for the Portuguese records, on the Muslim side, “we have neither family journals nor merchant archives, whether Arab or Persian.”¹⁹

Hormuz island has another peculiarity: the city started to be populated at the beginning of the fourteenth century when people fled from a location on the mainland known today as Minab.²⁰ However, following an Anglo-Persian campaign that captured the island in 1622, the settlement reverted back to a small village.²¹ Flourishing and decay were closely linked to its positional value across trading routes, so the life of the settlement was dependent on the success of the emporium linking the Persian Gulf to South Asia. Pietro Della Valle, as we will see later, visited the city in December 1622 and saw only ruined houses right after the siege. Together with the collapse of its buildings, economic and religious activities decayed as well. The disappearance of Hormuz has two main points open for discussion: one concerns whether the decay started after the Portuguese departure, or way before, as Steensgaard suggests;²² the other is a redistribution of the merits between the British and the Safavids forces in the successful siege, considering that sources like Jean Baptiste Tavernier’s travelogue and Persian poems tend to reinforce the Safavid’s effort.²³ Today, Hormuz is a crucial choke point for worldwide traffic of oil tankers departing from ports on the Persian Gulf. The island has a population of 6000 and is being re-discovered as a tourist destination due to its geological formations, despite controversies on new developments for hospitality.²⁴

Having set the general framework, I will now focus on two local facts that happened during the Portuguese presence on the island, following the assumption that collective actions shape the landscape and leave traces. The reconstruction of the historical dimension that formed Hormuz’s landscape will be later essential to

19. J. Aubin, "Merchants in the Red Sea and the Persian Gulf at the Turn of the Fifteenth and Sixteenth Centuries" (2000), in *Asian Merchants and Businessmen in the Indian Ocean and the China Sea*, Lombard and Aubin (ed.) (Oxford, 2000), 79-86, 84.

20. A.T. Wilson, *The Persian Gulf; an historical sketch from the earliest times to the beginning of the twentieth century* (Oxford, 1928).

21. Jan Aubin introduces his study on Hormuz stressing this transitory nature, “a city without precedents, of circumscribed duration, belonging to a single age of urban evolution; a frontier city, at the meeting point of the Iranian world, the Arab world and the Indian world” J. Aubin, "Le royaume d’Ormuz au début du XVI^e siècle," *Mare Luso-Indicum*, 2, (1973), 77-179, 79.. The demotion of Hormuz corresponded to the rise of the port of Bandar Abbas.

22. N. Steensgaard, *The Asian trade revolution of the seventeenth century: the East India companies and the decline of the caravan trade* (Chicago, 1974).

23. H. Asadpour, A. Kajbaf and H. Eskandari, "Rereading the narrative of liberating Hormuz based on historical texts in Persian language," *Journal of Historical Researches*, 15, 1 (2023), 1-16.

24. S. Hosseini, A. Siyamiyan Gorji, T. Vo-Thanh and M. Zaman, "Behind the hashtags: exploring tourists’ motivations in a social media-centred boycott campaign," *Tourism Recreation Research*, (2023), 1-13.

chart how spatial practices are reflected in the territory. The methodology of an archaeology of invisibility has been explored in multidisciplinary studies across archaeology, architectural design, and landscape. Caravaggi and Morelli²⁵ offer a concrete demonstration of how the reconstruction of historical territories through documentation can be part of a valorisation project for sites that cannot be excavated, or not yet excavated. This approach favours multiple immaterial assets of information in addition to studies on physical evidence. Along the same lines, Miano and Coppolino²⁶ explore this angle in a site, Massa Lubrense, Italy, where the natural and the human-made are blended. Their strategy based on the collection of local memories enhances a dialogue between the stakeholders of an archaeological site. Similarly, Hormuz has the potential to unearth many layers from the past, allowing an increased awareness of the richness the island can offer as a heritage site.

The following paragraph reviews the trans-scalar dimension of Hormuz as a space of exchange across global networks and local actors, looking at the most relevant works produced on the topic. The text will highlight the organisational aspects that have an impact on the built environment to introduce the two sections dedicated to invisibility. First is the lack of fresh water and how this affects the domestic life, architectural features, and perception of the city from the sea; second is a disappeared minaret, the landmark that once emerged from the city profile, studied through views and literary sources. Finally, I will attempt a conclusion on possible methodologies to integrate historical sources with GIS, exemplified via elaborations realised in the frame of the PORTofCALL project.

Spaces of Conquest: The Global and the Local

The Portuguese enterprise overseas is widely studied. A recent comprehensive historiographic work has been published in the three-volume *Heritage of Portuguese Origin in the World*, a project coordinated by José Mattoso between 2007 and 2012 for the Calouste Gulbenkian Foundation. The encyclopaedic nature of the work provides systematised case studies organised geographically. A broader history of Portuguese expansion, from the conquest of Ceuta (1415) to the twentieth century, is surveyed in the five volumes of *História da Expansão Portuguesa* (1998) edited by Francisco Bethencourt and Kirti Chaudhuri. Analyses of maritime regional networks of the Indian Ocean region include Sanjay Subrahmanyam's *The Portuguese Empire in Asia, 1500-1700* (1993) on the economic and political trajectory of the Portuguese in Asia reviewing the role of the fall of Hormuz and the importance of local powers; the articles published by Luís Filipe Thomaz collected in *De Ceuta a Timor* (1994), together with the latest *L'expansion portugaise dans le monde* (2017), on the entanglements between

25. L. Caravaggi and C. Morelli, *Paesaggi dell'archeologia invisibile: il caso del distretto Portuense* (Macerata, 2014).

26. P. Miano and F. Coppolino, "Coastal Landscapes and Invisible Archaeology. The Case of Crapolla Abbey in Massa Lubrense," *JOELHO - Journal of Architectural Culture*, 11-12 (2021), 203-22.

proselytism and mercantilism; and the landmark exhibition *Encounters: The Meeting of Asia and Europe 1500 – 1800* (2004) at the Victoria and Albert Museum, London. The aspect of cultural encounters and violence is more emphasised in the seminal *The Portuguese Seaborne Empire, 1415-1825* (1969) by Charles Boxer and later in Michael Pearson's *The Portuguese in India* (1987). Starting in the 1980s, a growing sensibility towards intangible heritage posed new challenges to studies on the history of the living environment. This includes the planning principles employed for Indo-Portuguese cities,²⁷ strategies of fortification of strongpoints,²⁸ cultural encounters studied according to their representations²⁹ and hybridisation of language,³⁰ law making and normativities applied to rural areas,³¹ and the Christianisation of villages.³²

In the sphere of Portuguese presence in Iran, it should be mentioned the work of Jean Aubin, whose first publication was dedicated to the Hormuzian kingdom before the Portuguese interference (*Les princes d'Ormuz du XIII^e au XV^e siècle*, 1953). His analytical attention to the local scale focuses on personal relations in the cities and the counties, grasping fragments of complex histories. His interest in the island was key in expanding his studies from the medieval Iranian-Turkish society to Portugal's *Descobrimentos*, because Hormuz was geographically modest in scale, but the echo of regional facts led to global concerns. Aubin published various works in *Arquivos do Centro Cultural Português*, *Studia*, and especially *Mare Luso-Indicum* with the classic article *Le royaume d'Ormuz au début du XVI^e siècle* in 1973. Most of the authors that have worked on Hormuz since Aubin are present in the volume *Revisiting Hormuz* (2008), Edited by Dejanirah Couto and Rui Manuel Loureiro; the Iranian scholar Mohammad Bagher Vosoughi has also dedicated consistent attention to the matter. A wider perspective on the interaction between Safavid Persia and the Portuguese in the Persian Gulf is provided in *Portugal, the Persian Gulf and the Safavid Persia* (2011) edited by Jorge Flores and Rudi Matthee. The latter addresses the incredible difficulty in delineating such encounters due to nationalist historiographies that polarised Portuguese and Iranian scholars. Lastly, the edited book *The Persian Gulf in History* (2009) reviews the terraqueous space of the Gulf as an agency that produced its own history.

Hormuz is currently a 42-square-kilometre island located in the Persian Gulf. Historically, however, the name "Hormuz" referred to a larger kingdom that

27. W. Rossa, *Cidades Indo-Portuguesas: contribuição para o estudo do urbanismo português no Hindustão Ocidental / Indo-Portuguese Cities: a contribution to the study of Portuguese urbanism in the Western Hindustan* (Lisboa, 1997).

28. S. D. L. Mendiratta, "Dispositivos do sistema defensivo da Província do Norte do Estado da Índia, 1521-1739," Universidade de Coimbra, PhD, 2012.

29. J. P. O. e. Costa (ed.), *The Codex Casanatense 1889: open questions and new perspectives* (Lisboa, 2012).

30. J. Clancy Clements, "Portuguese Settlement of the Chaul/Korlai area and the Formation of Korlai Creole Portuguese," *Journal of Language Contact*, 8, 1 (2015), 13-35.

31. M. Bastias Saavedra (ed.), *Norms beyond Empire: Law-Making and Local Normativities in Iberian Asia, 1500-1800* (Leiden, 2021).

32. A. Barreto Xavier, *Religion and Empire in Portuguese India* (Albany, NY, 2022).

extended to the mainland,³³ formed in the late eleventh century under Muhammad Diramku from Oman.³⁴ The island occupies a strategic position along the Strait of Hormuz, which shares the same name. Portugal's second governor of India Afonso de Albuquerque implemented a plan to conquer strategic emporia in Asia, and, among these, Hormuz Island, with its port city, played a crucial role in the king's seafaring strategy. Indeed, commentators agree that the Portuguese presence in the area developed into a thalassocracy, with only episodic militarisation of coastal hotspots, as it was mainly focused on commercial trading rather than expansionist claims in its first phase.³⁵ The island was controlled for one century, conventionally in the period 1515–1622, and the construction of the fort of Nossa Senhora da Conceição de Ormuz became its most imposing physical manifestation. From that moment, the building positioned on the northern tip of the Island, closest to the Persian coast, was portrayed in most of the maps and views elaborated by travellers and cartographers. Hormuz combines most of the recurring features of *Estado's* port cities: scarce territory, identification of the urban settlement with its port (not as a specialised area), the presence of a multiethnic and multilingual society, and a layout of houses with walled gardens that could facilitate defensive needs. In an era of commerce influenced mainly by the spice trade, there were ports connecting well-known global routes with smaller local networks. The island was instrumental to such transshipment activities as it established a trading link with overland routes to the Middle East and the Mediterranean, from ships to caravans, requiring many pilgrims and merchants to maintain this business. As per the local network, inter-Asian commerce is demonstrated by the amount of customs duties collected at the beginning of the sixteenth century, paradoxically concentrated on imports because "the bulk of Hurmuz's trade was a re-export trade."³⁶ In fact, Albuquerque sought to strengthen the connections between the Gulf and Goa. This effort was evident in the flourishing horse trade that flowed from the Gulf regions to the rulers of Vijayanagar and Bijapur in southern India, facilitated by Hormuz.

33. The city of Hormuz, at the beginning of the fourteenth century, was being transferred from the mainland, close to a location that today is called Minab (Wilson, 1928), to its current position on the northern tip of the island, previously called Ġarūn. Aubin J. Aubin, "Les Princes d'Ormuz du XIII^e au XV^e siècle," *Journal Asiatique*, 241 (1953), 129–37. and Vosoughi M.B. Vosoughi, "The Kings of Hormuz: From the Beginning until the Arrival of the Portuguese" (2009), in *The Persian Gulf in History*, Potter (ed.) (New York, 2009), 89–104. traced the succession of kings until the Portuguese arrival. Despite their transfer to the island, the city's administrative system included Bandar Abbas on the mainland, and the two islands of Qeshm and Larak. Hence, the notion of the hinterland is not limited to the part of the island outside the urban centre, but comprised of a network of outposts that would allow Hormuz to oversee the maritime traffic.

34. Vosoughi, "The Kings of Hormuz: From the Beginning until the Arrival of the Portuguese" (2009).

35. J. Teles e Cunha, "The Portuguese Presence in the Persian Gulf" *ibid.*, 207–34; A. Martínez d'Alòs-Moner, "Conquistadores, Mercenaries, and Missionaries: The Failed Portuguese Dominion of the Red Sea," *Northeast African Studies*, 12, 1 (2012), 1–28; G. Tazmini, "The Persian–Portuguese Encounter in Hormuz: Orientalism Reconsidered," *Iranian Studies*, 50, 2 (2017), 271–92; S. Subrahmanyam and L.F. Thomaz, "Evolution of Empire: The Portuguese in the Indian Ocean During the Sixteenth Century" (1991), in *The Political Economy of Merchant Empire*, Tracy (ed.) (Cambridge, 1991), 298–332.

36. S. Subrahmanyam, *The Portuguese empire in Asia, 1500–1700: a political and economic history* (Chichester, 2012), 18.

Horses were essential for successful military operations, making this trade particularly significant.³⁷ Hence, Hormuz intertwined the *Carreira's* long-distance spice trades with complementary country-to-country shipments of local interest, up to quests of a personal nature in acquiring luxury commodities with cultural or symbolic value. One example is the body of Persian literature and illuminated manuscripts collected by Governor João de Castro in the 1540s thanks to the captain on the island.³⁸ In contrast, the Indo-Muslim merchant class in the Gulf was traditionalist, often having received religious education, and heavily dependent on the authority of the sovereign.³⁹ These players composed a loose network of people that operated between monopolies and grants over certain concession routes. However, another unofficial network was equally active at the local level, based on private interests. For Hormuz, one case is that of the illicit trade that the island captain maintained with the Ottoman-captured Basra in the 1540s-50s, bypassing any warning from the viceroy in Goa to impede such activities, and establishing a parallel diplomatic channel with the Ottoman rulers.⁴⁰

Therefore, the balance between the local and the global highlights the role of the non-Portuguese actors in the functioning of the *Estado*, the dependence the daily administration had on local relations and collaborations, and the circumstances in which the travellers recorded their visits moving across political sides.⁴¹ Being a trading outpost, the local governance of the island held a relatively independent status, also demonstrated by religious tolerance (i.e., the coexistence of religious buildings and communities). In the history of the European commercial capitalism at sea, the Portuguese modes of wealth extraction can be seen as a transition from the Italian medieval associations, based on *commendas*,⁴² to English and Dutch chartered trading companies.⁴³ Thomaz⁴⁴ problematises this transition by looking at the Portuguese empire in Asia as a maritime network, rather than a continuous structure, in which fragmented entities communicating

37. Aubin, "Le royaume d'Ormuz au début du XVI^e siècle," 77-179; S. Subrahmanyam, *The political economy of commerce: Southern India, 1500-1650* (Cambridge, 1990).

38. J. Teles e Cunha, "The eye of the Beholder: The Creation of a Portuguese Discourse on Safavid Iran" (2011), in *Portugal, The Persian Gulf and Safavid Persia*, Matthee and Flores (ed.) (Leuven, 2011), 11-50.

39. Aubin, "Merchants in the Red Sea and the Persian Gulf at the Turn of the Fifteenth and Sixteenth Centuries" (2000).

40. G. Casale, *The Ottoman age of exploration* (Oxford, 2010).

41. Tazmini, "The Persian-Portuguese Encounter in Hormuz: Orientalism Reconsidered," 271-92, 288.

42. *Commenda* is a form of agreement, that emerged already during the Roman Republic, in which one person entrusts someone else with a capital or position. Used in medieval maritime trading, one investing party on the land entrusts the sailing party to deliver goods and return with some form of profit. In essence, it was a financial investment. In the case of the Portuguese crown, in the sixteenth century, individuals were granted concessions, *viagens dos lugares*, over specific routes, hence separating sovereignty from part of the trading activities in southeast Asia; see *Aspects of Portuguese Rule in the Arabian Gulf, 1521-1622* M. Hameed Salman, "Aspects of Portuguese Rule in the Arabian Gulf, 1521-1622," The University of Hull, PhD, 2004.

43. L. Campling and A. Colás, *Capitalism and the sea: the maritime factor in the making of the modern world* (London-New York, 2021).

44. L. F. Thomaz, "Estrutura Política e Administrativa do Estado da Índia no Século XVI" (1994), in *De Ceuta a Timor* (Lisbon, 1994), 207-43.

from a distance acquired non-standardised statuses of governance. A network of dispersed possessions required custom devices to support sovereignty claims over open seas: on the ground, the establishment of fortified trading posts (*feitorias*); in the political and legal sphere, the employment of the *cartaz* system introduced in 1502, granting safe conduct to ships in exchange for a fee. Beyond their immediate advantage of funnelling customs duties, *cartazes* and the threat of naval blockades became a diplomatic leverage for negotiations with local rulers. This also happened on routes to Hormuz when the Bijapur sultanate obtained a pass to send ships to the island in 1613.⁴⁵ The anonymous author of the *Livro das cidades, e fortalezas* (1582), compiled for the new king Philip II, underlines the trading success of the emporium and, as a consequence, the strategic importance of holding that fortress.⁴⁶

Restricting the analysis to our subject of interest, that of the spatialisation of knowledge deriving from distant territories, mapmaking in early modern Europe was closely linked to the process of formation of new nation-states. In the sixteenth century and later on, this new cartographic consciousness led monarchs to appreciate the importance of maps for the administration of their territories and for the planning of overseas exploration and expansion.⁴⁷ The ideological agency of representations can be approached by studying the untold, the invisible, what has been kept out of the frame. Part of it is due to the technological limitations of early modern maps, and their need to set a degree of selection and definition, which is a problem that is ideally non-existent in the infinite digital space of contemporary tools of representation (i.e., GIS, Autocad). But another aspect affects the interpretative position of the mapmaker, what Brian Harley calls cartographic silence.⁴⁸ Drawing from Foucauldian positions on the connection between power and knowledge, Harley investigates absences and their possible causes. The range goes from state-solicited secrecy and censorship to unintentional biases and cultural backgrounds. Blank spaces are seen as a positive affirmation, not a technical circumstance. Also, Portugal was careful in concealing information on overseas territories because it provided a competitive advantage over commercial routes.⁴⁹ For the study of Portuguese encounters in Africa and Asia, this position may lead to a better understanding of how travellers perceived the pre-existing communities, their ways of life, and their built environment. In this stance, I will be analysing recurrences and

45. Steensgaard, *The Asian trade revolution of the seventeenth century: the East India companies and the decline of the caravan trade*.

46. Anonymous, *Livro das cidades, e fortalezas, que a Coroa de Portugal tem nas partes da Índia*, in *Livro das cidades, e fortalezas*, Luz (ed.) (Lisboa, 1582). According to the accounted expenses and revenues of Estado da Índia compiled by António Abreu Mergulhão in 1571, Hormuz totalled a positive income of 35.748.373 reis, the highest among all possessions. Biblioteca de Ajuda (Lisboa), "Orçamento do que rende o Estado da Índia [...]" ref. BA, 51-VII-32, fls.2 v - 40v.

47. D. Buisseret, *Monarchs, ministers, and maps: the emergence of cartography as a tool of government in early modern Europe* (Chicago, 1992).

48. J. B. Harley, "Silences and Secrecy: The Hidden Agenda of Cartography in Early Modern Europe," *Imago Mundi*, 40, (1988), 57-76.

49. D. V. Alves, "Reconsiderações Historiográficas sobre a Teoria do Sigilo de Jaime Cortesão," *Expedições: Teoria da História e da Historiografia*, 9, 3 (2018), 36-57. The degree of control on the secrecy of Portuguese cartography is disputed. Alves presents a review of the *teoria do sigilo* developed by Jaime Zuzarte Cortesão.

patterns in representations of Hormuz Island, looking at how they overlap with literary descriptions of that period, and finally laying out provisional considerations on ways to prepare new maps of the island.

Mapping the Invisible: Fresh Water and Unbearable Heat

Together with the concealment of the visible, for the reasons outlined above, a complementary problem of mapmaking is the representation of the invisible: relations, movements, customs, or even settlements that are not built to last for centuries. The mapmaker in the well-known paradox formulated by Jorge Luis Borges on the exactitude of science attains perfection when they can show as many details as possible, producing a map of the empire with the same scale as the empire itself, a full-size representation. However, that map becomes impractical, as it is as large as the object that represents, and therefore superfluous.⁵⁰ Nonetheless, the suffocating horizon of a geographical twin is still not enough to show the immaterialities of an environment. Informative representations are also narrative devices, embedding stories and histories. Historical cartography may not be accurate enough to help navigate ships, but still has great relevance for scientific reasoning. Luciano Lago⁵¹ highlights the importance of using historical cartography in the study and preservation of heritage sites. One example is Maurizio Michelucci's archival research on representations and descriptions of Caletta, an Etruscan settlement in the Albegna Valley, Italy, whose exact location led to relevant archaeological findings.⁵²

Several scholars have researched ways to represent the ephemeral, especially after wide-ranging quantitative datasets became available. The field of ephemerality extends from olfactory charts⁵³ to statistical urban data.⁵⁴ However, the phenomena to be addressed for Hormuz need to be investigated using historical research tools as well.

One of the main factors that influenced the island's built environment is the arid climate and the lack of fresh water. In an anonymous Portuguese codex of the sixteenth century, later labelled *Codice Casanatense*,⁵⁵ the illustrations show various moments in which the Portuguese encountered African and Asian cultures. The watercolour painting nr. 29 depicts an interesting scene with Portuguese men and

50. J. L. Borges, *Historia universal de la infamia* (Buenos Aires, 1954).

51. L. Lago, "Il contributo della cartografia storica" (2004), in *Italia. Atlante dei tipi geografici*, Istituto Geografico Militare (ed.) (Firenze, 2004), 21-27.

52. M. Michelucci, "Caletta, Καλουσιον, Heba. Indagini sugli insediamenti etruschi nella bassa valle dell'Albegna" (1984), in *Studi di antichità in onore di G. Maetzke*, Marzi Costagli and Tamagno Perna (ed.) (Roma, 1984), 377-92.

53. K. McLean, "Mapping the invisible and the ephemeral" (2017), in *The Routledge Handbook of Mapping and Cartography*, Kent and Vujakovic (ed.) (London, 2017), 500-15.

54. N. Amoroso, *The exposed city: mapping the urban invisibles* (New York, 2010).

55. Its name derives from the historic library Biblioteca Casanatense in Rome, Italy, where the codex is kept. It was probably painted in the sixteenth century by an Indian artist based in Goa. For an in-depth analysis of the codex see the XIII volume of *Anais de História de Além-Mar* Costa, *The Codex Casanatense 1889: open questions and new perspectives*, ed. Costa.

women dining in Hormuz, served by a group of domestics (Figure 1). Also, the representation is so detailed that it might have been captured on-site, including Chinese porcelain wares hinting at the close relations between Portuguese noblemen in Hormuz and China.⁵⁶ In the frame we can read the inscription “Jente portuguesa de ormuz estão comendo dentro d’ágoa por ser a terra muito calmosa.”⁵⁷ Indeed, there is a rectangular area with a stepped floor decorated with planted vases, and four staircases reaching a lower level. There, the floor is flooded. At the centre is the dining table with four commensals that have their feet in water. This fragment of domestic life suggests that houses had built-in spaces similar to pools to bear the high temperatures, “in India a tank is any man-made enclosure of water, normally rectangular and with stone sides and base, that is attached most often to a temple.”⁵⁸ Losty notes that the subject and the geometrical construction of the scene, in which plan and elevations are combined in an overhead view, can be found in Buddhist and Hindu representations of the same period.



Figure 1. Anonymous Artist, *Scene of a Meal in Hormuz*, *Codice Casanatense 1889* (Sixteenth Century)

Source: Biblioteca Casanatense, Rome, id. MS1889C00029.

56. R. M. Loureiro, "The Portuguese in Hormuz and the Trade in Chinese Porcelain," *Bulletin of Portuguese/Japanese Studies*, 1, (2015), 5-26.

57. It can be translated as "Portuguese people of Hormuz that are eating in water for the land is very warm". It has the features of a stepped tank, reminiscent of garden landscapes possibly influenced by Mughal gardens.

58. J. P. Losty, "Identifying the artist of Codex Casanatense 1889," *Anais de História de Além-Mar*, 13, (2012), 13-40, 26.

Friar Odoric of Pordenone is believed to have provided the first account of the city after its population was relocated to the island.⁵⁹ He began his journey in 1314 to Constantinople and the Persian region, and set out from Hormuz in 1320-21 to India and China, with the Franciscan James of Ireland. He visited a strong-walled city where “grows no tree, and there is no fresh water”, and notwithstanding the valuable goods to be found there, “it is not a healthy place nor safe for life, and the heat is something incredible.”⁶⁰ Several travellers described the water cisterns as an integral part of the living space in Hormuz. Around one decade after Odoric, Tangier-born explorer Ibn Baṭṭūṭa writes that “on this island water is an article of price; it has water-springs and artificial cisterns in which rain-water is collected, at some distance from the city. The inhabitants go there with waterskins, which they fill and carry on their backs to the sea [shore], load them on boats, and bring them to the city.”⁶¹ Baṭṭūṭa describes the landscape as comprising mostly “salt marshes and hills of salt.”⁶² The *Livro das cidades, e fortalezas* reports the absence of vegetation, mines and three ponds of brackish water.⁶³ Along the same lines, the Londoner merchant Ralph Fitch, visiting the island in 1583 when Portuguese were already well established, says that “it is the driest Iland in the world: for there is nothing growing in it but onely Salt; for there is neither water, wood, or victuals, and all things necessary come out of Persia.”⁶⁴ Jan Huygen van Linschoten writes in his 1596 *Itinerario* that “in Sommer time is so unreasonable and intollerable hotte, that they are forced to lie and sléepe in wooden Cesterns made for the purpose full of water, and all naked both men and women, lying cleane under water saving only their heads.”⁶⁵ Hence, the inconvenient location of the settlement, depending on the mainland for basic needs, was counterbalanced by

59. V. Liščák, "Catalan Atlas of 1375 and Hormuz around 1300," *Advances in Cartography and GIScience of the International Cartographic Association*, 1, (2019), 1-7.

60. H. Yule and H. Cordier, *Cathay and the way thither: being a collection of medieval notices of China. Vol. II Odoric of Pordenone* (London, 1913), 112. The original text is much more graphic and has been polished in the English translation “In ea tantus et ita immensus calor est quod pilia et testiculi homini exeunt coram et descendant usque ad dimidium tibiarum. Idee que gens illius contratae si vivere volant sibi faciunt unam unctionem qua ilia unguunt” (Yule and Cordier, 1913: 283). Despite the majority of accounts referring to the island’s drought, there are still few contrasting accounts, i.e. Silva y Figueroa’s “en muchas partes della arboles frondosos y grandes algunos dellos, contra la opinion de todos los demas que della an hecho relacion” in G.d. Silva y Figueroa, *Comentarios de don García de Silva que contienen su viaje a la India y de ella a Persia, cosas notables que vió en él y los sucesos de la embajada al Sophi*, in *Don García de Silva y Figueroa e os «Comentarios de la Embaxada al Rey Xa Abbas de Persia» (1614-1624)*, Loureiro, Costa Gomes and Resende (ed.), 4 vols. (Lisboa, 2011), 186.

61. I. Baṭṭūṭa, *The travels of Ibn Baṭṭūṭa, A.D. 1325-1354* (London, 1962), 400.

62. *Ibid.*

63. Anonymous, "Livro das cidades, e fortalezas, que a Coroa de Portugal tem nas partes da India" (1582) 32.

64. Wilson, *The Persian Gulf; an historical sketch from the earliest times to the beginning of the twentieth century*, 108.

65. J. H. van Linschoten, *Itinerario. John Huighen van Linschoten, his discours of voyages into ye Easte & West Indies Deuided into foure bookes* (London, 1598), 16.

great strategic advantages.⁶⁶ Marco Polo visited the old Hormuz two times, in 1272 and 1293, right before the population fled to the island. In his journal, he notes how inhabitants cope with the heat:

In summer they do not live in the cities, for the heat is such that they would all die. They go outside, to their gardens, wherever there is abundance of rivers and water. They are wont to make platforms on the water, with hurdles, one end of which rests on the bank, and the other is lashed to poles sunk into the river-bed.⁶⁷

Most probably such practices were entertained on the island as well, together with the need to live outside the city, possibly screened from the sun. On his way back to Venice, Polo also describes an important architectural detail: “their houses are built with wind-chimneys, in order to catch the wind; they place the wind-chimney on the side whence the wind comes, and so bring the wind into the house. This they do because they could not otherwise endure the great heat.”⁶⁸ The most detailed views of the island, such as the one published in Cologne in 1612 for the *Civitates Orbis Terrarum* (Figure 2), also show the wind catchers that characterised the profile of the settlement. All buildings have tower-like proportions, square openings on the façade with a low window-to-wall ratio, and two to three levels. Although this representation bears evident problems of accuracy, it probably exemplifies how houses looked like in the area. A similar city layout is also visible in views that will be analysed later, such as the profile drafted by the Dutch official Pieter van den Broecke in 1629: flat roofs, small windows, and numerous wind catchers. It seems that “the streets are so small and narrow that no more than two men can walk side by side on any of them, and only one man on horseback.”⁶⁹

Linschoten compares the architectural features of the Hormuzian houses to those in Cairo, “al their houses are flat above, and in the toppes thereof they make holes to let the ayre come in, like those of Cayro, and they use certaine instruments like Waggins with bellowes, to beare the people in, and to gather winde to coole them withall, which they call Cattaventos.”⁷⁰ Another Italian explorer, Pietro Della Valle⁷¹, who visited Hormuz at the time of the 1622 Anglo-Persian siege, reports on the integration between domestic spaces and water tanks.

66. J. Campos, “Some notes on Portuguese military architecture in the Persian Gulf: Hormuz, Keshm and Larak” (2008), in *Revisiting Hormuz: Portuguese Interactions in the Persian Gulf Region in the Early Modern Period*, Couto and Loureiro (ed.) (Wiesbaden, 2008), 149-62.

67. M. Polo, *The travels of Marco Polo* (New Delhi, 2001), 45.

68. *Ibid.*

69. G. d. Silva y Figueroa, *The commentaries of D. García de Silva y Figueroa on his embassy to Shah 'Abbās I of Persia on behalf of Philip III, King of Spain* (Lisboa, 2017), 278.

70. van Linschoten, *Itinerario. John Huighen van Linschoten, his discours of voyages into ye Easte & West Indies Deuided into foure bookes*, 16. Arthur Burnell, who edited the English edition of 1885, notes that the word “Waggings” should be intended as “swings”, “Bellows” as “fans”, and the word “Cattavento” as wind catchers or masonry ventilators that were commonly built in Oman to cool the air in living spaces.

71. Pietro Della Valle (1586-1652) embarked in his explorations of the East following the advice of his friend Mario Schipano, to whom the letters that form Della Valle’s book *Viaggi di Pietro della Valle il Pellegrino* are addressed. His account is relevant because he was probably in

Because of the quality of the land of Hormuz, which is all salt, [...] at certain times of the year, the people of Hormuz could not live without being immersed up to their neck in water for a few hours a day. For this purpose, they all have in their houses custom-made cisterns; and even the strictest religious men had to use them⁷²



Figure 2. Georg Braun and Frans Hogenberg, Detail of Hormuz from the *Spread Calechvt Celeberrimvm Indiae Emporivm; Ormv; Canonor; S. Georgii Oppidum Mina, Civitates Orbis Terrarvm, Vol. 1* [Köln: Petrum à Brachel] (1612)

Source: Library of Congress, Geography and Map Division, Washington, id. 2008627031.

Della Valle confirms what Linschoten wrote regarding the fact that the inhabitants used light pumice-like stones retrieved from the sea to build their houses, “The walls of the buildings are all either made of pumice or salt, the weakest; no other kind of stone can be found on the island.”⁷³ Nicolau de Orta Rebelo, a soldier and later a civil servant who visited Hormuz in 1606, also notes the peculiarity of building materials employed on the island

In this Island there is a kind of stone called fish stone [*pedra peixe*] used to make houses, that stays above water like cork, and there is a wood called *cera*, that sinks

Hormuz in 1622, during the siege of the Portuguese fort. In his letters, he specified the exact date when the city surrendered. Additionally, his wife died in December 1621 in Minab, Iran, and we know that he visited Hormuz after that and before his departure to India one year later. His letters span from 1617 to 1622: this agility in liaising with Portuguese, Persian, and English people is due to his neutrality.

72. P. Della Valle, *Viaggi di Pietro della Valle il Pellegrino. La Persia - parte seconda* (Brighton, 1845), 471. Author’s translation of “per la qualità propria della terra di Hormuz che è tutta sale, [...] in certo tempo dell’anno, le genti di Hormuz non potrebbero vivere, se non vi stessero qualche ora del giorno immersi fin alla gola nell’acqua, che a questo fine, in tutte le case, tengono in alcune vasche fatte a posta; e fin i più stretti religiosi eran forzati a farlo”.

73. *Ibid.* Author’s translation of “I muri poi delle fabbriche son tutti, o di pomice, o di sale, i più fievoli; che sassi di altra sorte nell’isola non si cavano.”

like lead, and from this wood is the firewood used in this city, and it springs from the sea: so that in this Island, salt is fetched from the mountain and firewood from the sea

Indeed, fresh water became the most crucial resource to sustain the emporium, eventually contributing to its capitulation after the Persians cut off the water supply in the cisterns. Travellers reported that drinking water had to be brought from the mainland and from the closest island to the south-west, Qeshm⁷⁴. In January 1622, the English fleet first attacked the Portuguese fort on Qeshm, which was already being attacked by Persia from the mainland, then they prepared for the joint offensive against Hormuz.⁷⁵ At that time, Della Valle was a guest of Veled Chan Sultan, appointed governor of Hormuz, whose soldiers accompanied him to see the city in the aftermath of the war: the destruction in the Portuguese fort and the Misericórdia complex, which was the best-preserved building of Portuguese commission outside the fort after 1622, although half-collapsed and raided.⁷⁶

Campos examines the close relation between the fortification and water provisions that were protected on the ground floor: "Albuquerque had two underground reservoirs with an enormous storage capacity built [...] in 1515."⁷⁷ Additionally, tanks are found in the donjon and in the south-western bastion, with the large Manueline cistern in the courtyard of the fort. Cisterns were so important that they are mentioned in the first accurate survey of the island, the British historical map of Hormuz, issued in 1874 by T. Pettitt on the base of a survey by commander Arthur William Stiffe. At that time, the city had completely lost its trading role and was scarcely inhabited by fishermen. The map sheet is divided into four quadrants. In the upper left quadrant is an enlarged plan of the northern tip, conveying, in an archaeological fashion, labelled areas and the indication of buildings of interest. The Portuguese fort and its adjacent moat are located with precision.⁷⁸

In between the fort and the foothill of the Island's mountainous area, where the territory is almost flat, the surveyor has identified three concentric ranges: within 300m from the fort, is the "present village"; 300m to 600m from the fort with the "probable extent of the Portuguese town"; 600m to 1600m from the fort

74. This information is also present in Manuel Godinho de Erédia's map, c. 1620, referenced in the following section, and in many following maps of Hormuz. At the easternmost tip of Qeshm is represented a "poço", well, whence fresh water was collected and transported by boat. See Baṭṭūṭa, *The travels of Ibn Battūta, A.D. 1325-1354*.

75. Wilson, *The Persian Gulf; an historical sketch from the earliest times to the beginning of the twentieth century*, 146.

76. For a detailed account of Della Valle's stay in Hormuz see E.C. Brancaforte, "The Italian Connection: Pietro Della Valle's account of the fall of Hormuz (1622)" (2008), in *Revisiting Hormuz: Portuguese Interactions in the Persian Gulf Region in the Early Modern Period*, Couto and Loureiro (ed.) (Wiesbaden, 2008), 191-204. He spent almost six years in Persia, which gives him a different status among other travelers due to his well-informed accounts.

77. Campos, "Some notes on Portuguese military architecture in the Persian Gulf: Hormuz, Keshm and Larak" (2008), 155.

78. Overlapping Stiffe's survey with the contemporary aerial satellite imagery of Hormuz in a GIS workspace, the orientation and the outline of the building in the British map show high accuracy.

with the “approximate extent of ruins of old city” and the specification of “many old water cisterns” (Figure 3). The same information is given by Jacques de Morgan in 1895, “un peu plus au sud sont les citernes qui permettaient d'amasser au printemps et en hiver les eaux pour la consommation de la cite.”⁷⁹ In the article that accompanies the map in *The Geographical Magazine*, Stiffe writes that this vast number of water cisterns is “mostly choked with earth, in many of which small crops of vegetables are now raised”, and only half a mile to the south of the minaret “are a number of Arab tombs of some pretensions to architecture, some of which have been of two stories.”⁸⁰

In the last fifty years, the island has been surveyed for archaeological evidence by Allah-Ali Eslami and Cereno de Fonseca in 1973 to gather archaeological evidence and plan restoration works for the castle. Babak Rad, in 1974, inspected and photographed the remains, compiling a report that proposed the site to be listed as national heritage for the first time. Hossein Bakhtiari started the first systematic excavations on the island, while Wolfram Kleiss surveyed the castle in 1977. In the same year, Ulrich Wiesner completed a report on ruins in the Hormozgan region commissioned by the Museum für Ostasiatische Kunst Köln. After the Iranian revolution, Fatemeh Karimi resumed the study of archaeological remains in 1994, but the results were never published. More recently, Sepehr Zarei and Marjan Ravai studied artefacts found on the eastern coast.⁸¹

The documents and their interpretation presented in this section demonstrate how the built environment was shaped by the “unbearable heat” of the island, and that the lack of fresh water could be an advantage for attacking enemies. In the case study of Hormuz, PORTofCALL is working on methodologies to represent such a relevant agency in the history of the island.

79. J. d. Morgan, *Mission scientifique en Perse* (Paris, 1895), 288.

80. A. W. Stiffe, “The Island of Hormuz,” *The Geographical Magazine*, 1, (1874), 12-17, 13.

81. S. Zarei, “A Historical Account of Archaeological Research on the Islands of the Province of Hormozgan” (2020), in *Human and the Sea. A Review of Thousands of Years of Relationship between Humans and the Sea in Iran*, Biglari, Nokandehm, Naderi Beni and Hozhabri (ed.) (Tehran, 2020), 174-95.

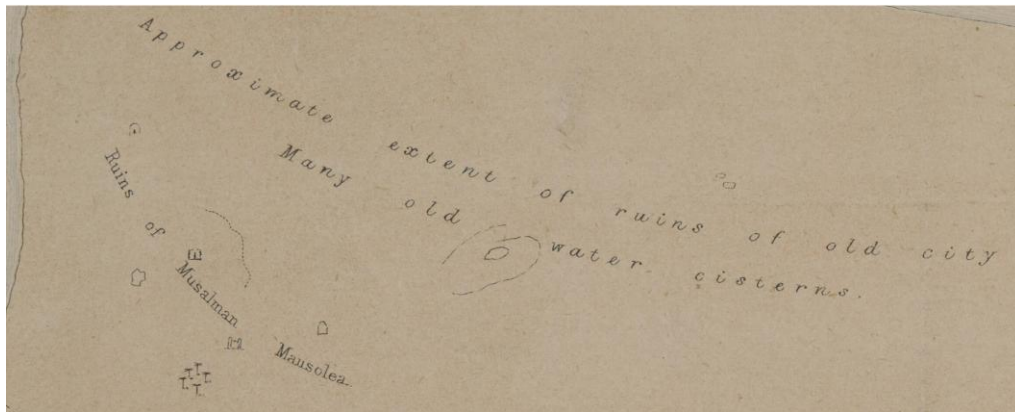
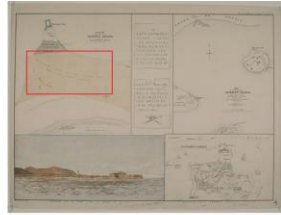


Figure 3. Arthur William Stiffe, *Detail of the British Historical Map of Hormuz, Issued in London by T. Pettitt (1874)*

Source: Qatar Digital Library, id. IOR/X/3127.

Drawing the Invisible: A Disappeared Landmark of Hormuz

Focusing our attention on the urban morphology of Hormuz, all maps and vistas depict two main recognisable landmarks: the Portuguese fort and a tower that is often labelled as minaret.⁸² The historical evolution of the fortification has been studied extensively in literature because the ruins are still visible on the site and allow in-depth fieldwork.⁸³ In the first archaeological study of the island published in 1937, Aurel Stein recorded only mounds of debris and two ruined structures around what was left of the fortification.⁸⁴ The Hungarian-British archaeologist would have mentioned the tower if he had seen it still standing. On the other hand, there is a photo of a dilapidated tower taken in, the 1860s-1880s, labelled as “minaret of Hormuz”, in the *Sir Charles Aitchison Album of Views in India and Burma* available at the Qatar Digital Library. Hence, the landmark had already collapsed by the thirties of the twentieth century.

82. In addition to the Hormuz tower, the urban morphology of the city opens questions on the location and presence of city walls; on the possible presence of a fortification before the Portuguese; the demolition of the royal palace; a porticoed structure on the eastern shore; the functioning of the two docking locations mentioned in the text and their relationship with the typology of goods that was unloaded.

83. W. Kleiss, "Die portugiesische Seefestung auf der Inseln Hormuz am Persischen Golf," *Architectura*, 8 (1978), 166-83; Zarei, "A Historical Account of Archaeological Research on the Islands of the Province of Hormozgan" (2020); D. Couto and R.M. Loureiro (ed.), *Revisiting Hormuz: Portuguese Interactions in the Persian Gulf Region in the Early Modern Period* (Wiesbaden, 2008).

84. A. Stein, *Archaeological reconnaissances in north-western India and south-eastern Īrān* (London, 1937).

A preliminary approach for the rediscovery of the vanished minaret is to analyse the urban morphology of Hormuz in selected historical maps, and retrace the various architectural features of the tower in the most detailed views. The towering building was the most recognisable construction from the sea, even more than the fort.⁸⁵ It should be noted that some drawings of the building were not sketched by direct observation, and others relied on established archetypes of towers. Nonetheless, I will highlight where representations overlap in an attempt to set the field of reasoning that will be developed in future research.

Early-modern Portuguese cartography of overseas territories mainly produced two typologies of representations: views from the sea, especially useful for navigation, and maps of the city/fortress where they established their presence. It was important to visualise the quality of the landscape, the consistency of the ground, and the relevance of architectural landmarks, often resulting in the combination of different viewpoints. The coastline is seen in plan; buildings are depicted with an oblique view with an elevated standpoint, similar to a military axonometry; and the natural features are seen in elevation from close distance, resembling the point of view of an observer on site. In 1538, the arrival of João de Castro in India marked a turning point in the quality and quantity of maps that were being drafted.⁸⁶ The difficulty in attributing authorship to visual documents demonstrates how the fluid local network affected mapmaking. Castro collected maps from Arab, Gujarati, and Malabar pilots⁸⁷ because it was customary for Western explorers to rely on local knowledge. This happened also with Vasco da Gama, and in the Pacific between James Cook and the Tahitian pilot Tupaia. According to Di Piazza and Pearthree,⁸⁸ Tupaia's map of the Pacific Islands was not only the outcome of merging information, but an encounter between two different ways of understanding geographical knowledge. It was the product of social relations, sometimes asymmetrical, that generated epistemological shifts in which the rational European conception blended with in situ practices of navigation. The hybridisation of the Portuguese map is seen in the work of Gaspar Correia (map a), who was commissioned by Castro to produce the portraits of previous viceroys and governors of the Estado da Índia, assisted by a Hindu painter.⁸⁹ Another case is the series of city maps reproduced in the books of Antonio Bocarro and Pedro Barreto de Resende (map c). The maps circulated from Goa in many versions, reproduced by different authors. Because of the discrepancies between the accompanying text and the drawings, it is likely that the maps were collected by Resende separately, maybe partially copied, but the bulk of the work was done by Goan artists.⁹⁰ The

85. Silva y Figueroa, "Comentarios de don García de Silva que contienen su viaje a la India y de ella a Persia, cosas notables que vió en él y los sucesos de la embajada al Sophi" (2011) 187.

86. M. F. Alegria, S. Daveau, J.C. Garcia and F. Relaño, "Portuguese Cartography in the Renaissance" (2007), in *The History of Cartography. Cartography in the European Renaissance*, Woodward (ed.) (Chicago, 2007), 975-1068.

87. See Alegria, Daveau, Garcia, & Relaño's (2007) account on Castro's activities.

88. A. Di Piazza and E. Pearthree, "Il cartografo Tupaia, James Cook e il confronto tra due saperi geografici," *Quaderni Storici*, 43, 129 (2008), 575-92.

89. Pearson writes that the first thirteen paintings to be hung in the Palace of Governors in Goa were actually painted by a local M.N. Pearson, *The Portuguese in India* (Cambridge, 1987), 94.

90. Alegria, Daveau, Garcia and Relaño, "Portuguese Cartography in the Renaissance" (2007).

geographical forms and coloring techniques closely align with Indian traditions. In particular, the depiction of mountains and vegetation resembles those found in the *Codice Casanatense* mentioned earlier.⁹¹ Which is another hybrid artistic artefact itself.

Regarding Hormuz, three main genealogies of drawings were published during the Portuguese presence: one is a view of the fort and the city from the eastern shore, based on Gaspar Correia's *Lendas da India* (a); another is a panoramic view of the whole island in relation to the Gulf area, based on Manuel Godinho de Erédia (b); finally is a set of illustrations based on Braun and Hogenberg's *Civitates Orbis Terrarum*, though this view was hardly drafted on site because the Portuguese fort is not present. Erédia also produced a detailed plan of the fortification and part of the surroundings, today accessible in the collection of the Biblioteca Nacional of Rio de Janeiro, Brazil. Others followed immediately after the 1622 capitulation (c-g).

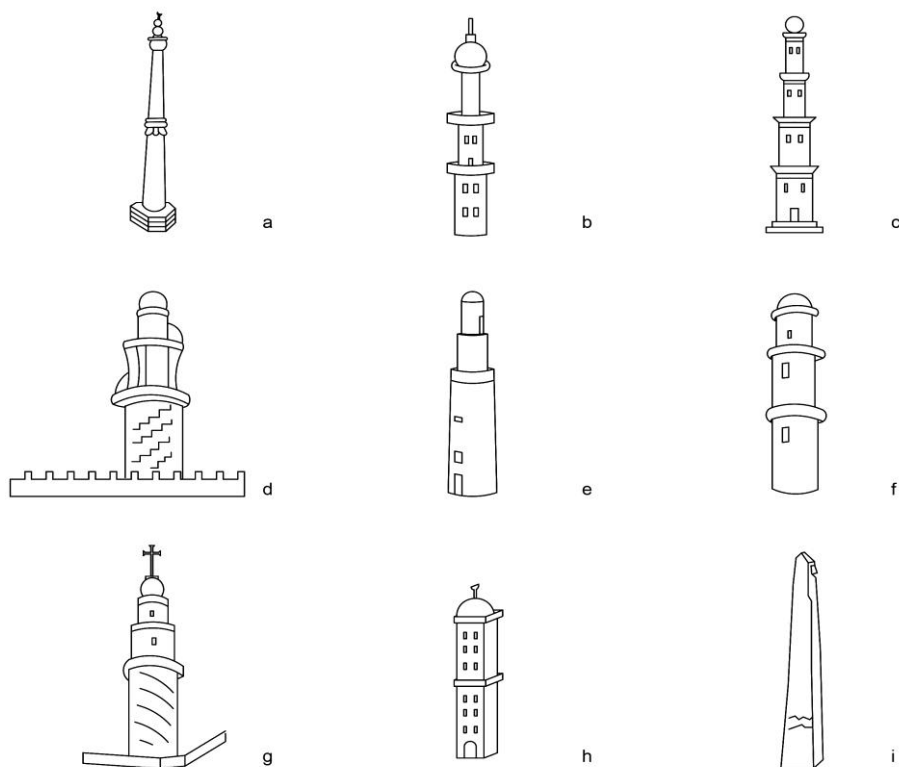


Figure 4. Author; *Renderings of the Minaret in Hormuz Retraced from Historical Views*

Sources: mentioned above from a) to i).

91. S. Krtalic, "Materials and production methods in 17th century portuguese illuminated cartography: a study of the maps in António Bocarro's "Book of the Plans of all Fortresses, Towns and Villages of the East Indies"," Universidade de Évora, Erasmus Mundus Master in Archaeological Materials Science, 2018.

- a) Gaspar Correia, Ormuz, c. 1560, in Rodrigo José de Lima (ed.) *Lendas da Índia*, Felner, Lisboa: Typographia da Academia Real das Sciencias, Vol. 2, 1858-1866, p. 439.
- b) Manuel Godinho de Erédia, Fortaleza de Ormus, c. 1620, in *Livro de Plantaforma das Fortalezas da Índia*. Source: Fortaleza de S. Julião da Barra, Oeiras.
- c) Anonymous, plan of Hormuz, 1635, in Pedro Barreto de Resende, *Livro do Estado da Índia Oriental*, c. 1646. Source: British Library, London, id. Ms. Sloane 197, f.155 v/156.
- d) Adriaen Matham, *Het Eylandt Ormous, en Gomeron, op 't vaste landt van Persien* (1629). Source: Rijksmuseum, Amsterdam, id. RP-P-OB-75.464.
- e) Jan van Kessel the Elder, Les 4 Continents – Asie, nr. 8 Oosmus Ormuz (The four Continents – Asia, nr. 8 Hormuz), 1664-1666, Alte Pinakothek, Munich, id. 1911.
- f) Pieter van den Broecke, view of Ormus from the west, 1664, in *Vijf verscheyde journalen van Pieter van den Broeck, gehouden op zijne reyzen na Cabo-Verde, Congo, Angola en Guinea*, Amsterdam: Gillis Joosten Saeghman, p. 102.
- g) Luycken, *Costumes des quatre parties du monde/gravés dans la manière de Luycken*, c. 1670, source: Bibliothèque Nationale de France, département Estampes et photographie, id. ark:/12148/btv1b8447130t.
- h) Jacques Nicolas Bellin, Das Eyland Ormus oder Jerun, in *Allgemeine Historie der Reisen zu Wasser und Lande* (1748). Source: Landesbibliothek, Oldenburg, id. urn:nbn:de:gbv:45:1-14148.
- i) James Baillie Fraser, Ruins of Hormuz, 1820s, in James Silk Buckingham, *Travels in Assyria, Media, and Persia*, 1829, London: Henry Colburn and Richard Bentley, p. 251.

Portuguese historian Gaspar Correia accompanied Afonso de Albuquerque and compiled the well-known manuscript *Lendas da Índia* (1550-60s), based on his extensive stay in Estado da Índia until his death. His depiction of Hormuz seems very much focused on the fort, and less concerned with the rest of the city. The built environment is shown as a continuum of one or two-story houses, and two towers. The one on the left should be the minaret (Figure 4, a).⁹² It is extremely elongated, almost like a pinnacle: on a polygonal base placed on the roof of a large edifice, a tapered column ends with three spherical decorative elements on the tip.

Interestingly, Manuel Godinho de Erédia shows very few details in his rendering of the island in *Livro de Plantaforma das Fortalezas da Índia* (c. 1620). The urban morphology is the same as reproduced later in Bellin's map. The "alcoran" tower is at the northern end of the main street block, elevated on a circular plan with an elevation partitioned in three (Figure 4, b).

92. The landmark on the right is either the *pelourinho*, pillory, or a votive cross. Similar representations can be found in Pedro Barreto de Resende's maps *ibid.*

In another collection of drawings of the same period attributed to Portuguese secretary to the viceroy Miguel de Noronha Pedro Barreto de Resende, the *Livro do Estado da India Oriental*, a similar circular tower is represented with a stepped base, next to or part of a walled area, divided in four parts and with a spherical culmination. Its exaggerated proportions, when compared to other elements on the island, demonstrate the significant role the minaret played as a landmark in the built environment (Figure 4, c).

The view of Hormuz from the sea attributed to Adriaen Matham (1629) delineates a profile of the city characterised by wind catchers. The tower seems to be isolated in a walled area and has bulky proportions (Figure 4, d). The plan is circular. The elevation has two cantilevered cornices, maybe balconies, and an element crowning the tower visible in other representations. Given the marks on the exterior, Matham's drawing may imply a helical stair inside.

A very similar configuration is visible in the painting series *The Four Continents* by Jan van Kessel the Elder. In the series on Asia, painting number eight portrays a naturalistic view of the island, from the hills and looking towards the city. The tower is composed of three circular masses of decreasing size, very few openings aligned vertically with the ground floor entrance, and a dome termination (Figure 4, e).

The view of Hormuz presented in Pieter van den Broeck's travel journal (1664) has a similar visual structure to that of Adriaen Matham but is portrayed from the west. The tower is circular, divided into three parts with a decorative fascia and semi-spherical termination (Figure 4, f). Here, the landmark is isolated in an area surrounded by crenellated walls. The houses in the city have wind catchers and flat roofs.

Analogous details appear in several other Dutch illustrations⁹³, in which the tower seems to be consistently replicated. In *Costumes des quatre parties du monde*, illustrations combine places and costumes of the world. Hormuz then counts as a representative and important centre among the others included in the collection (i.e., Paris, Canton, New York). The city shows wind catchers and pitched roofs as a combination of local features with imagined architectural typologies. The tower has the same characteristics as seen in *Het Eylandt Ormous, en Gomeron* (shape, walled area, and subdivision) but with a Portuguese cross on top of the globe tip (Figure 4, g).

In Bellin's map (1748), one can see four main street blocks, two in the centre and two by the coast, another row of four street blocks is peripheral and just outside the core of the city, also delimited by a city wall fragment to the east that stretches to the strait. Among the rich details offered in the representation, the "Alcoran" tower stands out against the central residential block, overlooking a large square called "Waffenplatz". The tower is erected on a square base, with two

93. See the painting *The Dutch Ambassador on his Way to Isfahan* (1653 – 1659) by Jan Baptist Weenix; the representation of Hormuz in *Begin ende voortganch, van de Vereenighde Nederlandtsche Geoctroyeerde Oost-Indische Compagnie* (1646) by Isaac Commelin; and the anonymous view published by Frederick de Wit 1700 as *Gezichten en plattegronden van acht steden*.

cornices in the middle and on the top of the building, crowned with a rounded dome (Figure 4, h).

Finally is a series of drawings that render Hormuz in a ruined state. One of the most detailed in terms of urban morphology is the view illustrated by James Baillie Fraser at the beginning of the nineteenth century and published in James Silk Buckingham's *Travels in Assyria, Media, and Persia*. The viewpoint is situated atop the fort, facing south. Wind catchers seem to be still in place. In the representation, the ruined tower is sketched as a plain monolith, whose mass dominates the landscape (Figure 4, i). But Fraser's account in his travel journal complements the visual information after on-site observations covering function, form, material, and decoration:

The only remarkable object is a *minār* or tower near the mud wall, which some conjecture to have been a light-house; although neither its situation nor form, in my opinion, warrant the supposition. It is a round tower which has been encircled at intervals with galleries, the wood work of which, formed of the date tree, having given way, they have also fallen to pieces. A winding staircase of the same perishable materials and consequently very ruinous, conducts to the top. The exterior has once been ornamented with Mosaic work in coloured tiles, the greater part of which have fallen off. Its appearance, as far as I can judge, very satisfactorily confirms the tradition of the country, that it was a minaret, built by Shah Abbas, after the capture of the place, to call the faithful to prayer. The Mosaic work, in particular, is quite in conformity with the taste of that period; there are, indeed, no remains of a mosque; but that might have been built of less substantial materials; and it is far from uncommon in Persia, to see minarets erected quite distinct from, and of superior architecture to the mosques they belong to.⁹⁴

All that remains of the mosque at the end of the nineteenth century, Morgan explains, is a ruined minaret that used to be decorated with “briques émaillées en couleur.”⁹⁵

Other representations, such as the one by João Teixeira Albernaz, show a similar morphology as in maps b) and h): four main street blocks and four additional blocks reaching the foothills, a fragment of a defensive wall stretching East, an extensive esplanade to the north where ships dock on both sides (“Porto de Ponente” and “Porto de Levante”). This space was cleared during the renovation of the fort in 1539-40, when the adjacent palatine complex of the local king was demolished.⁹⁶ The area now provided visibility from all directions, stables for horses, and the *alfandega* to collect customs duties. Almost symbolically, the void left by the demolition of the king's palace was replaced with a trading space controlled by the Portuguese. The maps also visualise that shallow waters prevent

94. J. B. Fraser, *Narrative of a Journey Into Khorasān: In the Years 1821 and 1822. Including Some Account of the Countries to the North-east of Persia; with Remarks Upon the National Character, Government, and Resources of that Kingdom* (London, 1825), 47-48.

95. Morgan, *Mission scientifique en Perse*, 288.

96. Aubin notes that the royal palace was already built at the time of Ibn Baṭṭūṭa's visit. The building measured between 80 and 100 meters on the eastern façade, which is the distance, through the esplanade, between the Portuguese fort and the city Aubin, “Le royaume d’Ormuz au début du XVI^e siècle,” 77-179.

ships from docking, so merchandise has to be shuttled to the shore by small boats (see maps b, d, g, h).

The fifteenth-century chronicler Abd al-Karim Nimdihi⁹⁷ writes that Turan Shah I (1347-77) built, in front of the palace mentioned above, a madrasa with a minaret, a mosque, and a bazaar.⁹⁸ The madrasa, or part of it, probably served as a makeshift hospital. Nimdihi reports two seismic events that hit Hormuz at the end of the 1480s, and he mentions damages to tall buildings, ventilation shafts and minarets, thus confirming the morphology of the city reproduced in the views b, d, g, h. Given the positional information, it is possible to assume that the minaret is the same tower depicted in the maps, and the large, flat building in Correia's drawing is a different mosque from that of the king's complex. If the latter was adjacent to the castle, Stiffe estimates the distance of the tall minaret from the castle as 365 metres. Indeed, the adaptation of the historical maps on the GIS base returns a distance of 362 metres. This means that the cathedral mosque was in the middle of the city, spaced 250 metres apart from the palace.⁹⁹ When Stiffe visited the site, he assessed the tower to be around 21 metres high, made of bricks with glazed tiles "in the manner which renders the mosques of Baghdad such striking objects,"¹⁰⁰ and about to collapse. The two broken spiral staircases he saw inside are echoed in some representations (d, g). Assuming a point of view from the deck of a ship at 4m above de sea level, the tip should be visible from 24km.¹⁰¹ A viewshed analysis performed with these dimensions and the topography suggests that the landmark was visible, and in turn controlled, in a sea area with a radius of roughly 270°. It spotted the northern area of the island, the eastern extension of Qeshm, and Bandar Abbas with areas of the Kuh-e Geno mountain behind it (Figure 5).

97. Nimdihi acted as a secretary of the prime minister of the sultanate, Mahmud Gawan, thence under the king of Hormuz, and finally composed the *Tabaqat-i Mahmud Shahi* commissioned by Mahmud Shah I. Nimdihi left an invaluable and rare inside view from the Hormuzi court right before the Portuguese aggression. For a complete account see the cited article by Aubin.

98. J. Aubin, "La Vie et Oeuvre de Nimdihi," *Revue des Études Islamiques*, (1966), 61-81.

99. Aubin, "Le royaume d'Ormuz au début du XVI^e siècle," 77-179.

100. Stiffe, "The Island of Hormuz," 12-17, 13.

101. To calculate the maximum distance D at which an observer with a height of Ho can see the top of the minaret at Hm, the expression is $D \cong 3.57 (\sqrt{Ho} + \sqrt{Hm})$.

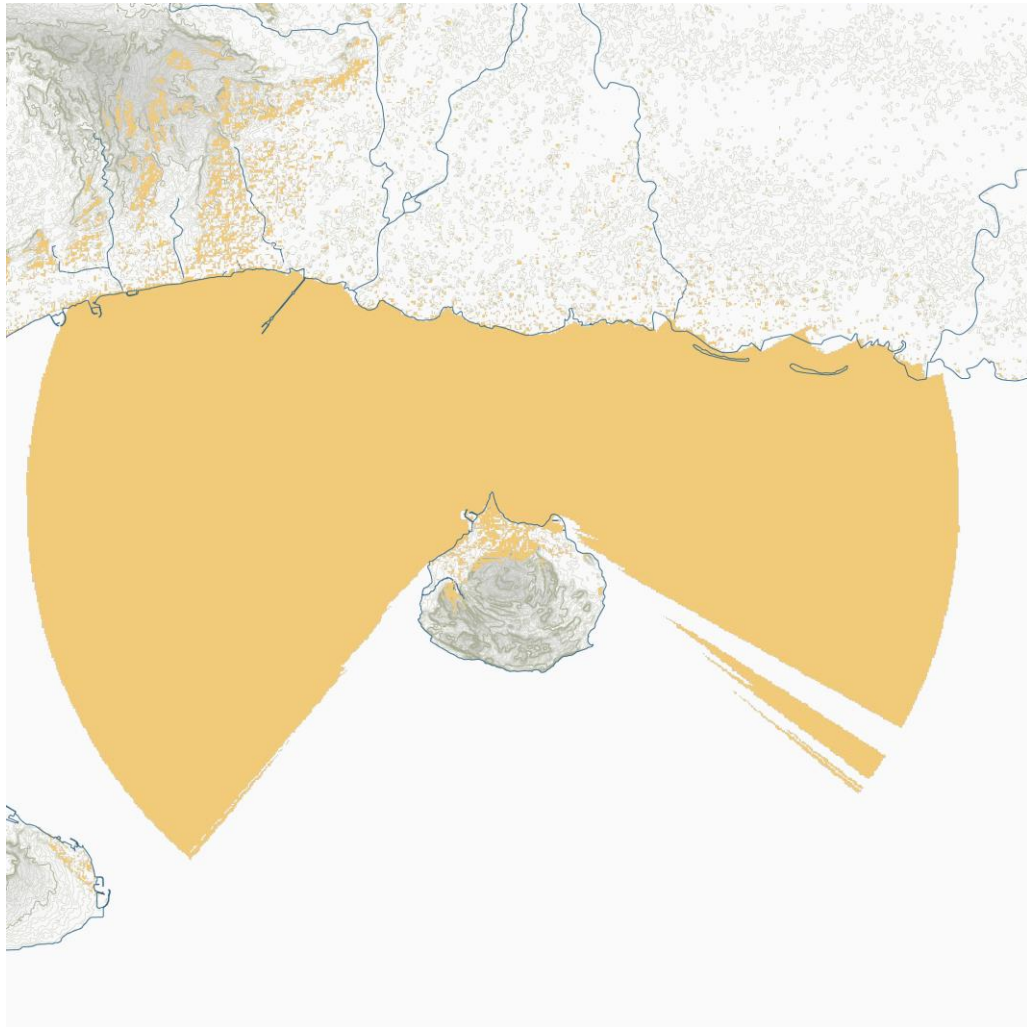


Figure 5. Author, Viewshed Analysis of the Visibility of the Minaret Performed in QGIS (In Orange, the Areas that Entertain Visual Contact with the Tip of the Tower)

Baṭṭūṭa mentions the cathedral mosque as well, in the vicinity of the main bazaar. Having a gate,¹⁰² the mosque was a vast, composite architecture with a courtyard and a flat roof, as is shown in Correia's drawing. At the time of the visit of Garcia de Silva y Figueroa,¹⁰³ in 1617, it was evident that the recent demolition of this magnificent building had caused outrage among both the Muslim community in Hormuz and Shah Abbas I of Persia.¹⁰⁴

102. Baṭṭūṭa, *The travels of Ibn Battūṭa, A.D. 1325-1354*, 400.

103. Don Garcia de Silva y Figueroa (1550-1624) was a Spanish nobleman sent as an ambassador of Philip III of Spain to the Shah Abbas I of Persia. His journey, which started in 1614 from Lisbon and was carried out for a decade, is narrated in great detail in his diary *Comentarios de don García de Silva que contienen su viaje a la India y de ella a Persia*, at the Biblioteca Nacional de Espanha, Madrid.

104. Silva y Figueroa, "Comentarios de don García de Silva que contienen su viaje a la India y de ella a Persia, cosas notables que vió en él y los sucesos de la embajada al Sophi" (2011) 187.

Tentative Conclusions on the Invisible Hormuz

The cross-examination of narratives and representations analysed in this text sets out two of the main challenges encountered in the research project in terms of visualisation. Namely, the charting of immaterial agencies, and the reconstruction of disappeared architectures.

Regarding the problem of mapping relations and customs, we have seen how the scarcity of fresh water, together with high temperature, highly influenced the built environment, but also accounts from travellers. How can we map the influence of the agency that played such a significant role in the history of Hormuz? The city lacked territory, and its descriptions highlight the paradox of a flourishing trading post set on a bare rock. The form of the city, its profile, the position of the cisterns, and the way domestic space was shaped, were all closely related to this aspect. Another direction of research concerns the intersection of architectural history with literature and cartography. Today's tendency towards objectivity and quantitative analysis might leave valuable nuances behind. After pondering that "the wealth and splendor of Ormuz have been infinitely overrated", as Fraser¹⁰⁵ observed after visiting the site of the old city, the narrative apparatus on Hormuz still provides remarkable details. How can we map such narratives?

Interpretative drawing distils the excess of information, closer to the meaning proposed by Umberto Eco: diminish the abundance of data. In this regard, Eco often refers to Jorge Luis Borges' *Funes the Memorious*.¹⁰⁶ Ireneo Funes remembers everything – not only does he remember every leaf of every tree of every forest – he even remembers every time he perceived anything. Thus, he builds a useless catalogue with all the images of his memory, and in this way, however, finds himself in a sort of parallel world that perceptively disconnects him from reality. Funes is overwhelmed by information. Borges writes that we must forget and select rather than accumulate layers.

GIS share several similarities with Ireneo Funes, particularly in their capacity to add infinite layers of information and achieve any levels of detail. While the introduction addresses the risks associated with disciplinary normativisation, this article focuses on how we can advance understanding of a specific historical context by establishing a multidisciplinary framework. Indeed, if we start from the visual documents, maps and views, it is possible to ask how the critical mass of historical studies on Hormuz, its architecture and the rituals, can be spatialised. In turn, this might unearth new relations between spaces once we locate them. The best-known example is probably *The David Rumsey Map Collection*, which hosts publicly available historical maps that have been collected since the 1980s. It is possible to browse georeferenced maps or perform semantic searches by searching the text contained in the pictures. Similar tools have been developed by institutions such as the British Library (*Old Maps Online*) and the Dutch National Archive (*Atlas of Mutual Heritage*), which is especially focused on the area where the Dutch India

105. Fraser, *Narrative of a Journey Into Khorasān: In the Years 1821 and 1822. Including Some Account of the Countries to the North-east of Persia; with Remarks Upon the National Character, Government, and Resources of that Kingdom*, 48.

106. J. L. Borges, *Labyrinths; Selected stories & other writings* (New York, 1964).

Company operated. While these advanced databases are extremely relevant to the way maps are archived and disseminated, the application proposed for Hormuz is much more focused on localised issues, but can be replicated in many other heritage sites with rich narratives and scarce material traces. Of course, one should avoid the temptation of taming historical representation in our Euclidian paradigm, because exactitude, to use Borges' term, is not the aim of such interpolations. Inaccuracies, shifts, and drifts are inevitable and necessary for gaining a historical perspective. Jiang¹⁰⁷ proposes a new paradigm in mapping based on the use of fractal geometry instead of Euclidian geometry, advancing a topological perspective that renders geographical features in patterns and structures. This approach is informed by studies on complexity in living environments by architect Christopher Alexander.

Having in mind that the artefacts we study are the outcome of "cartographic encounters,"¹⁰⁸ of mutual influence between the knowledge of places and the standardisation of techniques, HGIS should be able to accommodate multiple ontologies and epistemological systems. Geographers discuss how maps are social constructions representing knowledge.¹⁰⁹ The convergence toward certain formats or platforms implicitly sets knowledge and research standards. Some scholars suggest that even the term cartography should be reconsidered, opting for a study on maps as singular productions realised in a specific system of circumstances, concentrating then on the process of mapping.¹¹⁰ One way to cross-examine all maps of Hormuz is to fix the pattern of geographical features that are identified in the historical representations (Figure 6). Then, analyze the relational dialogue between these anchor points. After the application of this method, it was possible to locate the minaret, study its visibility, imagine the domestic typology, and estimate the dispersion of water tanks. In the phase of visual translation, we are working on ways to integrate visual devices taken from historical maps in a GIS environment. In the work-in-progress map presented here, a planar view is combined with elevations. We have included a symbolic system for architectural landmarks, their relation with geography at a different scale, the use of areal to localise spatial practices, and pictorial details (Fig 7). This perspective will be elaborated upon in forthcoming scholarly publications focusing on Hormuz, alongside other case studies that explore encounters in Asia. The ambition is to provide scientific knowledge and also leave space for imagination, hinging on the state of latency that historical visual documents provide.

107. B. Jiang, "New Paradigm in Mapping: A Critique on Cartography and GIS," *Cartographica: The International Journal for Geographic Information and Geovisualization*, 54, 3 (2019), 193-205.

108. M. Storms, M. Cams, I.J. Demhardt and F. Ormeling (ed.), *Mapping Asia: Cartographic Encounters Between East and West* (Cham, 2019).

109. J. W. Crampton, "Maps as social constructions: power, communication and visualization," *Progress in Human Geography*, 25, 2 (2001), 235-52.

110. M. H. Edney, *Cartography: the ideal and its history* (Chicago, 2019).



Figure 6. Author, *Geographical Landmarks Employed to Compare Historical Maps (Based on a Detail of Arthur William Stiffe, Asia, Persian Gulf, British Library: India Office Records and Private Papers, IOR/W/L/PS/10/457 (i), in Qatar Digital Library)*

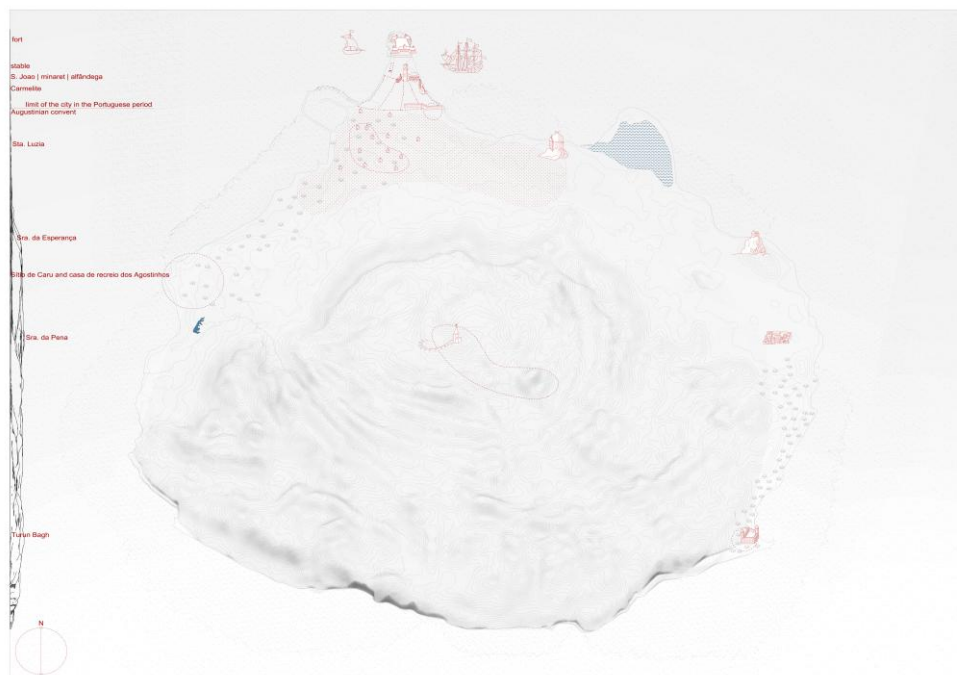


Figure 7. Author, *Work-in-progress Interpretative Map of Hormuz*

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