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Mapping & Painting Urban form

Morphology in the Making



by
Martina Crapolicchio
Rossella Gugliotta
Marco Triscioglio

Progetti & Storie.

Ricerche e Materiali dal Dottorato in Architettura vol. III

The book brings together the theoretical foundations and teaching experiences of two complementary courses, *Morphologies. The Form of Cities* and *From Painting to Understanding: An Overview on European Urban Spaces*, taught by Marco Trisciuglio and his research unit within the PhD Programme in *Architecture. History and Project* at Politecnico di Torino and in lectures' series at Southeast University in Nanjing. Both courses share a common ambition: to explore how cities take form, change over time, and can be interpreted through different modes of representation.

The volume is articulated in two parts. Mapping examines ten cities through ten key maps, introducing major figures, methods, and questions in urban morphology, ranging from archaeological surveys to typological analyses, from perceptual approaches to contemporary interpretations of urban form. Painting shifts the focus to images, showing how paintings, engravings, photographs, comics and movies illuminate the cultural, symbolic, and experiential dimensions of urban space. Together, the two sections outline a multifaceted way of reading the city that bridges analytical rigor and visual interpretation.

The contribution of the PhD candidates is crucial to the book. Their drawings, commentaries, and critical counterpoints accompany each lecture, forming a continuous dialogue between teaching and research.

Designed both as an introduction and as an invitation, the book encourages readers to approach urban form with curiosity and analytical precision, learning to navigate the interplay between representation, history, and the lived experience of the city. The counterpoints between morphology and transition that close the book further underline these aspects.

Mapping & Painting
Urban form

Morphology in the Making

Collana

PROGETTI & STORIE. RICERCHE E MATERIALI DAL DOTTORATO IN ARCHITETTURA

a cura del Dottorato di Ricerca in Architettura. Storia e Progetto del Politecnico di Torino

Volume III

La collana ospita studi, ricerche e riflessioni sia sul progetto di architettura, sia di storia di architettura, rispettivamente intesi come la questione e l'oggetto (il problema e la cosa) dell'impegno scientifico contemporaneo intorno all'architettura.

Il tema dei processi e dei procedimenti del fare architettura (concepirla, disegnarla, costruirla, gestirla) costituisce lo sfondo ideale e il fondamento epistemologico delle opere che la collana ospita: volumi collettanei su temi monografici scaturiti da iniziative del dottorato, raccolte di lavori di ricerca originali prodotti nell'ambito del dottorato, riedizioni o traduzioni di opere che quei lavori di ricerca abbiano individuato come da scoprire o riscoprire.

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Mapping & Painting Urban form

Morphology in the Making

aA

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Contenuti elaborati
nell'ambito dell'unità di ricerca congiunta
Transitional Morphologies
(Politecnico di Torino e Southeast University Nanjing)

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We think of the town as a tissue of buildings which grows more or less unpredictably and is traversed by roads, pierced by squares, or else as a mesh of roadways fringed by buildings at the outskirts and webbed by them at the centre. Although we regard them as natural phenomena, governed by an independent, uncontrollable and sometimes unpredictable law of growth or expansion, like that of natural organisms, the truth is that towns do not grow by interior and inscrutable instincts. They are built, piece-meal by individual inhabitants, in larger tracts by speculators or authority. Now and then, particularly when a new town is founded, the authorities, whether local or national, on the advice of their experts treat the public to a display of embarrassment. It appears that civic authorities, or even the planners themselves, are not able to think of the new town as a totality, as a pattern which might carry other meanings that the commonplaces of zoning (industry, habitat, leisure, ecc.) or circulation. To consider the town or city a symbolic pattern, as the ancients did, seems utterly alien and pointless. Nowadays if we think of anything as 'symbolic' it is practically always an object or action which can be taken at a single view.

Joseph Rykwert, *The Idea of a Town. The Anthropology of Urban Form in Rome, Italy and the Ancient World*, Princeton University Press, Princeton 1976, p.23

Quadrangular, reticulated cities (Los Angeles, for instance) are said to produce a profound uneasiness: they offend our synesthetic sentiment of the City, which requires that any urban space have center to go to, to return from, a complete site to dream of and in relation to which to advance or retreat; in a word, to invent oneself. For many reasons (historical, economic, religious, military), the West has understood this law only too well: all its cities are concentric; but also, in accord with the very movement of Western metaphysics, for which every center is the site of truth, the center of our cities is always full: a marked site, it is here that the values of civilization are gathered and condensed: spirituality (churches), power (offices), money (banks), merchandise (department stores), language (agoras: cafés and promenades): to go downtown or to the center-city is to encounter the social 'truth', to participate in the proud plenitude of 'reality'. The city I am talking about (Tokyo) offers this precious paradox: it does possess a center, but this center is empty.

Roland Barthes, *The Empire of Signs*, Hill and Wang. The Noonday Press, New York 1982, p.30 (originally published in French as *L'Empire des Signes*, Editions d'Art Albert Skira, Genève, 1970)



Courtyards, houses and streets in Dayoufang Xiang block known as Xiaoxihu in Nanjing South, from the Design Studio *Urban morphology, architectural typology, contemporary settlement patterns Renovation of traditional block*, held at Southeast University Nanjing by Professors Li Bao, Marco Trisciuglio, Hao Deng, 2017/2018 (students: Boheng Li, Bingpeng Wu, Yuxian Dai).

Preface

Li Bao

Cities, as the epicenters of human activity, are complex systems where history, culture, economy, and society converge and interact in intricate ways. The transition of urban morphologies has always been a focal point of attention. This book, meticulously compiled by Marco Trisciuglio together with Martina Crapolicchio and Rossella Gugliotta, provides a detailed analysis and vivid depiction of urban forms from two different perspectives: mapping and painting, which delves deeply into the cultural, historical, and social factors behind the evolution of urban forms.

The implementation of this book is linked to the in-depth collaboration between Marco Trisciuglio and Southeast University. In 2015, I took the opportunity of attending an international conference in Switzerland to visit Marco Trisciuglio in Torino. Strolling together on the avenue in front of the Royal Palace, we happily conceived possible teaching and research cooperation between the two universities. At that time, China was still in the rapid urbanization process, with cities developing forward focusing on economic interests, neglecting the historical and cultural value of cities and the continuity of urban built environment development. The urbanization in Europe, which started earlier than China, with its emphasis on the historical and cultural value of cities, attention to urban public space, and rich achievements in urban research, is worth referring to China's urbanization development. Therefore, we have been together carrying out 10 years of joint teaching and research, and established the "Transitional Morphologies" Joint Research Unit at Southeast University and Politecnico di Torino in 2018, which operates on the formal analysis of the dynamics in urban form between Asia and Europe in order to improve the design practice through new technical and conceptual tools and often adopting comparative methods. This book reports the results and the notes of a series of lectures held both at the School of Architecture of Southeast University in Nanjing (for Master students) and at the PhD Programme in *Archi-*

lecture. History and Project at Politecnico di Torino (for PhD students).

The first part of the book, *Mapping*, is devoted to a theoretical course *Morphologies. The form of the cities* held from Spring Term 2022 contemporary between Politecnico di Torino and Southeast University Nanjing. The course introduced the main questions of urban morphology through 10 cities, 10 maps, and the approaches of 10 scholars/designers/cartographers. Each lecture describes the form of a city and a representative method of urban morphology research, which have become milestones in the theory and history of urban morphology.

The second part, *Painting*, is the outcome of the course *From Painting to Understanding: An overview on European Urban Spaces*, initially given in 2015 for Master students at Southeast University focusing on 7 European cities, and then increased to 10 cities and developed into a seminar for PhD students given at Politecnico di Torino in the years 2018 and 2020. It describes a course centered on the question "how urban morphology and iconographic studies on urban contexts can collaborate in order to map the features of urban spaces in different cultures, even adopting comparative methods for analyzing?" The original plan consisted in describing the form, the size, and the use of urban spaces in the European City, as well as in the Chinese one, through a diachronic sequence of ten images (from the Middle Ages until today). The methodology adopted consisted in showing an image (often a painting or a fresco, but also a photograph or a photogram or a drawing) of a specific and well-known European urban landscape and analyzing it in detail, recalling similar images and similar spaces or study cases in Asia.

Both courses are about urban settlements and are based on the idea of choosing 10 examples as starting points for 10 reasons to be developed in sequence.

The value of *Mapping* lies in its rational exploration of urban forms. Through in-depth research and interpretation of historical maps, archaeological excavations, and urban planning documents of multiple European cities, it reveals the evolution process and internal logic of urban forms. From the Pompeii archaeological map revealing the city layout and architectural features before the volcanic eruption, to the Roman Nolli Map ac-

curately surveying the spatial structure and public space distribution of the city, from the Muratori Map of Venice revealing the complexity and diversity of the city form through typological analysis, to Kevin Lynch's Boston's city image perceived through five elements, and to the unique Tokyo city form collided and integrated by tradition and modernity. Each city map records the spatial evolution, architectural changes, and social changes in the urban development process. The authors of mapping not only present the historical context of cities, reveal the forming mechanisms of different urban morphologies, but also construct the theoretical foundation for urban research and urban design. It provides a solid basis for understanding the transitional morphologies and the diversity and complexity of urban forms, as well as the challenges and opportunities faced by cities in different historical periods.

The value of *Painting* lies in its sensuous depiction of urban forms. Through the analysis of urban paintings from different periods and styles, it vividly depicts urban forms from an artistic perspective, showcasing the rich and colorful urban life and the unique charm of urban space. From Ambrogio Lorenzetti's *The Allegory of Good Government* presenting an ideal urban scene composed of Siena's city squares, streets, buildings, and people, to Fra' Carnevale's *The Ideal City* depicting a utopian urban ideal, from Ian Vermeer's *View of Delft* showing the spatial characteristics and real-life atmosphere of 17th-century Dutch cities, to Giovanni Battista Piranesi's *View of the Basilica of St. Peter's Square at the Vatican* displaying the dramatic and grand urban space of Rome. The analysis and interpretation of urban paintings are not only a visual presentation, but also an in-depth exploration of the social significance of urban life, thereby deepening the understanding of the cultural connotations of cities.

This book undoubtedly opens up a new and highly inspiring perspective in the field of urban studies by analysing urban forms through historical mapping and artistic painting. It helps deepen the understanding of the logic of urban form transition and expands the horizons of urban form research. *Mapping* provides an objective bird's-eye view that can precisely and systematically express urban space, analyze the spatial organiza-

tion, infrastructure, and land use patterns of cities, and reveal the evolution of urban forms over time and their underlying structure. *Painting*, on the other hand, offers a more subjective and immersive perspective, capturing the lived experience of urban space and reflecting the culture, society, and aesthetics of urban life, allowing viewers to understand and perceive the emotions and atmosphere of urban environments. Together, they can provide a more comprehensive and multi-dimensional interpretation of urban forms and urban space, revealing their physical attributes as well as cultural and social significance, thereby bridging the gap between objective analysis and subjective experience. The interdisciplinary research results can also provide valuable experience and inspiration for urban development.

When reading this book, I was deeply impressed by the author's passion and dedication to the study of urban morphology. Congratulations to all researchers involved in the compilation and research of this book whose hard work and wisdom have created such wonderful work. I believe that the publication of this book will provide important references and inspiration for scholars and professionals in urban study, urban design, architectural design, historical research, and related fields in the future. I also hope that this book will become an important milestone, inspiring more people's interest and enthusiasm for the study of urban morphology.

Introduction

Martina Crapolicchio, Rossella Gugliotta

This book arises from the individual and collective need to organise and reinterpret, as a coherent series, the lectures from two PhD courses, *Morphologies. The Form of Cities* and *From Painting to Understanding: An Overview on European Urban Spaces* at Southeast University and Politecnico di Torino, while attempting to interweave our doctoral experiences with the research we conduct within the field of “Transitional Morphologies”. The “Transitional Morphologies” Joint Research Unit and the Research Centre share the same core, composed of PhD candidates, researchers, and professors who study urban phenomena and their interrelations with urban form in a transversal manner. These studies often originate from doctoral research but flow directly into teaching activities, are presented at international conferences (such as the International Seminar on Urban Form - ISUF), and grow and refine themselves through academic and extra-academic dialogue.

Being part of the research centre has shaped us profoundly. First, as PhD candidates (as students in these courses) and later, after completing our doctorates, as tutors and discussants, the two teaching experiences examined in this volume have accompanied our academic growth, continually fuelling reflection and debate on urban morphology. Attending the *Mapping* course as PhD students meant beginning to explore the study of the city from a morphological perspective, training our gaze to read any urban form in its diachronic transformation. Continuing to study cities even after completing the doctorate allowed us, when this book was still in its embryonic stage, to discuss its sections with new doctoral students approaching the course, and to select contributions that engage dialogically with the lectures on the ten cities.

Our approach to the *Painting* course is different from the previous one. Here, we encountered the interweaving of knowledge and the maturation of insights of Marco Trisciuglio. In assembling and reworking into the Atlas (p. 135) the students' counterpoints produced at the Southeast University in Nanjing and Politecnico

di Torino, the course interprets a years-long research trajectory that began with *Scatola di montaggio* (2008, reprinted in 2017)[1] and continued with *L'architetto nel paesaggio* (2018, reprinted in 2025)[2], supplemented by lectures, much appreciated by architecture students, given within the *Laboratorio di teoria del progetto* (Design Theory Studio) and the course *Teoria della progettazione del paesaggio* (Landscape Design Theory).

Besides the two main parts, the volume brings together five distinct contributions devoted to urban morphology, authored by the members of the “Transitional Morphologies” Research Centre, Marco Trisciuglio, Michela Barosio, Santiago Gomes, Martina Crapolicchio and Rossella Gugliotta. Each contributor advances a specific approach, reworking and interrogating the principal concepts of the discipline through diverse methodological perspectives and contexts of application.

The entire book is grounded in the work of the doctoral students, whose contribution takes the form of a critical accompaniment to the lectures and to the volume as a whole, through the production of concise counterpoints and images aimed at highlighting a problematic element, an interpretative tension, or an alternative viewpoint emerging from each map or drawing under examination.

Before going to press, in the summer of 2025, the book in its entirety was the subject of a discussion in the doctoral seminar that concluded the course *Morphologies. The Form of the Cities. From Nolli to AI*. The doctoral candidates Shuang Jin, Ziwei Liu, Simone Parola, Pan Shen, and Manli Zhao took part.

For Shuang Jin, it is important to grasp how urban morphology is a form of inquiry that is both analytical and poetic, demonstrating an effort to decipher the logics and contradictions inscribed in built space. For this reason, she considered Giovanni Battista Nolli's map of Rome (1748) as an anticipation of the contemporary debates about spatial justice, that asks to see which portions of the city are permeable and which are closed. The graphic choice to depict public spaces as voids, rendered in white, and private interiors as shaded solids, is a conceptual statement about accessibility and power.

She considers this way of reading the city very useful, prospectively, also when transferring the study to the Asian city (Beijing's hutongs, for example). In this sense, broadening the argument, she read the book not as a series of distinct methodologies, but as methodologies that are complementary to one another, useful for giving each individual city/case study different and complementary readings.

Pan Shen especially grasped the diversity of the attitudes of the Authors who portrayed the ten cities in the second part of the book: the diversity of objects (urban squares, canals, factories in urban fringe areas, urban spaces and public spaces in cities), the diversity of methods of expression (painting, photography, film, and comics, or perspective, axes, viewpoints, perspective distortions, increasingly intricate techniques, dystopian styles), the diversity of content expressed (natural and cultural landscapes within cities, human love, joyful life, noise and solitude). For him this is the demonstration that many types of drawings must be used to depict the inner soul of a city in its complex. He also explained that books published in China, such as *Architectural Typology and Urban Morphology* (by Kening Shen, Beijing 2010) and *Typological Architecture* (by Lijun Wang and Ping Shu, Beijing 2019), show how different scholars have very different understandings of the concepts around the image of the city. Perhaps this theme of diversity (also present in this book) is simply proof of a constantly evolving theory. This observation opens up many relevant further questions about what will happen to our understanding of the city in the future.

Manli Zhao read the book as a crossroads between the reading (mapping) and the perception (painting) of urban reality. Placing herself in the operative position of the urban designer, she emphasized the importance of Kevin Lynch's approach to the city of Boston (1960) for participatory design practices, providing, through perceptual maps, an essential tool for working on urban space together with citizens.

Simone Parola wanted to highlight the metaphor of the city as a text that underlies morpho-typological analysis, where types are the grammar and urban fabrics, with their patterns, represent the syntax. The city would ultimately appear as a complex book to be

deciphered, in which the map is useful because it is at once a tool of textual analysis and also a tool of writing. Interested in the multidimensional stratigraphy that emerges from reading the city-as-text (which brings out conflicts, potentialities, fractures, and opportunities), he asks what implications all this might have in the age of artificial intelligence, understood as the era of the shift from quantity as the aim of computational calculation to quality: a quality to be pursued, probably starting from the choice of data, therefore once again from reading as an anticipation of writing.

Finally, Ziwei Liu considers how the contents of the book show that all these studies share a common goal: to expand the way we understand, imagine, and design the cities of tomorrow. The book suggests that every map as every painting reflects a way of thinking about space, time, and society. In a dynamic perspective of knowledge, from archaeological plans to AI-generated models, the practice of mapping and painting continues to evolve, but its core remains unchanged: to make the invisible visible, and to give shape to the intangible structures behind urban life. This is the reason why she was deeply inspired by the idea that cities are not static objects but living, transforming systems, that raises a question: how can we map emotions, memory, or atmosphere? Can future maps include subjective dimensions? As designers, we can consider mapping (and also painting) as a generative design tool, not only for analysis but also for imagination: historical maps and pictures teach us how cities evolve and this can help in designing with more awareness of context and continuity. If this is true, we can look for a way to integrate traditional mapping logic with contemporary tools like GIS, helped by AI.

The contributions of these doctoral candidates, like those of others who worked on the contents of this book before them (as will be seen in the pages that follow), are the wealth of a work that remains open, in keeping with the paradigm of "transitionality" that is our own.

Infact, this book has a didactic aim: it is intended primarily as an introduction to the study of urban form. It seeks to train the reader's curiosity by presenting simple tools for understanding maps and morphological iconographies. It would not have been possible without the essential contribution of the PhD candidates involved,

the “Transitional Morphologies” Joint Research Unit and the “Transitional Morphologies” Research Centre and its members, and, not least, the place where all of this unfolded: the PhD Programme in *Architecture. History and Project*.

Notes

1. M. Trisciuglio, *Scatola di montaggio. L'architettura, gli elementi della composizione e le ragioni costruttive della forma*, Carocci, Roma 2017 (or. ed. 2008).

2. M. Trisciuglio, *L'architetto nel paesaggio. Archeologia di un'idea*, Olschki, Firenze 2025 (or. ed. 2018).



Morphological Behaviours, dynamics of development, generation and modification of the form of Popular Habitat in the Buenos Aires Metropolitan Area (AMBA):

1. Concentration and condensation;
2. Embedding; 3. Completion and expansion;
4. Encircling key central spaces. (Image courtesy: Mattia Croci)

The city is the footprint left by society on a territory. A footprint that translates and identifies the imaginary of society itself.

Societies, which means the people who live in cities, are the ones who build them. And they do it on their own, following the codes, the existing systems of technical, economic, and cultural rules, whether written or implicit.

aA Considering that, particularly in the context of the Latin American city, the popular masses are responsible for the production of a significant portion of the urban fabric rather than public institutions or organisations, this study aims to understand, or at least to propose some operational hypotheses – from a disciplinary perspective – that enable an understanding of and provides the tools to act on the popular habitat, recognising it as a part of the city. In this sense, the point of view of this work attempts to highlight the dynamics of the formation of the urban fabric, based on the conviction that the mechanisms of morphological configuration respond to the behavioural dynamics of the societies that produce them (including both self-construction activity and the solutions to the housing problem that societies try and experiment with through the action of the state).

To clarify the scope and boundaries of this investigation, it is first necessary, from a methodological standpoint, to define what is here designated as “Popular Habitat”^{1 2}. While the primary aim of the research is to explore how design disciplines can address the physical environments that reflect inequality in access to urban space - and thus the more visible manifestations of this inequality - it is also essential to examine a broader range of urban forms.

The study presented here, conducted in the Buenos Aires Metropolitan Area (AMBA), includes not only self-built, informal or occupied settle-

ments, but also other types of urban fabric: those resulting from housing solutions provided by the State, such as large residential complexes, as well as middle-class developments aligned with private home ownership.

Thus, the concept of Popular Habitat encompasses a wide range of realities that involve diverse participants, situations, dynamics, and methods of urban fabric formation. The first step toward analysing and interpreting these spaces is to characterise them by organising and systematising their different formal, legal, economic, productive, and social configurations across time and space.

From this categorisation, it is possible to conduct a two-level mapping: a diachronic analysis that identifies the historical factors shaping these fabrics and a morphological study that uncovers and organises recurring patterns and forms within popular habitat spaces, giving spatial context to the phenomenon³.

This approach provides a comprehensive framework for selecting a representative sample for further investigation that can capture recurring characteristics and can later guide specific design tools for urban transformation processes. This involves revisiting existing knowledge systems and adapting interpretive tools to the local and regional context, identifying conditions and operational strategies to support habitat regeneration, including aspects of housing, labour, production, and public and symbolic space⁴.

In this sense, the process of reading and interpreting is integrated into the design, enabling inclusive, participatory transformations that restore both relevance and practical value to the discipline within the complex processes of socio-spatial generation and regeneration in contemporary cities^{5, 6}.

Diachronic mapping

A chronological analysis of cultural, political, environmental, and urban development events, presented here in a highly concise manner, helps position popular housing production within the broader context of urban fabric development to which it contributes. Founded in 1536, destroyed in 1541, and re-founded in 1580, the city of Buenos Aires occupied only a small portion of today's metropolitan area near the Río de la Plata until the late 19th century. Over nearly 300 years, its growth was modest, expanding from the 16-by-9-block layout shown in the 1583 "Plano de división de tierras" to the 1862 "Plano de la Ciudad de Buenos Ayres con la división Civil de 12 Juzgados de Paz" which depicted a layout of roughly 28 blocks along the north-south axis and about 20 blocks to the west.

The city's expansion was restricted by the Spanish Crown until 1810 to curb autonomous movements. Even after declaring independence in 1816, for over fifty years, the nation's turbulent formation influenced Buenos Aires' economic and urban growth. During this period, the city's fabric gradually expanded northwest, continuing the orthogonal grid pattern of the original nucleus, while the flood-prone areas along the Matanza-Riachuelo River to the southwest remained undeveloped.

With political stabilisation and Argentina's integration into the global economy as a raw material producer, Buenos Aires began to grow significantly. The port became the focal point, organising a system of radial connections that extended through the fertile interior lands to the Atlantic Ocean. Alongside the rapid urban expansion, large processing facilities for meat, wool, and grain emerged, particularly near the Matanza-Riachuelo River and the port. Between 1890 and 1930, the first workers' settlements appeared in these low-lying, marshy areas around the factories.

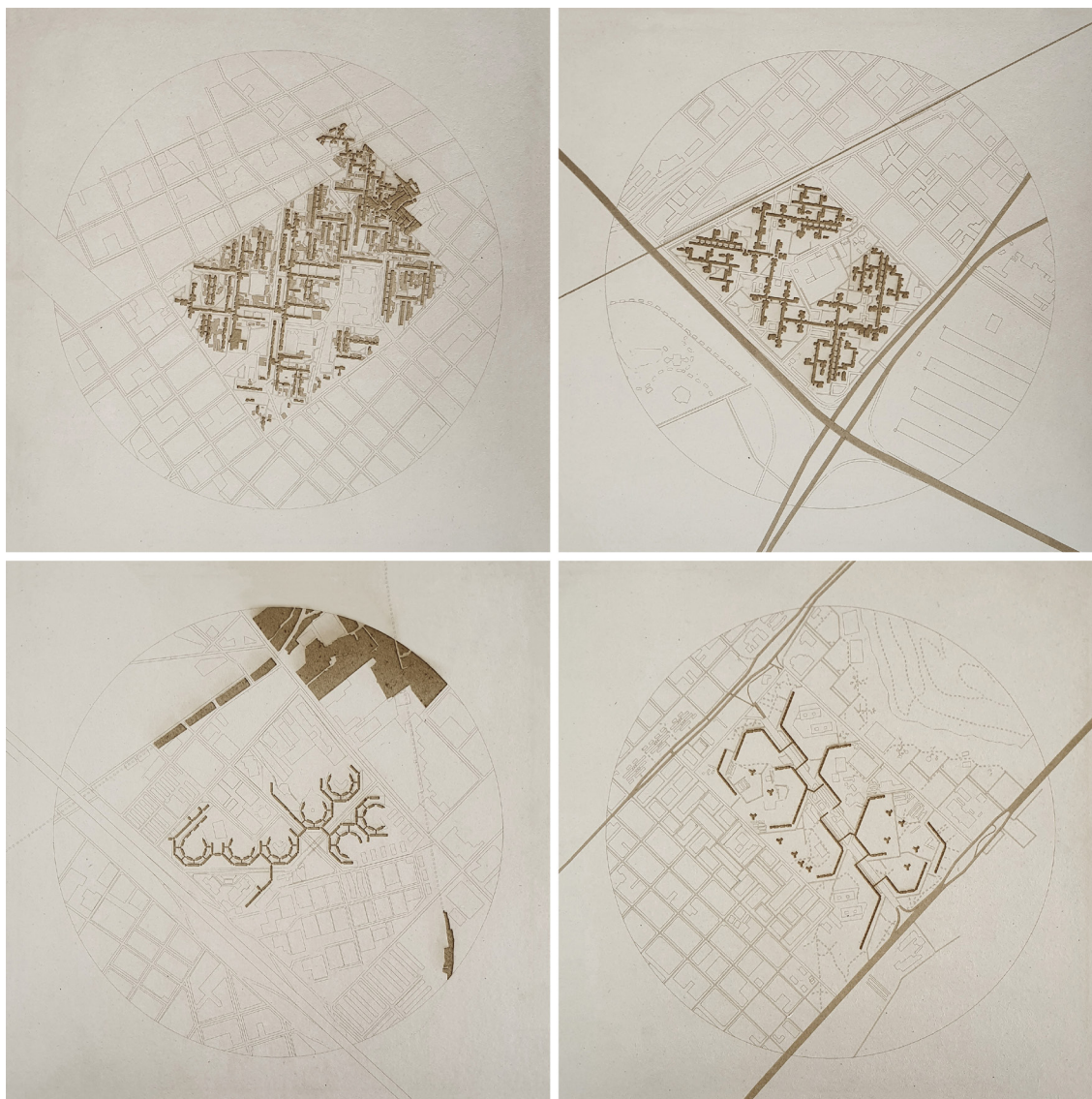
The agro-export model's collapse following the 1929 economic crisis led to a shift in the productive system. Displaced rural workers migrated to the city seeking employment in emerging industries, which gained momentum, particularly after 1944. Industrial zones developed along the east-west axis on the city's southern outskirts, near the Riachuelo and later around the administrative limits of the capital. These industries occupied undeveloped land in fragmented, largely unplanned clusters, where informal housing began to form, shaping the urban landscape.

The dismantling of the industrial sector under military dictatorships in the late 1970s, followed by economic shifts in the 1990s, worsened living conditions for many, increasing the prevalence of informal and precarious housing and contributing to urban inequality. Disused infrastructure and former industrial sites offered new spaces for expanding popular housing.

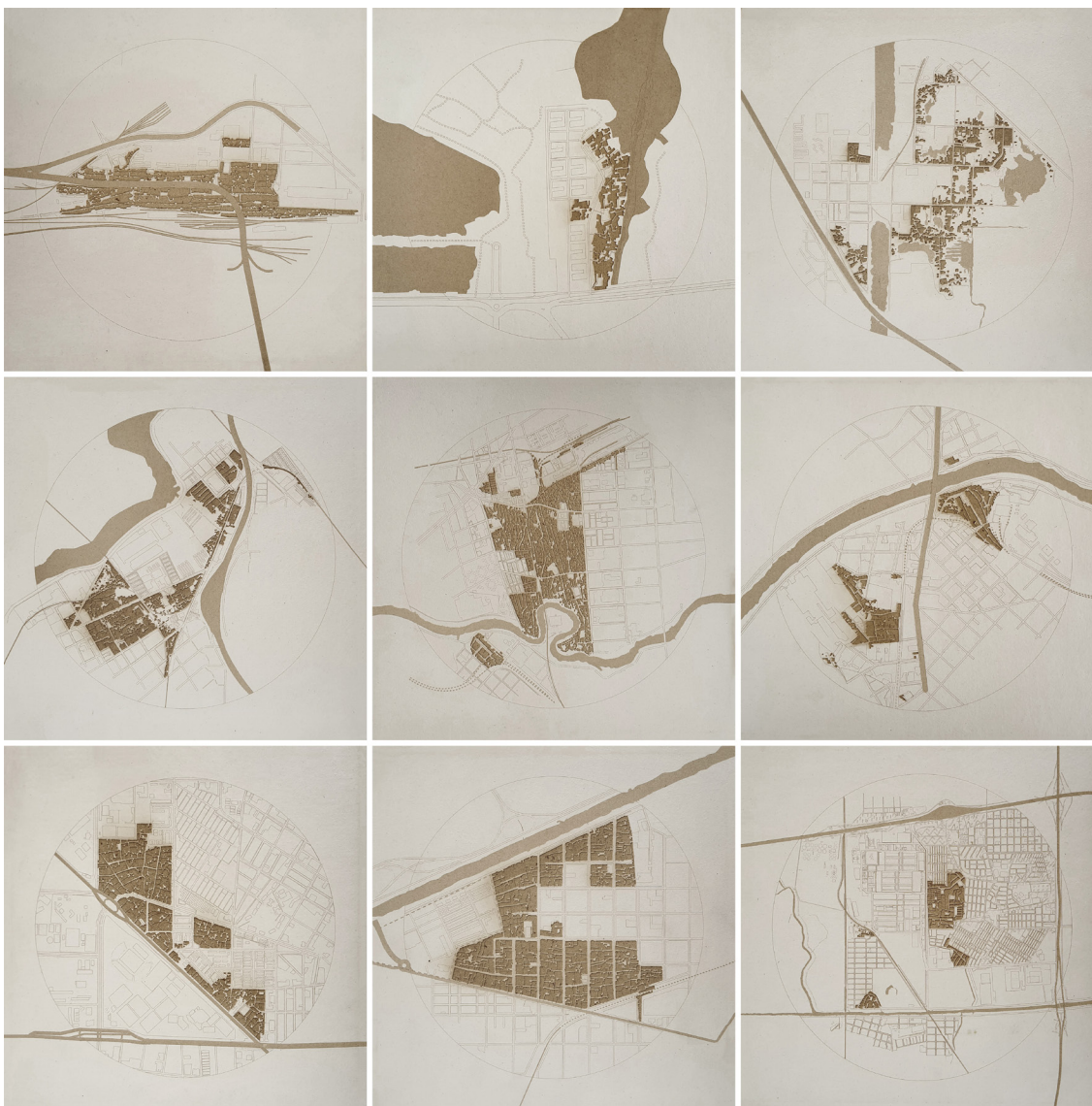
After the economic crisis of 2001, economic recovery and reindustrialisation coincided with expanded civil and social rights, driving urban development in two contrasting directions: on one side, an expansion, densification, and worsening of popular housing; on the other, the implementation of redevelopment projects focused on socio-spatial inclusion.

Morphological Mapping

Mapping the diverse types of urban fabric included under the broad definition of "popular habitat" in the Metropolitan Area of Buenos Aires provides a framework to identify recurring patterns in how these areas



AMBA Morphological reading maps:
Housing complexes Soldati, Ciudadela
I and II, Piedrabuena, and Lugano I and
II. (Image courtesy: Mattia Croci)



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AMBA Morphological reading maps:
Popular settlements Villa 31; Barrio Rodrigo
Bueno; Villa Inflammable; Villa Tranquila, Villa
Cuernito, and Isla Maciel; Villa 21-24 and
El Fortín; Puente Alsina and Barrio Pampa;
Villa 1-11-14; Villa Jardín; Villa Las Achiras,
Sarmiento, 9 de Julio, 17 de Noviembre and
La Cueva. (Image courtesy: Mattia Croci)

emerge and evolve. Notably, different forms of popular habitat often follow settlement patterns closely tied to three nearby elements: watercourses, transportation infrastructure, and large undeveloped areas.

Agglomeration along rivers and streams is a constant feature in land use patterns. In the AMBA, particularly concerning the emergence of informal and often precarious settlements, the Matanza-Riachuelo and Reconquista Rivers' banks are among the first areas affected. These low-lying, flood-prone, polluted areas have little market value, making them "available" land for occupation. Here, the urban fabric takes forms shaped by the challenging orographic conditions. The low land value also influences the placement of many public housing developments and fosters activity from the lower-middle class seeking affordable homeownership solutions.

Transportation infrastructure acts as a second key attractor, with unique implications depending on the context. Railroad tracks and highway routes interrupt the urban fabric, creating inaccessible, residual spaces that tend to fill up over time. In the case of roads, these spaces offer convenient access to the transportation system. Dismantled railroad tracks and abandoned shunting yards in the metropolitan area serve as additional catalysts, with settlement patterns either filling available space in established areas or forming a "jagged" pattern in peri-urban zones.

The third factor promoting informal settlements is the presence of large vacant areas, including flood-prone or agricultural lands, zones not designated for development in urban plans, or areas surrounding large industrial complexes. In the first case, informal habitats spread gradually, with their forms dispersing as they move away from consolidated urban zones. Around industrial complexes, however, settlements tend to concentrate along the edges, where the built form adopts and expands the patterns of the neighbouring industrial sites.

Mapping patterns, dynamics, and behaviours

Overlaying the temporal and morphological analyses reveals a clear pattern: although distributed as an archipelago across the AMBA territory along the east-west axis and parallel to the Matanza-Riachuelo River, a concentrated line of "popular habitat" has emerged, formed in tandem with the city's urban growth. This area presents a rich, varied mix of urban fabrics, and as such, it warrants an intensive analytical focus to identify recurring patterns, rules, and structures precisely. The attempt is to inform targeted proposals for urban transformation, spatial justice initiatives, and inclusive processes, not to "normalise" or impose order

but to explore innovative forms of intervention in the city's physical and social landscape.

The Matanza-Riachuelo river basin, spanning approximately 2,300 square kilometres, is home to around 5 million people, or just over 10% of Argentina's population. Among them, hundreds of thousands live below the poverty line in precarious housing, with an estimated 500,000 people residing in informal settlements along the riverbanks. Nearly half of the total population living in informal settlements across the conurbation is concentrated in this area.

These data illustrate the growth patterns of the AMBA and, together with data on environmental pollution, emphasise the urgent need for targeted studies, transdisciplinary planning, and policies that involve and empower local communities.

A localised analysis of 14 key areas along Riachuelo's natural and infrastructural axis enabled a morphological study of 22 neighbourhoods. These include: Liniers, where alternative fabric configurations fit within a grid pattern; large state-supported residential complexes such as Soldati, Ciudadela I and II, Piedrabuena, and Lugano I and II; and informal settlements and popular neighborhoods, including Villa 31, Villa Rodrigo Bueno, Villa Inflammable, Villa Tranquila, La Cuernito, Isla Maciel, Villa 21-24, El Fortín, Villa Puente Alsina, Barrio Pampa, Villa 1-11-14, Villa Jardín, Villa Las Achiras, Asentamiento Sarmiento, 9 de Julio, Barrio 17 de Noviembre, and La Cueva.

Through a systematic, project-oriented analysis of all case studies, it is possible not only to describe each unique context – useful for specific applications – but also to identify broader patterns, behaviours, and development dynamics within these urban areas.

The first major finding is that “popular habitat” fabrics expand through several distinct mechanisms: concentration and condensation along infrastructural corridors, adjacent to or parallel to them (as seen in Villa 31, Villa 1-11-14, Villa Jardín, and Villa Cuernito); embedding, by occupying unused railroad tracks and areas around lakes and reservoirs (such as Puente Alsina, Isla Maciel, Villa Tranquila, and Villa Inflammable); completion and expansion, filling interstitial spaces between boundaries or barriers (parts of Puente Alsina and Villa Inflammable, and Villa La Cueva); and encircling key central spaces, especially public spaces or communal buildings (notably present in specific areas across all reviewed cases).

At the micro-scale, the identified articulation mechanisms between built environments and open spaces have led to the development of a set of recurrent patterns that guide specific architectural-scale design

proposals. These patterns can address built systems and public spaces through targeted actions for reconnection and reorganisation, as well as more diffuse and typified strategies.

The aim is not to create a catalogue of solutions to apply directly in design proposals but rather to construct informed project scenarios that carefully balance variables and constants. Thus, the forms and typologies identified serve to contextualise and enrich projects, alongside thematic precedents, external references, and transdisciplinary insights⁷.

Recognising these analysed territories as integral parts of the urban landscape – without labelling them as “informal” – it is possible to acknowledge that slums, sprawling areas, and villas possess distinct forms. To deny them form would imply they lack materiality, organisational rules, production systems, and meaning; in essence, it would be to deny their existence.

From the study of the AMBA, it is clear that these areas are integral to the city, with their own established rules and structures. As demonstrated in various concrete cases^{8 9}, supporting and empowering these areas through practical and technical implementation requires thorough investigation, classification, and systematisation. This approach moves beyond traditional perspectives toward a transitional methodology, focusing on the dynamics of urban change and incremental transformations of urban elements and spaces. By identifying recurring patterns in the processes that shape and modify these spaces, it is possible to re-define categories, methods, and tools necessary to interpret and design these complex, multi-scalar, and multi-dimensional realities.

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Notes

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**The urban form of popular habitat.
Reading the Buenos Aires
Metropolitan Area**
Santiago Gomes

Progetti & Storie.

Ricerche e Materiali dal Dottorato in Architettura vol. III

The book brings together the theoretical foundations and teaching experiences of two complementary courses, *Morphologies. The Form of Cities* and *From Painting to Understanding: An Overview on European Urban Spaces*, taught by Marco Trisciuglio and his research unit within the PhD Programme in *Architecture. History and Project* at Politecnico di Torino and in lectures' series at Southeast University in Nanjing. Both courses share a common ambition: to explore how cities take form, change over time, and can be interpreted through different modes of representation.

The volume is articulated in two parts. Mapping examines ten cities through ten key maps, introducing major figures, methods, and questions in urban morphology, ranging from archaeological surveys to typological analyses, from perceptual approaches to contemporary interpretations of urban form. Painting shifts the focus to images, showing how paintings, engravings, photographs, comics and movies illuminate the cultural, symbolic, and experiential dimensions of urban space. Together, the two sections outline a multifaceted way of reading the city that bridges analytical rigor and visual interpretation.

The contribution of the PhD candidates is crucial to the book. Their drawings, commentaries, and critical counterpoints accompany each lecture, forming a continuous dialogue between teaching and research.

Designed both as an introduction and as an invitation, the book encourages readers to approach urban form with curiosity and analytical precision, learning to navigate the interplay between representation, history, and the lived experience of the city. The counterpoints between morphology and transition that close the book further underline these aspects.