

# Modernising Macao: Public Works and Urban Planning in the Imperial Network (1856–1919)

REGINA CAMPINHO\*

---

**ABSTRACT:** This thesis focuses on a period which saw the beginning of the planned transformation and expansion of the Macao urban landscape, from the 1850s to the early twentieth century. More specifically, it analyses public works and other government-sponsored urban interventions under the influence of the Portuguese overseas administration, with the purpose of filling a gap in the current knowledge of the history of this former Portuguese province's transition into a modern urban landscape.

It is set in the broader context of the long-nineteenth-century's so-called 'age of imperialism' and its burgeoning 'world urban system', where the major cities of the world became increasingly interconnected, trading not only in people, knowledge, images and ideas, but also in capital, labour and goods.

It is as if the world had become, through the influence of the Western network of empires, one large, interdependent city, mainly fostered by the progress of transport and communications. The purpose of this study is, therefore, to present a globally aware case study which may contribute to nurturing a better-informed, more locally aware, global narrative of urban modernisation.

It also hopes to contribute to strengthening the ties between primary-source-based historical research on the long-nineteenth-century Western urban modernity and the reassessment of its heritage value. This is a more operational ambition, which sees in the history of modern urban planning a valuable resource for devising better-informed, more integrated strategies of urban landscape conservation and management. This regards the Historic Centre of Macao UNESCO-classified property, as well as any other similar context throughout the European world, where the under-researched modern urban landscape may fall prey to several irreversible pressures with significant loss of cultural assets.

**KEYWORDS:** Urban planning history; Portuguese Empire; Public works; Macao.

---

\* Regina Campinho received her Ph.D. from the University of Coimbra, Portugal. She is a state architect and urban planner in France.

*Regina Campinho obteve o doutoramento pela Universidade de Coimbra, Portugal. É arquitecta e urbanista do Estado, em França.*

*We have long been concerning ourselves with sanitation in Macao, an old city erected by the audacious Portuguese under the rugged and naked cliffs, and over the timid swamps of this minuscule strip of land that formed the first Portuguese concession in 1557. Everything in the city is, so to speak, artificial. [...] Many teardowns and landfills have formed the stages of a process that, before it could be translated into the nowadays well-established term of 'sanitation', represented the conquest of much-needed space for the burgeoning colony. Macao, as all ancient cities, even if far from the influence of the narrow-minded Chinese, didn't follow, at the beginning, nor until very recently, any principle or rule of urban hygiene. [...] A little has already been done, some of it is being handled today, but a lot remains to be accomplished in the future. [...] We mustn't expect, however, to go suddenly from bad to optimal. From what Macao is today, even if we can't hope to make it magnificent, let us at least think it and make it a [geometrically] perfect city. To reach this, a bloodless fight must be fought. A great deal must be destroyed and almost everything rebuilt. [...] The layout of the city's General Improvement Plan is the indispensable foundation of a complete and harmonious study of these sanitary changes. Moreover, its diffusion would serve the dual purpose of bringing Macao's progress and regeneration to the whole of the Far East's attention, where it was losing its rightful position, and of interesting the colony's population and living forces in its improvements.<sup>1</sup>*

António Pinto de Miranda Guedes  
Public Works Director of Macao, 1909

The 1850s saw the beginning of the planned transformation and expansion of the Macao urban landscape, unprecedented in its accelerated pace as in its wide geographical scope, in many ways setting the tone for present-day urban development in this Special Administrative Region (SAR) of China. The present thesis seeks to document and analyse this process in its early stage, through original research into public works and other government-sponsored urban interventions under the influence of the Portuguese administration, with the purpose of interpreting how the city's changes have built an environment that both represented and conditioned the province's economic, social and political dynamics, thus filling a gap in current knowledge of the history of the Portuguese province's transition into a modern urban landscape.

This study is set in the broader context of Portuguese overseas action and administration in the long nineteenth century's<sup>2</sup> so-called 'age of

imperialism' and its burgeoning 'world urban system'. Historian Andrew Porter defines this age of imperialism as a historical period, stretching from 1860 to 1914, and characterised by 'exclusive claims to territory by European powers and [by] their attempts to assert effective control, as well as other forms of European intervention and influence, overseas'.<sup>3</sup> In an interconnected process, this period also saw the emergence of 'an integrated world', in which 'the mutual awareness, interconnection and interdependence of most parts of the world, which had developed since the early sixteenth century, grew at a startling rate and reached unprecedented levels'.<sup>4</sup> The long-nineteenth-century imperial context also set the stage for the emergence of what art historian and sociologist Anthony D. King describes as the 'world urban system', where the major cities of the world became increasingly interconnected, trading not only in people, knowledge, images and ideas, but also in capital, labour and goods. It is as if the world

## ARQUITECTURA

had become, through the influence of the Western network of empires, 'one large, interdependent city',<sup>5</sup> mainly fostered by the progress of transport and communication infrastructures.

Stemming from these considerations, a main focus of my research is the idea of the globalising impact of modernisation at the scale of this imperial network. In other words, I am interested in how the modernisation of these urban hubs became a global process through the expansion of the industrial revolution techno-scientific advancements, but also of progressive cultural constructs, such as hygiene and public health,<sup>6</sup> and of new governance and territorial management models, as well as new legal instruments enabling Western states to implement this panoply of 'material improvements'. As such, and although in necessarily different measures, these transformations affected all the interconnected territories, regardless of their geographical situation, or of their preponderance in the colonial hierarchy of each state, be they capitals, metropolitan provincial cities or overseas provincial cities. They were happening at the same time, materialising the same philosophies and using the same technical, scientific and legal tools, resulting in the recognisable features of the modern city landscape.

While in line with recent post-colonial studies of the connections between architecture and urbanism and the imperial machineries,<sup>7</sup> the purpose of this study is less to provide insight on modernisation in the colonial context, or to look into an example of Chinese 'indigenous modernity',<sup>8</sup> but rather to present a globally aware case study which, in turn, may nurture a better-informed, more locally aware, global narrative of the urban modernisation process.

On a related note, this thesis also hopes to strengthen the ties between primary-source-based historical research on the long-nineteenth-century Western urban modernity, and the reassessment

of its heritage value. This is a more operational ambition, which sees in the history of modern urban planning a valuable resource for devising better informed, more integrated strategies of urban landscape conservation and management, whether regarding the Historic Centre of Macao UNESCO-classified property, or any other similar context throughout the European world, where the under-researched modern urban landscape may fall prey to the pressures of real-estate development.

## TOWARDS A MODERN URBAN LANDSCAPE IN MACAO

In the mid-sixteenth century, the Portuguese succeeded in establishing themselves in the Pearl River Delta, developing the Macao Peninsula into a burgeoning city with an exclusive status as the sole Western permanent trading post allowed in the South China Sea.<sup>9</sup> Over the following three centuries, Macao grew to become a cosmopolitan urban centre, closely connected to Canton, at the heart of trade between China and the rest of the world.<sup>10</sup> Only with the First Opium War (1839–1842) did this golden era come to an end, with the British imperial power forcing the gospel of free trade into China sea ports, where more competitive Western settlements soon blossomed.<sup>11</sup> Established in 1842 on the eastern side of the Delta, the British colony of Hong Kong quickly took on the leading role as the link to the transoceanic Canton trade, relegating the Portuguese city to the position of a regional hub, much like the rest of the local Heungshan district ports.<sup>12</sup>

The 1850s were a changing time for the imperial paradigm on a global scale, as well as a time for redefining the key urban hubs of the imperial network. In this context, the Portuguese state, internally fragile and politically and economically dependent on its British connection, nevertheless engaged in a modernisation strategy, in terms of governance as well as materiality, in order to claim

## ARCHITECTURE

its relevance in the new geopolitical order. The wheels were set in motion for the promotion of a vast public works and urban improvement programme to be deployed in the metropole and in the overseas provinces alike. Thus, from the point of view of the successive liberal governments emerging from the Portuguese Civil War (1828–1834), what was left of the rather heterogeneous group of more or less autonomous territories scattered all over three continents was reformulated as the Portuguese Empire, and submitted to a projected centralising vision emanating from Lisbon.<sup>13</sup>

Situated at the epicentre of this global shift, Macao was one of the first Portuguese overseas territories to be the object of a vigorous strategy in favour of the state's full control in the management of its territory. In fact, when it came to matters of sovereignty, the Portuguese presence in China had always presented itself under a dubious status. To the Middle Kingdom, it was clearly no more than a lease for which the local Portuguese administration, the City Senate, paid since 1573 in the form of an annual fee, the so-called 'ground lease' (*foro do chão*). To the Macanese, this was a century-old obligation due by the city merchants to the Chinese Emperor, the 'owner of the ground' (*dono do solo*), as he was locally known.<sup>14</sup> Moreover, a 'divided sovereignty' system existed *de facto*, in which both Chinese and Portuguese customs, administrative and judicial authorities were established within the city limits, each responsible for the affairs of its own community.<sup>15</sup>

In the wake of the First Opium War, the Portuguese central authority decided to put an end to this state of affairs and unilaterally declared Macao as a 'Portuguese colony', on the same basis through which the Treaty of Nanjing had established British Hong Kong. However, because Macao had declared itself neutral during the conflict, its victor neglected to back the Portuguese initiative; the Portuguese delegates

were barred from the 1842 negotiations, and the plan failed. It was clear that the sovereignty issue would literally have to be resolved on the ground. New governor João Maria Ferreira do Amaral was appointed in 1846, an experienced naval officer, well tried in the Brazilian War of Independence as well as the Portuguese Civil War. Taking the Macao City Senate's opposition in his stride, he initially expelled Chinese officials from the city, claiming jurisdiction over all inhabitants, regardless of nationality, and claiming for the Portuguese Crown full sovereign rights to the walled city, as well as to the entire Macao Peninsula. Setting himself up as the representative of the new 'owner of the ground', Amaral abolished the 300-year-old lease, as well as the Chinese customs. His assassination, in 1849, eventually made him a hero of the Portuguese colonial enterprise in China.<sup>16</sup>

Nevertheless, his successors managed to counter Chinese effort to re-establish the divided sovereignty system, and a period of relative *pax portucalensis* followed. This lasted for over a century, up until the first meaningful protestations against foreign presence in China in general, and Portuguese presence in Macao in particular, already in the context of the establishment of the People's Republic of China in 1949.<sup>17</sup> In any case, the 1850s had opened up a period of political, social and economic stability in Macao, which was ripe to receive, by the influence of the public works engineers, the metropolitan material improvements and sanitation impetus and made it fructify. Accordingly, this modernising impulse centred on trade and communications infrastructure, particularly on what was perceived at the time as the main driver for the city's economic regeneration: the Inner Harbour.

Now, despite the quality of the extensive available bibliography on the pre-Opium War history of Macao, not many authors have delved into the actual production mechanisms and



## ARQUITECTURA

stages of this early modern urban landscape. One exception is architect Vera Mónica Gaspar Domingues, with her dissertation ‘Cultura e Património Urbanísticos de Influência Portuguesa na Ásia, 1503–1663’.<sup>18</sup> In the context of a comparative study on the consolidation of five urban establishments of Portuguese influence in Asia, and through a method of cross-referencing the written sources with morphological analysis, on which we will expand below, Domingues attempts to put forward a configuration hypothesis for the first Portuguese settlement in Macao, and its location and evolution over the sixteenth and seventeenth centuries.<sup>19</sup>

Other authors have used similar methods to map wider timeframes of urban transformation and expansion in overseas Portugal. Such is the case of Alice Santiago Faria, with her work *Architecture Coloniale Portugaise à Goa : Le Département des Travaux Publics, 1840–1926*, which examines these processes in four Portuguese State of India cities in the long nineteenth century, by relying on morphological configuration hypotheses to illustrate urban evolution.<sup>20</sup> In the same institutional framework as Domingues and myself, architects Lisandra Franco de Mendonça and Isabel Boavida at the University of Coimbra Heritages of Portuguese Influence Doctoral Programme, Architecture and Urbanism branch, as part of their respective research on the architectural and urban heritage of the former Portuguese provinces of Mozambique and Timor, have both put forward important contributions to the reconstitution of modern Maputo and Dili.<sup>21</sup>

However, the long-nineteenth-century modern urban transition in Macao remains largely under-researched. The work of reference regarding it may still be limited to Macao-based architect José da Conceição Afonso’s 1999 paper on Macao’s ‘experience in a strategic and hygienist urbanism in the late nineteenth and early twentieth centuries’.<sup>22</sup> In it, Afonso makes a

thorough account of the individual projects carried out during this period, referencing some of their underlying key legislation and urban planning theories. It tends to focus, however, mainly on the succession of failed harbour improvement plans, which leads to the overall conclusion that this was a time of decadence for both the province of Macao and the Portuguese Empire, stemming from the political and financial difficulties of a weak state in an unfavourable international setting.

The same can be said of German sinologists Peter Haberzettl and Roderich Ptak’s slightly earlier paper, which focuses exclusively on the Macao Inner Harbour works.<sup>23</sup> Based on a similar compilation of political, administrative and technical underachievement, the authors also settle for the idea of an imperial debacle manifesting itself through ‘mismanagement and administrative incompetence on the part of the Portuguese’, and leading to the ostensible ‘meagre results’ in terms of the city’s modern harbour infrastructure.<sup>24</sup> Setting their narrative against the sixteenth and seventeenth centuries’ so-called Macao’s golden age, and relying mainly on the Outer Harbour’s designer and champion, hydrograph engineer Hugo Carvalho de Lacerda’s 1920s account of past failures, the authors conclude by setting the performances of the Macao and Hong Kong harbours against each other in terms of international influence. This necessarily results in a note of disappointment for the former.

Otherwise, architect and historian Ana Tostões has also contributed to current knowledge on these matters with some of the entries on both the print and website versions of the HPIP — Património de Influência Portuguesa/Heritage of Portuguese Influence database regarding the urban and infrastructural development in Macao in the nineteenth and twentieth centuries.<sup>25</sup> Given its premise as an overview, though, and despite its thoroughness in terms of the number of important items

## ARCHITECTURE

surveyed, it tends to focus more on the fast-paced post-Second World War to the turn of the twenty-first-century reclamations, extensions and architectural achievements, which are fairly well researched, much like the early modern era.<sup>26</sup>

With this thesis, I have thus set out to fill the gap in the current knowledge on the long-nineteenth-century history of public works and urban planning in Portuguese Macao. Or, in other words, I focus on the history of the province's transition into a modern urban landscape. In nineteenth-century bibliography, namely in this study's primary sources, the terms 'modern' and 'modernly' are used, albeit sporadically, to signify 'present', 'current' or 'recently', in sentences such as 'modern requirements', 'modernly underway' or 'modernly finished'. From the 1860s onwards, these terms are literally employed to convey the idea 'of today', 'of present time', without necessarily hinting at the industrial-age notion of progress. In the 1850s and 1860s, the most common term to convey this notion in the context of architectural and urban change was rather 'improvement' (*melhoramento*). From the 1880s onwards, 'sanitation' (*saneamento*) came into use largely as its synonym, due to the influence of the developing environmental branch of public health.<sup>27</sup> As Macao Public Works Director Miranda Guedes puts it in the introductory quote, 'sanitation' was not only related to potable water and drainage, but was more of a general concept, encompassing both infrastructure and urban regeneration in its scope.

The notion of progress was crucial in European urban milieux from the 1850s onwards. Within the circle of the Portuguese liberal elite, its association with the idea of freedom stemmed from the French economists-inspired theory of the 'political economy of material improvements',<sup>28</sup> according to which investment in large-scale public infrastructure, such as the national road and railway systems, and later in urban planning, was seen as a fundamental component of what the

great politician and historian Alexandre Herculano deemed 'the progress of civilisation'.<sup>29</sup> That is to say, such investment was envisioned as the betterment of mankind through the advancement of transport and communication technology. Thus, the association of the idea of progress to the present time, or the vision of modern time as a time of progress, in the context of industrial-age liberal societies, eventually lead to the emergence of the adjective 'modern' with its current progressive connotation.

The image of the 'proper modern city, filled with air and light',<sup>30</sup> formulated in the context of Macao's urban transformation in the early 1900s, for instance, is a translation of this idea into the sphere of urban theory and practice. Indeed, looking at the 'urban factory' in the industrial age, or *fabrique de la ville*, through the prism of history of science and technology, we will find that the techno-scientific experts, such as the public works (civil and military) engineers, and public health physicians employed in the imperial network, sometimes ascending to provincial government or even to ministry status, were precisely the major vectors of expansion of the progressive urbanism model in the long nineteenth century.<sup>31</sup> Nourished by the general theorists of political economy, whose writings also circulated through the imperial network, they set about effectively changing the face of the industrial urban landscape from the 1850s onwards, from the arrival of the railway connection and the improvement of port facilities, to quite literally penetrating the old historical fabrics to foster the ever-increasing circulation of people and commodities. Thus, it might be argued that, even if their approach to the city was indeed, as claimed by anthropologist Paul Rabinow, 'as a technical object to be worked on, improved and regulated'<sup>32</sup> with hygiene and circulation as top priorities, their ultimate goal was the betterment of society and the progress of civilisation, certainly making them the modern avant-garde.<sup>33</sup>

0 200 m 400 m 1000 m

1838



Fig. 1: The Macao Peninsula in 1838. Interpretation of the 1838 historical map superimposed on the 2015 general map. Location of the Chinese Bazaar, setting for Chapter I of the thesis. Mapping work by the author.



As such, from the first reclamation project for the realignment and expansion of the Macao Inner Harbour in 1856 to the shutdown of its improvement project in 1919, this thesis is structured as a historical timeline interwoven with related thematic axes. As this timeline unfolds, it tells the story of political, economic, social and urban transition in Macao, unfolding throughout five chapters, each dedicated to an emblematic project.

## MODERNISING MACAO

The first two chapters focus on a sequence of Inner Harbour urban extension projects, planned and carried out by the public works engineers (Fig. 1). Starting in 1856, in the aftermath of a terrible fire in the heart of the so-called Chinese Bazaar (*Bazar Chinês*), and throughout the following 30 years, these projects completely transformed the old riverfront, simultaneously reinforcing the Portuguese government's claim to exclusive sovereignty over the Macao Peninsula (Fig. 2). Taking advantage, so to speak, of the instability of the 1850s on the Pearl River Delta region following the First Opium War, the Portuguese government unilaterally proclaimed Macao as a

'colony', with a fundamental expression in the control and management of the urban ground. It is in this context that the reconstruction of the Chinese Bazaar must be understood, together with the introduction of the first-ever in Macao cadastral and population surveys, government-registered property titles, property taxes and new building regulations.

Clearly, it wasn't just a question of transforming the city, but of applying a panoply of instruments of scientific measurement, knowledge, and interconnected judicial regulation to assert Portuguese administrative legitimacy, particularly in regard to its Chinese communities, old and new. The booming city building and urban regeneration enterprise, in Macao as throughout the post-Opium War European concessions in the South China Sea, became a proverbial land of opportunity for local Chinese fortunes. The Bazaar's first government-led reconstruction and expansion within a 30-year time span, for instance, saw the emergence and consolidation of a fundamental bond between Portuguese sovereignty and Chinese entrepreneurship, which proved to be decisive in the making of Macao's modern urban landscape in decades to come.



Fig. 2: The transformation of the Chinese Bazaar (1838–1884). In the map of 1838, the red line represents the sixteenth-century shoreline; the blue line represents the historical *intramuros* main road. Mapping work by the author.



## ARQUITECTURA



Fig. 3: Shophouses at Beco da Felicidade, 2018. On the right, we can see the back façades of the Rua da Felicidade shophouse. On the left are the main façades of the Beco shophouse. Photograph by Tomás L. I. Lam.

As such, in the new Bazaar districts, the public works engineers' geometrically regular urban layout fostered the emergence of the shophouse architectural typology (Fig. 3). Designed, financed and built by Chinese entrepreneurs, it quickly developed into the city's preferred instrument for the maximisation of house space and urban density, in close relationship with the urban landscape liberal management model introduced in China in the context of post-Opium War development in Western concessions such as Hong Kong and Macao. Built by adapting the southern China regions' low and middle-class housing architectural and construction vocabularies and materials to the space

optimisation effort of the real estate development plan, the shophouse residential and commercial unit subsequently spread throughout the Western settlements in Southeast Asian harbours, by the hands of the same Chinese diaspora.

This institutional and entrepreneurial dynamic, together with exceptional circumstances brought about by a series of epidemic occurrences in the Pearl River Delta region towards the end of the century, among which the 1894/1895 bubonic plague outbreak that turned into a pandemic definitely had the most enduring impact, fostering the first urban sanitation experiences in Macao, which are the subjects of the two following chapters (Fig. 4).

Directed exclusively towards the Chinese working-class districts, deemed unhealthy and uncivilised, these operations aimed to establish, first and foremost, generalised water and drainage infrastructures, which were considered to be, by the industrial-age technoscientific experts in the Chadwickian tradition, the base of the modern urban hygiene and material improvement philosophies regarding the city. Coupled with the proclaimed universal prophylaxis/panacea of ‘air and light’, which was starting to be codified at that same time, through the shared knowledge of similar operations throughout the overseas European settings, into the rules of urban planning for the tropics, or ‘tropical planning’, this sanitation strategy targeted three of the oldest and most precarious districts of Macao, Horta da Mitra, Horta de Volong and S. Lázaro, with the city’s first land resumption operations, followed by rational, geometrically regular, urban restructuring plans (Fig. 5). The latter operation, carried out over the turn of the century, also set the stage for the evolution of the traditional shophouse into an avant-garde hygienic housing typology (Fig. 6), catching the eye of famed tropical hygienist Dr. William Simpson (1855–1931), who included it in his compendium of solutions for tropical planning, as a virtuous example of the replacement of a ‘diseased’ urban tissue for a ‘sane’ one, to be shared through the Western imperial technoscientific network.

On the crest of such achievements, the local administration turned its eyes back towards the Chinese Bazaar, the city’s last symbolic stronghold of the old, divided sovereignty system and its century-old practices of *laissez-faire* space appropriation. Here, the public works engineers’ hygienist ambition produced a series of large-scale improvement projects which, inspired by the Lisbon experience, itself strongly influenced by the formal and judicial Parisian model, suggested not only the urbanisation of the whole agricultural northern periphery, but



Fig. 4: The Macao Peninsula in 1889. Interpretation of the 1889 historical map superimposed on the 2015 general map. Location of the Chinese Bazaar, setting for Chapter IV of the thesis, as well as of the Horta da Mitra, Horta de Volong and S. Lázaro districts, setting for Chapter III, and of the Patane district, setting for Chapter V. Mapping work by the author.

also the obliteration of almost every single historic district under an all-encompassing regular grid (Fig. 7). This was not to be, though, and the pre-industrial landscape in Macao remained largely unscathed, despite the opening of the Chinese Bazaar New Avenue (currently Avenida de Almeida Ribeiro), connecting the Inner Harbour to the heart of the town. The emblematic gesture of cutting through one of the city’s oldest districts, the ‘gutting’ of the Chinese Bazaar stood, in the sanitary view, as the quintessential geometrical solution, or infrastructural instrument, to a pre-industrial town’s negotiation in urban modernity and sanitation. This was its marker of modernity, so to speak.



## ARQUITECTURA

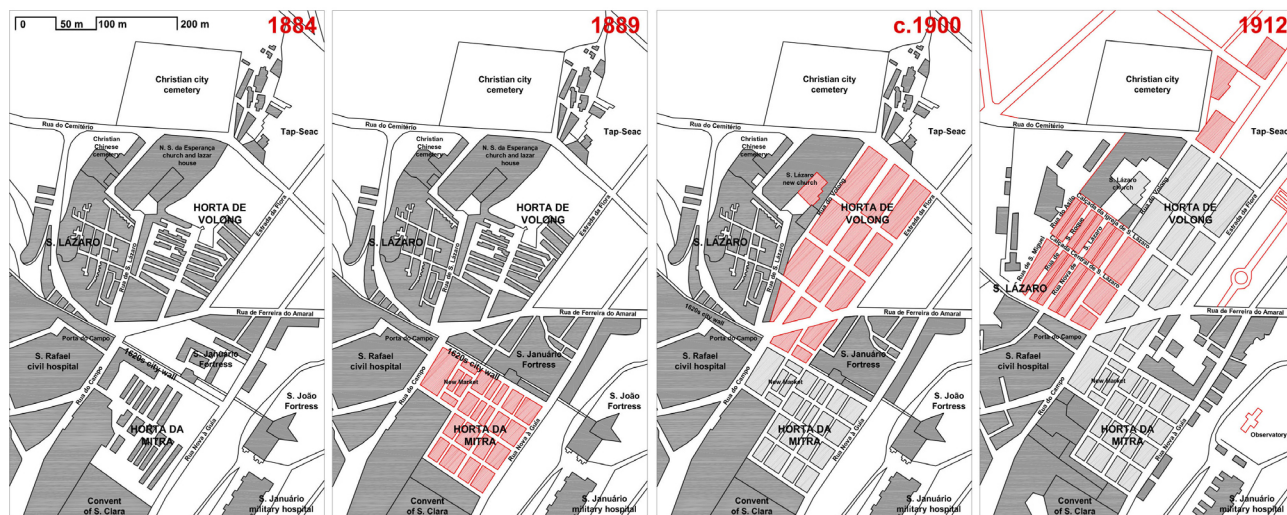


Fig. 5: The transformation of the Horta da Mitra, Horta de Volong and S. Lázaro districts (1884–1912). Mapping work by the author.

Regardless of these achievements, and throughout the many formulations of the Macao general improvement plans, from the 1880s to 1919, the highlight of the city modernisation process was, in the minds of the many officials involved during its 40-year discussions, the Inner Harbour Improvement Project, subject of the fifth and last chapter (Fig. 8). It would never come about, though, to the dismay of the Portuguese overseas experts and strategists who still dreamt of the province's economic and geopolitical renaissance, mainly due to intertwining local and metropolitan causes engaging in delicate and unresolved issues of regional politics, namely the everlasting sovereignty dispute over the Macao Peninsula and its territorial waters.

### METHODOLOGY: NORMS + FORMS OF URBAN TRANSITION

As previously mentioned, the historiographic path focusing mainly on the built landscape and territorial management has provided some exciting contributions to current knowledge regarding the 'norms and forms'<sup>34</sup> of nineteenth-century European, namely Portuguese, public action. Authors such as geographers Miguel Sopas de Melo Bandeira

and Mário Gonçalves Fernandes, both studying urban planning and city management in northern Portugal,<sup>35</sup> were some of the ground breakers. As we have seen, Ana Cardoso de Matos, Tiago Saraiva, and Marta Macedo expanded this field by focusing on the engineers and early public works departments. Those authors working on empire-building through similar perspectives, such as the above-mentioned Maria Paula Diogo and Bruno Navarro, have also added to this knowledge.

However, and with some rare exceptions, such as the already-mentioned research led by architectural and urban historians, such as Alice Santiago Faria, Lisandra Mendonça and Isabel Boavida, to which we may add that of architect Margarida Relvão Calmeiro on the city of Coimbra,<sup>36</sup> there has not been a concerted effort to engage in mapping this transition to modernity. Borrowing again from Paul Rabinow, we now know quite a bit about the 'norms' of the long-nineteenth-century Portuguese modernity, but what about its 'forms'? I have thus decided to tackle this issue, naturally within the scale limits and time span of this study, and illustrate the history of urban transition in Macao with an interpretative work of mapping, as well as with a



Fig. 6: S. Lázaro district, 2022. Photograph by the editorial team.

written dissertation. In this sense, this thesis is both a written and graphic manuscript, aiming to establish a more integrated perspective over the urban transitions at hand, be it in terms of social, political, or techno-scientific intent.

### MAPPING THE FORMS

Given the aim of reconstituting a page of urban planning history, I first relied on a collection of historical maps. Through a method of cadastral analysis and projections on urban morphology, I have sought to overlay the information contained in these maps on the current general map, so as to interpret the city design at different times, but under common morphological baselines (example with the 1866 general map on Fig. 9).<sup>37</sup>

For each chapter, as seen in the previous section, I have opted for producing separate specific sets of detailed maps depicting the stages of each emblematic project's individual

transformation process. In the first three chapters, this set of maps features a chronological sequence, with the purpose of conveying, at a glance, a clear and integral picture of the urban transformation at hand. At this scale, I have engaged in producing what I have called 'configuration hypotheses', depicting some of the key intermediary stages of the transformation process which aren't featured in the historical cartography. This original mapping work is primarily based on the comparative 'interpretation' of selected historical maps, which is cross-referenced with information from other primary sources. The typical chronological board is thus composed of excerpts from the aforementioned general interpretation reference maps, which are dated accordingly, and of these 'configuration hypotheses', which are dated as 'circa the specific year', to stress them as interpolations.

In the last two chapters, the mapping work had to do mostly with transposing the morphological information emerging from a collection of



## ARQUITECTURA

restructuring projects into a common reference, in order to facilitate a comparative analysis. I have thus adopted a sort of linear combination of the maps, as we can see here regarding the Chinese Bazaar New Avenue Project featured in Chapter IV, or the Harbour Improvement Project featured in Chapter V.

## TRANSCRIBING THE NORMS

In addition, and given that this research is mostly focused on government-sponsored urban interventions, the main ground for gathering

primary sources was naturally the metropolitan and local governmental archives. Generally speaking, the available archives are those of the Central Administration departments, consisting of the correspondence and other forms of exchange between, on the one hand, the Governor of Macao and the departments under its administration, through the Secretary-General of the Government of Macao (*Secretaria Geral do Governo de Macau*) and, on the other hand, the Governor of Macao and the Ministry of the Overseas (*Ministério do Ultramar*), through the Overseas Directorate-General (*Direcção-Geral*



Fig. 7: The transformation of the Chinese Bazaar, site of the New Avenue Project (1903–1907). The Chinese Bazaar in 1903. The 1907 Miranda Guedes Chinese Bazaar Improvement Project (based on the 1907 Bazaar historical map 'Cidade de Macau. Projecto de Melhoramentos no Bairro do Bazar', 30 November 1907, AHU, AHU/ID-OP/OP15656). Mapping work by the author.

## ARCHITECTURE

*do Ultramar*). The archives belonging to the former Ministry of the Overseas, in all its forms and since its establishment in 1834 to its extinction in 1975, are kept in the Overseas Historical Archive (*Arquivo Histórico Ultramarino*) in Lisbon. Those pertaining to the former Portuguese government of Macao are kept in the Archives of Macao (*Arquivo de Macau*) in the Macao SAR. I was unable to research the local Public Works Department (*Serviço de Obras Públicas de Macau*) archives, which also remained in Macao after the 1999 Handover, as they are currently inaccessible to the general public.<sup>38</sup>

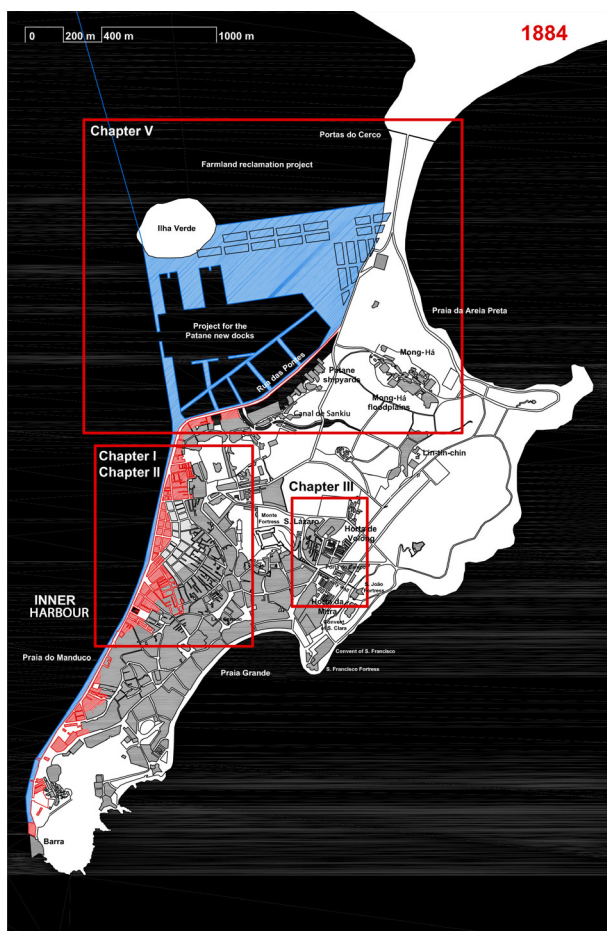


Fig. 8: The Macao Peninsula in 1884, featuring, in blue, Adolfo Loureiro's 1884 Inner Harbour Improvement Project. Interpretation of the 1884 historical map superimposed on the 2015 general map. Location of the Chinese Bazaar, setting for Chapters I and II, as well as of the Horta da Mitra, Horta de Volong and S. Lázaro districts, setting for Chapter III, and of the Patane district, setting for Chapter V. Mapping work by the author.

In general, public works and urban planning issues appear in the records of these Central Administration exchanges, blended with a plethora of other general affairs topics, when there is a need for a consultation or authorisation by the corresponding maximum authority. This is a fairly straightforward process in the 1900s, for example, when large-scale restructuring projects were sent from Macao to Lisbon for financial and general approval. In such cases, such as the Inner Harbour or the Chinese Bazaar improvement projects, the corresponding manuscript reports and plans have been preserved in the Overseas Historical Archive in Lisbon. When we start going back in our chronological timeline, however, we see that projects made by Macao's public works engineers from the 1880s and 1890s are entirely absent from the Lisbon archive. This indicates that their respective authorisation and financing was decided locally by the governor. This local validation process, in turn, meant that manuscript reports and plans transitted between the Macao Public Works Department and the Government Secretary-General, thus having been kept until now in the Archives of Macao Civil Administration (*Arquivos da Administração Civil de Macau*) collection. In respect to projects dating from before the official establishment of the local Public Works Department in 1870, if manuscript documentation exists, it is wholly absent from both the metropolitan and the local general administration funds.

Therefore, when analysing urban interventions from the 1850s to the 1870s, the indispensable primary sources are, on the one hand, the historical maps and, on the other hand, the descriptions from several written sources. These could be references to special events or to a specific work that was being done cited on local or metropolitan correspondence, but also in an indispensable source for this early period: the *Boletim Oficial*. If, by the 1900s, this weekly publication started to focus primarily on

## ARQUITECTURA

local legislation, in the mid-nineteenth century it was a sort of local weekly newsletter, publishing anything from inauguration discourses, to the surgeon-general reports, to news of fires and other natural catastrophes that regularly fell upon Macao. Thus, as part of the work of gathering primary sources, and to complement the archival research, I have conducted a thorough survey of the *Boletim Oficial* pages from 1850 to 1920, registering all entries related to public works and urban intervention, as well as statistics, legislation, construction regulations, municipal and governmental budgets, etc.

The collection and thorough processing of primary sources allowed not only for the identification of the five main themes that form the chapters of this thesis, but also for the main actors of these changes to stand out: those in positions of power, the Portuguese governors, responsible for the decision-making process and for negotiating, when called for, with the metropolitan administration; the Portuguese public officials, all from a military background, in charge either of the public works engineering posts, or of the public health medical ones; technical specialists sent from the metropole on short-term missions to study specific issues; city senators, all Macanese of mixed-ethnicity, elected citizens in charge of the reduced scope of municipal affairs; and the Chinese entrepreneurs, heads of the powerful Fujian and Guangdong families who, throughout the nineteenth and twentieth centuries dominated the city's economy.

With the purpose of rendering this ensemble of these primary accounts easier to process for present as well as future research, a long and demanding transcription work was conducted, including not only the manuscript material, but also machine-typed material from the 1900s, as well as some of the most significant entries published on the *Boletim Oficial* of Macao.

The assembled (and non-transcribed) primary

sources also include contemporary published material by some of the narrative's main actors: reports on technical or medical problems, for example, which the central government deemed important enough to warrant dissemination outside of administrative circles. Such was the case of the many Inner Harbour improvement schemes, or of some medical reports on critical subjects, such as the account of the Public Health Director (*Chefe dos Serviços de Saúde de Macau*) regarding the 1895 bubonic plague epidemic.

The processing of these primary records relating to Macao was complemented by research on contemporary published texts providing additional insights on matters of philosophy and theory behind the urban changes at hand. These ranged from travelogues from European sources touring the Orient in the nineteenth century and featuring depictions of Macao's physical and social landscape, to more specific issues, such as public health and sanitation, tropical medicine, material improvements and urban renovation.

Finally, for the purposes of comparing the Macao experience in modernisation with other Portuguese case studies, as well as with similar experiences in the European imperial network, I have resorted to secondary sources, ranging from general histories to monographic studies.

## PLACING URBAN HISTORY AT THE HEART OF HERITAGE MANAGEMENT

This last section makes the link between the importance of increasing knowledge of the history of modern planning and devising better informed strategies of urban heritage conservation. In this sense, it is meant as a reflection on the possible operational interest of the thesis in the context of current urban planning practices in the Macao SAR.<sup>39</sup>

The post-Handover inscription of the Historic Centre of Macao on the World Heritage List in 2005 promoted its representation as a meeting place of



cultures and interweaving of influences between the East and the West, emphasising the enduring spirit of tolerance and respect between its diverse communities throughout the centuries.<sup>40</sup> However, and somewhat paradoxically, in what concerned the city, the configuration of the protected areas, by leaving the historical Chinese districts out entirely, resulted, in my view, in perpetuating the old stereotype of the Chinese and Christian cities living back-to-back. It created an artificial frontier which, exacerbated by a conservation rhetoric mostly focused on the city's remarkable buildings while failing properly to assess their urban context, ended up establishing, to some

extent, a static 'city-monument' at the heart of a fast-changing urban landscape.<sup>41</sup>

The configuration of the Historic Centre of Macao protected areas and buffer zones was the result of a strategic effort which was developed since the first application for inscription on the World Heritage List in 2001, entitled ‘Historic Monuments of Macao’, and consisting in stitching together the protection zones of each individual monument established by local legislation into a coherent general area.<sup>42</sup> In the 2004 revised version of the application, this piecemeal strategy was combined with the idea of determining the main buffer zone’s

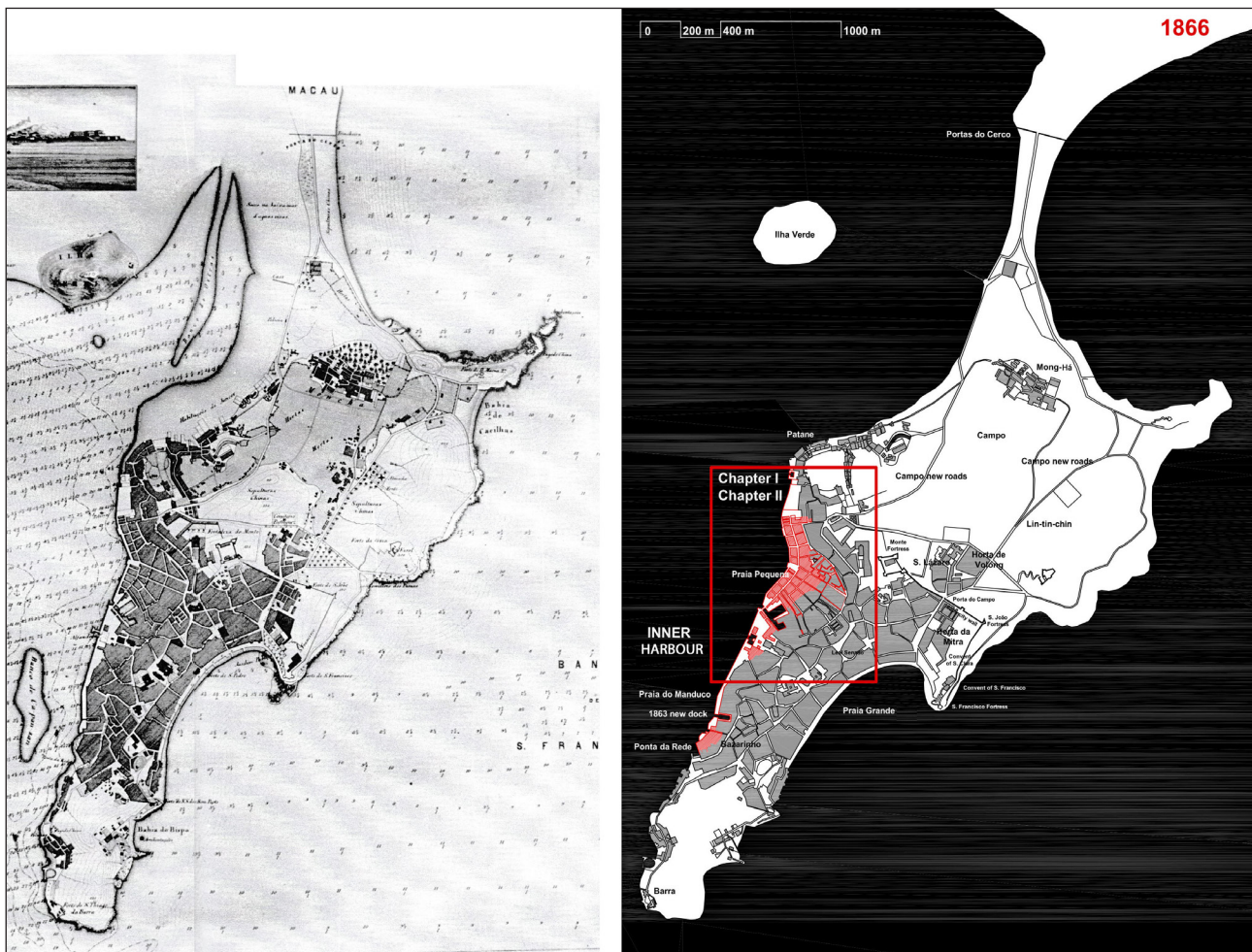


Fig. 9: Mapping the FORMS. The 1866 historical general map of the Macao Peninsula: 'Macao com as Ilhas e Costas Adjacentes feita por Mr. W. A. Read, 1865-6', Bibliothèque Nationale de France, Paris, France. Interpretation of the 1866 historical map superimposed on the 2015 general map. Mapping work by the author.



## ARQUITECTURA

limits by following, as closely as possible, the layout of the sixteenth-century river and sea banks. The purpose of this strategy, which was based, as we have seen, on the 1980s and 1990s late Portuguese administration's research on the city's early modern morphological evolution, was effectively to shift the focus of the application from a list of monuments to two historical urban areas. This was done in order to 'better represent the structure of the original settlement of Macao, enhancing its Outstanding Universal Value through a more coherent connection between its architectural monuments and the urban structures and public spaces that, as a whole, bear witness to its historical and cultural singularity'.<sup>43</sup> The emergence of the Historic Centre of Macao no longer exclusively focused on the heritage value of the city's most remarkable architecture but, at least theoretically, recognised this same value on its urban fabrics as well.

However, by adopting an urban heritagisation strategy primarily based on those early morphological studies and how they could help regroup the classified monuments into a coherent perimeter of protection, the 2004 application, which was accepted by UNESCO the following year, effectively excluded from consideration of heritage value all areas and districts established or consolidated beyond the sixteenth-century Inner Harbour limits. More specifically, it excluded the two most popular and populated Chinese districts of Praia do Manduco and Bazaar, as well as practically all restructuring and reclamation areas from the nineteenth and twentieth centuries.

This result had its roots, most probably, in a permanent hesitation, in the administration's discourse, between building and site, monument and urban setting, as the appropriate repository of heritage value. The evaluation of ICOMOS (International Council on Monuments and Sites) reflects this hesitation in 2005, oscillating between the 'historical route', the 'historical fabric', and the 'monuments and public spaces' as material

bearers of the history of Macao.<sup>44</sup> In turn, this hesitation can be traced to the legacy of the late Portuguese administration's heritagisation models, as expressed in the Portuguese national legislation on conservation in the 1980s and 1990s,<sup>45</sup> itself heavily influenced by the French pioneering legal and operational practices in the same field in the 1960s. Having emerged as a reaction to the widespread destruction of historic centres, which was guided by the modern principles of hygiene and circulation whose influence we saw developing increasingly from the nineteenth century onwards, the mid-twentieth-century French experience was, in fact, deeply centred around the preservation of the monument and of its visual associations. Its ground-breaking character fostered, through the following decades, many national and international sets of legislation, namely after the establishment of the World Heritage Convention in 1972, based on the same Western and technocratic principles of what may or may not be considered to have heritage value, and what tools may be deployed to best protect its integrity.<sup>46</sup>

However, if retracing the institutional and legal framework of the Historic Centre of Macao can bring to light some of the factors determining the character of its classified property and the layout of the respective buffer zones, it cannot account for everything. The exclusion of certain districts from these perimeters of protection in benefit of others is also, most certainly, a reflection of a lack of historical knowledge of the fabrics, morphology and landscape, in sum, of the material forms of the Portuguese settlement of Macao, particularly with regard to its modern transformation. For if the property's outstanding universal value resides on it bearing material evidence 'of Western and Chinese cultural interchange' in the form of 'special organisation concepts, architectural styles, aesthetic ideals, artistic workmanship and technological interchange',<sup>47</sup> the inclusion of,

## ARCHITECTURE

for instance, the Chinese harbour districts in the discussion would have certainly complexified and expanded the parameters by which this particular heritage is understood, more specifically in terms of reassessing its identity.<sup>48</sup>

As had been the case with the Shanghai *lilong* in the 1980s,<sup>49</sup> the accelerated demolition of the Macao Inner Harbour areas, especially from the early 2000s onwards, created a renovated interest in these ‘forgotten’ urban structures. Raising awareness of their social role, new research, such as architects Weijen Wang and Cheok Kio Cheong’s study of the historical Chinese *pátios* of Macao, endeavours to establish an inclusive narrative of urban heritage that aims at recognising ‘ordinary’ residential architecture, specifically one that might convey what can be construed as Macao’s ‘Chineseness’, alongside the predominantly Portuguese/European classified monuments.<sup>50</sup> For, as the authors point out, ‘neither included in the mainstream discourse of Macao’s historical architecture and urban spaces, nor included in the list of heritage buildings for protection, these Chinese urban patterns and historical buildings have been left out from efforts of urban conservation and are gradually being wiped out under the process of rapid urban development.’<sup>51</sup>

However, this isn’t entirely true, as some parts of the Chinese Bazaar are indeed protected under local heritage legislation, although somewhat unwittingly, as this results from the presence of some remarkable building or public space and their respective protection zones. This is the case, for instance, of the area surrounding the Pagode (Chinese temple) in the old Bazaar, of Rua da Felicidade in the new Bazaar, or of Avenida de Almeida Ribeiro, cutting through precisely the old Bazaar, from the Inner Harbour to the Praia Grande bay. They remain, however, as does the whole of the Bazaar, entirely excluded from the World Heritage main buffer zone. As mentioned,

this is due to the choice of outlining the protected area, on its Inner Harbour side, by following the old sixteenth-century shoreline which established the Chinese vs. Christian unofficial city ‘border’. And so, through lack of adequate preliminary research on the history of this urban landscape and the intricate ties it maintained throughout the centuries with its neighbour, its heritage value was severely undervalued, leading to an overall deficit of legal safeguard instruments to protect it.

With this thesis, I am hopefully contributing to putting the so-called ‘Chinese’ historical fabric of Macao back in the city’s territorial planning narrative. Indeed, this is the history to which it had belonged, from the first harbour expansion projects in the 1850s, to the continuous restructuring of the riverfront over the following 150 years, until the barriers of heritagisation in the early 2000s. More than that, this research will help to question the narrow approach to the issue of heritage identity that is almost exclusively based on visual assessment, putting forward the notion that, whether Western or Eastern-looking, early-modern or modern, the built and morphological heritage of Macao bears witness, as a whole, to centuries of collaboration, negotiation and compromise between its communities, and that, putting it in the very pragmatic terms of operational urban planning, within which scope must fall heritage management, one should be indissociable from the other.

In this sense, I argue that the reassessment of urban heritage identities and values through comprehensive primary-source-based historical research should be posited as an indispensable part of the initial surveys pertaining to the implementation of management strategies. I also argue that, among the currently developed strategies, the Historic Urban Landscape (HUL) approach is the better suited to put this knowledge to use, in its proposed paradigm-changing transition from the twentieth-century

## ARQUITECTURA

heritage ‘conservation’ intellectual traditions and practices, to a more twenty-first-century-oriented perspective on ‘managing change’.<sup>52</sup> Indeed, as HUL pioneer theorists Francesco Bandarin and Ron Van Oers put it, ‘urban heritage conservation has become a moving target, to which a static, monumental approach, as inherited from the previous century, is wholly inadequate, or may become perhaps downright destructive.’<sup>53</sup> This appraisal quite literally describes the conservation issues of historic sites under severe development pressure, such as Macao’s divided landscape, as we have seen.

Meant as a tool to ‘change the conversation’ from the traditional approach to urban heritage from monument, to protection zone, to historic centre, the UNESCO 2011 *Recommendation on the Historic Urban Landscape* puts heritage management at the heart of urban planning, in order to steer urban development into reconciling the necessary and natural new interventions and extensions with the conservation of the inherited urban fabric in environmentally sustainable development processes.<sup>54</sup> The choice of the comprehensive and inclusive ‘urban landscape’ concept in this context is namely one that I have found particularly useful and therefore adhered to in this thesis, in defining the city’s wider geographical and intangible settings. These settings include: ‘The site’s topography, geomorphology, hydrology and natural features; its built environment, both historic and contemporary; its infrastructures above and below ground; its open spaces and gardens, its land use patterns and special organisation; perceptions and visual relationships; as well as other elements of the urban structure. It also includes social and cultural practices and values, economic processes and the intangible dimensions of heritage as related to diversity and identity.’<sup>55</sup>

In terms of the ‘historic urban landscape’, the concept encompasses all the former parameters as a

‘result of a historic layering’ of cultural and natural attributes.<sup>56</sup> When assessing its value, therefore, I argue that one must strive to consider not only reflections on identity, where the question ‘whose heritage is this?’ brings with it ideas of otherness and borders, but must dare to approach the city and its multi-layered history through this integrated point of view, where the question hopefully becomes ‘how does this urban and architectural form translate the human complexities in its genesis?’ Particularly when it comes to landscapes fashioned by the colonial encounter, where this assessment often intertwines with identitarian ownership, this ‘borderless’ approach may better steer scientific objectivity towards the recognition of universal value in the parts, leading to a more all-encompassing safeguard of the whole.

## PERSPECTIVES ON MODERNITY AND CONSERVATION

Focused on shedding light on the advent of nineteenth-century modernity in Macao through the prism of urban history, this thesis has undertaken to observe and make sense of urban transformation. It has tried to unravel, in both written and mapping forms, the attempts at transition of this Portuguese provincial city, from ‘unsanitary’ to ‘sanitary’, from geometrically ‘disordered’ to ‘planned’, from ‘divided’ in its sovereignty to ‘united’. A process of transition effectively centred around the gradual destruction, restructuring and expansion of an early modern urban landscape in the name of the province’s progress and socio-political regeneration. In Macao, as in most Portuguese and European cities throughout the world, the material result of this process would be something akin to an achievable modernity by an achievable empire, in the sense that it was an adequate compromise reached between the techno-scientific experts’ vision and the state’s political, financial and social means to achieve it.

## ARCHITECTURE

As it grappled with urban transformation, however, this thesis also had another product of nineteenth-century modernity in mind: heritage conservation (here we have the Historic Centre of Macao classified property and buffer zones). Although this would definitely make for another exciting topic of research, here it was envisioned as a possible operational path for the thesis in the context of current urban planning practices in the Macao SAR. The idea was to start an approach to heritage conservation in the context of a more integrated sort of city planning by increasing historical knowledge on its lesser known strata, in order to better understand and consequently better evaluate the heritage value of the whole. So, going beyond the buffer UNESCO zones, this included the Chinese Bazaar shophouse typology, its evolution into middle-class residential districts in a tropical planning experimentation context, the old districts' gutting and restructuring projects, new avenues, city expansion and the disappearance of traditional agricultural settings and communities, new coastlines, new grounds, new harbours, and ever-changing connection channels to local and international interests.

Even in present-day Macao, with its status as the gambling capital of the world, I believe that,

when appropriately integrated in the planning tools, the operationality of historical knowledge on the layering of the urban landscape may hold a key to taking the World Heritage property from tourist attraction to instrument and guarantor of a more sustainable urban change. To conclude, and looking towards a broader perspective within the post-colonial conceptual framework, itself still very much under the influence of the lasting Eurocentric vision of the world produced by the age of imperialism, setting modern vs. traditional environments and equating these respectively with Western vs. non-Western societies, the purpose of producing globally aware case studies must be to help dissolve these dichotomies into a more complex, multcentred, architectural and urban history. As such, by shedding light on the Third Portuguese Empire's political, juridical and administrative machinery, this thesis may also contribute to foster current discussion on disassembling some common misconceptions regarding the Portuguese's failure in the nineteenth-century modernisation and weak imperial power, and to reconcile the historiographical understanding of metropolitan and peripheral, Northern and Southern (European), Western and non-Western modernity into a single, if diverse, narrative of modernity.**RC**

Extract from doctoral dissertation of the same name on *Heritages of Portuguese Influence: Architecture and Urbanism*, presented to the Institute of Interdisciplinary Research, University of Coimbra, Portugal, on 14 February 2022.



## ARQUITECTURA

## NOTES

- 1 Original excerpt in Portuguese, 'Desde há muito que se cuida do saneamento de Macau, a vetusta cidade por ousados portugueses erigida nas anfractuosidades dos áridos e desnudados penhascos, e por sobre os tímidos paus, da minúscula nesga de terras que constituiu a primitiva concessão portuguesa de 1557. Tudo, por assim dizer, é artificial na cidade. [...] Cortes e aterros têm sido outras tantas parcelas dessa operação que, antes de se traduzir em uma palavra hoje consagrada, o saneamento, representou a conquista de espaços precisos ao estabelecimento da colónia crescente. Macau, como todas as velhas cidades, mesmo não influenciadas como esta pelos mesquinhos hábitos chinês, em matéria de higiene, não obedeceu no seu início, e só desde há muito pouco mesmo obedece, a regras e princípios da higiene urbana. [...] Mui se fez já, muito se vai fazendo hoje, mas muito mais há ainda a fazer de futuro. [...] Natural não é, porém, que se passe de repente do mau ao ótimo. E assim do que hoje é Macau, sem podermos pretender que se faça uma grandiosa cidade, pensemos e empenhem-nos ao menos em que se faça uma cidade perfeita. Para alvejar esse fim, incruenta luta é preciso travar; há muito que destruir para quase tudo reedificar. [...] Concluídos esses planos de novos alinhamentos e de novos bairros, relacionados com as linhas gerais dos melhoramentos do porto, deve e é tenção fazer-se dele um plano de conjunto, em escala reduzida, para o divulgar. Obedece-se assim ao duplo intuito de tornar conhecido em todo o Extremo oriente [*sic*], em que Macau ia perdendo direito do lugar que lhe pertence, o seu progresso e a sua remodelação, e de interessar por esses melhoramentos a população e forças vivas da colónia.' (AHU/ID-OP/OP15659)
- 2 Originating from the work of British historian Eric Hobsbawm, 'the long nineteenth century' defines the historical period lasting from the French Revolution of 1789 up to the start of the First World War in 1914. See Eric Hobsbawm, *The Age of Empire: 1875–1914* (London: Weidenfeld and Nicolson, 1987), 6. The author divides this period, through which he analyses the dual political French revolution and industrial British revolution, into three separate works: *The Age of Revolution: 1789–1848* (1962), *The Age of Capital: 1848–1875* (1975) and *The Age of Empire: 1875–1914* (1987). In both chronological and thematic terms, this study focuses on Hobsbawm's 'Age of Capital' and 'Age of Empire' within the long nineteenth century.
- 3 Andrew Porter, *European Imperialism 1860–1914* (London: Palgrave Macmillan, 1994), 2.
- 4 Porter, *European Imperialism*, 2.
- 5 Anthony D. King, *Urbanism, Colonialism and the World-Economy. Cultural and Spatial Foundations of the World Urban System* (London: Routledge, 1991), 2.
- 6 On the issue of colonial techno-scientific networks and circulations of people, knowledge, practices and things considered in a post-colonial frame, besides the pioneering work of Anthony D. King, see Jiat-Hwee Chang's research tracing the origins of tropical architecture to the nineteenth-century British military technologies, medical theories and sanitary practices: *A Genealogy of Tropical Architecture: Colonial Networks, Nature and Technoscience* (London and New York: Routledge, 2016). Chang namely draws on the 1980s and 1990s social studies-based Actor-Network Theory (ANT) developed by Michel Callon, Bruno Latour and John Law. For an approach to the ANT and how it may connect with Architectural History in studying the former Portuguese Asian provinces, see Alice Santiago Faria, "Arquitectura e Mobilidade, ou Questões em Torno de Interinfluências nas Obras Públicas nos Antigos Territórios do Oriente Português," in *Mobilidade e Circulação. Perspectivas em História da Ciência e da Tecnologia*, eds. Alice Santiago Faria and Pedro M. P. Raposo (Lisbon: CIUHCT and CHAM, 2014), 11–22.
- 7 For comparative urban studies in a colonial context, see the seminal works edited by Robert Ross and Gerard J. Telkamp, *Colonial Cities: essays on urbanism in a colonial context* (Dordrecht: Martinus Nijhoff Publishers, 1985), as well as by Nezar Alsayyad, *Forms of Dominance: On the architecture and urbanism of the colonial enterprise* (Aldershot: Avebury, 1992). For monographic studies on the same post-colonial historiographic model, respectively dealing with the British-administered cities of Singapore, Delhi, Lahore and Bombay, see Brenda S. A. Yeoh, *Contesting Space in Colonial Singapore: Power Relations in the Urban Built Environment* (Singapore: NUS Press, 2003); Jyoti Hosagrahar, *Indigenous Modernities: Negotiating Architecture and Urbanism* (London and New York: Routledge, 2005); William J. Glover, *Making Lahore Modern. Constructing and Imagining a Colonial City* (Minneapolis: University of Minnesota Press, 2008); and Prashant Kidambi, *The Making of an Indian Metropolis: Colonial Governance and Public Culture in Bombay, 1890–1920* (London: Routledge, 2016).
- 8 Jyoti Hosagrahar defines 'indigenous modernities' as 'other modernities', developed in a colonial context, which are 'The ways that dominant concepts from the metropole, proclaimed to be universal and liberating, translate into local spatial practices; and the ways that particular forms, places and communities engage with a changing cultural milieu to adapt and also recreate themselves.' See Hosagrahar, *Indigenous Modernities*, 2.
- 9 Among the vast existing literature on the first centuries of Portuguese presence in Macao, one of its English-language frontrunners and most prolific historians was undoubtedly Charles R. Boxer (1904–2000), from the 1940s, with *Fidalgos in the Far East, 1550–1770: Fact and Fancy in the*



## ARCHITECTURE

*History of Macao* (The Hague: Martinus Nijhoff, 1948), to his 1960s comparative overview of the early-modern Dutch and Portuguese competing expansions in Asia, in *The Dutch Seaborne Empire, 1600–1800* (London: Hutchinson, 1965), and *The Portuguese Seaborne Empire, 1415–1825* (London: Hutchinson, 1969), to name just a few examples of his work. In the years leading up to the return of sovereignty to China in 1999, several authors worked on updating the historical survey of Macao format, which had been initiated in the 1900s by Macanese author Carlos Augusto Montalto de Jesus (1863–1927), with the famous *Historic Macau* (Hong Kong: Kelly & Walsh Limited, 1902). The Portuguese administration's focus, in the 1980s and 1990s, on promoting knowledge on the Macanese architectural and urban heritage, would thus foster some pioneering works on mapping the urban and topographical evolution of the Macao Peninsula, from the sixteenth to the twentieth centuries, as presented in Maria Calado, Maria Clara Mendes and Michel Toussaint, *Macau. Cidade Memória no Estuário do Rio das Pérolas* (Lisbon: Governo de Macau, 1985); as well as in Sérgio Infante et al., *Cem Anos Que Mudaram Macau* (Macao: Governo de Macau, 1995); or João Vicente Massapina's 1998 research, adapted for publication in "Desenvolvimento do Tecido Urbano da Cidade de Macau: Urbanismos e Urbanidades," *Revista de Cultura (Edição Internacional)*, no. 3 (2002): 43–57. In the field of community and social history of the province, done through ample sourcing, the work of reference is, undoubtedly, that of Ana Maria Amaro, for instance in *Das Cabanas de Palha às Torres de Betão. Assim Cresceu Macau* (Lisbon: Livros do Oriente, 1998). This body of work would vastly contribute to improve knowledge in which to establish the official discourse on the heritage of Portuguese influence in China, which would ultimately lead to the inscription of the Historic Centre of Macao in the UNESCO World Heritage List in 2005. That same year, another important historical survey on Portuguese urbanisation and architecture in Macao was published by renowned art historian Pedro Dias, *A Urbanização e a Arquitectura dos Portugueses em Macau, 1557–1911* (Lisbon: Portugal Telecom, 2005). In the 2000s, an important work has also been conducted on Macao in the early modern era by looking at Chinese contemporary sources. This is the case of the work by Guoping Jin and Zhiliang Wu, for instance, their edited volume *Correspondência Oficial Trocada entre as Autoridades de Cantão e os Procuradores do Senado: Fundo das Chapas Sínicas em Português, 1749–1847* (Macao: Fundação Macau, 2000); or *Revisitar os Primórdios de Macau: Para Uma Nova Abordagem da História* (Macao: Instituto Português do Oriente, 2007); as well as by Guangren Yin and Rulin Zhang, *Breve Monografia de Macau* (Macao: Instituto Cultural, 2009).

- 10 For more on the pre-Opium War Canton trade, see Paul A. Van Dyke, *The Canton Trade: Life and Enterprise on the China Coast, 1700–1845* (Hong Kong: Hong Kong University Press, 2005), as well as *Merchants of Canton*

and *Macao: Politics and Strategies in Eighteenth-Century Chinese Trade* (Hong Kong: Hong Kong University Press, 2011). For a recent look at Canton from the point of view of architecture and the city, see Johnathan Andrew Farris, *Enclave to Urbanity: Canton, Foreigners, and Architecture from the Late Eighteenth to the Early Twentieth Centuries* (Hong Kong: Hong Kong University Press, 2016). For a thorough look on everyday life in the foreign quarters of Canton and, more specifically, on how traders from around the world experienced these foreign quarters as home, see Lisa Hellman, *This House Is Not a Home: European Everyday Life in Canton and Macao 1730–1830* (Leiden and Boston: Brill, 2018).

- 11 For a recent look on the circumstances that were leading up to the First Opium War (1839–1842), as well as on the conflict itself, see Julia Lovell, *The Opium War: Drugs, Dreams and the Making of China* (London: Picador, 2011). For an overview of how the Anglo-Chinese conflict was being perceived and the impact it had in the Macanese *status quo*, see Alfredo Gomes Dias, *Macau e a I Guerra do Ópio* (Macao: Instituto Português do Oriente, 1993).
- 12 Heungshan, in Cantonese, or Xiangshan, in Mandarin, was a former district of the Guangdong Province which jurisdiction entered the territory of the Macao Peninsula. In the primary sources, it is also referred to by its phonetic approximations, such as Hiang-Xan or Hian-Chan.
- 13 For a reflection on the nature of the early modern Portuguese Empire and its diverse set of 'forms of domination' and related 'forms of identity', see Francisco Bethencourt, "Empire fragmentaire et formes d'identité," in *Éclats d'Empire : du Brésil à Macao*, eds. Ernestine Carreira and Idelette Muzart-Fonseca dos Santos (Paris: Maisonneuve et Larose, 2003), 19–36. For a look at the 1800s–1850s global geopolitical shifts and their impact on the reconceptualisation and first attempts at administrative reorganisation of the overseas territories under Portuguese influence, see Valentim Alexandre, "As Periferias e a Implosão do Império," in *História da Expansão Portuguesa*, vol. 4, *Do Brasil para África (1808–1930)*, eds. Francisco Bethencourt and Kirti Chaudhuri (Lisbon: Círculo de Leitores, 1998), 46–60. For an overview of the liberal Portuguese imperial project, see Valentim Alexandre, "A Questão Colonial no Portugal Oitocentista," in *Nova História da Expansão Portuguesa*, vol. X, *O Império Africano (1825–1890)*, eds. Joel Serrão and A. H. de Oliveira Marques (Lisbon: Editorial Estampa, 1998), 21–132.
- 14 Letter no. 26 from Macao Judge José Maria Rodrigues de Bastos to the Minister of the Overseas, 26 September 1839. Transcribed in Alfredo Gomes Dias, *Sob o Signo da Transição: Macau no Século XIX* (Macao: Instituto Português do Oriente, 1998), 51–52.
- 15 For an overview of the changing political status of Macao vis-à-vis the Portuguese and Chinese claims to its territorial sovereignty, see the work of jurist Francisco Gonçalves Pereira, "Towards 1999: the Political Status of Macao in the Nineteenth and Twentieth Centuries,"



## ARQUITECTURA

- in *Macao, City of Commerce and Culture*, 2<sup>nd</sup> ed.: Continuity and Change, ed. R. D. Cremer (Hong Kong: API Press, 1991), 261–282; see also Boaventura de Sousa Santos, *Macao: O Pequeníssimo Dragão* (Porto: Edições Afrontamento, 1998). More specifically, Pereira refers to the peculiar status of the territory until the end of the eighteenth century as a ‘mixed Portuguese–Chinese jurisdiction’ benefiting both parties (Pereira, “Towards 1999,” 263). In turn, legal sociologist Santos goes further with this historical interpretation, considering that Macao can be understood as having very well been a ‘Portuguese colony’, in the sense that the Portuguese assumed possession of the territory, effectively and without interruption, from the sixteenth to the twentieth centuries. Although, as he puts it, it would have been a ‘special’ kind of colony, in the sense that ‘the exercise of sovereignty was, throughout the centuries, less than full, and conducted under the Chinese governments’ implicit or explicit consent’, according to time and circumstances. The author thus translates this as a ‘divided sovereignty’ status which would manifest itself in increasingly formal arrangements until retrocession to China in 1999 (Santos, *Macao*, 7).
- 16 For a more detailed look at this transition period, see Maria Teresa Lopes da Silva, *Transição de Macau para a Modernidade, 1841–1853: Ferreira do Amaral e a Construção da Soberania Portuguesa* (Lisbon: Fundação Oriente, 2002), 316; as well as Dias, *Sob o Signo da Transição*.
  - 17 Santos, *Macao*, 41–51.
  - 18 Vera Mónica Gaspar Domingues, “Cultura e Património Urbanísticos de Influência Portuguesa na Ásia, 1503–1663” (PhD diss., University of Coimbra, 2017), 453–541.
  - 19 Although original and innovative, Domingues’s results in regard to Macao are not without some fragilities, namely in the proposed location of the first Portuguese fortified settlement, from which the city would supposedly grow, in grounds which would later constitute the Chinese Bazaar (an exclusively Chinese district), and which, moreover, would only consolidate in the early nineteenth century.
  - 20 Alice Santiago Faria, *Architecture Coloniale Portugaise à Goa : Le Département des Travaux Publics, 1840–1926* (Saarbrücken: Presses Académiques Francophones, 2014), 63–204.
  - 21 Lisandra Franco de Mendonça, “Conservação da Arquitectura e do Ambiente Urbano Modernos: A Baixa de Maputo” (PhD diss., University of Coimbra, 2015), 49–90, <http://hdl.handle.net/10316/29573>. For more, *vide* the work of Isabel Maria Guterres Boavida, “Urbanografia de Díli no Tempo da Administração Portuguesa” (master’s thesis, University of Coimbra, 2011). See also the author’s Ph.D. thesis proposal: Isabel Maria Guterres Boavida, “A Construção de Timor Colonial: Marcas Políticas e Administrativas na Arquitectura, Urbanismo e Ordenamento do Território (1894–1975)” (PhD diss. Proposal, University of Coimbra, 2012–presente), <http://doutoramento.patrimonios.pt/wp-content/uploads/2016/05/Isabel-Boavida-Projeto-de-Tese.pdf>.
  - 22 José da Conceição Afonso, “Macao: Uma Experiência de Urbanismo Estratégico e Higienista dos Finais do Séc. XIX aos Começos do Séc. XX,” *Revista de Cultura (Edição Portuguesa)*, no. 38/39 (1999): 221–247.
  - 23 Peter Haberzettl and Roderich Ptak, “Macao and its harbour: projects planned and projects realized (1883–1927),” *Bulletin de l’École Française d’Extrême-Orient* 78 (1991): 297–316.
  - 24 Haberzettl and Ptak, “Macao and its harbour,” 303.
  - 25 The HPIP — Património de Influência Portuguesa/Heritage of Portuguese Influence database emerges from the Fundação Calouste Gulbenkian 2007–2012 project *Património de Origem Portuguesa no Mundo: Arquitectura e Urbanismo*, co-ordinated by historian José Mattoso. In 2010, this project resulted in a publication of three volumes, dedicated respectively to ‘South America’, ‘Africa, Red Sea and Persian Gulf’, and ‘Asia and Oceania’. The website, launched in 2012, assembles the previously printed information, with the double goal of rendering it as accessible as possible, and making it easily updatable. For more information, see [hpip.org](http://hpip.org). See also José Mattoso, ed., *Património de Origem Portuguesa no Mundo: Arquitectura e Urbanismo. América do Sul* (co-ord. by Renata Araújo). *África, Mar Vermelho e Golfo Pérsico* (co-ord. by Filipe Themudo Barata and José Manuel Fernandes). *Ásia e Oceânia* (co-ord. by Walter Rossa) (Lisbon: Fundação Calouste Gulbenkian, 2010).
  - 26 For an overview of this topic, namely the planning work of celebrated Portuguese architects Manuel Vicente, Tomás Taveira, José Catita, Siza Vieira and Fernando Távora in the 1960s through 1990s in Macao, see the paragraph ‘A partir de 1911’ in “Macao, China: Enquadramento Histórico e Urbanismo,” HPIP, accessed May 19, 2022, [hpip.org/pt/contents/place/550](http://hpip.org/pt/contents/place/550).
  - 27 As historian Martin Melosi puts it, ‘Mid-nineteenth-century England’s sanitary idea made popular the notion that the physical environment exercised a profound influence over the well-being of the individual.’ So much so that health started to be viewed as dependent on the ‘power of scientific control of the physical environment’. See Martin V. Melosi, *The Sanitary City: Environmental Services in America from Colonial Times to the Present*, abridged ed. (Pittsburgh: University of Pittsburgh Press, 2008), 28.
  - 28 David Justino, *Fontismo: Liberalismo numa Sociedade Iliberal* (Lisbon: Publicações Dom Quixote, 2016), 29.
  - 29 Justino, *Fontismo*, 40.
  - 30 Original excerpt in Portuguese, ‘uma cidade moderna, cheia de ar e luz’. (AHU/ID-OP/OP15656).
  - 31 Several authors have been currently developing studies on the role of military and civil engineers in the long nineteenth century as urban practitioners, whether at home or in the overseas. Cities and sanitation were already presented as being part of imperialism’s paraphernalia of European technologies in Daniel R. Headrick, *The Tentacles of Progress: Technology Transfer in the Age of Imperialism, 1850–1940* (New York and

## ARCHITECTURE

- Oxford: Oxford University Press, 1988), a topic reprised in Robert Home, *Of Planting and Planning: The Making of British Colonial Cities*, 2<sup>nd</sup> ed. (London and New York: Routledge, 2013). Within a more recent metropolitan European perspective, there is a Portuguese historian's work, Tiago Saraiva, *Ciência y Ciudad: Madrid y Lisboa, 1851–1900* (Madrid: Ayuntamiento de Madrid, 2006). Specifically regarding the Portuguese imperial experience, there is an important group of science and technology historians at the Nova University Lisbon, co-ordinated by Professors Maria Paula Diogo and Isabel Maria Amaral, at the root of such innovative contributions as the collective work *A Outra Face do Império: Ciência, Tecnologia e Medicina (Sécs. XIX–XX)* (Lisbon: Edições Colibri, 2012), or Bruno J. Navarro, *Um Império Projectado pelo "Silvo da Locomotiva". O papel da engenharia portuguesa na apropriação do espaço colonial africano. Angola e Moçambique (1869–1930)* (Lisbon: Edições Colibri, 2018). Resolutely putting the engineers at the centre of the European modernity debate, there is also a work by historian Ana Cardoso de Matos at the University of Évora. Ana Cardoso de Matos, Maria Paula Diogo, Irina Gouzevitch and André Grelon eds., *The Quest for a Professional Identity: Engineers Between Training and Action* (Lisbon: Edições Colibri, 2009), as well as architect and historian Marta Macedo, with her doctoral thesis *Projectar e Construir a Nação — Engenheiros, Ciência e Território em Portugal no Século XIX* (Lisbon: Imprensa de Ciências Sociais, 2012).
- 32 Paul Rabinow, *French Modern: norms and forms of the social environment* (Cambridge: MIT Press, 1989), 77. Rabinow shares the idea, originally put forward by urban historian and theorist, in Françoise Choay, *The Modern City: Planning in the 19<sup>th</sup> Century* (New York: George Braziller, 1969), that the nineteenth-century progressive urbanism never left the paper, and so that, in large-scale urban regularisation interventions, such as Haussmann's renovation of Paris, the city was understood 'as a political, economic and technical object, but not yet as a social one'. Therefore, Rabinow argues, this lack of a 'normative project for the ordering of the social milieu, any direct and plausible attempt to link norms and forms', is precisely what excludes it from the categorisation of 'modern urbanism' (Rabinow, *French Modern*, 76–78).
  - 33 For a historical survey of the emergence and evolution of the 'French engineers' sense of social responsibility' and commitment to serving the 'common good', see Antoine Picon, "French Engineers and Social Thought, 18<sup>th</sup>–20<sup>th</sup> Centuries: An Archeology of Technocratic Ideals," *History and Technology* 23, no. 3 (2007): 197–208. The French ideology and practice on this matter would be extremely influential in the long-nineteenth-century European techno-scientific circles.
  - 34 Borrowing from Paul Rabinow's definition of his own research topic, as French society's 'construction of norms and search for forms adequate to understand and to regulate what came to be known as modern society' (Rabinow, *French Modern*, 9).
  - 35 Miguel Sopas de Melo Bandeira, "O Espaço Urbano de Braga: Obras Públicas, Urbanismo e Planeamento (1790–1974)" (PhD diss., University of Minho, 2001). Mário Gonçalves Fernandes, *Urbanismo e morfologia urbana no Norte de Portugal (Viana do Castelo, Guimarães, Vila Real, Chaves e Bragança) 1852/1926* (Porto: FAUP Publicações, 2005).
  - 36 Margarida Relvão Calmeiro, "Urbanismo Antes dos Planos: Coimbra 1834–1934" (PhD diss., University of Coimbra, 2014).
  - 37 For more on this method of graphic interpretation, and namely on the 'Coimbra school' advancements in the field of cadastral analysis, see the comprehensive work of a professor at the Department of Architecture of the Faculty of Science and Technology of the University of Coimbra, at the source of such innovative contributions as Walter Rossa, "Património Urbanístico: (Re)fazer Cidade Parcela a Parcela," *Fomos Condenados à Cidade: Uma Década de Estudos Sobre Património Urbanístico* (Coimbra: Imprensa da Universidade de Coimbra, 2015), 97–131. For a more recent and updated review of this topic, see also Luísa Trindade, "Desenho: Discurso e Instrumento," in *Patrimónios de Influência Portuguesa: Modos de Olhar*, eds. Walter Rossa and Margarida Calafate Ribeiro (Coimbra: Imprensa da Universidade de Coimbra, 2015), 401–452. For a survey of the theory and methodology underlying other European 'schools' of research in the field of urban morphology, see Vítor Manuel Araújo de Oliveira, *A Evolução das Formas Urbanas de Lisboa e do Porto nos Séculos XIX e XX* (Porto: U. Porto Editorial, 2013), 21–48. Particularly regarding the historical-geographical British approach to urban morphology and its links to early twentieth-century German research in cadastral analysis and the urban landscape through the work of British-based German geographer Michael R. G. Conzen in the 1960s, see Jeremy W. R. Whitehand, "British Urban Morphology: The Conzenian Tradition," *Urban Morphology* 5, no. 2 (2001): 103–109.
  - 38 The Macao Public Works Department (*Serviço de Obras Públicas de Macau*) archives, including the documentation from such technical bodies as the Chinese Bazaar Sanitation Works Administrative Committee (*Comissão Administrativa das Obras de Saneamento do Bazar Chinês*), or the Committee for the Improvement of the Macao Harbours (*Missão de Melhoramentos dos Portos de Macau*) are absent from the Archives of Macao collections. These archives are currently being kept directly by the Land, Public Works and Transport Bureau (*Direcção dos Serviços de Solos, Obras Públicas e Transportes*) of the Government of the Macao SAR, and their consultation is subject to special authorisation.
  - 39 For a perspective along the same lines regarding the study of architectural typologies, see the work of Macao-based architect Francisco Vizeu Pinheiro, "Macao Heritage: A

## ARQUITECTURA

- Survey of the City's Traditions and Cultural DNA," *Review of Culture (International Edition)*, no. 50 (2015): 7–27.
- 40 ICOMOS — International Council on Monuments and Sites, "Advisory Body Evaluation, No. 1110, Macao (China)," 2005, accessed May 19, 2022, <https://whc.unesco.org/document/151775>.
  - 41 I have specifically addressed this process in Regina Campinho, "Centro Histórico de Macau, Património Mundial: A Patrimonialização da Cidade em Questão," in *Anais do V Encontro Internacional sobre Preservação do Património Edificado — Arquimemória* (Salvador: Instituto de Arqueólogos do Brasil, 2017).
  - 42 The State Administration of Cultural Heritage of the People's Republic of China, "The Historic Monuments of Macao. Application to UNESCO for Inscription on the World Heritage List under the terms of the World Heritage Convention," 2001, <https://whc.unesco.org/uploads/nominations/1110.pdf>.
  - 43 The State Administration of Cultural Heritage of the People's Republic of China, "The Historic Monuments of Macao. Nomination for Inscription on the World Heritage List. Supplementary Document," 2004, <https://whc.unesco.org/uploads/nominations/1110.pdf>.
  - 44 ICOMOS, "Advisory Body Evaluation."
  - 45 For a thorough survey of this issue, see Miguel Tomé, *Património e Restauro em Portugal (1920–1995)* (Porto: FAUP Publicações, 2002).
  - 46 For more on the history of conservation theories and practices, see the survey by Francesco Bandarin and Ron Van Oers, "Urban Conservation: Short History of a Modern Idea," chap. 1 and "Urban Conservation as International Public Policy," chap. 2 in *The Historic Urban Landscape. Managing Heritage in an Urban Century* (Chichester: Wiley Blackwell, 2012), 1–36, 37–74.
  - 47 ICOMOS, "Advisory Body Evaluation."
  - 48 On the topic of assessing and questioning heritage identities, see the seminal work of sociologist and cultural theorist: Stuart Hall, "Whose Heritage? Unsettling 'The Heritage', Re-imagining the Post-nation." *Third Text* 13, no. 49 (Winter 1999): 3–13.
  - 49 Non Arkaraprasertkul and Matthew Williams, "The Death and Life of Shanghai's Alleyway Houses: Re-thinking Community and Historic Preservation," *Review of Culture (International Edition)*, no. 50 (2015): 136–150.
  - 50 Weijen Wang and Cheok Kio Cheong, eds., *Regenerating Pátio: Study of Macao's Historical Urban Fabric* (Macao: Instituto Cultural, 2010).
  - 51 Wang and Cheong, *Regenerating Pátio*, 14.
  - 52 Bandarin and Van Oers, *The Historic Urban Landscape*, 193.
  - 53 Bandarin and Van Oers, *The Historic Urban Landscape*, 111.
  - 54 UNESCO — United Nations Educational, Scientific and Cultural Organisation, "Recommendation on the Historic Urban Landscape, including a glossary of definitions," 2011, accessed May 19, 2022, <https://whc.unesco.org/document/160163>.
  - 55 UNESCO, "Recommendation," 3.
  - 56 UNESCO, "Recommendation," 3.

## BIBLIOGRAPHY

## Primary sources

## Unpublished

Parecer da Comissão Superior Técnica de Obras Públicas do Ultramar sobre o projecto de "Melhoramentos do Bazar Chinês", em 1 de Fevereiro de 1908. AHU/ID-OP/OP15656. Arquivo Histórico Ultramarino (AHU), Lisbon, Portugal.

Saneamento geral e urbano da cidade de Macau. Relatório. AHU/ID-OP/OP15659. Arquivo Histórico Ultramarino (AHU), Lisbon, Portugal.

## Published

Jesus, C. A. Montalto de. *Historic Macau*. Hong Kong: Kelly & Walsh Limited, 1902.

## Secondary sources

Afonso, José da Conceição. "Macao: Uma Experiência de Urbanismo Estratégico e Higienista dos Finais do Séc. XIX aos Começos do Séc. XX." *Revista de Cultura (Edição Portuguesa)*, no. 38/39 (1999): 221–247.

Alexandre, Valentim. "As Periferias e a Implosão do Império." In *História da Expansão Portuguesa*. Vol. 4, Do Brasil para África (1808–1930), edited by Francisco Bethencourt and Kirti Chaudhuri, 46–60. Lisbon: Círculo de Leitores, 1998.

\_\_\_\_\_. "A Questão Colonial no Portugal Oitocentista." In *Nova História da Expansão Portuguesa*. Vol. X, O Império Africano (1825–1890), edited by Joel Serrão and A. H. de Oliveira Marques, 21–132. Lisbon: Editorial Estampa, 1998.

Alsayyad, Nezar. *Forms of Dominance: On the architecture and urbanism of the colonial enterprise*. Aldershot: Avebury, 1992.

Amaro, Ana Maria. *Das Cabanas de Palha às Torres de Betão: Assim Cresceu Macau*. Lisbon: Livros do Oriente, 1998.



- Arkaraprasertkul, Non, and Matthew Williams. "The Death and Life of Shanghai's Alleyway Houses: Re-thinking Community and Historic Preservation." *Review of Culture (International Edition)*, no. 50 (2015): 136–150.
- Bandarin, Francesco, and Ron Van Oers. *The Historic Urban Landscape: Managing Heritage in an Urban Century*. Chichester: Wiley Blackwell, 2012.
- Bandeira, Miguel Sopas de Melo. "O Espaço Urbano de Braga: Obras Públicas, Urbanismo e Planeamento (1790–1974)." PhD diss., University of Minho, 2001.
- Bethencourt, Francisco. "Empire fragmentaire et formes d'identité." In *Éclats d'Empire : du Brésil à Macao*, edited by Ernestine Carreira and Idelette Muzart-Fonseca dos Santos, 19–36. Paris: Maisonneuve et Larose, 2003.
- Boavida, Isabel Maria Guterres. "A Construção de Timor Colonial: Marcas Políticas e Administrativas na Arquitectura, Urbanismo e Ordenamento do Território (1894–1975)." PhD diss. proposal, University of Coimbra, 2012. <http://doutoramento.patrimonios.pt/wp-content/uploads/2016/05/Isabel-Boavida-Projeto-de-Tese.pdf>.
- . "Urbanografia de Díli no Tempo da Administração Portuguesa." Master's thesis, University of Coimbra, 2011.
- Boxer, Charles Ralph. *The Dutch Seaborne Empire, 1600–1800*. London: Hutchinson, 1965.
- . *Fidalgos in the Far East, 1550–1770: Fact and Fancy in the History of Macao*. The Hague: Martinus Nijhoff, 1948.
- . *The Portuguese Seaborne Empire, 1415–1825*. London: Hutchinson, 1969.
- Calado, Maria, Maria Clara Mendes, and Michel Toussaint. *Macao. Cidade Memória no Estuário do Rio das Pérolas*. Lisbon: Governo de Macau, 1985.
- Calmeiro, Margarida Relvão. "Urbanismo Antes dos Planos: Coimbra 1834–1934." PhD diss., University of Coimbra, 2014.
- Campinho, Regina. "Centro Histórico de Macau, Património Mundial: A Patrimonialização da Cidade em Questão." In *Anais do V Encontro Internacional sobre Preservação do Património Edificado — Arquivemória*. Salvador: Instituto de Arquitectos do Brasil, 2017.
- Chang, Jiat-Hwee. *A Genealogy of Tropical Architecture: Colonial Networks, Nature and Technoscience*. London and New York: Routledge, 2016.
- Choay, Françoise. *The Modern City: Planning in the 19<sup>th</sup> Century*. New York: George Braziller, 1969.
- Dias, Alfredo Gomes. *Macao e a I Guerra do Ópio*. Macau: Instituto Português do Oriente, 1993.
- . *Sob o Signo da Transição: Macau no Século XIX*. Macao: Instituto Português do Oriente, 1998.
- Dias, Pedro. *A Urbanização e a Arquitectura dos Portugueses em Macau, 1557–1911*. Lisbon: Portugal Telecom, 2005.
- Diogo, Maria Paula. "Um Olhar Introspectivo: A Revista de Obras Públicas e Minas e a Engenharia Colonial." In *A Outra Face do Império: Ciência, Tecnologia e Medicina (Sécs. XIX–XX)*, edited by Maria Paula Diogo and Isabel Maria Amaral, 65–82. Lisbon: Edições Colibri, 2012.
- Domingues, Vera Mónica Gaspar. "Cultura e Património Urbanísticos de Influência Portuguesa na Ásia, 1503–1663." PhD diss., University of Coimbra, 2017.
- Faria, Alice Santiago. *Architecture Coloniale Portugaise à Goa : Le Département des Travaux Publics, 1840–1926*. Saarbrücken: Presses Académiques Francophones, 2014.
- . "Arquitectura e Mobilidade, ou Questões em Torno de Interinfluências nas Obras Públicas nos Antigos Territórios do Oriente Português." In *Mobilidade e Circulação. Perspectivas em História da Ciência e da Tecnologia*, edited by Alice Santiago Faria and Pedro M. P. Raposo, 11–22. Lisbon: CIUHCT and CHAM, 2014.
- Farris, Johnathan Andrew. *Enclave to Urbanity: Canton, Foreigners, and Architecture from the Late Eighteenth to the Early Twentieth Centuries*. Hong Kong: Hong Kong University Press, 2016.
- Fernandes, Mário Gonçalves. *Urbanismo e morfologia urbana no Norte de Portugal (Viana do Castelo, Guimarães, Vila Real, Chaves e Bragança) 1852/1926*. Porto: FAUP Publicações, 2005.
- Glover, William J. *Making Labore Modern. Constructing and Imagining a Colonial City*. Minneapolis: University of Minnesota Press, 2008.
- Haberzettl, Peter, and Roderich Ptak. "Macao and its harbour: projects planned and projects realized (1883–1927)." *Bulletin de l'École Française d'Extrême-Orient* 78 (1991): 297–316. <https://doi.org/10.3406/befeo.1991.1781>.
- Hall, Stuart. "Whose Heritage? Un-settling 'The Heritage', Re-imagining the Post-nation." *Third Text* 13, no. 49 (Winter 1999): 3–13.
- Headrick, Daniel R. *The Tentacles of Progress: Technology Transfer in the Age of Imperialism, 1850–1940*. New York and Oxford: Oxford University Press, 1988.
- . *The Tools of Empire: Technology and European Imperialism in the Nineteenth Century*. Oxford: Oxford University Press, 1981.
- Hellman, Lisa. *This House Is Not a Home: European Everyday Life in Canton and Macao 1730–1830*. Leiden and Boston: Brill, 2018.
- Hobsbawm, Eric. *The Age of Empire: 1875–1914*. London: Weidenfeld and Nicolson, 1987.
- Home, Robert. *Of Planting and Planning: The Making of British Colonial Cities*. 2<sup>nd</sup> ed. London and New York: Routledge, 2013.
- Hosagrahar, Jyoti. *Indigenous Modernities: Negotiating Architecture and Urbanism*. London and New York: Routledge, 2005.
- ICOMOS — International Council on Monuments and Sites. "Advisory Body Evaluation, No. 1110, Macao (China)." 2005. Accessed May 19, 2022. <https://whc.unesco.org/document/151775>.
- Infante, Sérgio, Rogério Beltrão Coelho, Paula Alves, and Cecília Jorge. *Cem Anos Que Mudaram Macau*. Macao: Governo de Macau, 1995.
- Jin, Guoping, and Zhiliang Wu. "O Enquadramento de Macau na Administração Local Chinesa." In *Correspondência Oficial Trocada entre as Autoridades de Cantão e os Procuradores do Senado: Fundo das Chapas Sínicas em Português, 1749–1847*, edited by Guoping Jin and Zhiliang Wu, Vol. 1, 16–44. Macao: Fundação Macau, 2000.
- . *Revisitar os Primórdios de Macau: Para Uma Nova Abordagem da História*. Macao: Instituto Português do Oriente, 2007.

## ARQUITECTURA

- Justino, David. *Fontismo: Liberalismo numa Sociedade Iliberal*. Lisbon: Publicações Dom Quixote, 2016.
- Kidambi, Prashant. *The Making of an Indian Metropolis: Colonial Governance and Public Culture in Bombay, 1890–1920*. London: Routledge, 2016.
- King, Anthony D. *Urbanism, Colonialism and the World-Economy. Cultural and Spatial Foundations of the World Urban System*. London: Routledge, 1991.
- Lovell, Julia. *The Opium War: Drugs, Dreams and the Making of China*. London: Picador, 2011.
- Macedo, Marta. *Projectar e Construir a Nação — Engenheiros, Ciência e Território em Portugal no Século XIX*. Lisbon: Imprensa de Ciências Sociais, 2012.
- Massapina, João Vicente. “Desenvolvimento do Tecido Urbano da Cidade de Macau: Urbanismos e Urbanidades.” *Revista de Cultura (Edição Internacional)*, no. 3 (2002): 43–57.
- Matos, Ana Cardoso de. “Asserting the Portuguese Civil Engineering Identity: The Role Played by the École des Ponts et Chaussées.” In *The Quest for a Professional Identity: Engineers Between Training and Action*, edited by Ana Cardoso de Matos, Maria Paula Diogo, Irina Gouzevitch and André Grelon, 177–208. Lisbon: Edições Colibri, 2009.
- Mattoso, José, ed. *Património de Origem Portuguesa no Mundo: Arquitectura e Urbanismo. América do Sul* (co-ord. by Renata Araújo). *África, Mar Vermelho e Golfo Pérsico* (co-ord. by Filipe Themudo Barata and José Manuel Fernandes). *Ásia e Oceânia* (co-ord. by Walter Rossa). Lisbon: Fundação Calouste Gulbenkian, 2010.
- Melosi, Martin V. *The Sanitary City: Environmental Services in Urban America from Colonial Times to the Present*. Abridged ed. Pittsburgh: University of Pittsburgh Press, 2008.
- Mendonça, Lisandra Franco de. “Conservação da Arquitectura e do Ambiente Urbano Modernos: A Baixa de Maputo.” PhD diss., University of Coimbra, 2015. <http://hdl.handle.net/10316/29573>.
- Navarro, Bruno J. *Um Império Projectado pelo “Silvo da Locomotiva”. O papel da engenharia portuguesa na apropriação do espaço colonial africano. Angola e Moçambique (1869–1930)*. Lisbon: Edições Colibri, 2018.
- Oliveira, Vítor Manuel Araújo de. *A Evolução das Formas Urbanas de Lisboa e do Porto nos Séculos XIX e XX*. Porto: U. Porto Editorial, 2013.
- Pereira, Francisco Gonçalves. “Towards 1999: the Political Status of Macao in the Nineteenth and Twentieth Centuries.” In *Macao, City of Commerce and Culture*. 2<sup>nd</sup> ed.: Continuity and Change, edited by R. D. Cremer, 261–282. Hong Kong: API Press, 1991.
- Picon, Antoine. “French Engineers and Social Thought, 18<sup>th</sup>–20<sup>th</sup> Centuries: An Archeology of Technocratic Ideals.” *History and Technology* 23, no. 3 (2007): 197–208.
- Pinheiro, Francisco Vizeu. “Macao Heritage. A Survey of the City’s Traditions and Cultural DNA.” *Review of Culture (International Edition)*, no. 50 (2015): 7–27.
- Porter, Andrew. *European Imperialism 1860–1914*. London: Palgrave Macmillan, 1994.
- Rabinow, Paul. *French Modern: norms and forms of the social environment*. Cambridge, Mass.: MIT Press, 1989.
- Ross, Robert, and Gerard J. Telkamp, eds. *Colonial Cities: essays on urbanism in a colonial context*. Dordrecht: Martinus Nijhoff Publishers, 1985.
- Rossa, Walter. “Património Urbanístico: (Re)fazer Cidade Parcela a Parcela.” *Fomos Condenados à Cidade: Uma Década de Estudos Sobre Património Urbanístico*, 97–131. Coimbra: Imprensa da Universidade de Coimbra, 2015. <http://hdl.handle.net/10316/21480>.
- Santos, Boaventura de Sousa. *Macau: O Pequeníssimo Dragão*. Porto: Edições Afrontamento, 1998.
- Saraiva, Tiago. *Ciudad y Ciudad: Madrid y Lisboa, 1851–1900*. Madrid: Ayuntamiento de Madrid, 2006.
- Silva, Maria Teresa Lopes da. *Transição de Macau para a Modernidade, 1841–1853: Ferreira do Amaral e a Construção da Soberania Portuguesa*. Lisbon: Fundação Oriente, 2002.
- The State Administration of Cultural Heritage of the People’s Republic of China. “The Historic Monuments of Macao. Application to UNESCO for Inscription on the World Heritage List under the terms of the World Heritage Convention.” 2001. <https://whc.unesco.org/uploads/nominations/1110.pdf>.
- . “The Historic Monuments of Macao. Nomination for Inscription on the World Heritage List. Supplementary Document.” 2004. <https://whc.unesco.org/uploads/nominations/1110.pdf>.
- Tomé, Miguel. *Património e Restauro em Portugal (1920–1995)*. Porto: FAUP Publicações, 2002.
- Tostões, Ana, and Pedro Dias. “Macau, China: Enquadramento Histórico e Urbanismo.” HPIP. Accessed May 19, 2022. [hPIP.org/pt/contents/place/550](http://hPIP.org/pt/contents/place/550).
- Trindade, Luísa. “Desenho: Discurso e Instrumento.” In *Patrimónios de Influência Portuguesa: Modos de Olhar*, edited by Walter Rossa and Margarida Calafate Ribeiro, 401–452. Coimbra: Imprensa da Universidade de Coimbra, 2015.
- UNESCO — United Nations Educational, Scientific and Cultural Organisation. “Recommendation on the Historic Urban Landscape, including a glossary of definitions.” 2011. Accessed May 19, 2022. <https://whc.unesco.org/document/160163>.
- Van Dyke, Paul A. *The Canton Trade: Life and Enterprise on the China Coast, 1700–1845*. Hong Kong: Hong Kong University Press, 2005.
- . *Merchants of Canton and Macao: Politics and Strategies in Eighteenth-Century Chinese Trade*. Hong Kong: Hong Kong University Press, 2011.
- Wang, Weijen, and Cheok Kio Cheong, eds. *Regenerating Pátio: Study of Macao’s Historical Urban Fabric*. Macao: Instituto Cultural, 2010.
- Whitehand, Jeremy W. R. “British Urban Morphology: The Conzenian Tradition.” *Urban Morphology* 5, no. 2 (2001): 103–109.
- Yeoh, Brenda S. A. *Contesting Space in Colonial Singapore: Power Relations in the Urban Built Environment*. Singapore: NUS Press, 2003.
- Yin, Guangren, and Rulin Zhang. *Breve Monografia de Macau*. Macao: Instituto Cultural, 2009.