

READING THE ORDINARY ARCHITECTURES OF THE CITY:
A GENEALOGY OF TYPOMORPHOLOGY

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A GENEALOGY OF TYPOMORPHOLOGY**

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ABSTRACT

READING THE ORDINARY ARCHITECTURES OF THE CITY: A GENEALOGY OF TYPOMORPHOLOGY

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The thesis explores typomorphology as a critical and generative field of study situated at the intersection of housing typology and urban morphology. Focusing on the often overlooked yet prevalent ordinary residential architecture that forms the majority of the urban fabric, the thesis argues for the relevance of typomorphology in theorizing these everyday urban environments and informing architectural and urban design practices. Through a genealogy of typomorphology, it traces the theoretical and methodological continuities and divergences within typomorphology from its inception in the mid-twentieth-century Italy to its contemporary interpretations in non-Western cities. By exploring the contributions of key figures, the thesis provides a comprehensive overview of the evolution of typomorphology, drawing on an extensive literature review, personal interviews, and archival research.

Keywords: Typomorphology, Housing typology, Urban morphology, A-priori type, A-posteriori type

ÖZ

KENTİN SIRADAN MİMARLIKLARINI OKUMAK: TİPOMORFOLOJİNİN SOYAĞACI

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Doktora, Mimarlık

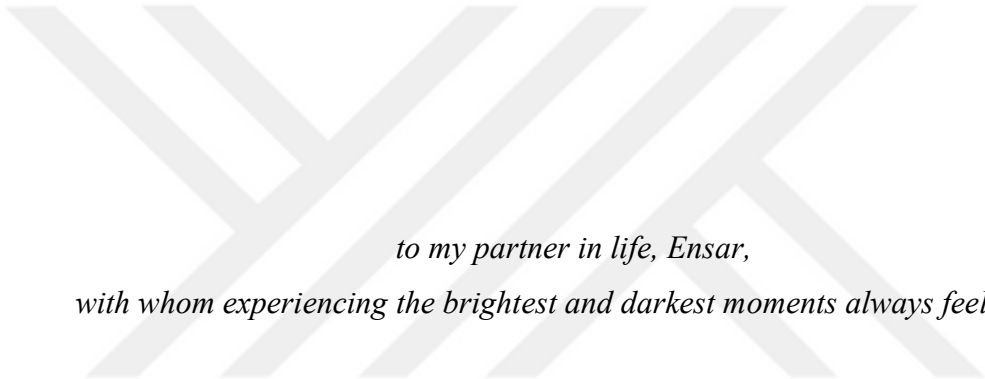
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Bu tez, konut tipolojisi ile kentsel morfolojinin kesişim noktasında yer alan, eleştirel ve üretken bir çalışma alanı olarak tipomorfolojiyi incelemektedir. Kentsel dokunun büyük çoğunluğunu oluşturan, ancak sıklıkla göz ardı edilen yaygın sıradan konut mimarisine odaklanan çalışma, tipomorfolojinin bu gündelik kentsel çevrelerin kuramsallaştırılmasında ve mimari ile kentsel tasarım uygulamalarında rehberlik etmesindeki önemini savunmaktadır. Tipomorfolojinin soykütüğü üzerinden, tipomorfolojideki teorik ve metodolojik süreklilik ve farklılıklarını, yirminci yüzyıl ortası İtalya'sındaki başlangıcından Batılı olmayan çağdaş kentlerdeki yorumlarına kadar izini sürmektedir. Anahtar figürlerin bu alana katkılarını inceleyerek, kapsamlı bir literatür taraması, röportajlar ve arşiv araştırmaları üzerinden tipomorfolojinin evrimine dair kapsamlı bir bakış sunmaktadır.

Anahtar Kelimeler: Tipomorfoloji, Konut tipolojisi, Kentsel morfoloji, A-priori tip, A-posteriori tip



*to my partner in life, Ensar,
with whom experiencing the brightest and darkest moments always feels right*

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LIST OF ABBREVIATIONS

ABBREVIATIONS

AA	: Architectural Association (School of Architecture)
AD	: Architectural Design (Magazine)
ADROS	: Association for the Development of Research on Spatial Organization (<i>Association pour le développement de la recherche sur l'organisation spatiale</i> in French)
AKPIA	: The Aga Khan Program for Islamic Architecture
AMC	: Architecture Mouvement Continuité (Magazine)
CISPUT	: The International Center for the Study of Urban and Territorial Processes (<i>Centro Internazionale per lo Studio dei Processi Urbani e Territoriali</i> in Italian)
CORDA	: Committee for Research and Development in Architecture (<i>Comité d'orientation de la recherche et du développement en architecture</i> in French)
EPFL	: Swiss Federal Institute of Technology, Lausanne (<i>École Polytechnique Fédérale de Lausanne</i> in French)
ETH Zürich	: Swiss Federal Institute of Technology, Zurich (<i>Eidgenössische Technische Hochschule Zürich</i> in German)
Harvard GSD	: Harvard University Graduate School of Design
IERAU	: Institute of Architectural and Urban Studies and Research (<i>Institut d'Études et de Recherches Architecturales et Urbaines</i> in French)

ILSES	: Lombard Institute of Economic and Social Sciences (<i>Istituto Lombardo di Scienze Economiche e Sociali</i> in Italian)
IUAV	: University Institute of Architecture of Venice (<i>Istituto Universitario Architettura Venezia</i> in Italian)
IUSA	: State University Institute of Architecture (<i>Istituto Universitario Statale di Architettura</i> in Italian)
IPRAUS	: Paris Institute for Research in Architecture, Urbanism, and Society (<i>Institut parisien de recherche en architecture, urbanistique et société</i> in French)
ISUF	: International Seminar on Urban Form
LADRHAUS	: Research Laboratory: Architectural and Urban History – Societies (<i>Laboratoire de recherche: Histoire architecturale et urbaine – sociétés</i> in French)
MIT	: Massachusetts Institute of Technology
SAR	: Foundation for Architectural Research (<i>Stichting Architecten Research</i> in Dutch)
SEZ	: Special Economic Zone
TU Delft	: Delft University of Technology (<i>Technische Universiteit Delft</i> in Dutch)
UC Berkeley	: University of California, Berkeley
UK	: United Kingdom
UP	: Pedagogical Units (<i>Unités Pédagogiques</i> in French)
US	: United States

CHAPTER 1

INTRODUCTION

The architect was traditionally occupied with the monumental palace, villa or church. Yet during the past century, architects became fully immersed in the entirety of the field. This signaled a fundamental and unprecedented shift. The demands of the everyday environment are vastly different from what is required to create the extraordinary. Nevertheless, the profession's self-image, publications and ways of working still cling to its roots in monumental architecture.

There is a disconnect between the way we, as architects, perceive and explain ourselves and what we actually do. As a result, neither our working methods, nor our teachings, nor our values permit the profession to be effective. The resulting conflict confuses everyone: practitioners and clients, teachers and students alike. More importantly, it prevents us from serving and sustaining the field as well as we could. Nor can the ordinary environment nourish us in return. Cut off from the sustenance of the field, we are caught in a self-referential cycle of diminishing returns. With each succeeding generation, architects seem to grow more disoriented, dissatisfied. The backdrop of frenzied or delirious imagery that we create obscures the inevitable recognition of our disjunction.

Positioned at the intersection of housing typology and urban morphology, this doctoral thesis dwells on typomorphology as an area of study aiming at explicating and interpreting the mostly anonymous ordinary residential buildings and fabrics that quantitatively constitute the majority of the built environment—in other words, the ordinary architecture of the city. It aims to demonstrate typomorphology as a critical and generative field of research capable of theorizing ordinary urban architectures and informing architectural and urban planning practices, through a genealogical study that identifies theoretical and methodological continuities and divergences from its beginning to the present.

The ordinary architecture of the city forms the background of the built environment. It is what remains once all monuments—historical and contemporary alike—and exceptional examples of residential architecture are subtracted from the cityscape. It is the ordinary buildings which make the urban texture, while the monuments and exceptional buildings stand out from and punctuate the rest, like the ground in the figure-ground relationship. It is not designed by architects and planners but shaped incrementally and collectively by the society. In a way, at the point where Amos Rapoport's "house form" transforms into urban housing form, the ordinary architecture of the city intersects with Bernard Rudofsky's "nonpedigreed architecture" "without architects."¹ (Figure 1.1) It is less popular as a subject matter in design disciplines that seek creativity and invention more than ordinariness and convention. Nonetheless, the significance of ordinary architecture lies in the fact that it represents the majority of the building stock in any city.



Figure 1.1 House form, urban form, and urban housing form.
Source: Drawn by the author.

The interest in ordinary urban housing forms in architecture culminated in the efforts of the early typomorphologists starting from the 1950s in Italy. Both the rapid speculative housing production activities following the Second World War and the rupture caused by the Modernism in architecture culture² led to the idealization of

¹ Bernard Rudofsky, *Architecture Without Architects: A Short Introduction to Nonpedigreed Architecture* (New York NY: The Museum of Modern Art (MOMA), 1964); Amos Rapoport, *House Form and Culture* (Englewood Cliffs NJ: Prentice-Hall, Inc., 1969).

² Mary Louise Lobsinger, 'The New Urban Scale in Italy: On Aldo Rossi's "L'architettura Della Città"', *Journal of Architectural Education* 59, no. 3 (2006): 29–30.

the historical Italian city as a model. Saverio Muratori, known as the founder of typomorphology, posited that the “operative history” of urban form perceived as a cultural artifact akin to language in the vein of structural anthropology could restore continuity both in built environment and in architecture culture. He argued that studying the historic urban fabric equipped architects and planners to better respond to the design challenges of their time.³ To this end, he reinterpreted the concepts of type and typology, which have a very long history in architectural theory, in the context of relationship between architecture and the city. For Muratori, type was not merely a group of buildings derived from empirical classification, rather it emerges from a deductive reasoning process. It epitomized the conceptualization of a dwelling as envisaged by a builder or architect, shaped by the collective consciousness of a specific culture within a particular region and era. This conceptualization of type as a priori was at the center of their theory of the city as an evolving organism for Muratori and his Italian followers, namely Gianfranco Caniggia, Paolo Maretto, Giancarlo Cataldi, Gian Luigi Maffei, and many others. In seeking solutions to the modernist and speculative reconstruction of the ordinary architecture of the(ir) present, they drew inspiration from the spontaneous construction of the ordinary architecture of the past. Muratori and his followers vigorously analyzed the historical centers of many Italian cities including Venice, Rome, Como, and Florence to arrive at an architectural and urban design methodology to address the design challenges regarding both the urban transformation and urban expansion in the Italian cities. Their research efforts resonated in planning practice as well as in urban history research in Italy in the second half of the century.

³ Saverio Muratori et al., *Studi per Una Operante Storia Urbana Di Roma* (Rome: Consiglio nazionale delle ricerche, 1963), 13.



Figure 1.2 A drastic shift in scale: real estate speculation in mid-twentieth-century Italy and early-twenty-first-century China.

Source: *Le mani sulla città*, directed by Francesco Rosi (1963), 4:39, <https://youtu.be/raFLPTEWVTw?t=279> (top); John Fitzgerald and Matthew Niederhauser, “Superblock Photo Essay” in *China Lab: Guide to Megablock Urbanism*, ed. Jeffrey Johnson, Cressica Brazier, and Tat Lam, New York: Actar Publishers, 2020, 268-9 (bottom).

Urbanization wave in the more developed regions of the world witnessed its last acceleration following the Second World War, which led to the emergence of

numerous research areas like typomorphology that attempted to investigate the city through its urban architecture. Starting from the 1950s, the world has been experiencing another wave of urbanization with a higher speed and a wider scope predominantly taking place in the less developed regions of the world.⁴ It is estimated that the urban population, which reached 750 million up until 1950, will rise to 6.7 billion by 2050.⁵ The cities in developing countries, characterized by an unprecedented urban expansion unlike those of developed countries where urban transformation and expansion co-occurred during the previous wave, will accommodate for more than 80 percent of this massive increase in urban population.⁶ Nearly 5.3 billion new urbanites will be accommodated in newly formed urban areas in developing countries,⁷ which have been growing horizontally in plan as well as vertically in section. (Figure 1.2)

The contemporary non-Western city, much like the historical European city, was not predominantly designed by architects and planners; instead, it was shaped by a mix of political, economic, cultural, and technological dynamics, with some processes being more dominant than others—although these processes were fundamentally different in the two contexts. This similarity established through anonymity suggests that typomorphology, originally developed to highlight the values embedded in the historical European city, has potential to be utilized to understand the contemporary non-Western city. In this new context, a-priori type can serve to conceptualize the dominant urban housing forms of the ordinary architecture in the contemporary city. Indeed, typomorphology, which focused on the historical city in search of a model

⁴ United Nations Environment Program, ‘The Second Urbanization Wave’, in *City-Level Decoupling: Urban Resource Flows and the Governance of Infrastructure Transitions (Research Report of the Working Group on Cities of the International Resource Panel)* (UNEP, 2013), 26.

⁵ United Nations, Department of Economic and Social Affairs, Population Division, *World Urbanization Prospects: The 2018 Revision (ST/ESA/SER.A/420)*, United Nations, Department of Economic and Social Affairs, Population Division. *World Urbanization Prospects: The 2018 Revision (ST/ESA/SER.A/420)*. New York NY: United Nations (UN), 2019. (New York NY: United Nations (UN), 2019), 9.

⁶ Ibid.

⁷ Ibid.

in response to the rapid and speculative developments in mid-twentieth-century European city, has, since the beginning of the twenty-first century, been used to critique the environments built as a result of rapid and speculative construction activities in contemporary non-Western cities. Predominantly starting from the 2000s, some researchers including Christopher C.M. Lee and Fei Chen have begun conducting typomorphological studies focusing on both the historic centers and newly developed areas of contemporary cities in developing countries. Lee, labels his work as “typological urbanism” instead of typomorphology, analyzed rapidly developing Chinese cities like Beijing, Xiamen, and Macau, as well as the city-state of Singapore, through their dominant housing types and their urbanities.⁸ Chen, on the other hand, focused on Nanjing, another rapidly developing city of the twenty-first century, conducting a similar research to develop an urban design method for this city.⁹

Typomorphology is generally considered an approach to urban morphology aiming to comprehend the built environment through the reciprocal relationship between building types and urban form. Although the terms typomorphology and urban morphology were used interchangeably during the 1980s and 1990s, typomorphology is today considered as a sub-field of urban morphology, which is a broader interdisciplinary research field, along with historical-geographical approach, configurational approach, and others. While this general definition gives an overall impression of what typomorphology is, its nearly 80-year history presents a diversity of its scope, theory, purpose, and methods. In this sense, the trajectory of typomorphology in urbanism is not much different from that of typology in architectural theory: lack of consensus on the answers to the questions that describe

⁸ Christopher C. M. Lee, ‘Type and the Developmental City: Housing Singapore’, *The Journal of Architecture* 20, no. 6 (2015): 988–1031, <https://doi.org/10.1080/13602365.2015.1115419>; Christopher C. M. Lee, ed., *Common Frameworks: Rethinking the Developmental City in China* (Cambridge MA: Harvard University Press, 2017).

⁹ Fei Chen and Kevin Thwaites, *Chinese Urban Design: The Typomorphological Approach* (Surrey: Routledge, 2013).

it, yet the presence of multiple interpretations leading to fruitful debates. This is partly so because there was no agreement on what typology was in architecture before entering into the realm of urbanism as typomorphology, and partly because typomorphology had a trilingual past, originated in Italian, and then cultivated in French, and later in English. It has been enriched each time it was adapted to a new context and utilized for a new agenda. (Figure 1.3)

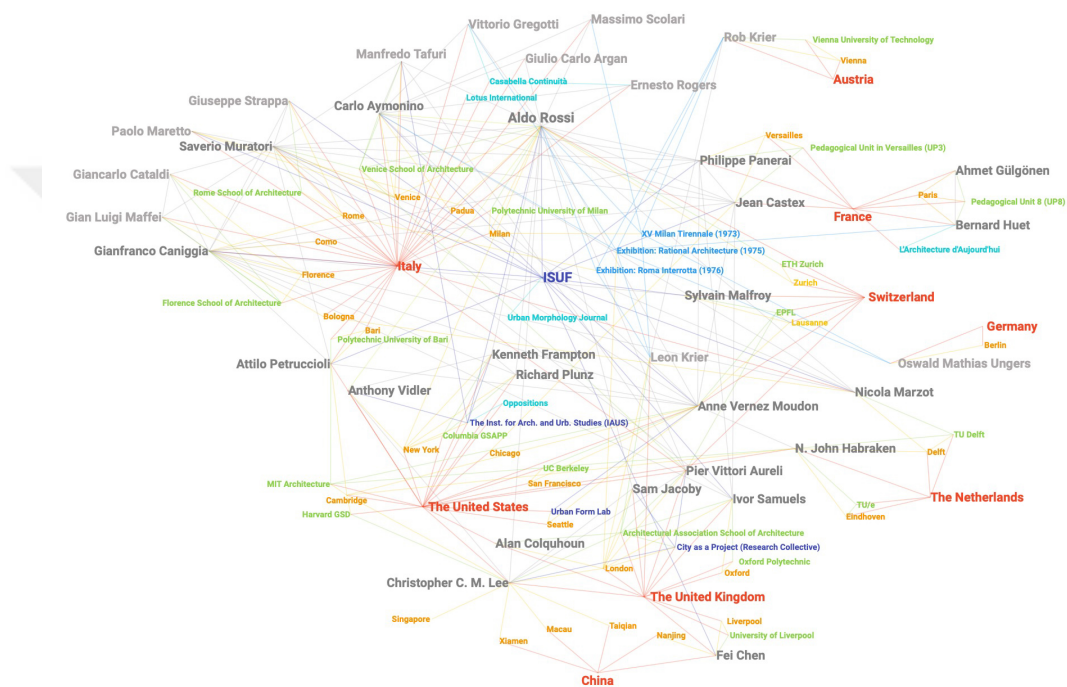


Figure 1.3 A network of typology and typomorphology research in architecture spanning across countries, cities, schools, actors, institutions, events, and periodical publications.
Source: Drawn by the author using Miro.

This thesis argues that, beyond being a method of urban analysis, typomorphology is a generative, productive, and relevant research field which has the capacity to explicate and theorize the ordinary architectures of the city and to provide a knowledge base for architectural and urban planning studies on how these environments can and should transform or develop, in the context of not only the historic cores and the central districts but new development areas mostly in the peripheries of the city. The thesis intends to prove its claim by conducting a

genealogy of typomorphology. Through this genealogical research, the thesis aims to (i) identify the theoretical and methodological continuities and divergences within typomorphology from its emergence to its current state, (ii) highlight its fundamentals through its continuities, and reveal its richness and potentials through its divergences, and (iii) provide a theoretical and methodological basis for its contemporary interpretations.

Thus, the thesis intends to contribute to the typomorphology literature on three different levels. On a macro level, it attempts to outline its general scope and potential functions by bringing together typomorphology studies along with their theoretical frameworks and methodologies. It also demonstrates its richness and adaptability to different contexts by comparatively examining its different interpretations over the last eight decades. On a micro level, it seeks to enrich the historical narratives of the field by shedding light on overlooked connections and details, some of which have not previously been addressed in English literature. Through these contributions, this thesis aims to address the existing gap in doctoral-level research specifically focused on the theories and methodologies of typomorphology.

The thesis compiles theories and methodologies of typomorphology from the mid-twentieth century to the present through the works of a number of architect-researchers. It includes studies by Saverio Muratori, Gianfranco Caniggia, Carlo Aymonino, Aldo Rossi, Anne Vernez Moudon, and Christopher C. M. Lee. The foundations of the field were represented by the works of Muratori and his best-known follower, Caniggia, while its first interpretation within the Italian context was exemplified by the research of Aymonino and Rossi. In later texts, these four figures—Muratori and Caniggia on one side, and Aymonino and Rossi on the other—were cited as representatives of the two camps of the Italian school of

typomorphology.¹⁰ The legacy of the Italian school is studied in the works of Anne Vernez Moudon and Christopher C. M. Lee. Anne Vernez Moudon was one of the first to introduce the works of these figures, whom she introduced as “the Italian school,” into the English literature.¹¹ Additionally, she was the pioneer in extending the scope of typomorphological research beyond Europe by adapting it to American cities. Furthermore, she played a significant role in the institutionalization of the field by bringing together different approaches to urban morphology. The works of Christopher C. M. Lee are included to exemplify studies that examine contemporary non-Western cities typomorphologically. The thesis establishes theoretical and methodological continuity in the field by highlighting the parallels between the concepts and methods introduced by Lee—who referenced only the camp represented by Aymonino and Rossi—and the other camp of typomorphology represented by Muratori and Caniggia. The thesis also offers an overview of the contributions of researchers involved in typomorphology studies in France from 1970s to 1990s, such as Philippe Panerai, Jean Castex, Bernard Huet, Ahmet Gülgönen, and François Laisney. The limited focus on the contributions of the researchers from France compared to those from Italy is largely because only a few studies from both groups have been translated into English, and only those in Italian could be studied in their original language.

The thesis excludes foundational references of the historical-geographical approach to urban morphology, specifically those by M.R.G. Conzen and J.W.R. Whitehand. The reason behind this decision is related to the researchscape of urban morphology. The primary sources of the historical-geographical approach, mostly written in English, have already been extensively researched, in contrast to the typomorphological approach, whose significant primary sources in Italian and

¹⁰ Anne Vernez Moudon, ‘Getting to Know the Built Landscape: Typomorphology’, in *Ordering Space: Types in Architecture and Design*, ed. Karen A. Franck and Lynda H. Schneekloth (New York NY: Van Nostrand Reinhold, 1994), 290–96.

¹¹ Anne Vernez Moudon, ‘Urban Morphology as an Emerging Interdisciplinary Field’, *Urban Morphology* 1, no. 1 (1997): 3–10, <https://doi.org/10.51347/jum.v1i1.4047>.

French have seen very few translations into English. Consequently, research on the typomorphological approach is more limited than that of the historical-geographical approach. The limited translations of the primary sources of the typomorphological approach compared to the historical-geographical approach rendered studies claiming to utilize both approaches mostly rely on secondary sources on typomorphology. This results in an imbalance in the comprehension and application of the theories and methodologies of the two main approaches to urban morphology.

The thesis presents a panorama of the past and present researchscape of typomorphology, adopting a methodology that combines a detailed literature review, interviews, and archival research. The literature review is structured around primary and secondary sources. The thesis relies on three kinds of primary sources written by the studied architect-scholars, sometimes overlapping with each other, for its theoretical and methodological inquiry: (i) published or unpublished academic works (journal articles, books/book chapters, symposium/conference proceedings, individual research reports, theses, etc.); (ii) city monographs (in which the subjected architect-researchers investigate a single city through typomorphological approach); (iii) documents and outputs of the courses and the researches conducted in collaboration with students (course syllabi, lecture notes, workshop reports, research reports, student assignments, etc.). Secondary sources comprise the critical literature on the works of these scholars. Additionally, a series of interviews and archival research were conducted as part of a doctoral research project in the Urban Form Lab at the University of Washington under the guidance of Anne Vernez Moudon.

The main body of the thesis consists of three chapters. The second chapter, aimed at establishing a conceptual foundation for the subsequent chapters, reinterprets the contrasting yet complementary views of type and typology by Antoine Chrysostôme Quatremère de Quincy and Jean-Nicolas-Louis Durand, through the dichotomy of the a-priori and a-posteriori type central to the Italian school of typomorphology. The third chapter, first, examines the sociology behind the formation of the two camps within the Italian school of typomorphology, as Anne Vernez-Moudon called them, and then delves into the core concepts of each in order to demonstrate the

continuities and discrepancies in their approaches. In the fourth chapter, the legacy of the Italian typomorphology school is illustrated through the works of Anne Vernez Moudon and Christopher C. M. Lee. Its first section highlights how Anne Vernez Moudon applied the typomorphology method she developed in the 1970s to the San Francisco context, how typomorphology gained popularity in English-speaking academic circles from the 1980s onwards, and how it became institutionalized in the 1990s by merging with other approaches to urban morphology under ISUF, through her multifaceted contributions to the field. Its second section focuses on how Lee, drawing from the second camp of the Italian school—particularly Rossi's work—developed his own theoretical framework of “typological urbanism” to analyze contemporary non-Western cities like Xiamen and Singapore. It explores the parallels between the new concepts Lee introduces to understand contemporary cities and the existing concepts previously proposed by the Italian school.

CHAPTER 2

EARLY CONCEPTUALIZATIONS OF TYPE AND TYPOLOGY IN THE ENLIGHTENMENT: QUATREMÈRE DE QUINCY'S A-PRIORI TYPE VS. DURAND'S A-POSTERIORI TYPE ¹²

In the introductory text to his paper “The Idea of Type: The Transformation of the Academic Ideal, 1750-1830,” Anthony Vidler asserts that the theory of type is ideologically split into two.¹³ As a scholar who intensified his research on architectural theory in the Late Enlightenment during the 1970s and 1980s,¹⁴ Vidler argues that the first approach focuses on an older neo-platonic theory of *an original ideal*, whereas the second concentrates on *the production of types*, that is typology. According to him, Antoine Chrysostôme Quatremère de Quincy (1755-1849) and Jean-Nicolas-Louis Durand (1760-1834) were the originators of these two different approaches to type in the architectural theory of the Enlightenment. Building on this dichotomy, this chapter aims to provide a conceptual base for the other chapters by reinterpreting the two fundamental and contrasting conceptualizations of type and typology as a-priori type and a-posteriori type through the works of Quatremère de Quincy and Durand. The chapter argues that the contrast between Quatremère’s and Durand’s conceptualizations of type and typology can be associated with the

¹² A narrower version of this chapter titled “Revisiting type and typology conceptualizations of Quatremère de Quincy and Durand through the dichotomy of a-priori and a-posteriori type” has been accepted for and will be presented at the 31st conference of the International Seminar on Urban Form “ISUF 2024: Future Horizons for Urban Form: Disruption, Continuity, Expansion, and Reverberation,” which will be held on 16-22 September 2024 in São Paulo, Brazil, at the School of Architecture and Urbanism of Mackenzie Presbyterian University.

¹³ Anthony Vidler, ‘The Production of Types’, *Oppositions* 8 (1977): 93.

¹⁴ His research later culminated in a book: Anthony Vidler, *The Writings of the Walls: Architectural Theory in the Enlightenment* (New York NY: The Princeton Architectural Press, 1987).

dichotomy of a-priori and a-posteriori type that was introduced by the typomorphologists in the latter half of the twentieth century.

Typomorphologists propose a distinction between a-priori and a-posteriori types as part of their theoretical framework comprising numerous interconnected concepts, including operative history, spontaneous consciousness, critical consciousness, architectural organism, and building type. To facilitate a comparison with the type and typology conceptualizations of Quatremère de Quincy and Durand, the concepts of a-priori and a-posteriori types, which will be explored in detail in the next chapter, will be briefly introduced here.

The concepts of type and typology have a central role in typomorphologists' endeavor to read the built reality—with typology, not to be confused with type, being the study of types. According to them, classifying buildings based on a set of common characteristics for the purpose of taxonomy, as in the positivist tradition, is rather narrow interpretation of typology. Such classifications are the result of a-posteriori analysis and are derived inductively. Typomorphologists move beyond the idea of type as merely an a-posteriori mental construct by asserting that type “already exists within the built reality of the building, the fabric, and the city.”¹⁵

To illustrate, in any historic city center, houses resemble one another in terms of their physical features such as facade width, the organization of fenestrations, the position in their plot, etc. When these similar houses are classified as, for example, row houses, the observer performing the classification is engaging in a-posteriori analysis, meaning they have examined the buildings through *observation* and arrived at the *general* concept of row house from *particular* instances.¹⁶

¹⁵ Attilio Petruccioli, ‘Vernacular Architecture and Typology’, *A|Z ITU Journal of the Faculty of Architecture* 13, no. 1 (2016): 5–6, <https://doi.org/10.5505/itujfa.2016.60252>.

¹⁶ Gianfranco Caniggia and Gian Luigi Maffei, *Architectural Composition and Building Typology: Interpreting Basic Building*, trans. Susan Jane Fraser (Florence: Alinea Editrice, 2001), 50–51.

When defining the a-priori type, typomorphologists shift the focus from the observer classifying the buildings to the builder constructing them to highlight the rationale behind the buildings' physical commonality. They argue that the builder, situated in their time and cultural context, would build a house without a second thought, following a pre-existing concept of house in their mind. There is a tacit social consensus among builders and users about what a house should look like. Typomorphologists conceptualize this pre-existing idea of a house preceding both the act of classification and the act of construction as a-priori type. Builders construct *particular* houses according to their *general* idea of a house through a-priori synthesis. A-priori type in typomorphology is a product of both environment and culture operating at an individual level.¹⁷



Figure 2.1 A-priori type vs. a-posteriori type.
Source: Drawn by the author.

This chapter argues that the neo-platonic formulation of type suggested by Quatremère, the first known scholar who attempted to draw a theoretical framework around the idea of *type* in architecture, resonates with a-priori type, while Durand's formulation of a basis for *typology* in order to systematize architectural knowledge aligns with a-posteriori type. Thus, it both offers a new perspective to the comparison of Quatremère's and Durand's typologies and highlights the conceptual continuities

¹⁷ Caniggia and Maffei, 52–53.

between architectural theory and typomorphology theory through type and typology, fundamental concepts to both research domains.¹⁸

2.1 Quatremère de Quincy and type as a priori

Antoine Chrysostôme Quatremère de Quincy was an architectural theorist born in 1755 in Paris. He authored numerous articles and books, the most renowned of which were his dictionaries: *Dictionnaire d'architecture* for *Encyclopédie Méthodique*¹⁹ and *Dictionnaire historique de l'architecture*.²⁰ As noted by Vidler, the first half of the nineteenth century in France, the most influential and comprehensive theoretical statements on architecture were not published in the form of the customary philosophical treatises or essays that had been prevalent since the Renaissance. Instead, they appeared as dictionaries, exemplified by the significant works of Quatremère de Quincy and Eugène Viollet-le-Duc.²¹ While they were titled as dictionaries, within some entries, they offered novel conceptualizations of existing architectural terms and/or in-depth discussions on their meanings. In the age of encyclopedia, this articulation rendered them as primary references in architectural theory, comparable to treatise, *essai*, *précis*, *parallèle*, *recueil*, or *cours* of the pre-Enlightenment era.²²

Quatremère's widely-cited definition of type was excerpted from one of these

¹⁸ Tom Avermaete highlights the significance of typology in architectural culture by counting it among the epistemes at work in the field along with phenomenology, semiology, and praxeology: Tom Avermaete, 'A Black Box? Architecture and Its Epistemes', in *The Tacit Dimension: Architecture Knowledge and Scientific Research*, ed. Lara Schrijver (Leuven: Leuven University Press, 2021), 71–74.

¹⁹ Antoine Chrysostôme Quatremère de Quincy, *Encyclopédie Méthodique: Architecture*, 3 vols (Paris: Panckoucke, 1788).

²⁰ Antoine Chrysostôme Quatremère de Quincy, *Dictionnaire Historique de l'architecture, Comprenant Dans Son Plan Les Notions Historiques, Descriptives, Archeologiques, Biographiques, Théoriques, Didactiques et Pratiques de Cet Art*, 2 vols (Paris: Librairie d'Adrien Le Clere et Cie, 1832).

²¹ Anthony Vidler, 'Type', *Oppositions* 8 (1977): 147.

²² Samir Younés, *The True, the Fictive and the Real: The Historical Dictionary of Architecture of Quatremère De Quincy* (London: Andreas Papadakis Publishers, 1999), 10.

lengthy entries in *Dictionnaire d'architecture*²³ which was republished in *Dictionnaire historique de l'architecture* with minor revisions.²⁴ The entry “Type” was translated into English by Vidler more than one and a half century later in 1977, and published in *Oppositions* journal at a time when postmodernism was on the rise.²⁵ With the wording of this translation, Quatremère’s definition was as follows:

The word ‘type’ presents less the image of a thing to copy or imitate completely than the idea of an element which ought itself to serve as a rule for the model. . . . The model, as understood in the practical execution of the art, is an object that should be repeated as it is; the type, on the contrary, is an object after which each [artist] can conceive works of art that may have no resemblance. All is precise and given in the model; all is more or less vague in the type.²⁶ (The bracketed text is Vidler’s.)

However, this was not the first time that the definition appeared in English. A book chapter titled “*Sul concetto di tipologia architettonica*” by Giulio Carlo Argan²⁷ quoting this definition was translated into English by Joseph Rykwert for publication in *Architectural Design* magazine in 1963.²⁸ Therefore, the first translation of Quatremère’s popular definition into English was not directly from its original French, but through its Italian. This situation likely resulted from the fact that Quatremère’s dictionary was available in Italian shortly after its French publication, yet it took much longer to be translated into any other language.²⁹ It illustrates the seemingly greater interconnectivity among the languages of Continental Europe

²³ Antoine Chrysôsthème Quatremère de Quincy, ‘Type’, in *Encyclopédie Méthodique: Architecture*, vol. 3, 3 vols (Paris: Panckoucke, 1825), 543–45.

²⁴ Antoine Chrysôsthème Quatremère de Quincy, ‘Type’, in *Dictionnaire Historique de l’architecture, Comprenant Dans Son Plan Les Notions Historiques, Descriptives, Archeologiques, Biographiques, Théoriques, Didactiques et Pratiques de Cet Art*, vol. 2, 2 vols (Paris: Librairie d’Adrien Le Clere et Cie, 1832), 629–30.

²⁵ Antoine Chrysôsthème Quatremère de Quincy, ‘Type’, *Oppositions* 8 (1977): 148–50.

²⁶ Quatremère de Quincy, 148.

²⁷ Giulio Carlo Argan, ‘Sul Concetto Di Tipologia Architettonica’, in *Festschrift Für Hans Sedlmayr*, ed. Karl Oettinger and Mohammed Rassem (Munich: Beck, 1962), 96–101.

²⁸ Giulio Carlo Argan, ‘On the Typology of Architecture’, trans. Joseph Rykwert, *Architectural Design* 33 (1963): 564.

²⁹ A detailed listing of all the translations of Quatremère’s dictionary is available in: Younés, *The True, the Fictive and the Real: The Historical Dictionary of Architecture of Quatremère De Quincy*, 57.

compared to their intersections with English. The following chapters will explore a similar pattern in the typomorphology literature, which saw its transition from Italian to French significantly before reaching the English-speaking academia.

Quatremère's theory was comprehensively studied in English later by Sylvia Lavin in her PhD dissertation, which later culminated into a book *Quatremère de Quincy and the Invention of a Modern Language of Architecture* in 1992.³⁰ The dictionary finally—yet partially— was translated to English in 1997 by Samir Younés, a professor teaching at the University of Notre Dame, with a support from Graham Foundation.³¹ In a period when anthology became a popular book format in architectural theory during the late 1990s,³² Quatremère's dictionary entry "Type" reappeared in *Oppositions Reader* in 1998.³³ Since then, his definition of type is one of the fundamental references in almost any text on this concept in architecture.

Despite its popularity, Quatremère's definition of type does not really explain what type *is*; instead, it delineates what it *is not* and how it differs from a model. Therefore, understanding Quatremère's conception of type requires revisiting his theoretical contributions to two longstanding and intertwined discussions in architectural theory: architecture as an art imitative of nature and architectural origins. With these two discussions, the enlightenment "*architecte-philosophe*"³⁴ attempted to draw a normative and critical framework for architectural design by questioning the essence of architecture during a period when (i) new building programs and construction

³⁰ Sylvia Lavin, *Quatremère de Quincy and the Invention of a Modern Language of Architecture* (Cambridge MA: The MIT Press, 1992).

³¹ Younés, *The True, the Fictive and the Real: The Historical Dictionary of Architecture of Quatremère De Quincy*.

³² To name three of the most well-known ones: Joan Ockman, ed., *Architecture Culture 1943-1968: A Documentary Anthology* (New York NY: Rizzoli, 1993); Kate Nesbitt, ed., *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory 1965-1995* (New York NY: Princeton Architectural Press, 1996); K. Micheal Hays, ed., *Architecture Theory since 1968* (Cambridge MA: The MIT Press, 2000).

³³ Antoine Chrysosthème Quatremère de Quincy, 'Type', in *Oppositions Reader*, ed. K. Micheal Hays (New York NY: Princeton Architectural Press, 1998), 618–20.

³⁴ Anthony Vidler, 'The Idea of Type: The Transformation of the Academic Ideal, 1750-1830', *Oppositions* 8 (1977): 95.

techniques emerged with the Industrial Revolution, (ii) the extravagant ornamentation characteristic of the Baroque and Rococo styles were being questioned, and (iii) the need to disengage arts from the monarchy and artists' patrons came to the fore.³⁵ Thus, the following sections dwell on Quatremère's interpretation of architecture as an art imitative of nature and his theory on architectural origins, both of which center around his conception of type.

2.1.1 Architecture as an art imitative of nature

According to Adrian Forty, the view that architecture was an art imitative of *nature* was common in the architectural theory in the eighteenth century.³⁶ However, compared to the other imitative arts, the role of mimesis in architecture was ambiguous due to its non-representational and functional nature, typically achieving imitation through indirect means such as proportions inspired by the human body or geometric perfection inspired by order in nature.³⁷ While the fine arts were fluctuating between direct and indirect forms of imitation (*natura natarata* vs. *natura naturans*), it was considered that architecture's abstract nature aligned it more with the indirect approach, allegedly elevating it beyond other arts through its analogic and rather complex relationship to nature.³⁸ As quoted by Lavin, Johann Joachim Winckelmann highlighted architecture's distinct path to imitation, noting its reliance on general rules and laws of proportion rather than direct natural models, which sculpting and painting use. This abstraction allowed architecture to seek its principles in the vast array of combinations and proportions, likening it to metaphysics in the realm of sciences due to its intellectual foundation and pursuit of universal ideas

³⁵ Tanis Hinchcliffe, 'Extracts from the Encyclopédie Méthodique d'architecture', *9H 7* (1985): 26.

³⁶ Adrian Forty, 'Type', in *Words and Buildings: A Vocabulary of Modern Architecture* (London: Thames & Hudson, 2000), 304.

³⁷ Lavin, *Quatremère de Quincy and the Invention of a Modern Language of Architecture*, 105–6.

³⁸ Lavin, 106.

beyond the visible world.³⁹

Quatremère adopted this view and further developed it on the grounds of his conceptualization of type. According to him, individual and particular were everywhere in nature and experienced by senses, whereas universal and general could only be grasped by thought, that was, by looking at particularities in order to find a pattern. He asserted that universal could “only be defined by the understanding and genius alone can imitate it.”⁴⁰ By asserting that each art—including architecture as the art of building—would imitate nature, Quatremère attributed artists a serious intellectual responsibility: to observe nature, truly understand it, determine the rules governing it, and finally imitate it. Thus, he distinguished between copy and imitation, with the former involving the creation of one particular from another.⁴¹ Whereas, the latter necessitates a transition from particular to universal through induction (a posteriori), followed by a return from universal to particular via deduction (a priori). Departing from their *idea* of human body, constructed according to the *images* of human bodies on earth, a sculptor is capable of producing a fictive human form that is not the same as any other human body. According to Quatremère, as a neo-platonist thinker, imitation requires a two-way journey between Plato's *idea* and *image*.

Although Quatremère classified architecture among the arts imitating nature, he also viewed architecture as inherently more ideal, intellectual, and metaphysical than other arts, emphasizing its unique form of imitation that captures the spirit rather than the form of nature.⁴² In the entry titled “Architecture” in his dictionary, he explained how architecture imitated nature in three different ways: (i) the abstract

³⁹ Lavin, 107.

⁴⁰ Younés, *The True, the Fictive and the Real: The Historical Dictionary of Architecture of Quatremère De Quincy*, 19.

⁴¹ Antoine Chrysôsthème Quatremère de Quincy, ‘Imitation’, in *The True, the Fictive and the Real: The Historical Dictionary of Architecture of Quatremère De Quincy*, ed. Samir Younés (London: Andreas Papadakis Publishers, 1999), 125.

⁴² Lavin, *Quatremère de Quincy and the Invention of a Modern Language of Architecture*, 107.

imitation of order in nature, (ii) the analogical imitation of the human body, and (iii) the imitation of the idea of type exemplified by the primitive hut.⁴³

According to Quatremère, the architecture imitates **rules of nature** instead of its physical parts unlike the art of painting and sculpture which have direct tangible models in nature. He argued that “it is never material aspect of form that this imitation appropriates, but that which is intellectual; it never copies the thing itself, but the reasons for this thing.”⁴⁴ Nature offers only intellectual analogies for architecture to reproduce. Architecture imitates nature not in its material aspects but in its abstract ones. Thus, “architecture does not pursue its model, it stands behind it.”⁴⁵ It is a more profound way of imitation for Quatremère since it requires a thoughtful effort.

For Quatremère, **proportions in human body** are another phenomenon in nature that is imitated by architecture. None of the human bodies look alike and each one is unique, yet there exists a set of proportions which governs each of these bodies.

These proportions between parts and whole make it possible for human body to look integrated and appealing to the eye. Similarly in architecture, it is possible to speak of a same system of proportions between the whole and its constituting elements. The size of column determines the size of a building, and vice versa. As in human body, there is nothing useless in an appealing building, nothing whose purpose and reason cannot be recognized.⁴⁶

As Lavin points out that the ideas of imitation of natural order and human form in architecture had already been explored by other scholars. According to her, Quatremère's significant contribution to the theory of imitation lied in his assertion

⁴³ Antoine Chrysôsthème Quatremère de Quincy, ‘Architecture’, in *The True, the Fictive and the Real: The Historical Dictionary of Architecture of Quatremère De Quincy*, ed. Samir Younés (London: Andreas Papadakis Publishers, 1999), 74–81.

⁴⁴ Quatremère de Quincy, 80.

⁴⁵ Quatremère de Quincy, 81.

⁴⁶ Quatremère de Quincy, 79.

that **architecture imitates nature through the idea of type**. At this juncture, his theory of imitation converges with his theory on the origins of architecture. He posits that primitive dwellings, dictated by nature through necessity, universally served as models for imitation.⁴⁷

2.1.2 The origins of architecture

For Enlightenment architects, tracing the origins of architecture was closely associated with uncovering its fundamental principles, paralleling the explorations of Isaac Newton in science, John Locke in philosophy, Jean-Jacques Rousseau in anthropology.⁴⁸ Marc-Antoine Laugier epitomized this quest with his well-known primitive hut as a model, elevating it from a mere shelter to a foundational principle of architecture, thereby establishing the essential elements and their combinatory rules, much like Rousseau's critique of civilization through the concept of *natural man*.⁴⁹ (Figure 2.2) Laugier traced the origins of architecture further back with his conceptualization of the primitive hut, previously suggested by Vitruvius to be rooted in the Greek temple. Quatremère, on the other hand, geographically expanded the quest for the architectural origins—which Laugier extended timewise—by arguing that the *hut* is just one of the three primary architectural forms along with *cave* and *tent* belonging to three different societies.

⁴⁷ Lavin, *Quatremère de Quincy and the Invention of a Modern Language of Architecture*, 107.

⁴⁸ Vidler, 'The Idea of Type: The Transformation of the Academic Ideal, 1750-1830', 95.

⁴⁹ Vidler, 95.



Figure 2.2 “Allegory of architecture returning to its natural model”
Source: Charles-Dominique-Joseph Eisen, Frontispiece from: Marc-Antoine Laugier, *Essai sur l'architecture*, second edition, 1755. DOME, MIT Library collections, <https://dome.mit.edu/handle/1721.3/5422>.

In his search to find how “the craft of building” evolved into architecture as “the art of building,” as he called them,⁵⁰ Quatremère suggested cave, tent, and hut as three primitive shelters responding to the needs of different groups, shaped by the imperatives of use, climate, and geography.⁵¹ According to him, caves provided natural protection for hunters and fishermen, tents offered mobility for nomadic herders, and huts served as stable dwellings for settled farmers and cultivators. He claimed that these early forms of shelter not only met immediate needs but also laid the foundational principles for distinct architectural traditions.⁵² According to him, the enclosed and dark spaces of the cave influenced the monumental religious architecture of ancient Egypt; the lightweight and portable structure of the tent inspired the slender, flexible wooden designs seen in Chinese architecture; and, the sturdy, simplistic hut, with its basic post and lintel construction, evolved into the sophisticated stone edifices of Greek architecture; all illustrating the profound impact of primitive shelters on the evolution of architectural design.⁵³

It is quite clear that Quatremère's approach to matching three primitive forms of dwelling with three architecture cultures was rather speculative.⁵⁴ However, his search for spatial continuities within the building culture of different geographies is significant. It is possible to draw a parallel between this effort and studies of the typological process in which typomorphologists track the evolution of building types down to a base type (*tipo base*) as an initiator of a local building culture, which will

⁵⁰ Quatremère de Quincy, ‘Architecture’, 74.

⁵¹ Anthony Vidler, ‘From the Hut to the Temple: Quatremère de Quincy and the Idea of Type’, in *The Writings of the Walls: Architectural Theory in the Enlightenment* (New York NY: The Princeton Architectural Press, 1987), 151.

⁵² Vidler, 151.

⁵³ Vidler, 151.

⁵⁴ The contemporary historiography suggests different matches between these primitive forms and their geographical origins. The cave is associated with South Africa; the tent, with Northern Europe; and the hut, with East Asia: Francis D. K. Ching, Mark Jarzombek, and Vikramaditya Prakash, *A Global History of Architecture*, Third edition (Hoboken NJ: Wiley, 2017).

be discussed in detail in the following chapter.⁵⁵ (Figure 2.3)

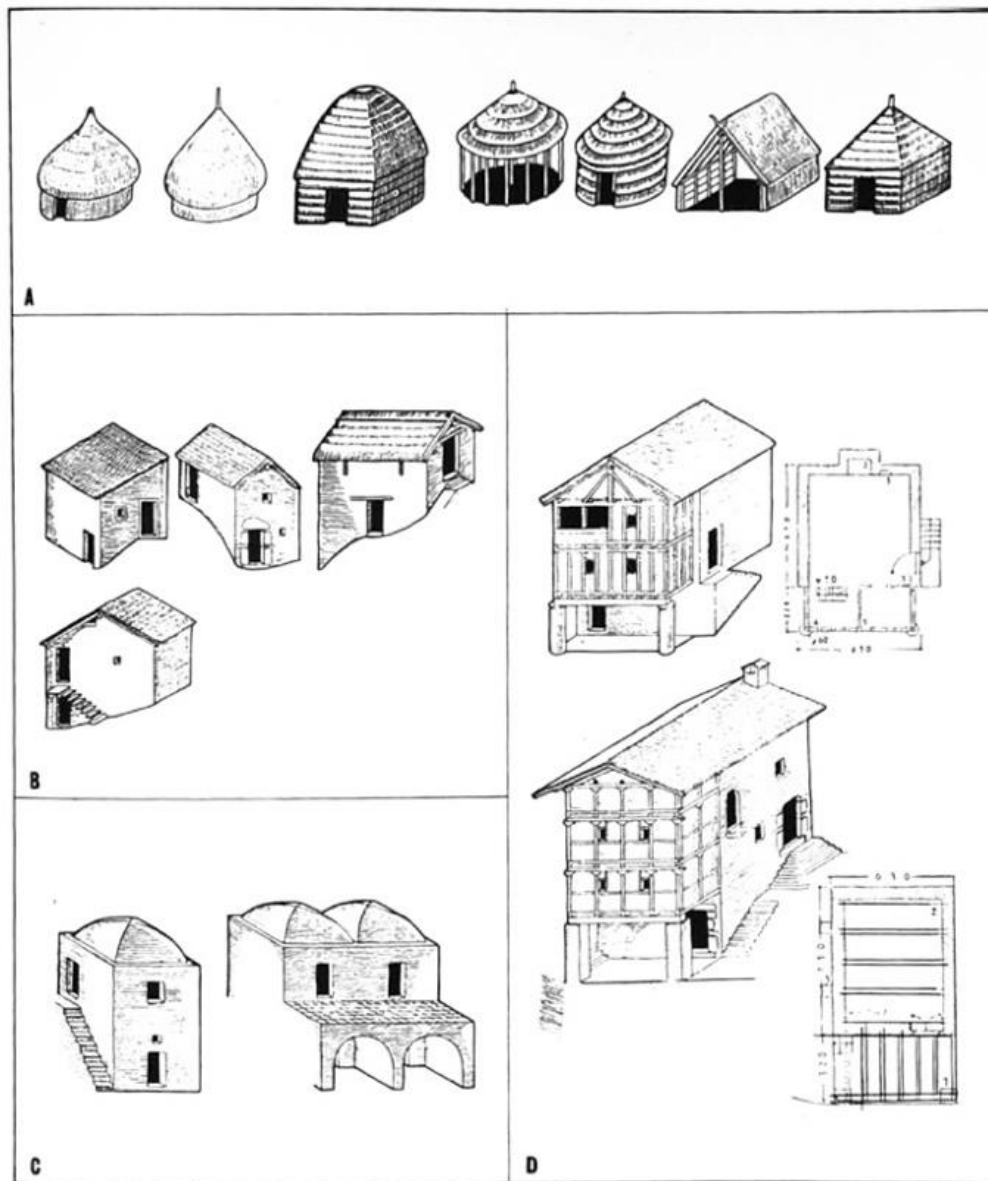


Figure 2.3 Table drawn by Caniggia and Maffei representing typological process
Source: Gianfranco Caniggia and Gian Luigi Maffei, *Composizione architettonica e tipologia edilizia: 1. Lettura dell'edilizia di base*,
Venice: Marsilio Editori, 1979, 97.

⁵⁵ Caniggia and Maffei, *Architectural Composition and Building Typology: Interpreting Basic Building*, 94–97.

Quatremère discredited the ways in which imitation of cave in Egyptian and imitation of tent in Chinese architecture. According to him, the cave was a finite and complete model offering cold and smooth surfaces without giving any idea of parts, relationships, sections, and proportions. He claimed that Egyptian architecture derived from this model did not offer a complex imitation procedure lacking abstract reasoning. On the contrary, a tent consisted of multiple parts. According to him, Chinese architecture, imitating the tent with all its fragmentation and too literally, also failed in achieving true mimetic status.⁵⁶

Quatremère was an advocate for the primacy of Greek architecture. In his dictionary entry for "Architecture," he focused exclusively on Greek architecture, arguing that it was the only form of architecture truly meriting consideration as an art of building.⁵⁷ Thus, it would be a farfetched claim that Quatremère's exploration of architectural origins, extending beyond the primitive hut and the Greek temple, was aimed at heralding architectural diversity through three equally distinct origins. Rather, given the continuity from the primitive hut, through the Greek temple, to neoclassical architecture, his intention was to come up with a theoretical ground that he could acclaim the primacy of Greek architecture over its Egyptian and Chinese counterparts; thereby, to sustain the validity of neoclassical architecture in an era marked by frequent expeditions to the non-Western world and the birth of archaeology.⁵⁸

It is also worth mentioning that Quatremère's theory on the origins of architecture was greatly influenced by his comparison of architecture to language. In the eighteenth century, the perception of language shifted from being a divine gift to a creation of human intellect. This new viewpoint allowed for the analysis of language and architecture under a common framework of universal structural or syntactical

⁵⁶ Lavin, *Quatremère de Quincy and the Invention of a Modern Language of Architecture*, 108–9.

⁵⁷ Quatremère de Quincy, 'Architecture', 74.

⁵⁸ Vidler, 'From the Hut to the Temple: Quatremère de Quincy and the Idea of Type', 151.

rules, as both were considered products of human reason. This shift also opened the door to understanding language as a societal construct, enabling a rational rather than a theological study.⁵⁹ Consequently, Quatremère was able to see Egyptian and Greek architectures as sharing a universal *grammar* while recognizing their cultural uniqueness due to their rules of *syntax*, akin to how languages can be similar but distinct.⁶⁰ Language analogy is also common in the typomorphology theory, where many terms such as synchronic, diachronic, syntopic, and diatopic transformations are adopted from linguistics two centuries later. Typomorphologists investigate building traditions prevalent in a particular cultural area during a certain period of time through types, which they consider as societal constructs.⁶¹

In parallel to his trilogy of cave, tent, and hut, Quatremère categorized primitive building materials into three: stone, earth, and wood. He posited that structures made of wood—where different elements were unified by specific orders and proportions—possessed the potential to elevate the craft of building into the art of building. He argued that wooden constructions became prevalent in the historical contexts of nearly all countries, and in time, these primitive wooden constructions evolved into “a type that is perpetuated by custom, perfected by taste, and accredited by immemorial usage,” which “ultimately passes into enterprises in stone.”⁶² He exemplified the *translation*⁶³ of wooden construction to stone through the formal continuities between the primitive hut and the Greek temple. The tree trunk used as column was directly planted in the earth and it got narrower from bottom to top similar as a baseless Doric column. The stone bases added later to the wooden columns for prevention of decay reminded him the plinths, dies, torii, and profiles at

⁵⁹ Lavin, *Quatremère de Quincy and the Invention of a Modern Language of Architecture*, 78.

⁶⁰ Lavin, 57–58.

⁶¹ Caniggia and Maffei, *Architectural Composition and Building Typology: Interpreting Basic Building*, 36.

⁶² Antoine Chrysôsthème Quatremère de Quincy, ‘Type’, in *The True, the Fictive and the Real: The Historical Dictionary of Architecture of Quatremère De Quincy*, ed. Samir Younés (London: Andreas Papadakis Publishers, 1999), 255.

⁶³ “Translation” is an expression also used by Quatremère. See: Quatremère de Quincy, 256.

the bottom of the columns in stone constructions. The wooden plates added later to the wooden columns in order to increase the surface area of the column for a better load transmission were presented as precedents of column capitals. The elevations of the joists resting upon the transverse beams were associated with the triglyphs and the metopes.⁶⁴ Quatremère argued that these similarities between the constitutive parts of the primitive works of carpentry and the Greek architecture showed that stone construction was imitative of wooden construction. Even if they remained obsolete, some elements were still used in stone construction.⁶⁵ (Figure 2.4)

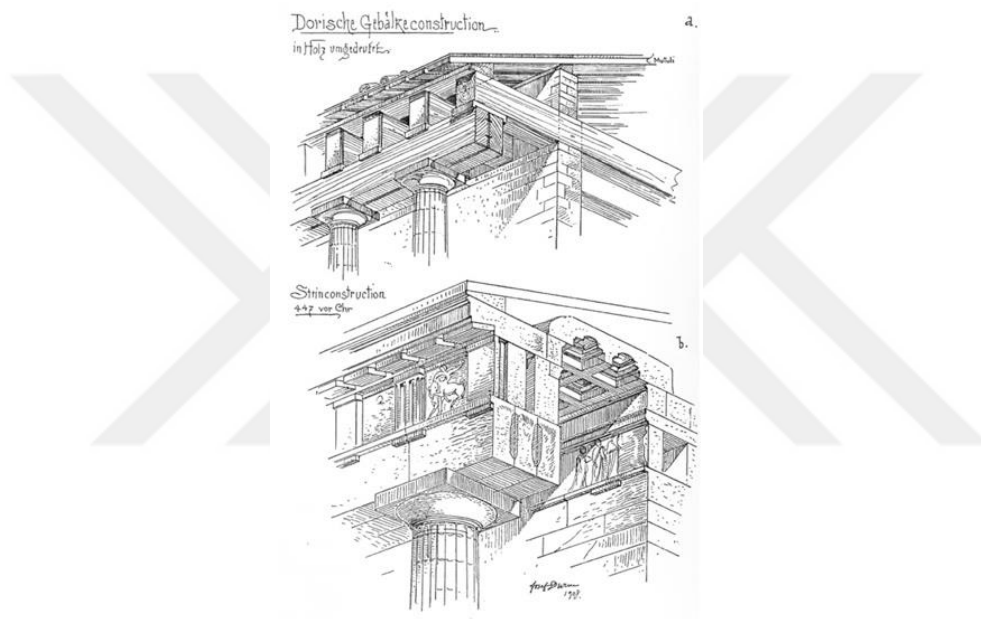


Figure 2.4 Doric Tectonics: Translation of wooden construction to stone construction.

Source: Josef Durm, *Die Baukunst der Griechen*, Leipzig: A. Kröner Verlag, 1910, 262. Also in Samir Younés, *The True, the Fictive and the Real: The Historical Dictionary of Architecture of Quatremère De Quincy*, London: Papadakis Publisher, 1999, 147.

⁶⁴ Quatremère de Quincy, 'Architecture', 77.

⁶⁵ Philip Steadman also draws attention to these and some other similar formal continuities in his book *The Evolution of Designs*. He notes that the forms maintained during the transition from one production technique to another, even if not necessary, are referred to as *skeuomorphs*. See: Philip Steadman, *The Evolution of Designs: Biological Analogy in Architecture and the Applied Arts*, Revised edition (Oxford: Routledge, 2008), 108.

2.1.3 Type as a priori

Quatremère considered the wooden hut as “a pre-existing seed” from which the orderly *art of building* was born.⁶⁶ To him, all human inventions had an antecedent. Despite subsequent changes in time, each invention retained its underlying fundamental principle in a manner in which it was still evident to reason. Quatremère argued that this principle acted as a “nucleus,” around which all the developments and variations in form were organized and coordinated. According to him, one of the principal occupations of science and philosophy, to grasp the reasons for things of all kinds, is to seek their origin and primitive cause. He asserted that this origin and primitive cause was “what ought to be called *type* in architecture as in other areas of human invention.”⁶⁷

Quatremère’s conceptualization of type had both descriptive and prescriptive aspects. He formulated the type as a constant and an essence from which different architectures, from primitive structures to contemporary monuments, were developed in dialogue with the unique nature and culture belonging to each geography. In this respect, type facilitated an understanding of different architectures across various geographies and was thus descriptive. Quatremère argued that this essence, or type, was also a *principle* that both had determined and should determine the rules and practices of architecture, and new buildings should be designed accordingly. With this perspective, he turned type into a prescriptive tool.

Precisely at the point where the descriptive type began to take on a prescriptive role, Quatremère warned of two problems arising from the confusion between “the idea of type (the originating reason of a thing)” which would not “command nor furnish the motif or the means of an exact similitude,” and “the idea of model (the complete thing)” which enforced formal similarity.⁶⁸ The first problem, according to him,

⁶⁶ Quatremère de Quincy, ‘Type’, 1999, 255.

⁶⁷ Quatremère de Quincy, 255.

⁶⁸ Quatremère de Quincy, 255.

stemmed from those who rejected the notion of type because they find no direct model in nature and confused imitation with mere copying. By only recognizing imitation in forms with clear visible models, they overlooked the various levels of “moral imitation” which involves “imitation by analogy, by intellectual relationships, by application of principles, by the appropriation of manners, combinations, reasons, systems, etc.”⁶⁹ Quatremère argued that by leaving architecture to the whims of any imagination without a guiding principle, and by allowing its forms and lines to be open to subjective interpretation, they reduced it to a game where each person set their own rules. This, he believed, led to “the most complete anarchy in the ensemble and the details of all compositions.”⁷⁰

The second problem Quatremère identified from confusing type with model was that those who favored imitation took it too literally. They recognized that a tradition of wooden construction, continually improved and adapted, must have eventually evolved into stone construction. They observed how stone construction preserved key motifs from this tradition, thereby “saving architecture from the eccentricities of chance and fantasy by leading the mind back to the origin of things in order to delight it with a semblance of imitation.”⁷¹ However, Quatremère criticized them for insisting that no aspect of the model should be altered, as they sought to “endow [it] with an inflexible reality.”⁷² In their view, columns should still resemble trees, and capitals should still echo the branches of a tree.

Quatremère criticized these two diametrically-opposing positions towards imitation for “distorting the whole of architecture” as a result of mixing up the concept of 'type'—the imaginative model—with the tangible concept of a concrete model.⁷³ He claimed that the first group did so “by emptying it absolutely of any imitative system

⁶⁹ Quatremère de Quincy, 256.

⁷⁰ Quatremère de Quincy, 256.

⁷¹ Quatremère de Quincy, 256.

⁷² Quatremère de Quincy, 256.

⁷³ Quatremère de Quincy, 256.

and freeing it from any rule, from any constraint;” whereas the other, “by chaining and repressing this art within the bonds of an imitative servility that would destroy both the feeling and the spirit of imitation.”⁷⁴

Quatremère introduced the idea of type, which he saw as the essence of architecture, to establish a normative and critical framework for architectural design. With type, he referred to the formal continuities in buildings—and relational continuities in building elements—constructed over a period extending from the emergence of primitive dwellings to the nineteenth century, taking into account geographical differences. He claimed that these continuities were the result of a collective imitation process that perfected over time as architects “bounded to conform” to it, rather than “imagining” it.⁷⁵ He wrote:

Elsewhere, we gave an account . . . of the sort of *imitation* that every art of building makes from the elements of primitive construction, which early societies gave as models to the ages that followed. But once this sort of *imitation* is introduced and perfected, it is no longer the artist's own making, for he no longer imagines it and is instead bound to conform to it. Thus, in Greek architecture for example, the artist who composes a monument according to the system borrowed from what is called the primitive type of building in wood, is not known to be its original imitator; he only adopts a consecrated mode of *imitation* that resembles the system or the mechanism of a language which is adopted through use and common consent.⁷⁶ (The italics are Quatremère's.)

Here Quatremère suggested that the process of architectural composition was akin to following the system of a language—one that was culturally and historically embedded. The architect, in his view, was not an independent creator but rather a participant in a collective building tradition, where the act of composition was an interpretative process rooted in historical continuity.

⁷⁴ Quatremère de Quincy, 256.

⁷⁵ Quatremère de Quincy, ‘Imitation’, 176.

⁷⁶ Quatremère de Quincy, 176.

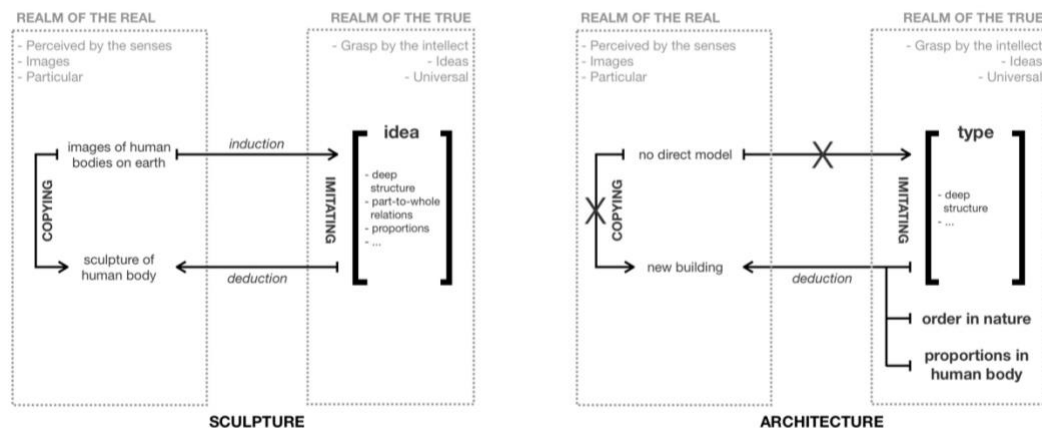


Figure 2.5 According to Quatremère, imitation of nature in two art forms: one with, and one without, a concrete model in nature.

Source: Drawn by the author.

Quatremère presents a conceptualization of type that is not easy to comprehend due to the complexity of his theoretical framework and convoluted writing style. His formulation of type, as examined in this section of the thesis in the context of two theories, namely architecture as an art imitative of nature and the origins of architecture, can be encapsulated as follows:

According to Quatremère, type is an *idea* that belongs to the realm of *true* and can only be grasped by the *intellect*, whereas model is an *image* that belongs to the realm of *real* and is perceivable through the *senses*. Type is the idea that architecture—lacking a direct and concrete model in nature—needs in order to ascend to the level of an art that imitates nature. In sculpture, an art form that has a tangible model to follow in nature, the sculptor arrives at the idea of the human body through an inductive (a posteriori) process, moving from *particular* to *universal* based on images of human bodies found on earth. This idea, which provides a set of governing rules for the human body, enables the sculptor to create a unique form that resembles no other human body through a deductive (a priori) process that moves from *universal* to *particular*. In architecture, however, having no concrete model exists in nature, this chain of reasoning cannot be established. Quatremère suggests type as a guiding idea for the composition of new buildings, which can be traced through the

spatial continuities that extend from the primitive shelter to the ancient temple. According to him, architects should compose new buildings according to the principles informed by the idea of type, as well as the order in nature and the proportions of the human body. Only then, he argues, architecture will retain its status as an art that imitates nature as long as this is the case. (Figure 2.5)

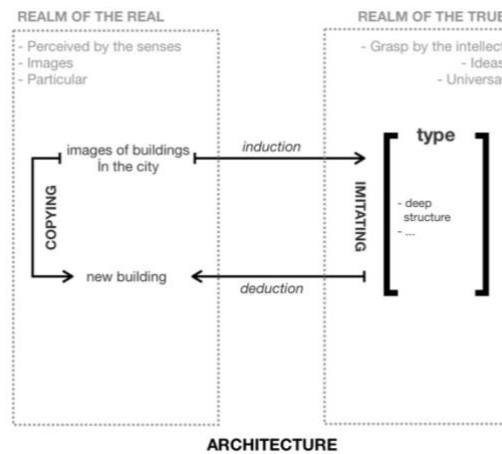


Figure 2.6 Self-imitation in architecture
Source: Drawn by the author.

A parallel conceptual pattern can also be observed in typomorphology. Through an inductive (a posteriori) process, moving from the particular to the universal, builders gradually formulate an idea of a house based on the building forms to which they are exposed within their environment. Typomorphologists conceptualize this emergent idea as an a priori type, a pre-existing template that encapsulates the underlying principles of what a house ought to be. This type, offering rules governing the form of a dwelling, enables the builder to create a singular house, distinct from any existing building, through a deductive (a priori) process that transitions from universal to particular. (Figure 2.6) Typomorphologists contend that in order to sustain the spatial continuities inherent in the historic city within the context of the contemporary urban fabric, architects must perpetuate the building process that traditional builders intuitively engaged in. They advocate for the design of new buildings that adhere to the type, derived from a meticulous a-posteriori analysis of the city's architectural lineage. Just as Quatremère posits that architecture should

imitate nature, typomorphologists argue that it is architecture itself that should be imitated.

The conceptualizations of type by Quatremère and the typomorphologists share certain common aspects. First, as summarized above, is the a priori nature of type. Type is already there prior to not only the act of classification but the process of construction. Secondly, type is conceptualized through spatial continuities. Quatremère emphasizes the spatial continuities extending from the primitive shelter to the Greek temple, and from there to the contemporary monument, while typomorphologists systematically examine these continuities through the typological process, which they use to analyze the formation and transformation of all building types, from primitive shelters to contemporary buildings, within their study area. Thirdly, both provide a normative framework for architectural composition. According to Quatremère, buildings should be composed according to this type, which he regards as the essence of architecture. Similarly, typomorphologists argue that architects should consider their design as part of the local typological process. Fourthly, both acknowledge collective character of type; that type is shaped by societal processes rather than individual ones and it is an end product of a multi-actor process of the building culture. Lastly, they also acknowledge situatedness of type. It is a concept in constant interaction with the environmental and cultural context, changing meaning in different geographies.

As a Neo-Platonist thinker aware of the inevitability of Heraclitean change, Quatremère “endeavored to find and affirm that which persists, that which is essential and beyond contingent change, albeit without excluding change.”⁷⁷ The fact that his distinction between the concepts of type and model are still popular nearly two centuries later shows that he captured the permanence he sought for, not in architectural culture or practice as he intended, but on a conceptual level within

⁷⁷ Younés, *The True, the Fictive and the Real: The Historical Dictionary of Architecture of Quatremère De Quincy*, 17.

architectural theory.

2.2 Durand and typology as a-posteriori analysis

[Type] is never formulated a priori but always . . . [induced] from a series of instances. So the ‘type’ of a circular temple is never identifiable with this or that circular temple, . . . but is always the result of the confrontation and fusion of all circular temples. The birth of a ‘type’ is therefore dependent on the existence of a series of buildings having between them an obvious formal and functional analogy. In other words, when a ‘type’ is determined in the practice or theory of architecture, it already has an existence as an answer to a complex of ideological, religious or practical demands which arise in a given historical condition of whatever culture.⁷⁸

In the quote above, Argan draws attention to the analytical layer of typology and hints at the procedural continuity between a-priori type and a-posteriori type, which would later become a central theme in typomorphology theory. Both Argan and typomorphologists argued that a-posteriori types were generated or discovered by analyzing the formal or functional similarities as a result of the existence of a-priori types.⁷⁹ This proposition is in contradiction with the works of Quatremère, who proposed a-priori types without presenting any analytical study or evidence to his reader. The analytical layer missing in Quatremère's typological thought was filled by Durand, who proposed an early and comprehensive classification of buildings that he perceived “remarkable” for their “beauty, grandeur, or uniqueness” across a geography spanning from Eastern Asia to Egypt, from ancient times to his own era as.⁸⁰

Jean-Nicolas-Louis Durand (1760-1834), a contemporary of Quatremère who was born five years later in the same city, came from a different background. Unlike

⁷⁸ Argan, ‘On the Typology of Architecture’, 565.

⁷⁹ Caniggia and Maffei, *Architectural Composition and Building Typology: Interpreting Basic Building*, 50–53.

⁸⁰ Jean-Nicolas-Louis Durand, *Recueil et Parallèle Des Édifices de Tout Genre, Anciens et Modernes* (Paris, 1800), tbl. 0.

Quatremère, who was raised in a Parisian bourgeois family, Durand's roots were humbler, as his father worked as a shoemaker. Before embarking on an academic career, Durand established himself as a practicing architect, earning recognition through numerous competition prizes.⁸¹ His transition to academia saw him joining the *École Polytechnique* as a professor, a role during which he authored his two well-known books: *Recueil et Parallèle des édifices de tout genre, anciens et modernes*⁸² and *Précis des leçons d'architecture données à l'École Polytechnique*.^{83 84}

As a rationalist arguing that architecture was to be “built on a number of clearly definable principles,”⁸⁵ Durand rejected any attempt to base the discipline of architecture on the imitation of nature.⁸⁶ He disagreed the theories of Vitruvius and Laugier who argued that the architectural orders were imitation of the proportions of human body, or the primitive hut.⁸⁷ In the introduction of his *Précis*, he shared lengthy quotes from both Vitruvius and Laugier with an aim to falsify their theories by presenting new arguments.⁸⁸ He asserted that there was no fixed system of ratios in the architecture of Greece related to human proportions. He also argued that the primitive hut was more of a product of art than a product of nature, and for that reason it could not be used as a demonstration of architecture imitated nature.⁸⁹

⁸¹ Antoine Picon, ‘From “Poetry of Art” to Method: The Theory of Jean-Nicolas-Louis Durand’, in *Précis of the Lectures on Architecture*, trans. David Britt (Los Angeles CA: Getty Publications, 2000), 1–3.

⁸² Durand, *Recueil et Parallèle Des Édifices de Tout Genre, Anciens et Modernes*.

⁸³ Jean-Nicolas-Louis Durand, *Précis Des Leçons d'architecture Données à l'Ecole Royale Polytechnique*, 2 vols (Paris, 1802).

⁸⁴ To set a proper chronology between the works on type and typology of Quatremère and Durand, it should be noted that although Quatremère wrote his article “Type” for the third volume of *Dictionnaire d'architecture* published in 1825, he developed his idea of type in the 1780s. See: Vidler, ‘The Idea of Type: The Transformation of the Academic Ideal, 1750-1830’, 104.

⁸⁵ Antonio Hernandez, ‘J.N.L. Durand’s Architectural Theory: A Study in the History of Rational Building Design’, *Perspecta* 12 (1969): 154.

⁸⁶ Picon, ‘From “Poetry of Art” to Method: The Theory of Jean-Nicolas-Louis Durand’, 31.

⁸⁷ Leandro Madrazo, ‘The Concept of Type in Architecture: An Inquiry into the Nature of Architectural Form’ (PhD dissertation, Zürich, ETH Zürich, 1995), 203.

⁸⁸ Jean-Nicolas-Louis Durand, *Précis of the Lectures on Architecture*, trans. David Britt (Los Angeles CA: Getty Publications, 2000), 79–83.

⁸⁹ Madrazo, ‘The Concept of Type in Architecture: An Inquiry into the Nature of Architectural Form’, 204.

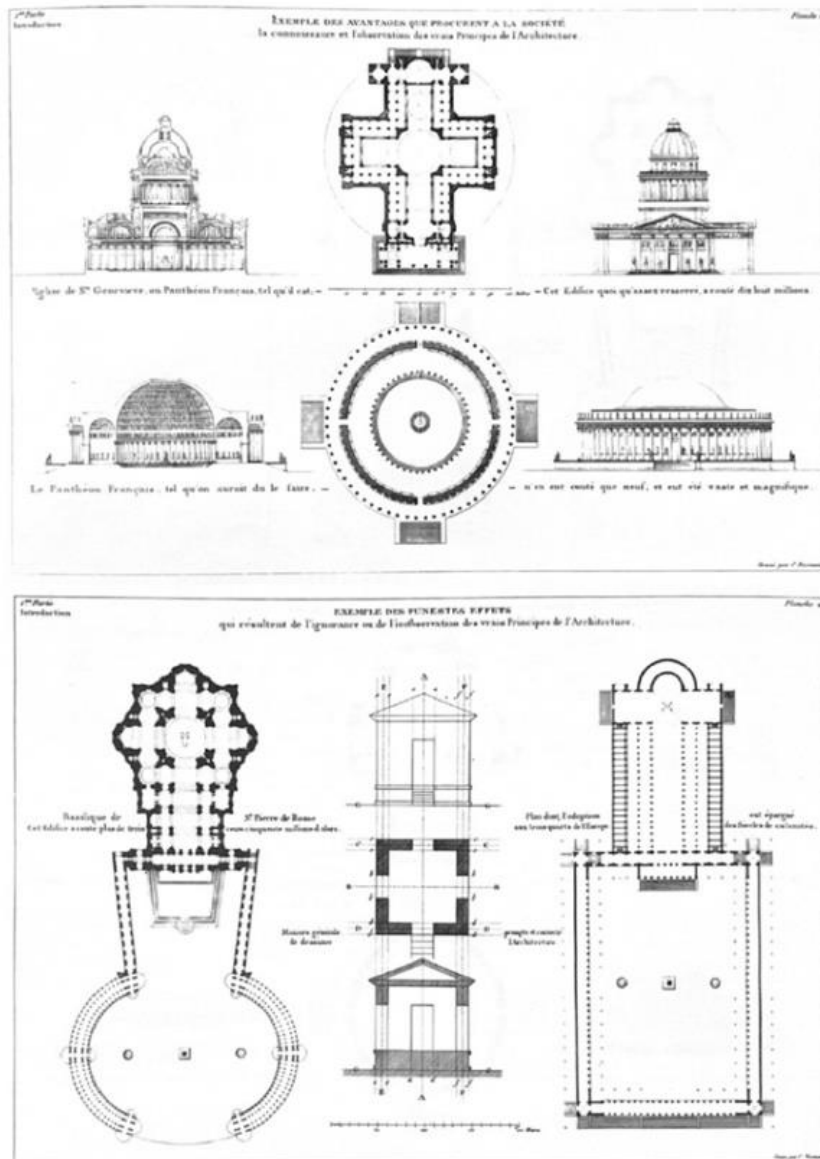


Figure 2.7 The *Précis* opens with two plates serving as teasers:

The first plate, titled “Example of the advantages of knowing and observing the true principles of architecture,” features Durand’s claim that a more impressive and magnificent alternative to the French Panthéon (a controversial monument of the period) could have been built at half the cost, through his own design.

In the second plate, titled “Example of the disastrous effects which result from ignorance or non-observance of the true principles of architecture,” he described high-cost monuments as “calamities spanning centuries,” comparing the St. Peter’s Basilica in Rome with his modest and cost-efficient alternative.

Source: Jean-Nicolas-Louis Durand, *Précis Des Leçons d’architecture Données à l’Ecole Royale Polytechnique*, vol.1, 2 vols., Paris, 1819, Part 1, Plate 1 and 2.

The most important principles, according to Durand, were *fitness* and *economy* which should guide both the study and practice of architecture.⁹⁰ To be fit, a building needed to be solid (utilizing quality materials and having good foundation/sufficient supports), salubrious (situated healthily, protected from humidity, and well-ventilated and lit), and commodious (with parts sized, shaped, and arranged according to its purpose). Economy was enhanced by simplicity, symmetry, and regularity in design, suggesting that the simplest forms, like squares or circles, led to cost efficiency by minimizing the perimeter for a given area. Durand argued that economy also demanded simplicity in necessities and prohibited superfluous elements.⁹¹ (Figure 2.7)

Durand's motivation was "to formalize architecture's disciplinary knowledge to meet the rapid rise of other scientific disciplines of his time."⁹² His lifetime corresponded with an era, when new scientific disciplines emerged with their own object of knowledge and methods. Advancements in knowledge within these newly established scientific fields led to a series of technological breakthroughs that rapidly transformed both the built environment and life as a whole.⁹³ Starting from the late eighteenth century, efforts were made to construct *a science of architecture*, driven by "a growing concern that architecture was falling behind the new sciences in terms of progress."⁹⁴ Durand's attempt to systematize architectural knowledge should be situated within this intellectual context.

The school where he was teaching, the *École Polytechnique*, had also affected the way he had constructed his theory. The leading scientists and engineers of his time,

⁹⁰ Durand, *Précis of the Lectures on Architecture*, 84.

⁹¹ Durand, 84–85.

⁹² Christopher C. M. Lee, 'The Deep Structure of Type: The Construction of a Common Knowledge in Durand's Method', in *The City as a Project*, ed. Pier Vittorio Aureli (Berlin: Rugby Press, 2013), 173.

⁹³ Leandro Madrazo, 'Durand and the Science of Architecture', *Journal of Architectural Education* 48, no. 1 (1994): 12.

⁹⁴ Madrazo, 'The Concept of Type in Architecture: An Inquiry into the Nature of Architectural Form', 205.

like Gaspard Monge, Joseph-Louis Lagrange and Pierre-Simon Laplace, were also professors of the *École Polytechnique* and he was teaching architecture to future engineers within a quite tight curriculum.⁹⁵ This training focused more on large utilitarian structures like hospitals, prisons, and bridges, which traditionally held a lower status in pre-Revolution architectural hierarchy,⁹⁶ rather than on fine architecture, which had been studied first at the *Académie Royale d'Architecture* and then at the *Académie des Beaux-Arts* where Quatremère de Quincy was a central figure.⁹⁷

2.2.1 The *Recueil* and Durand's analytical typology

Durand contended that a human who planned to pursue a career as a playwright did not learn how to do this or that tragedy; a musician this or that opera; a painter this or that painting. According to him, before composing, regardless of the genre, one needed to know what one composed with.⁹⁸ In line with this perspective, he argued that teaching in architecture should start with the general principles instead of particular buildings or styles. In such a context and with such an understanding, he intended to discover the general principles of architecture in order to be able to teach it in an engineering school. He thought that the general principles of architecture could be discovered with the investigation of the collection of the buildings from ancient times until his time, unlike Quatremère who believed that general principles of architecture were associated with theories of architecture as an imitative art and the origins of architecture. For this reason, he published the *Recueil et Parallèle des édifices de tout genre, anciens et modernes* (Collection and parallel of buildings of

⁹⁵ Madrazo, 205.

⁹⁶ Hernandez, 'J.N.L. Durand's Architectural Theory: A Study in the History of Rational Building Design', 154.

⁹⁷ Lavin, *Quatremère de Quincy and the Invention of a Modern Language of Architecture*, 5.

⁹⁸ Jean-Nicolas-Louis Durand, *Précis Des Leçons d'architecture Données à l'Ecole Royale Polytechnique*, vol. 1 (Paris, 1819), 28.

every genre, ancient and modern) also known as *le grand Durand*.⁹⁹ The book consisted of 92 large, engraved plates, each measuring approximately 70x100 cm, representing historical and contemporary buildings of his era, grouped together primarily according to their architectural program, and drawn in equal scale.¹⁰⁰ (Figure 2.8)

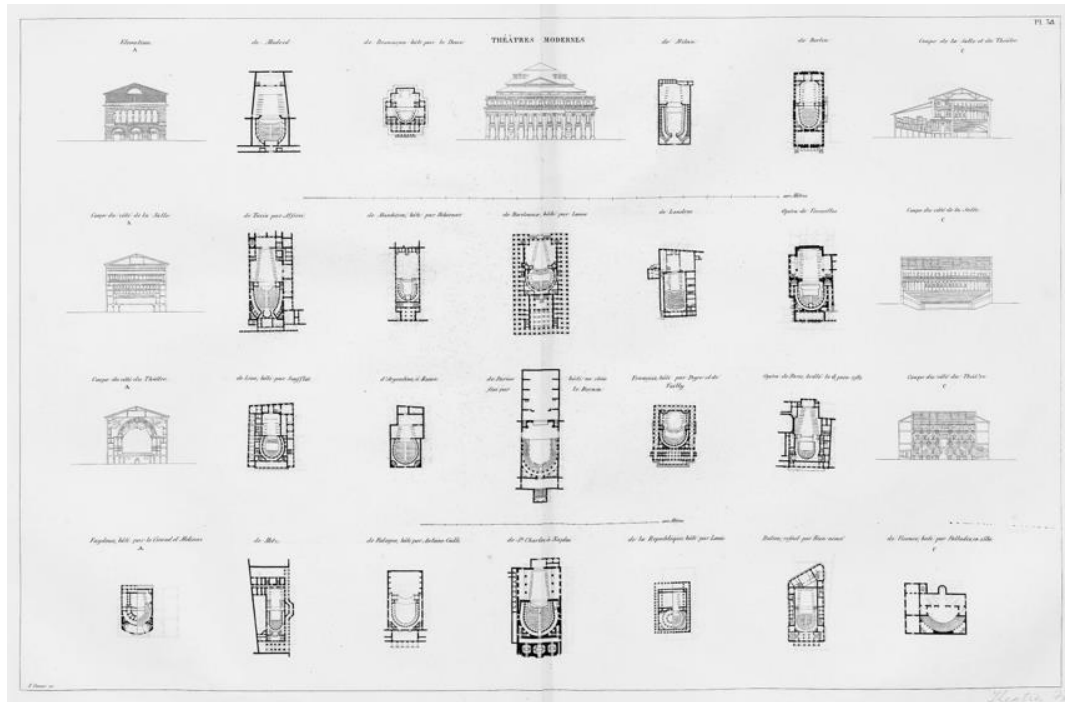


Figure 2.8 “Modern theatres”

Source: Jean-Nicolas-Louis Durand, *Recueil et parallèle des édifices de tout genre, anciens et modernes*, Paris, 1800-1801, Plate 38.

In the introductory text on the book’s first plate, Durand problematized the lack of a comprehensive reference compiling significant architectural examples built across different countries and eras, which he believed all architects, engineers, and artists should be familiar with. To address this gap, he proposed the *Recueil* as a curated selection of architectural monuments, buildings, and details covering what he

⁹⁹ Picon, ‘From “Poetry of Art” to Method: The Theory of Jean-Nicolas-Louis Durand’, 1.

¹⁰⁰ The book was reprinted in Italian in 1833 by Giuseppe Antonelli and in English by William Helburn in 1915.

claimed to be “all genres” and “from ancient to modern” as a practical alternative to costly acquisition of many reference books or burdensome research in libraries. Durand argued to have designed the book as a solid base for analytical comparison for judgement and reasoning, in which buildings and monuments were (i) classified according to their genres, (ii) positioned according to their similitude, and (iii) drawn at a uniform scale.¹⁰¹

Classification as a comparative method was adopted in the *Recueil* in order to extract general principles from the particular cases as in the studies in natural sciences of the time like botany, zoology, and mineralogy.¹⁰² In his book chapter “The Classificatory Analogy: Building Types and Natural Species,” Steadman indicates that much of the eighteenth-century natural history culminating in the seminal works of Comte de Buffon and Carl Linnaeus, *Histoire Naturelle* (1749) and *Species Plantarum* (1753), respectively, focused on the topic of classification or systematics.¹⁰³ In both books, illustrations of animals and plants were systematically arranged based on particular criteria. Linnaeus centered his classification on the reproductive structures of plants, whereas Buffon grounded his system on the historical development of animals. To Steadman, these studies were a response to the increasing number of animal and plant species found in travelers' discoveries and naval or colonial expeditions of the eighteenth century. He also argued that they are the reason behind Durand's, as well as others like Jacques-François Blondel's and Julien-David Le Roy's, endeavor to systematize the architectural knowledge in the same century. He argues that the increasing amount of quite disorganized architectural material collected as a result of the emergence of archaeology as an organized scholarly enterprise coupled with the accumulated evidence from travelers' accounts and foreign expeditions were the

¹⁰¹ Durand, *Recueil et Parallèle Des Édifices de Tout Genre, Anciens et Modernes*, 0.

¹⁰² Christopher C. M. Lee, ‘The Fourth Typology: Dominant Type and The Idea of the City’ (PhD dissertation, Delft, Berlage Institute and TU Delft, 2012), 116–25.

¹⁰³ Philip Steadman, ‘The Classificatory Analogy: Building Types and Natural Species’, in *The Evolution of Designs: Biological Analogy in Architecture and the Applied Arts*, Revised edition (Oxford: Routledge, 2008), 21–30.

main driving force behind the classification and systematization efforts in architecture.

Although Steadman cautions against assuming a strong and deliberate analogy from natural history in architectural theory during this period,¹⁰⁴ he acknowledges that the task of classification was a challenge encountered by most disciplines emerging at the time. Durand's efforts in classification should therefore be viewed within this broader context, a view also highlighted by others.¹⁰⁵ Quoting from Jacques-Guillaume Legrand, Vidler states that Durand made it possible to conceive of a “natural history of architecture” by assembling building plans based on “species.”¹⁰⁶ Durand, in a way, suggested to stop imitating nature and start imitating natural science instead.

In the *Recueil*, Durand classified buildings and structures primarily based on their uses (e.g., theatres, hospitals, aqueducts) and secondarily according to their historical-geographical contexts (e.g., Egyptian temples, Roman palaces, Turkish tombs, both ancient and modern theatres). He also classified architectural details according to their historical-geographical contexts (e.g., Arabic details, Chinese details, modern details). This somewhat loosely defined classification criteria allowed him to include some exceptional plates in his collection, such as “Round temples” or “Various public buildings for Campo Marzio by Piranesi.”

Durand's classification, which appears functional at first glance, had an implicit yet significant formal dimension. The fact that he determined the positions of the buildings on each plate—which he planned to draw on different plates by separating them according to their genres—based on their physical similarities, and explicitly noted this decision in the introduction of the *Recueil*, shows that formal similitude

¹⁰⁴ Steadman, 27.

¹⁰⁵ Philippe Panerai, Marcelle Demorgon, and Jean-Charles Depaule, *Analyse Urbaine* (Marseille: Éditions Parenthèses, 1999), 105; Madrazo, ‘Durand and the Science of Architecture’, 12; Lee, ‘The Fourth Typology: Dominant Type and The Idea of the City’, 116–17.

¹⁰⁶ Vidler, ‘The Idea of Type: The Transformation of the Academic Ideal, 1750-1830’, 107.

was an important input for him.¹⁰⁷ Moreover, the secondary classification of buildings according to their historical-geographical contexts brings his seemingly functional classification closer to a formal one, considering that buildings of the same genre built within a particular geography and time period naturally bear formal similarities. The presence of a plate titled "Round temples" in the *Recueil* serves as further evidence of his interest in formal similitude.

2.2.2 The *Précis* and Durand's generative typology

Even though Durand never used the terms type and typology, the reason he was frequently cited in this respect was not merely because he offered an early and comprehensive classification of buildings. As Panerai et al. points out, Durand was not an architectural historian but an architect, and his interest in the past was driven by his motivation to develop an operative theory of architectural design. According to Panerai et al., this operative theory was the foundation of his teaching at the *École Polytechnique*, that culminated in his *Précis des leçons d'architecture données à l'École polytechnique* (Summary of architecture lessons given at the *École Polytechnique*), also known as *le petit Durand*.¹⁰⁸ The first volume of *Précis* was published in 1802,¹⁰⁹ the second volume in 1805,¹¹⁰ and the graphic portion *Partie graphique des cours d'architecture faits à l'École Royale Polytechnique* (Graphic portion of the architecture courses given at the *École Royale Polytechnique*) in 1821.¹¹¹ Designed as a textbook for teaching architecture at the *École Polytechnique*, it quickly became a seminal text for architectural education and a fundamental

¹⁰⁷ Vidler also discusses how the arrangement of buildings on plates is organized from simpler to more complex, thereby reflecting the evolutionary development of types: Vidler, 107–8.

¹⁰⁸ Panerai, Demorgon, and Depaule, *Analyse Urbaine*, 108.

¹⁰⁹ Jean-Nicolas-Louis Durand, *Précis Des Leçons d'architecture Données à l'Ecole Royale Polytechnique*, vol. 1, 2 vols (Paris, 1802).

¹¹⁰ Jean-Nicolas-Louis Durand, *Précis Des Leçons d'architecture Données à l'Ecole Royale Polytechnique*, vol. 2, 2 vols (Paris, 1805).

¹¹¹ Jean-Nicolas-Louis Durand, *Partie Graphique Des Cours d'architecture Faits à l'Ecole Royale Polytechnique* (Paris, 1821).

resource at the *École des Beaux-Arts*. The *Précis*'s acclaim was further demonstrated by its frequent republications and translations into multiple languages. Its later editions were published in 1809 (Volume 1), 1813 (Volume 1), 1817 (Volume 2), 1819 (Volume 1), 1823 (Volumes 1 and 2), 1825 (Volume 2), and 1840 (Volumes 1 and 2).¹¹² It was translated into German as early as 1831 by one of Durand's students.¹¹³ The Italian translation dated in 1986, and it was finally translated into English in 2000.

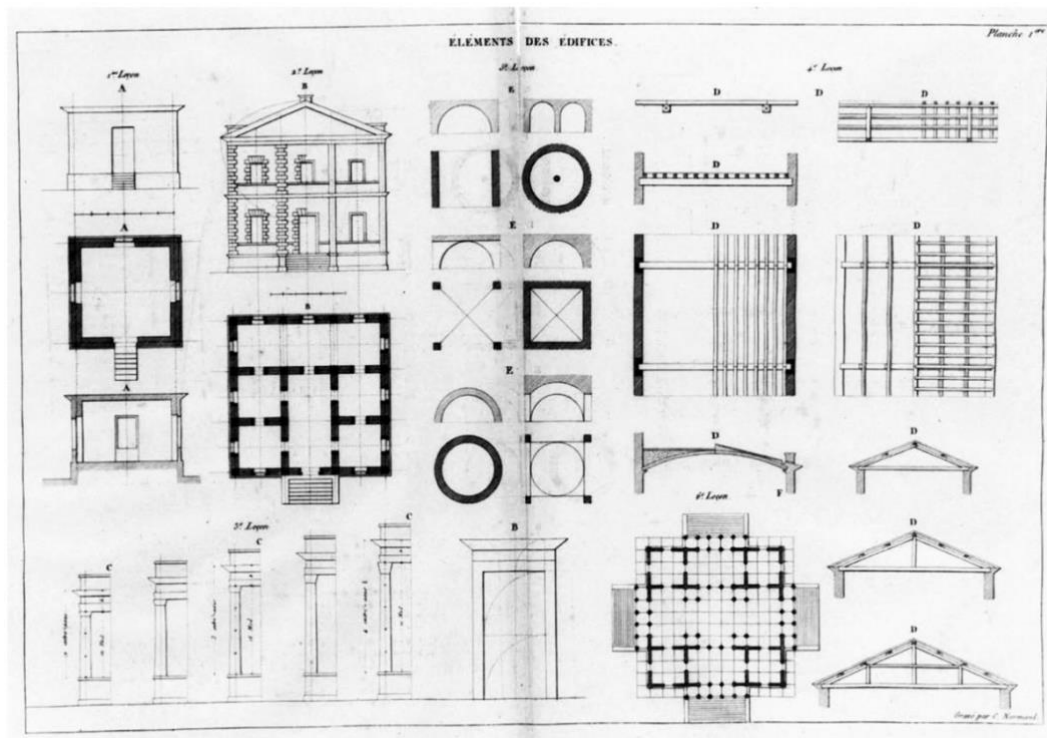


Figure 2.9 “Elements of buildings”

Source: Jean-Nicolas-Louis Durand, *Partie graphique des cours d'architecture faits à l'Ecole Royale Polytechnique*, Paris, 1821, Plate 1.

The *Précis* consisted of three parts published in two volumes with each part offering didactic texts followed by a set of analytical drawings in the form of plates. The

¹¹² Durand, *Précis of the Lectures on Architecture*, 315.

¹¹³ Lee, “The Deep Structure of Type: The Construction of a Common Knowledge in Durand’s Method”, 175.

graphic portion was published as a separate volume approximately two decades later, offering a revised summary of the *Précis* with a complimentary set of drawings. The total number of plates across the three parts of the *Précis* (10, 12, and 32 plates, respectively) and its graphic portion (32 plates) were nearly as many as that of the ones in *Recueil*. The richness of illustrative content of *Précis* is significant because it is precisely where his analytical typology was transformed into a generative typology.¹¹⁴

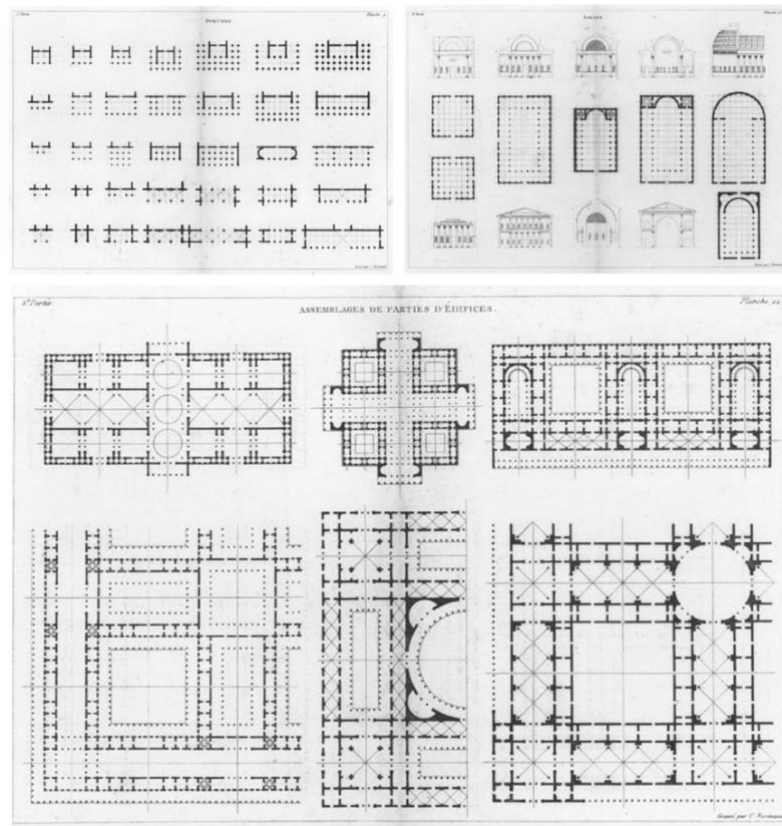


Figure 2.10 “Porches,” “halls,” and “assemblies of buildings parts”
Source: Jean-Nicolas-Louis Durand, *Précis des leçons d'architecture données à l'Ecole Royale Polytechnique*, vol.1, 2 vols., Paris, 1802, Part 2, Plate 9, 12, and 22.

¹¹⁴ The distinction of Durand's two typologies is first mentioned in: Panerai, Demorgon, and Depaule, *Analyse Urbaine*, 106–8.

In the first two parts of *Précis* titled “Elements of buildings” and “Composition in general,” Durand, first, subdivided architecture into basic irreducible elements. These elements—columns, pilasters, walls, doors, openings—were to be assembled to create intermediary parts—such as porches, staircases, and halls—and these, in turn, were to be constructed into entire buildings, which ultimately constituted cities.¹¹⁵ (Figure 2.9) This kind of *nesting* relation was also a major theme in typomorphology literature.¹¹⁶ Then, he suggested to *compose* buildings through *combination* and *disposition* of these elements and parts horizontally in plan and vertically in section. He presented *grid* and *axis* as two compositional instruments to regulate the distribution of both (i) building elements within intermediary parts and (ii) intermediary parts within a complete building.¹¹⁷ (Figure 2.10)

Durand’s grid was a structural one, where each line corresponded to a possible structural axis, guiding the placement of load-bearing vertical elements. He referred to the basic unit of this grid as an “interaxis,” and he set up an interaxial system of proportion that regulated both the positions of vertical elements in plan and their heights in section. This system adhered to a number of rules, some derived from the structural requirements of masonry. (Figure 2.11) First, the minimum horizontal distance that could be spanned between two vertical elements without an arch was set as one interaxial distance. Second, the total height of a column and entablature (referred to together as “an order”) should equal its maximum span. Third, the total height of a column and an entablature should be (i) two interaxes in what he called “the least important buildings” (such as housing), (ii) four-and-a-half interaxes in “the most important buildings” (such as monuments), and (iii) three interaxes in buildings of intermediate significance.¹¹⁸ Given the 1:1 ratio between order heights and their spans, these heights also determined the maximum spans for the smallest

¹¹⁵ Vidler, ‘The Idea of Type: The Transformation of the Academic Ideal, 1750-1830’, 107.

¹¹⁶ Caniggia and Maffei, *Architectural Composition and Building Typology: Interpreting Basic Building*, 73.

¹¹⁷ Rafael Moneo, ‘On Typology’, *Oppositions* 13 (1978): 28–29.

¹¹⁸ Durand, *Précis of the Lectures on Architecture*, 189–90.

rooms within each building group. Additionally, the fixed ratio (2:3) between the different order heights (two, three, and four-and-a-half interaxes) allowed spaces of varying heights and spans to integrate seamlessly, considering that the constant height-to-width ratio of a simple arch is 1:2, which also applies to any vault derivative of a simple arch (such as barrel vaults, groin vaults, or cloister vaults). Thus, Durand's interaxial system not only regulated the plan, but also orchestrated the three-dimensional composition of the entire building.

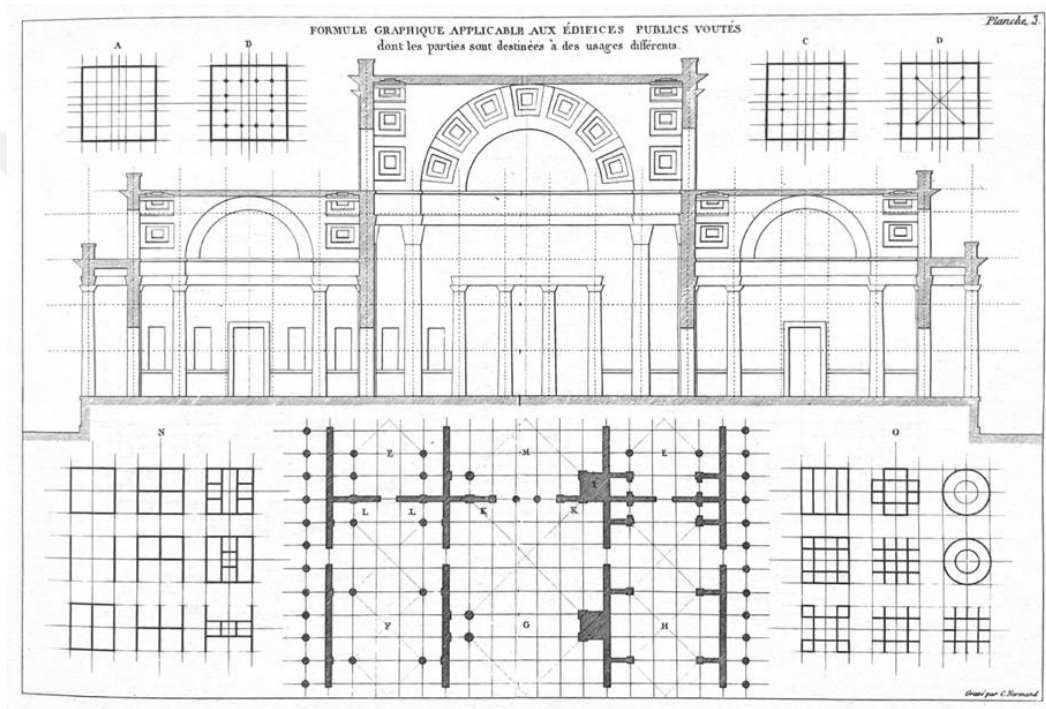


Figure 2.11 “Graphic formula applicable to vaulted public buildings whose parts are intended for different uses”

Source: Jean-Nicolas-Louis Durand, *Partie graphique des cours d'architecture faits à l'Ecole Royale Polytechnique*, Paris, 1821, Plate 3.

His interaxial grid was part of a hierarchical axis system. (Figure 2.12) According to Durand, the two cardinal axes should be placed first in the composition of a building, followed by the primary and secondary axes. These main axes were intended for compositional symmetry, and neither the axes themselves nor their intersections were meant to specify the position of an architectural element; instead, the intersections were meant to represent spaces defined by the surrounding architectural

elements. The intersections of the main axes and primary axes defined primary spaces and those of the secondary axes marked secondary spaces and circulation areas. (Durand labeled the primary spaces as “A,” “B,” and “b,” and the secondary ones as “c” in Figure 2.13) Then, the walls were aligned with tertiary axes, offset by one interaxis from each side of the secondary axes. Lastly, the columns were positioned according to the interaxial grid.

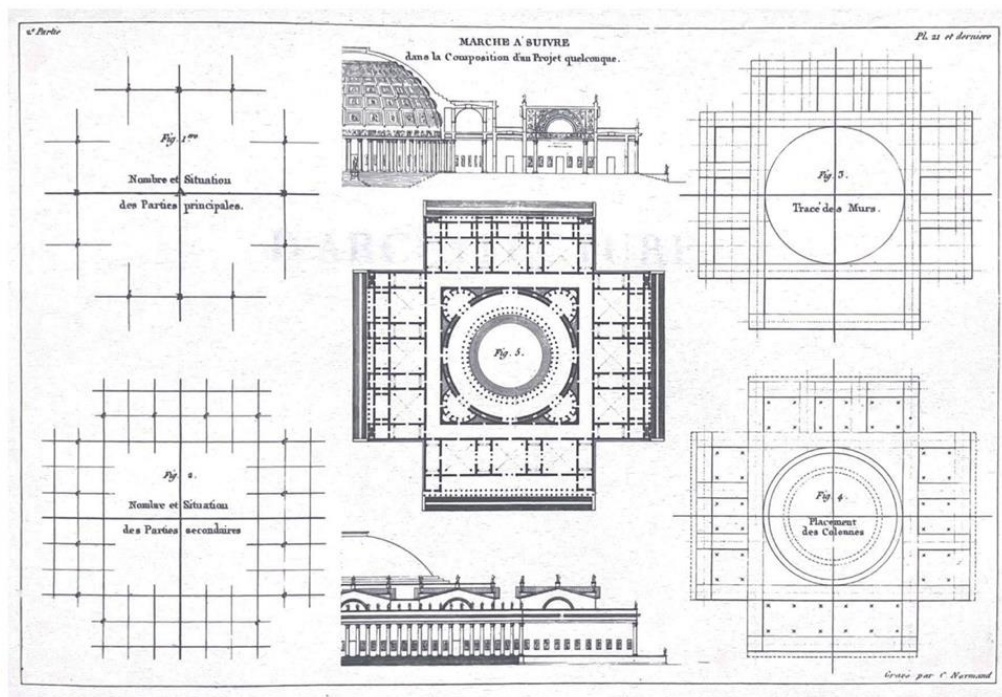


Figure 2.12 “Procedure to follow in the composition of any project”
Source: Jean-Nicolas-Louis Durand, *Précis des leçons d’architecture données à l’Ecole Royale Polytechnique*, vol.1, 2 vols., Paris, 1819, Part 2, Plate 21.

In section, Durand suggested to control the height of different units of the building in relation to their width. The height of spaces increased in direct proportion to the inter columnar distance where wider structural spans required higher vaults or domes. (Figure 2.12)

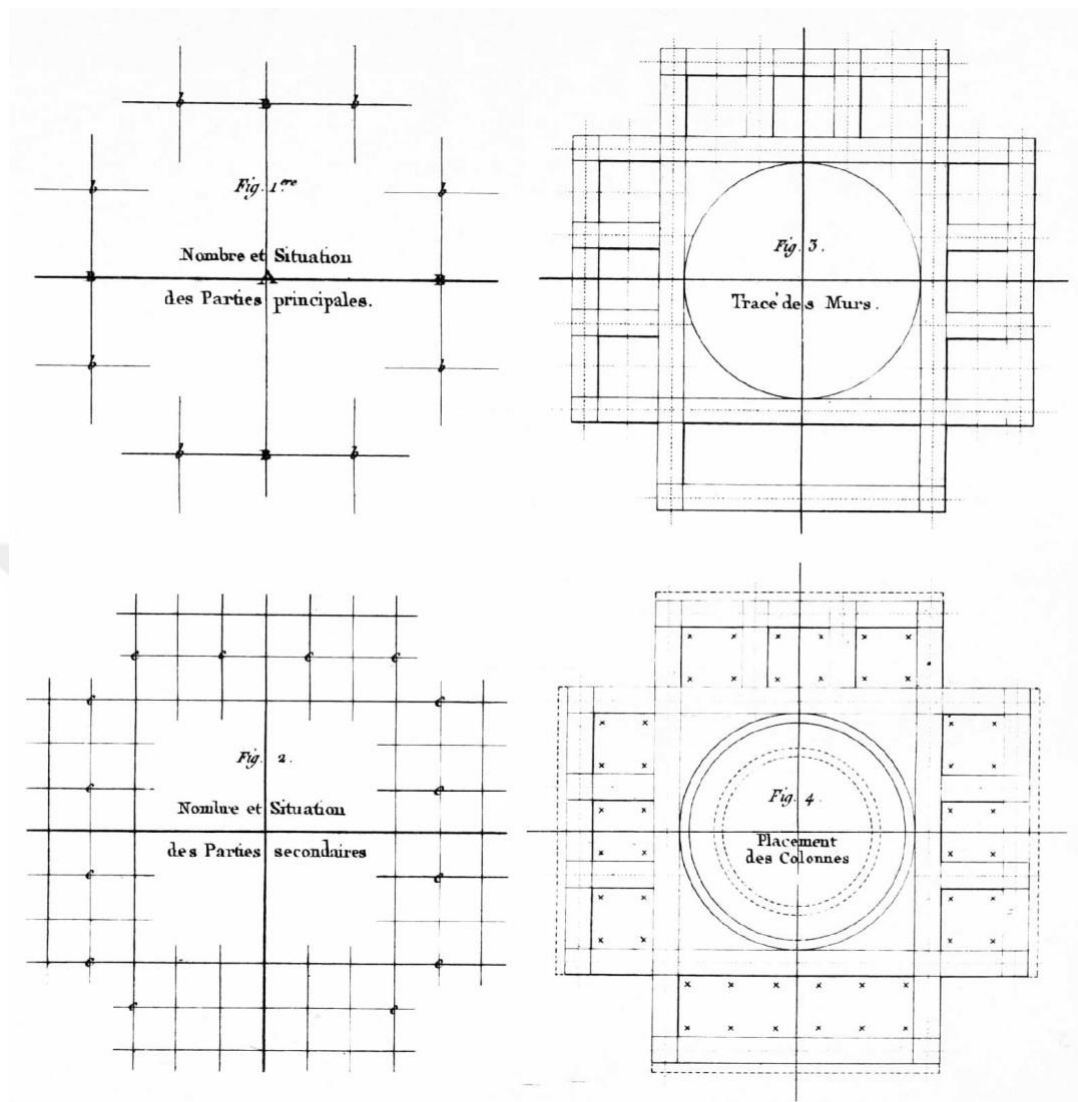


Figure 2.13 Detail from “Procedure to follow in the composition of any project”
Source: Jean-Nicolas-Louis Durand, *Précis des leçons d’architecture données à l’Ecole Royale Polytechnique*, vol.1, 2 vols., Paris, 1819, Part 2, Plate 21.

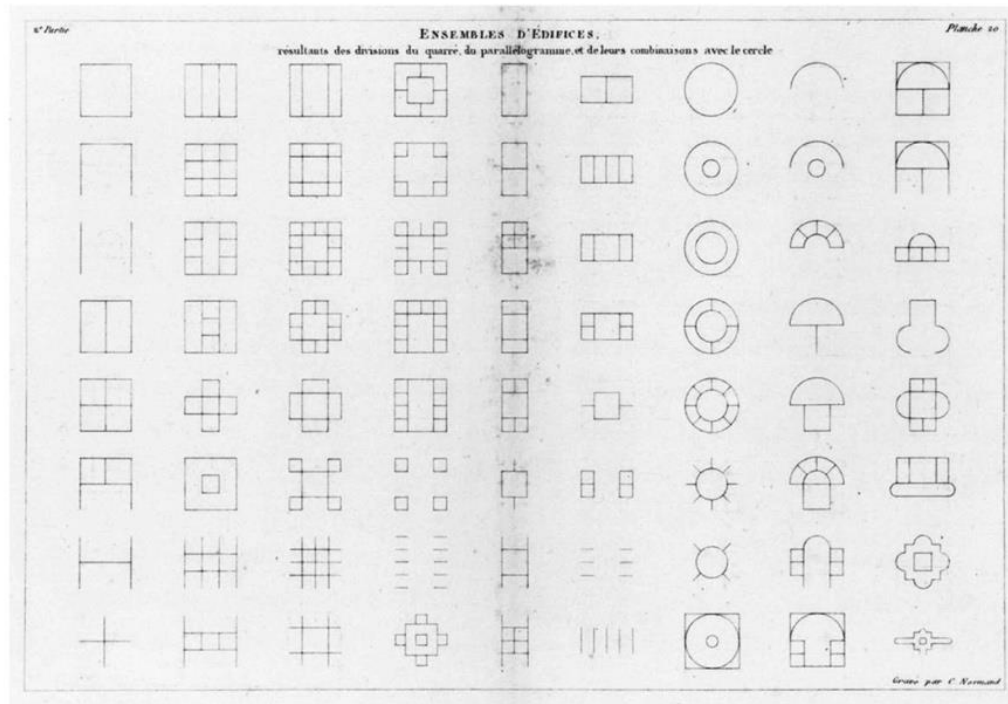


Figure 2.14 “Ensemble of buildings resulting from the divisions of square, rectangle, and their combinations with circle”

Source: Jean-Nicolas-Louis Durand, *Précis des leçons d'architecture données à l'Ecole Royale Polytechnique*, vol.1, 2 vols., Paris, 1802, Part 2, Plate 20.

In parallel lines with Georges Cuvier, the renowned zoologist and founder of paleontology who examined animal species by studying their skeletons in his anatomy classes,¹¹⁹ Durand investigated buildings through this system of axes, which revealed their irreducible “deep structures” in Christopher C. M. Lee’s words.¹²⁰ (Figure 2.14) This deep structure is also parallel with Argan’s conceptualization of type, which he explained as the following:

In the process of comparing and superimposing individual forms so as to determine the ‘type’, particular characteristics of each individual building are eliminated and only those remain which are common to every unit of the series. The ‘type’ therefore, is formed through a process of reducing a complex of formal variants to a common root form. If the type is produced through such a process of

¹¹⁹ Vidler, ‘The Idea of Type: The Transformation of the Academic Ideal, 1750-1830’, 107.

¹²⁰ Lee, ‘The Deep Structure of Type: The Construction of a Common Knowledge in Durand’s Method’, 197.

regression, the root form which is then found cannot be taken as an analogue to something as neutral as a structural grid. It has to be understood as the *interior structure* of a form or as a principle which contains the possibility of infinite formal variation and further structural modification of the type itself.¹²¹ (The italics are mine.)

The building program, which was central throughout the *Recueil*, was studied in detail in the third part the *Précis*, titled “Examination of the principal kinds of building.” In this part that linked the *Précis* back to the *Recueil*, Durand further elaborated on the functional classification he made in the *Recueil*, writing one or two-page-long explanatory texts for each building genre, where he cross referenced the pertinent plates in the *Recueil*.¹²² He complemented each text with a plate representing his own design serving as *an* example of the respective genre. (Figure 2.15)

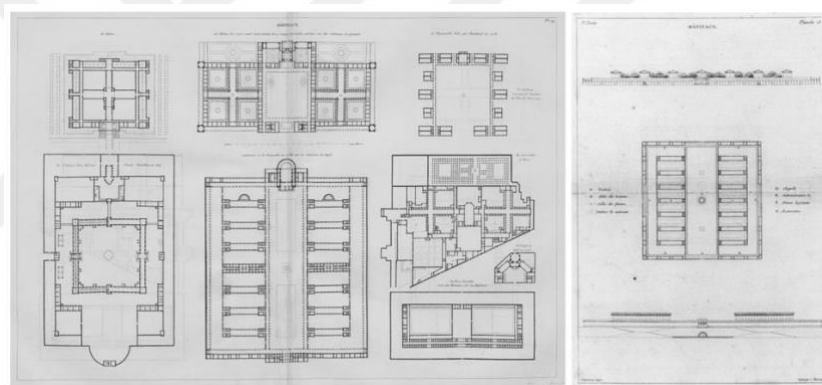


Figure 2.15 Analysis and design: the plates titled “Hospitals” from the *Recueil* and the *Précis*.

Sources: Jean-Nicolas-Louis Durand, *Recueil et Parallèle Des Édifices de Tout Genre, Anciens et Modernes*, Paris, 1800-1801, Plate 29 (left); *Précis des leçons d'architecture données à l'Ecole Royale Polytechnique*, vol.2, 2 vols., Paris, 1805, Part 3, Plate 18 (right).

¹²¹ Argan, ‘On the Typology of Architecture’, 565.

¹²² For the upcoming chapters of this thesis, it is important to note that in this part of the *Précis*, Durand subdivided the buildings into two main categories, each corresponding to a section, as “public buildings” (temples, palaces, public treasuries, courthouses, etc.) and “private buildings” (townhouses, apartments, tenements, country houses, etc.). They were preceded by another section on “Principal parts of cities,” which covers tombs, city gates, triumphal arches, streets, bridges, and public squares.

Unlike his contemporaries, Durand argued that “style” could be considered a subsequent addition, a final formal touch applied later once the building's structure had been established through composition.¹²³ However, his compositional design theory led him to confine himself to classical styles, as his repertoire of architectural elements were derived via decomposition of historical precedents.¹²⁴

2.3 Summary and discussion

In this chapter, the theoretical depth that Quatremère de Quincy and Durand added to the concepts of type and typology was examined in comparison with the typomorphologists' distinction between a-priori type and a-posteriori type.

Typology in architecture is essentially about classifying *individual* buildings based on formal or functional similarities, governed by *general* rules. This classification system may identify various groups of buildings such as schools, theatres, and hospitals, or, it can also allow less common classifications such as deep-plan buildings, slabs, and towers. Typomorphologists refer to this classification as “a-posteriori analysis,” an inductive process, where the “a-posteriori type” is a result of categorizing individual buildings according to a general rule. Typomorphology also explores the origins of these types, leading to the concept of the “a-priori type.” This concept suggests that architects and builders conceive similar designs based on a-priori notions influenced by their cultural, geographical, and historical context. For example, the *idea* of how a house should appear stems from a general concept refined into specific architectural compositions. This process illustrates a shift from the *universal* to the *particular*, a deductive process, where the present built environment,

¹²³ Moneo, ‘On Typology’, 31.

¹²⁴ Lee, ‘The Deep Structure of Type: The Construction of a Common Knowledge in Durand’s Method’, 203.

encapsulated in types, guides the conception and construction of individual buildings.

Quatremère's abstract notion of architecture embodies a fundamental essence and continuity tracing back to its origins. Striving for a universally acknowledged and robust standard of “good” architecture, Quatremère contended that it could only arise through imitating nature. He argued that mimesis in architecture did not need to involve a concrete model found in nature. Instead, imitating nature means replicating its solidity, beauty, and utility by identifying and emulating its universal principles like symmetry, rhythm, proportions and others. Nature, through its climate, geography, and materials, suggests primitive shelters, which evolve into geography-specific architectures over time. Quatremère held the Ancient Greece in high esteem, conceptualizing the evolution from primitive wooden hut to complex wooden structures and stone temples as typological continuities. He believed architecture could maintain its position as an art of building that imitates nature, as long as it remains loyal to its essence and types.

According to Quatremère, type was an *idea* belonging to the realm of the *true* and could only be grasped by *intellect*; whereas model was an *image* belonging to the realm of the *real* and could be perceived through *senses*. Quatremère argued that since nature did not provide a direct model to architecture, it imitated nature through type as an imaginary model: which was abstract, specific to geography (culture and climate), passed down from generation to generation, and presented as a normative framework for architectural composition, aligns with typomorphologists' formulation of the “a-priori type.” Typomorphologists sought to identify these a-priori types, which emerge not merely from individual but from societal processes, to explain the processes that deeply affect the built environment. Prioritizing continuity in urban space, they argued that new designs should maintain the formal structure and urban relations of the a-priori types in their context, in a way, to imitate these a-priori types. In summary, both Quatremère's and the typomorphologists' conceptualizations of type share parallels in their (i) a-priori character, (ii) emphasis on spatial continuities, (iii) proposal as a normative framework for architectural

design, (iv) emergence from societal rather than individual processes, and (v) specificity to geography.

Contrary to Quatremère's elaborate and literary writing style, Durand's language was clear and straightforward. He was after easily understandable and concrete architectural design principles for architects and engineers. Parallel to the scientific advancements of the Enlightenment period, he argued that architecture could be treated as a scientific discipline with its own knowledge and methods. The principles of *economy* and *convenience* shaped both the substance and style of his teachings, rendering them highly efficient. According to him, architecture should be taught in a comprehensive, natural, simple, and rational manner. In his *Recueil*, he conducted an early typological study that compiled and classified distinguished structures built across diverse periods and geographies according to their programs, similar to the classification methods of sciences like biology, botany, and mineralogy. Contrary to typomorphologists, who confined their typological analyses within specific geographical and temporal boundaries to reveal and maintain spatial continuity in a particular context (in both architectural and urban scale), Durand kept his scope broader, examining buildings from various geographies and periods, to craft a universal framework for architectural design.

The classification in the *Recueil* was essentially a simple functional classification obtained as a result of a-posteriori analysis. However, what truly made Durand's work valuable in the context of typology and typomorphology theory was his proposal of a generative typology that delves into *the deep structures* of buildings. These deep structures, or types, had a capacity to help generate a multitude of buildings that adhered to a particular formal order but differ from one another. If his generative typology is reverted to be read as an analytical typology, it demonstrates the features of a-posteriori analysis in which different buildings with the same deep structure can be represented by the same type. Although the *Recueil* was not a product of such a typology offering any kind of analytical drawings, the repertoire of buildings that it offered was an integral part and the main source for the

typological series that he generated in the *Précis*. The combination of *Recueil* and *Précis*, offers a complete method for typological analysis.

Typomorphology establishes analogical relationships through typology both between architecture and linguistics, and architecture and the natural sciences. It is possible to find the origins of these relationships in the works of Quatremère and Durand. Quatremère considered architecture as a cultural construct similar to language, highlighting the cultural dimensions of type formations. Durand, on the other hand, adapted classification methods from the natural sciences to architecture, creating an early typological classification.

The urban context was part of neither Quatremère's idea of type nor Durand's method of typology. Next chapter will dwell on how type and typology were intersected with urbanism through the works of Italian school of typomorphology. Coming up with their own normative theory of type, they suggested that architecture should imitate nothing but itself.

CHAPTER 3

TYPE, TYPOLOGY, AND THE ITALIAN SCHOOL OF TYPOMORPHOLOGY: A CRITICAL REVIEW ¹²⁵

This chapter explores the evolution of typology in architectural theory into typomorphology in urbanism through the works of Saverio Muratori and Gianfranco Caniggia. It also examines the emergence of a neorationalist approach, led by Carlo Aymonino and Aldo Rossi as a divergence from typomorphology. It is structured into three sections: the first section provides a historical background; the second delves into the theoretical and methodological foundations of typomorphology through the concepts and research of Muratori and Caniggia; and the third offers alternative interpretations of typomorphology, focusing on the concepts and approaches developed by Aymonino and Rossi.

3.1 Historical background

Saverio Muratori (1910-1973) was the one who initiated the typology studies among Italian architects and theorists, although English texts on type and typology in the second half of the twentieth century mostly refer to Carlo Aymonino (1926-2010) and Aldo Rossi (1931-1997). Although Muratori was not the first Italian architect to

¹²⁵ A preliminary version of this research was presented at the Third Symposium on Urban Morphology, hosted by Middle East Technical University on behalf of the Turkish Network of Urban Morphology in 2021: Neris Parlak Temizel and F. C  n   Bilsel, ‘  talyan Tipomorfoloji Ekol  nde Tip ve Tipoloji Kavramları’, in *III. Kentsel Morfoloji Sempozyumu Bildiriler Kitabı* (‘Kent Morfolojileri’ Kentsel Form Arařtırmalarında   ok Boyutlu Yaklařımlar, Ankara: ODT   Mimarlık Fak  ltesi Yayınları, 2021), 127–41.

use the concept of type in his writings,¹²⁶ he was the pioneer in reintroducing the concept as a significant part of a complex urban theory aiming to reclaim and reinforce the link between architecture and the city. In his works, he emphasized the importance of type as a conceptual tool for architects to understand the nature of the city and its architecture, enabling them to both *read* and *write* the built environment in its continuity across space and time. He influenced his assistant Gianfranco Caniggia (1933-1987), as well as Aymonino and Rossi with his ideas on the historical city as a source of knowledge and inspiration for architectural design.¹²⁷

3.1.1 IUAV and “*Caratteri distributivi degli edifici*” course

The majority of the works by Muratori, Caniggia, Aymonino, and Rossi have not been translated into English, which has significantly limited the worldwide recognition of the connections between their intellectual contributions to the field. The connections of these scholars originated from their association with the *Istituto Universitario di Architettura di Venezia* (IUAV) and particularly from the course “*Caratteri distributivi degli edifici*” (Distributive characteristics of buildings) taught there.

¹²⁶ Giulio Carlo Argan's encyclopedia entry, published in *Enciclopedia universale dell'arte* in 1958 under the title “*Tipologia*,” was later abridged and republished in 1959 as “*Tipologia, simbologia, allegorismo delle forme architettoniche*” and again in 1962 as “*Sul concetto di tipologia architettonica*.” The latter text was translated into English in 1963 under the title “On the Typology of Architecture,” and it subsequently became one of the principal references for typology in architectural theory. Although Muratori initiated his typological studies in 1950, he did not publish any works on the subject until 1959, and to date, none of his works have been translated into English. See: Giulio Carlo Argan, ‘Tipologia’, in *Enciclopedia Universale Dell’arte* (Venice-Rome: Istituto per la collaborazione culturale, 1958); Giulio Carlo Argan, ‘Tipologia, Simbologia, Allegorismo Delle Forme Architettoniche’, *Bollettino Del Centro Internazionale Di Studi Di Architettura Andrea Palladio* 1 (1959): 13–16; Argan, ‘Sul Concetto Di Tipologia Architettonica’; Argan, ‘On the Typology of Architecture’.

¹²⁷ Anne Vernez Moudon, ‘Introduction’, in *Architectural Composition and Building Typology: Interpreting Basic Building*, by Gianfranco Caniggia and Gian Luigi Maffei (Florence: Alinea Editrice, 2001), 18.

IUAV has been one of the most influential architecture schools in Italian architecture culture. Its well-known director Giuseppe Samonà played a pivotal role in transforming IUAV into what became known as the school of Venice.¹²⁸ During his 28 years as its director between 1943 and 1971, he welcomed a diverse array of architects and scholars to IUAV, including Luigi Piccinato,¹²⁹ Bruno Zevi, Saverio Muratori, Giancarlo di Carlo, Carlo Aymonino, Leonardo Benevolo, and Manfredo Tafuri, and many others.¹³⁰ Despite and perhaps due to their often conflicting ideas and ideologies, their co-presence cultivated an intellectually vibrant environment at the school.¹³¹ In the introduction to the special issue of *Architectural Design* magazine titled “The School of Venice,” Luciano Semerani, a former graduate and professor of IUAV, qualifies the school as a place of exile for “refugees from the polytechnics in Milan and Turin, ill-suited or unruly intellectuals, or possibly those who were not academic enough for Rome.”¹³² The shifting political landscape led to the arrival and departure of various professors at the school across different periods. In 1950, while serving as an assistant in the Faculty of Architecture in Rome, Samonà invited Muratori to teach the course “*Caratteri distributivi degli edifici*” at IUAV.¹³³ Previously, Muratori had assisted to the same course in Rome, which was taught by

¹²⁸ Luciano Semerani, ‘Why Not?’, *Architectural Design* 55, no. 5/6 (1985): 4.

¹²⁹ Piccinato also involved in several planning studies in Türkiye for Istanbul, Bursa, and Izmir. See: F. Candaş Bilsel, “Geç Osmanlı Döneminden Cumhuriyet’e Çağdaş Şehir Düşüncesi Ve İstanbul Planlaması,” in *Antik Çağ’dan XXI. Yüzyıla Büyük İstanbul Tarihi* (İstanbul: İstanbul Büyükşehir Belediyesi (İBB) Kültür AŞ., Türkiye Diyanet Vakfı İslâm Araştırmaları Merkezi (İSAM), 2015), 524–27; Moira Valeri, “Introduzione - Giriş,” in *Storie Di Architetti Italiani - Italian Mimarların Öyküleri*, ed. Moira Valeri, trans. Macit Yiğit Saner (İstanbul: Edizioni Istituto Italiano di Cultura di İstanbul, 2023), 9; F. Candaş Bilsel, “İzmir de Cumhuriyet Dönemi Kent Planlaması (1923- 1965): 20. Yüzyıl Kentsel Mirası ve Kamusal Mekânlar,” *Ege Mimarlık* 71 (2009): 17.

¹³⁰ Paolo Nicoloso, ‘Breve Storia Dell’Università Iuav Di Venezia’, IUAV Official Web Page, accessed 24 April 2024, <https://www.iuav.it/Ateneo1/chi-siamo/Presentazi/la-storia/index.htm>.

¹³¹ Pasquale De Paola, ‘A Question of Method: Architettura Razionale and The XV Milan Triennale of 1973’ (PhD dissertation, College Station TX, Texas A&M University, 2011), 98–109.

¹³² Semerani, ‘Why Not?’, 4.

¹³³ Jean Castex, ‘Saverio Muratori (1910–1973): The City as the Only Model’, in *New Urban Configurations*, ed. Roberto Cavallo et al. (ISUF 2012: New Urban Configurations, Delft: IOS Press, 2012), 29.

first Enrico Calandra and then Pasquale Carbonara from 1944 to 1950.¹³⁴ This common third-year course in Italian architecture curriculum aimed to provide students with an understanding of the organizational characteristics of buildings categorized by their use through case studies.¹³⁵ The course was analytical in nature and did not include design assignments. In his PhD dissertation, De Paula highlights the similarity between the content of this course with Durand's architecture lessons given at the *École Polytechnique*,¹³⁶ which was thoroughly investigated in the previous chapter. Both courses sought to instill typological thinking related to specific building types and their functional traits. This method was designed to help students identify characteristics that could be explained using schematic diagrams, thereby clarifying a particular building form and its evolution.¹³⁷

While working at the IUAV until 1954, Muratori coordinated the course and radically revised its curriculum to include the typological analysis of historical cities.¹³⁸ Semerani credited Muratori, type among other Italian architects, to have reassessed the notion of through this course:

He [Muratori] saw in the building type 'a unified vision of reality and a continuity of development which can be perceived in its every moment and which is characterised by a selective and consequently historical orientation.' In designating urban history a conditioning and (insofar as it brings sense) irreversible element, Muratori removed the study of the distributive character of buildings from the positivist tradition and . . . rejected any confusion with the model or the archetype-prototype, making the type coincide with the idea.¹³⁹

¹³⁴ Anna Bruna Menghini and Valerio Palmieri, *Saverio Muratori: Didattica Della Composizione Architettonica Nella Facoltà Di Architettura Di Roma 1954 - 1973* (Bari: Poliba Press, 2009), 63.

¹³⁵ Giuseppe Strappa, 'Caratteri degli edifici', TEKNORING: Il portale delle professioni tecniche, 7 August 2010, <https://www.teknoring.com/wikitecnica/progettazione-architettonica/caratteri-degli-edifici/>.

¹³⁶ De Paola, 'A Question of Method: Architettura Razionale and The XV Milan Triennale of 1973', 118–19.

¹³⁷ De Paola, 119.

¹³⁸ Saverio Muratori, *Studi per Una Operante Storia Urbana Di Venezia* (Rome: Istituto poligrafico dello Stato, 1959), 5.

¹³⁹ Semerani, 'Why Not?', 11.

With the course, Muratori reinterpreted the notion of typology as a synthetic product of an entire historical civilization, and as an active product that needed to be recognized and adapted to ensure the continuity of the built reality in contrast to the historical perception of it as an analytical tool for positivist classification.¹⁴⁰ According to Semerani, over time, *type* became one of the four piers on which the school's "re-founding of the theory of architecture" was built, along with *territory*, *city*, and *figuration*.¹⁴¹ The success of the course led to Muratori's appointment to the prestigious position to teach the "*Composizione architettonica*" (Architectural composition) course at the Faculty of Architecture in Rome in 1954.¹⁴²

Following Muratori's departure, Klaus Koenig, a follower of Bruno Zevi, taught the course "*Caratteri distributivi degli edifici*" for nine years,¹⁴³ which, then led to Samonà's invitation to Aymonino to take over the position in 1963.¹⁴⁴ Diverging from Muratori's original vision of the course, Aymonino shifted its focus from the continuity of urban analysis and architectural design to urban analysis with his assistants Aldo Rossi and Gianni Fabbri.¹⁴⁵

3.1.2 From course outputs to primary sources of typomorphology

Typomorphological research, essentially aiming to detect the repetitive spatial patterns within the complexity of the built environment and to reveal how these

¹⁴⁰ Elvio Manganaro, 'Funzione Del Concetto Di Tipologia in Italia a Partire Dagli Anni Sessanta: Dispensa Del Corso Di Caratteri Tipologici e Distributivi Degli Edifici, a.a. 2010-11', 2011, 14, <https://www.scribd.com/document/271229482/Caratteri-tipologici-e-costruttivi-degli-edifici>.

¹⁴¹ Semerani, 'Why Not?', 5.

¹⁴² Menghini and Palmieri, *Saverio Muratori: Didattica Della Composizione Architettonica Nella Facoltà Di Architettura Di Roma 1954 - 1973*, 84.

¹⁴³ Manganaro, 'Funzione Del Concetto Di Tipologia in Italia a Partire Dagli Anni Sessanta: Dispensa Del Corso Di Caratteri Tipologici e Distributivi Degli Edifici, a.a. 2010-11', 22.

¹⁴⁴ Gianni Fabbri, 'Gli Studi Urbani e l'enigma Del Progetto: Dai Fondamenti Muratoriani Agli Studi Sul Rapporto Tra Tipologia Edilizia e Morfologia Urbana', in *Saverio Muratori, Architetto, 1910 - Roma 1973, a Cento Anni Dalla Nascita, Atti Del Convegno Itinerante*, ed. Giancarlo Cataldi (Florence: Aión Edizioni, 2013), 19.

¹⁴⁵ Fabbri, 19.

patterns are interrelated in a multi-scalar way, demands meticulous and intensive work over long periods of time. Due to its nature, it is no surprise that this kind of research was associated with pedagogical activities from the very beginning. A retrospective look shows that scholars in the field had conducted courses in which students were getting acquainted with the method of typomorphological analysis and acquiring a general understanding of the concepts of typology and morphology while contributing to the demanding research and documentation procedures. The years-long collective work produced in these courses were published as *city monographs* that focus on a single city and present its spatial structure via numerous drawings and photographs in a book format. The thesis benefits from the documents of these courses and the city monographs produced from them, along with other relevant published material, as its primary sources for investigating and comparatively discussing the theoretical and methodological continuities and divergences within typomorphology.

Among the four city monographs of the Italian school, both *Studi per una operante storia urbana di Venezia*¹⁴⁶ and *La città di Padova: Saggio di analisi urbana*¹⁴⁷ were outputs of the IUAV's course “*Caratteri distributivi degli edifici*,” published in 1959 and 1970 respectively. The Rome and Como monographs,¹⁴⁸ on the other hand, were published in 1963 by the *Centro Studi di Urbanistica*, a research institution founded by Muratori.¹⁴⁹ (Figure 3.1)

¹⁴⁶ Muratori, *Studi per Una Operante Storia Urbana Di Venezia*.

¹⁴⁷ Carlo Aymonino et al., *La Città Di Padova: Saggio Di Analisi Urbana* (Rome: Officina Edizioni, 1970).

¹⁴⁸ Muratori et al., *Studi per Una Operante Storia Urbana Di Roma*; Gianfranco Caniggia, *Lettura Di Una Città: Como* (Rome: Centro Studi di Storia Urbanistica, 1963).

¹⁴⁹ Vernez Moudon, ‘Getting to Know the Built Landscape: Typomorphology’, 291.



Figure 3.1 City monographs as primary sources



Figure 3.2 The additional primary sources and their English translations

Aymonino also published the theoretical implications of the course in three books at the end of each academic year between 1964 and 1966,¹⁵⁰ which eventually evolved into the city monograph on Padua. Although Caniggia did not teach the course “*Caratteri distributivi degli edifici*,” he compiled the lecture notes of the course “*Composizione architettonica*” and published them in two books in which he further elaborated Muratori’s ideas on typomorphology: *Composizione architettonica e tipologia edilizia I: Lettura dell’edilizia di base* and *Composizione architettonica e tipologia edilizia II: Il progetto nell’edilizia di base*.¹⁵¹ Along with these publications, Rossi’s widely-acclaimed book *L’architettura della città* and the edited book *Scritti scelti sull’architettura e la città*, which compiles Rossi’s writings between 1956 and 1972, can be considered as the other primary sources that can be consulted on typomorphology theory and methodology.¹⁵² (Figure 3.2)

It should be noted, however, that the majority of these primary sources were not translated to English. English speaking researchers had to—and to some extent still have to—contend with the secondary sources except Rossi’s *L’architettura della città* and Canniggia and Maffei’s *Composizione architettonica e tipologia edilizia I: Lettura dell’edilizia di base* which saw English translations.¹⁵³ As Moudon points out, most of the inspiring discussions of the Italian School that led to the emergence

¹⁵⁰ Carlo Aymonino et al., *Aspetti e Problemi Della Tipologia Edilizia: Documenti Del Corso Di Caratteri Distributivi Degli Edifici. Anno Accademico 1963-64* (Venezia: Editrice Cluva, 1964); Carlo Aymonino, *La Formazione Del Concetto Di Tipologia Edilizia: Atti Del Corso Di Caratteri Distributivi Degli Edifici. Anno Accademico 1964-65* (Venezia: Editrice Cluva, 1965); Carlo Aymonino et al., *Rapporti Tra La Morfologia Urbana e La Tipologia Edilizia: Documenti Del Corso Di Caratteri Distributivi Degli Edifici. Anno Accademico 1965-1966* (Venezia: Editrice Cluva, 1966).

¹⁵¹ Gianfranco Caniggia and Gian Luigi Maffei, *Composizione Architettonica e Tipologia Edilizia I. Lettura Dell’Edilizia Di Base* (Venezia: Marsilio Editori, 1979); Gianfranco Caniggia and Gian Luigi Maffei, *Composizione Architettonica e Tipologia Edilizia 2. Il Progetto Nell’Edilizia Di Base* (Venezia: Marsilio Editori, 1984).

¹⁵² Aldo Rossi, *L’architettura Della Città* (Padova: Marsilio Editori, 1966); Aldo Rossi, *Scritti Scelti Sull’architettura e La Città, 1956-1972*, ed. Rosalo Bonicalzi (Milan: Clup, 1975).

¹⁵³ Aldo Rossi, *The Architecture of the City*, trans. Diane Ghirardo and Joan Ockman (Cambridge MA: The MIT Press, 1982); Caniggia and Maffei, *Architectural Composition and Building Typology: Interpreting Basic Building*.

of these two books have remained to be sources for the Italian-speaking academic circles.¹⁵⁴ The chapter aims to bring the Italian language scholarship forward in relation to English sources and to synthesize them into a coherent narrative of the Italian school and its discourse on typology and typomorphology.

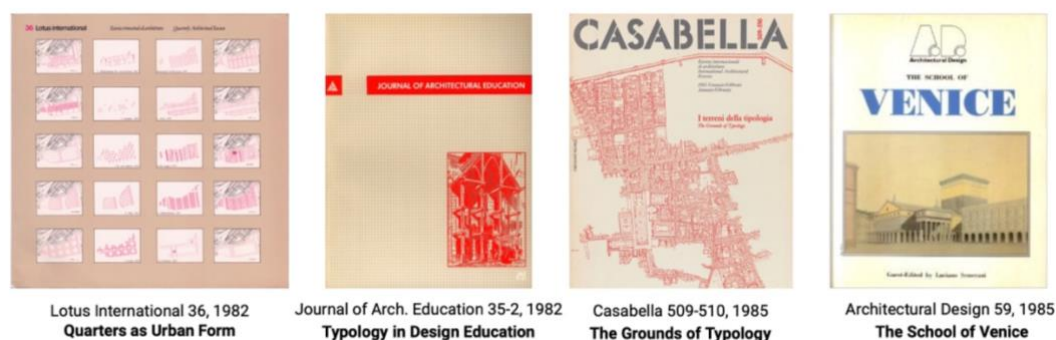


Figure 3.3 The architectural journals on type and typology

Following the translation of *L'architettura della città* in 1982, which can be considered as one of the main reasons why Rossi was much better known internationally than Aymonino, Muratori, or Caniggia, coupled with the international events such as the 15th Milan Triennale of 1973, numerous architecture journals published issues on the concepts on type and typology.¹⁵⁵ (Figure 3.3)

When the literature on type and typology in the twentieth century is examined, it can be seen that the studies on this matter started with Muratori's works in the 1950s and concentrated in the 1960s, 1970s and 1980s. Among these, it is observed that the texts published in English are increasing with international events and translations.

¹⁵⁴ Vernez Moudon, 'Getting to Know the Built Landscape: Typomorphology', 293–96.

¹⁵⁵ Pierluigi Nicolini, 'Quarters as Urban Form', *Lotus International* 36 (1982); Jeffrey M. Chusid, ed., 'Typology in Design Education', *Journal of Architectural Education* 35, no. 2 (1982); Vittorio Gregotti, ed., 'I terreni della tipologia / The grounds of typology', *Casabella* 509–510 (1985); Luciano Semerani, 'The School of Venice', *Architectural Design* 55, no. 5/6 (1985).

3.1.3 The conflict within the school

Although Aymonino's and Rossi's work is built upon Muratori's initial studies as argued by many scholars,¹⁵⁶ they scarcely refer to Muratori in their studies. However, Moudon argues "this . . . should be seen not as a lack of knowledge or consideration of the others' work, but rather a reflection of somewhat different standards of scholarship where opponents can, and do, give each other the silent treatment."¹⁵⁷ A thorough examination of the primary sources in Italian affirms that there is quite few references to Muratori in Aymonino's and Rossi's texts.

In the city monograph of Padua, under the title of "Studies of urban phenomena," Aymonino mentioned Muratori's Venice monograph and acknowledged its contribution as a study of urban phenomena¹⁵⁸ with its emphasis on the relation between building typology and urban morphology and its ability to include both architecture and the city in the same study. However, his reference was followed with a criticism of Muratori's argument that the design should strictly follow the analysis. He wrote:

Thanks to Saverio Muratori, in his book *Studi per una operante storia urbana di Venezia* and in the introduction to *l'Edilizia gotica veneziana* by Maretto, for having undertaken the studies on the relationships between building typology and urban morphology as the history of building, [and] combining architecture and the city in a single process of investigation and knowledge. [Our] disapproval arises where he theorizes the need for planning interventions in the current urban reality to be necessarily consequent and

¹⁵⁶ Moneo, 'On Typology', 35; Vernez Moudon, 'Getting to Know the Built Landscape: Typomorphology', 290; Belgin Turan, 'Production of a Discourse: Italian "Neo-Rationalism" as Case Study' (PhD dissertation, Ithaca, NY, Cornell University, 1995), 195–96; Vernez Moudon, 'Urban Morphology as an Emerging Interdisciplinary Field', 5; Attilio Petruccioli, 'Exoteric – Polytheistic – Fundamentalist Typology', in *Typological Process and Design Theory*, ed. Attilio Petruccioli (Cambridge MA: Aga Khan Program for Islamic Architecture, 1998), 13.

¹⁵⁷ Vernez Moudon, 'Introduction', 18.

¹⁵⁸ Aymonino characterizes architecture as a strictly urban phenomenon, challenging those who ideologically construct urban and architectural history without considering the experience of the real city: Semerani, 'Why Not?', 5.

derivable from this kind of study, as a logical continuity of knowledge and work. (My translation)¹⁵⁹

Another reference is found in the appendix of the course book *La formazione del concetto di tipologia edilizia: Atti del corso di caratteri distributivi degli edifici. Anno accademico 1964-65*. Among many others, Muratori's name is listed as of the contributors who brought a theoretical dimension to the course "*Caratteri distributivi degli edifici*." It is written that:

With the building type, [Muratori] identified a vision of reality understood in its unitary sense and in its continuity of development. . . . The typological method thus exceeded the technical limits of the positivist typology in its new historical meaning and the course was defined as a history of construction. (The author's translation)¹⁶⁰

Lastly, in his book chapter "*Caratteri urbani delle città venete*" (Urban Characters of the Venetian Cities) in the Padua monograph, Rossi cited Muratori's Venice monograph in his analysis of the city.¹⁶¹ Other than these two, there is no expression of Muratori's contribution to the field in Aymonino's and Rossi's texts.

Aymonino and Rossi's insufficient referencing of Muratori— despite the strong conceptual overlaps and continuities in their work—can be explained with their opposing political views. Known as leftists, Aymonino and Rossi were reluctant to establish a strong intellectual connection with Muratori, whom they perceived as a conservative right-winger. The details of 1963 uprisings at the Faculty of Architecture in Rome reveal the tension between Muratori and the leftist assistants and students.

In 1963, when Aymonino and his assistant Rossi began teaching at the IUAV, Muratori, along with Caniggia and other assistants, was teaching the course

¹⁵⁹ Carlo Aymonino, 'Lo Studio Dei Fenomeni Urbani', in *La Città Di Padova: Saggio Di Analisi Urbana*, by Carlo Aymonino et al. (Rome: Officina Edizioni, 1970), 19.

¹⁶⁰ Aymonino, *La Formazione Del Concetto Di Tipologia Edilizia: Atti Del Corso Di Caratteri Distributivi Degli Edifici. Anno Accademico 1964-65*, 30–31.

¹⁶¹ Aldo Rossi, 'Caratteri Urbani Delle Città Venete', in *La Città Di Padova: Saggio Di Analisi Urbana*, by Carlo Aymonino et al. (Rome: Officina Edizioni, 1970), 450–89.

“Composizione architettonica” to fourth and fifth-year students in Rome. That year, a group of assistants and students, including Manfredo Tafuri, organized a major protest at the school demanding changes to its conservative curriculum and “fascist agenda.”¹⁶² In this protest, considered one of the precursors of the 1968 student movement in Italy,¹⁶³ one of the targeted professors was Saverio Muratori. In a later interview in 1992, Tafuri described the protest as follows:

He [Muratori] had just arrived in Rome from Venice, and was a well-known personality. Muratori was the architect of the Christian Democrat office at the EUR. He was someone unique, someone who had strong intellectual resonance, someone who could really think. He proposed a rather tragic vision of history, because for him the crisis began at least in the 18th century. . . . He thought that true modernity meant that everything should start all over again. This was fascinating from a certain point of view. . . . Muratori was the person we wanted to confront because he was invulnerable. He refused to talk with us because his way of thinking only functioned if it remained closed to dialogue. At this point we realized that he was just another weak link, so we organized the operative concept of “libertà d’insegnamento.” . . . On these grounds, we organized another demonstration in 1963, two or three years after I graduated. Some of us, like myself, had graduated; others were still students. This was an extended occupation of the department, the longest and most famous one before 1968. It lasted sixty days, and somehow seemed to have the effect of rejuvenating the didactic system, because the faculty . . . came to the realization that the only appropriate reaction was to recruit new professors. They called [Bruno] Zevi from Venice, Ludovico Quaroni from Florence, and [Luigi] Piccinato from Venice. For us it was a failure. We rejected the idea of recruiting professors who had been important twenty years earlier. In the end we renounced Rome, in a certain sense, because we believed at that time that it was impossible to change anything.¹⁶⁴

Following the protest, the academic council and the student council gathered at the Roxy cinema, which would later lend its name to the meeting. They reached a consensus that students should be able to take courses from the professors of their

¹⁶² De Paola, ‘A Question of Method: Architettura Razionale and The XV Milan Triennale of 1973’, 117.

¹⁶³ Fernanda De Maio, ‘A Est Del 68. Rivoluzione Antiautoritaria a Ritmo Di Città’, *La Rivista Di Engramma* 156 (2018): 113–14.

¹⁶⁴ Manfredo Tafuri, ‘History as Project: An Interview with Manfredo Tafuri by Luisa Passerini, Rome, February-March 1992’, trans. Denise L. Bratton, *ANY: Architecture New York* 25/26 (2000): 22–23.

choice.¹⁶⁵ According to Giancarlo Cataldi, a student of Muratori, in this liberal environment, many students still requested to take courses from Muratori.¹⁶⁶ It should be noted that 1963 uprisings were not the first time Tafuri confronted with Muratori. In 1960, ASEA (*Associazione Architetti e Studenti*), an association founded by Tafuri and his several contemporaries, organized an exhibition in which they displayed “scandalous” projects—as they called them—from Muratori’s architectural composition course.¹⁶⁷ The exhibition was also accompanied by a critical debate on the teaching approach of Muratori, involving figures such as Zevi and Quaroni.¹⁶⁸

The series of interviews conducted by Anna Bruna Menghini and Valerio Palmieri, the authors of the book *Saverio Muratori: Didattica della Composizione architettonica nella Facoltà di Architettura di Roma 1954–1973*, with Saverio Muratori’s assistants and students from the 1950s and 1960s, offer historical insights into his marginalization by the leftist circles in Italian architectural culture. The interviewees, both critics and supporters alike, noted that Muratori’s political stance was not clear.¹⁶⁹ Upon his arrival at the school, he was perceived as an anti-fascist,¹⁷⁰ and sometimes as a communist,¹⁷¹ however he later gained a reputation as a right-winger after designing the headquarters for the Christian Democratic Party (1955-

¹⁶⁵ ‘Intervista a Giancarlo Cataldi’, in *Saverio Muratori: Didattica Della Composizione Architettonica Nella Facoltà Di Architettura Di Roma 1954 - 1973*, by Anna Bruna Menghini and Valerio Palmieri (Bari: Poliba Press, 2009), 406–7.

¹⁶⁶ Ibid.

¹⁶⁷ Andrew Leach, ‘Choosing History: A Study of Manfredo Tafuri’s Theorisation of Architectural History and Architectural History Research’ (PhD dissertation, Gent, University of Gent, 2005), 86.

¹⁶⁸ Menghini and Palmieri, *Saverio Muratori: Didattica Della Composizione Architettonica Nella Facoltà Di Architettura Di Roma 1954 - 1973*, 87.

¹⁶⁹ ‘Intervista a Paolo Portoghesi’, in *Saverio Muratori: Didattica Della Composizione Architettonica Nella Facoltà Di Architettura Di Roma 1954 - 1973*, by Anna Bruna Menghini and Valerio Palmieri (Bari: Poliba Press, 2009), 368.

¹⁷⁰ ‘Intervista a Vieri Quilici’, in *Saverio Muratori: Didattica Della Composizione Architettonica Nella Facoltà Di Architettura Di Roma 1954 - 1973*, by Anna Bruna Menghini and Valerio Palmieri (Bari: Poliba Press, 2009), 386.

¹⁷¹ ‘Intervista a Gianfranco Spagnesi’, in *Saverio Muratori: Didattica Della Composizione Architettonica Nella Facoltà Di Architettura Di Roma 1954 - 1973*, by Anna Bruna Menghini and Valerio Palmieri (Bari: Poliba Press, 2009), 380.

58).¹⁷² Eventually, he was labeled a fascist due to his collaborations with the professors who were tagged as “fascist” by the leftist assistants and students accusing him of constraining architectural composition within a conservative framework and forsaking the principles of modern architecture.¹⁷³

In these interviews, it is important to note that even his opponents emphasized Muratori’s contributions to the Italian architectural culture and to the Faculty of Architecture in Rome. Vieri Quilici, a former student and opponent of Muratori, highlighted Muratori's introduction of an urban perspective to architectural education as a significant moment and innovation for the Rome School of Architecture. He noted that Muratori was the only one who addressed previously unexplored topics such as morphology, typology, and urban fabric.¹⁷⁴ The main point of criticism of Muratori's pedagogical approach was his assumption of a compulsory continuity between urban analysis and architectural design. This must be the reason why the course “*Caratteri distributivi degli edifici*” taught in Venice, which focused on urban analysis, was more widely embraced than the architectural composition course taught in Rome, which was design centric.

3.1.4 The two camps of the Italian school of typomorphology

As a result of political divisions, Muratori and his assistant Caniggia on one side, and Aymonino and his assistant Rossi on the other, led to the emergence of two camps within the Italian school of typomorphology.

The first camp was formed by Muratori’s assistants at the Faculty of Architecture in Rome: Renato Bollati, Sergio Bollati, Guido Marinucci,¹⁷⁵ Gianfranco Caniggia,

¹⁷² ‘Intervista a Gianfranco Spagnesi’, 380.

¹⁷³ ‘Intervista a Giancarlo Cataldi’, 406.

¹⁷⁴ ‘Intervista a Vieri Quilici’, 382.

¹⁷⁵ Muratori coauthored the city monograph on Rome with the Bollati brothers and Guido Marunicci.

Alessandro Giannini, Paolo Maretto, Romano Greco, and Guido Figus.¹⁷⁶ This group was also known as the *scuola muratoriana*.¹⁷⁷ After Muratori's demise, unable to find support in Rome, they had to disperse to various architecture schools across Italy. Though this might be considered an unfortunate outcome for the school at the first glance, the broadness of their diaspora facilitated the expansion of Muratorian ideas across the country. In the 1970s, as typomorphology first began to gain recognition on the international scene in France,¹⁷⁸ Florence became a third center for Italian typomorphology research, following Venice and Rome, with the arrival of Caniggia, his former student Gian Luigi Maffei, Muratori's former student Giancarlo Cataldi, as well as Paolo Vaccaro and Enrico Lavagnino at the Faculty of Architecture there.¹⁷⁹ Cataldi later founded CISPOT (*Centro Internazionale per lo Studio dei Processi Urbani e Territoriali*) in 1981 in Pienza with a group of Italian and American colleagues, organizing over 20 conferences on typomorphology and a memorial conference and exhibition on the tenth anniversary of Muratori's death.¹⁸⁰ The interest shown in the memorial conferences held in honor of the 80th and 100th anniversaries of his birth, along with the rich content of the conference publications, shows that appreciation for Muratori's ideas substantially grew over time.¹⁸¹ In the

¹⁷⁶ Giancarlo Cataldi, Gian Luigi Maffei, and Paolo Vaccaro, 'Saverio Muratori and the Italian School of Planning Typology', *Urban Morphology* 6, no. 1 (2002): 5, <https://doi.org/10.51347/jum.v6i1.3899>.

¹⁷⁷ Giancarlo Cataldi, 'From Muratori to Caniggia: The Origins and Development of the Italian School of Design Typology', *Urban Morphology* 7, no. 1 (2003): 27, <https://doi.org/10.51347/jum.v7i1.3904>.

¹⁷⁸ F. C     Bilsel, 'Kent Mek  nlerinin Yeniden   retiminde Kentsel Morfoloji ve Kent Mimarlı ı Yakla ımı: Paris   rne ı (Urban Morphology and Urban Architecture Approach in Reproduction of Urban Spaces: The Case of Paris)', in *II. Kentsel Morfoloji Sempozyumu Bildiriler Kitabı* (De i Kent: De i en Kent, Mek  n ve Bi im, İstanbul: Marmara Belediyeler Birli ı K  lt  r Yayınları, 2018), 35.

¹⁷⁹ Caniggia ve Maffei'nin      dillere   vrilen ve tipomorfolojinin temel referanslarından g  r  len    kitabı 1975-1976 akademik yılı Floransa Mimarlık Fak  ltesinde verilen mimari kompozisyon dersinin notlarından derlenmi tir.(Caniggia, 1979, p.9)

¹⁸⁰ Cataldi, Maffei, and Vaccaro, 'Saverio Muratori and the Italian School of Planning Typology', 10–11; V  tor Oliveira, *Urban Morphology: An Introduction to the Study of the Physical Form of Cities* (Cham: Springer, 2016), 117.

¹⁸¹ On the occasion of the 80th anniversary of his birth in 1991, the Municipality of Modena organized a conference and exhibition to commemorate Saverio Muratori. In celebration of the 100th anniversary of his birth, a series of traveling commemorative conferences were held between

1990s, with the formation of ISUF (International Seminar on Urban Form), Muratori's ideas began to reach a broader audience of English-speaking researchers in the international arena, which will be explored in detail in the following chapter. In the 2000s, at the Polytechnic University of Bari, Claudio D'Amato assembled a team of researchers, led by Attilio Petruccioli and Giuseppe Strappa, all originating from the *scuola muratoriana*.¹⁸² Before coming to Bari, as an Aga Khan Professor of Design for Islamic Societies at MIT, Petruccioli had contributed to the international recognition of Muratori's ideas through his courses and international conferences that he organized during the 1990s. He and Maurice Münir Cerasi who participated in the Aga Khan Program for Islamic Architecture (AKPIA) as a visiting researcher, expanded the research domain of typomorphology with their work on the cities located in the countries with a predominantly Muslim population. It is possible to follow the current work of Muratori's Italian followers through the international conferences organized by ISUF Italia, one of the regional networks of ISUF founded by Strappa in 2014, and through *U+D Urban Form and Design* journal, also launched by Strappa in the same year.¹⁸³

Cataldi categorizes this camp of the Italian school into three distinct periods, assigning different names to the researchers from each era: (i) those from the initial period spanning the 1960s are referred to as "The School of Muratori;" (ii) researchers active from the late 1960s through the end of the 1990s are known as

2010 and 2012, organized by the Department of Architecture at the University of Florence, CISPUP, and ISUF Italia. The proceedings of both events were subsequently published in the following volumes: Andrea Capelli, ed., *Saverio Muratori: Architetto (Modena, 1910 - Roma, 1973)*, *Sullo Stato Dell'Architettura Italiana Verso La Fine Del Secolo XX* (Modena: Comune di Modena, 1991); Giancarlo Cataldi, ed., *Saverio Muratori, Architetto, 1910 - Roma 1973, a Cento Anni Dalla Nascita, Atti Del Convegno Itinerante* (Florence: Aión Edizioni, 2013).

¹⁸² Nicola Marzot, 'The Study of Urban Form in Italy', *Urban Morphology* 6, no. 2 (2002): 71.

¹⁸³ Oliveira, *Urban Morphology: An Introduction to the Study of the Physical Form of Cities*, 117.

“The Muratorian School,” and (iii) those from the 2000s to the present are called “The School of Italian Typomorphology.”¹⁸⁴

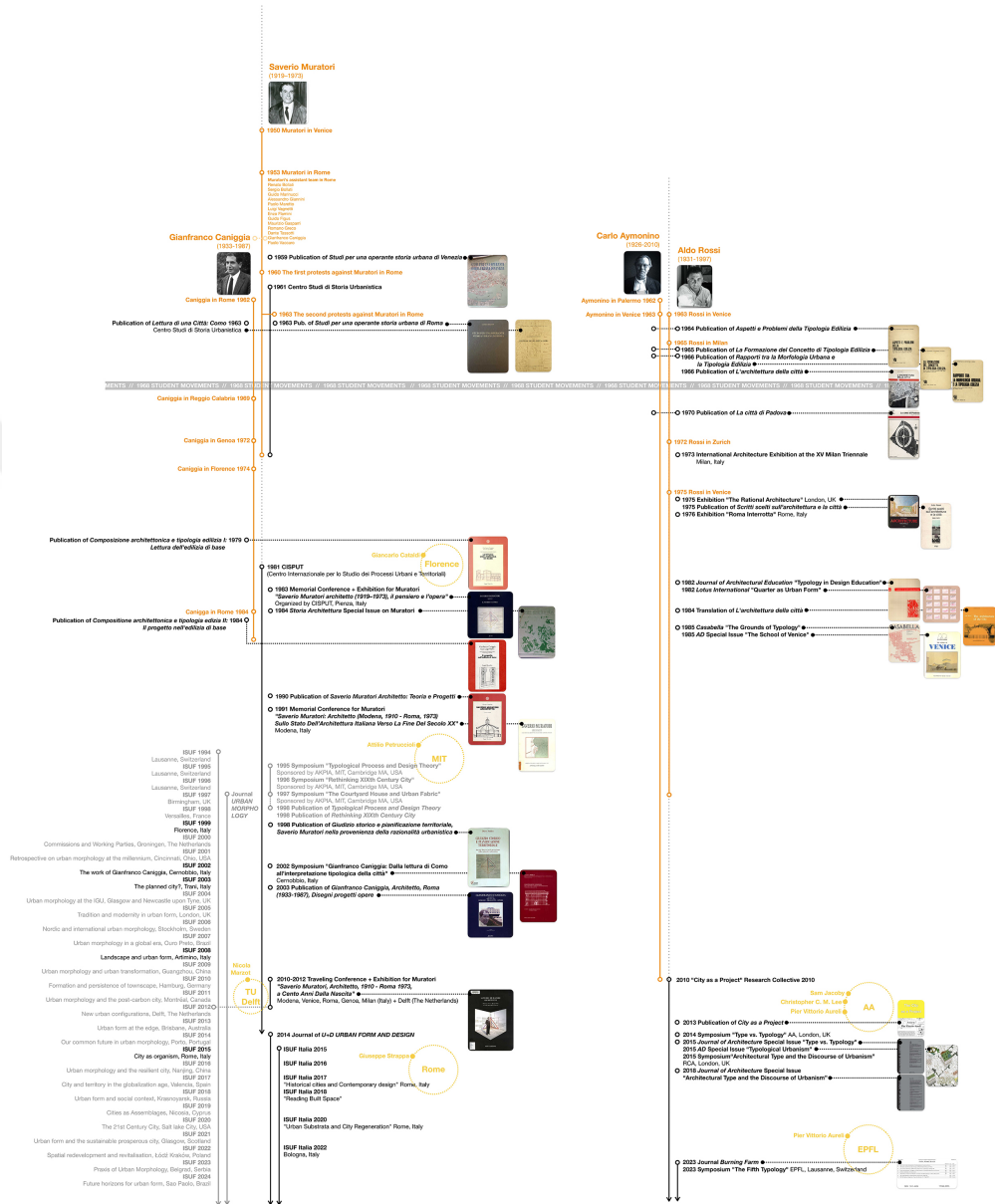


Figure 3.4 The two camps of the Italian school of typomorphology.
Source: Drawn by the author.

¹⁸⁴ Giancarlo Cataldi, ‘Saverio Muratori: Il Debito e l’eredità’, in *Saverio Muratori, Architetto, 1910 - Roma 1973, a Cento Anni Dalla Nascita, Atti Del Convegno Itinerante*, ed. Giancarlo Cataldi (Florence: Aion Edizioni, 2013), 10–15.

The members of the second camp within the Italian typomorphology school, Aymonino and Rossi, introduced an alternative research trajectory for examining the relationship between urban architecture and the city through a typological lens. While their research methods were not as rigorously structured or systematically defined as those of the Muratorian school, they provided a compelling and innovative set of concepts. These concepts challenged conventional approaches and offered new perspectives for understanding and analyzing the complexities of urban architecture. Aymonino and Rossi's contributions sparked a significant intellectual debate and expanded the boundaries of typomorphological inquiry. Their approach to urban architecture quickly gained popularity in a wider geography. They initiated the *Tendenza* movement together with architects and scholars such as Giorgio Grassi, Massimo Scolari, Manfredo Tafuri, and Ezio Bonfanti. Their typological approach gained international recognition with the International Architecture Exhibition organized as part of the 15th Milan Triennale (1973) and the Rational Architecture Exhibition by Léon Krier in London (1975).¹⁸⁵ In these events, the Italian neorationalists collaborated with names such as Oswald Mathias Ungers (Germany), James Stirling (the UK), Rob and Léon Krier (Belgium), Bernard Huet (France), Christian de Portzamparc (France), and others from Europe; Robert Venturi, Denise Scott Brown, Peter Eisenman, Michael Graves, John Hejduk, and others from the US.¹⁸⁶ The group, whose popularity increased with these international events and their publications, gained one of the central positions in the postmodern discourse in architecture during the 1970s and 1980s. The works of Anthony Vidler, Kenneth Frampton, Michael Hays, and others on typology and the Italian typomorphologists were published both in the renowned architectural publications of the period such as

¹⁸⁵ De Paola, 'A Question of Method: Architettura Razionale and The XV Milan Triennale of 1973', 156–90.

¹⁸⁶ Gisela Barcellos de Souza, 'A Cidade Redescoberta: O Debate Sobre a Tipo-Morfologia No Contexto Europeu Dos Anos 1970 / The Rediscovered City: The Debate about Type-Morphology in the European Context of the 1970s', *Cadernos PROARQ* 19 (2012): 79–83.

Oppositions and *Assemblage* and in the readers on architectural theory of the 1990s, and gained prominence as important references for contemporary typology research.

The 2010s witnessed a resurgence in typological research within architectural theory that was mainly drawn from the second camp of the Italian typomorphology school and the typology literature it generated. The “Type vs. Typology” symposium, organized by the Projective Cities Program at the AA School of Architecture and chaired by the program director Sam Jacoby in 2014, convened renowned academics and practitioners such as Rafael Moneo, Philip Steadman, Christopher C. M. Lee, Lawrence Barth, Tarsha Finney, and Hyungmin Pai.¹⁸⁷ They discussed the relevance of type and typology in contemporary architectural research and practice. Expanded versions of their symposium presentations were published in the following year in a special issue of *The Journal of Architecture* with the same title.¹⁸⁸ In 2015, Sam Jacoby and Christopher C. M. Lee edited a thematic issue of *Architectural Design* magazine titled “Typological Urbanism.”¹⁸⁹ That same year saw another symposium, “Architectural Type and the Discourse of Urbanism,” organized by the University of Nottingham in collaboration with the University of Technology Sydney and hosted at the Royal College of Art in London. A special issue of *The Journal of Architecture* published in 2018 perpetuated the research presented at this symposium, featuring contributions from Katharina Borsi, Tarsha Finney, Pavlos Philippou, Chris Schulte, Maria S. Giudici, and Sam Jacoby.¹⁹⁰ Lastly, in 2023, the “The Fifth Typology” symposium, chaired by Pier Vittorio Aureli and organized by the Laboratory of Theory and Project of Domestic Space at EPFL, featured presentations from Brendon Carlin, Sophie Delhay, Christoph Gantenbein, Maria Shéhérazade Giudici, Marson

¹⁸⁷ <https://projectivecities.aaschool.ac.uk/type-vs-typology/>

¹⁸⁸ Sam Jacoby, ‘Type versus Typology: Introduction’, *The Journal of Architecture* 20, no. 6 (2015): 931–37, <https://doi.org/10.1080/13602365.2015.1115600>.

¹⁸⁹ Christopher C. M. Lee and Sam Jacoby, ‘Introduction: Typological Urbanism and the Idea of the City’, ed. Christopher C. M. Lee and Sam Jacoby, *Architectural Design*, Typological Urbanism, 209 (2011): 14–23.

¹⁹⁰ Katharina Borsi, Tarsha Finney, and Pavlos Philippou, ‘Architectural Type and the Discourse of Urbanism: Introduction’, *The Journal of Architecture* 23, no. 7–8 (2018): 1093–1103, <https://doi.org/10.1080/13602365.2018.1513478>.

Korbi, Christopher C. M. Lee, Enrica Mannelli, Gili Merin, Davide Sacconi, and Alfredo Thiermann.¹⁹¹ The symposium papers were subsequently published in *Burning Farm*, a new online journal on architecture and domestic space launched by Pier Vittorio Aureli in the same year.¹⁹² (Figure 3.4)

Although the two camp of the Italian school of typomorphology share the same conceptual foundation, their research communities have diverged over time. It is possible to observe that the first group, who focused more on Muratori and Caniggia's conceptualizations, remains active within the international circles of ISUF and its regional research networks, particularly in ISUF Italia. In contrast, the latter group can be considered more dispersed. Their research is compiled and presented at occasional symposia and in publications, some of which were listed above. However, the permeability between these two groups is quite limited, with few cross-references found between their works, mirroring the division between their pioneers. This is evident in the fact that, on one hand, Attilio Petruccioli, a student of Muratori, and on the other, Christopher C. M. Lee, who could be considered as a follower of Rossi, both present their theoretical frameworks as "The Fourth Typology," drawing on Vidler's well-known article "The Third Typology," but they do not refer to each other's work.¹⁹³ While it is uncommon to find an English-speaking researcher actively engaged in both circles, notable exceptions whose research and publications have contributed to bridging these two domains include Ivor Samuels and Anne Vernez Moudon in the 1980s and 1990s, and Nicola Marzot and Pier Vittorio Aureli in the 2000s and 2010.¹⁹⁴

¹⁹¹ <https://memento.epfl.ch/event/the-fifth-typology-edar-tpod/>

¹⁹² <https://burning.farm>

¹⁹³ Anthony Vidler, 'The Third Typology', *Oppositions* 7 (1976): 1–4; Attilio Petruccioli, 'The Fourth Typology', in *After Amnesia: Learning from the Islamic Mediterranean Urban Fabric* (Bari: ICAR, 2007), 15–63; Lee, 'The Fourth Typology: Dominant Type and The Idea of the City'.

¹⁹⁴ See: Ivor Samuels, 'Towards an Architectural Analysis of Urban Form: Conservation Studies in Britain and Italy' (Institute of British Geographers Conference on Urban Morphology, Birmingham University, 1982); Ivor Samuels, 'Urban Morphology in Developed Countries', Research Report, Research Project Directed by Professor François Choay (Institut d'Urbanisme, Paris VIII, 1985), Accession No. 5905-001, The University of Washington Libraries, Special Collections, Anne

The previous section focused on the sociology behind the establishment of two camps in the Italian school of typomorphology, whereas the next two sections dwell on the core concepts of each in order to demonstrate the continuities and discrepancies in their approaches.

3.2 Origins of typomorphology: Readings of historical Italian cities by Saverio Muratori and Gianfranco Caniggia through Venice, Rome, and Como (1950s-1970s)

Writings on the concepts of type and typology in architectural theory almost always contain a level of ambiguity and vagueness. The nature of the concepts, which is far from clarity, has led to multiple interpretations and variety of insightful discussions throughout the history of architectural theory.¹⁹⁵ Among them, Muratori enriched the interpretations of type and typology in architectural theory by highlighting the difference between a-posteriori type and a-priori type.

The unfavorable reconstruction of the Italian cities, heavily damaged during the Second World War, brought about the formation of a productive intellectual platform where Italian architects and theorists critically examined the discipline of architecture. The uneasiness caused by the rupture between the historical city and post-war redevelopment projects, which Italian architects called the “crisis,” drove

Vernez Moudon Papers, 1964-2008; Anne Vernez Moudon, ‘Typology/Morphology: Report on Research in England, Italy and France’, Research Report, 1987, Accession No. 5905-001, The University of Washington Libraries, Special Collections, Anne Vernez Moudon Papers, 1964-2008; Vernez Moudon, ‘Getting to Know the Built Landscape: Typomorphology’; Vernez Moudon, ‘Urban Morphology as an Emerging Interdisciplinary Field’; Marzot, ‘The Study of Urban Form in Italy’; Nicola Marzot, ‘Aldo Rossi and Gianfranco Caniggia “Deconstructed”’, in *Formation and Persistence of Townscape* (ISUF 2010: Formation and persistence of townscape, Hamburg, Germany, 2010); Nicola Marzot, ‘Beyond the Typological Discourse: The Creation of the Architectural Language and the Type as a Project in the Western Modern City’ (PhD dissertation, Delft, TU Delft, 2014); Pier Vittorio Aureli, ‘The Difficult Whole’, *Log* 9 (2007): 39–61.

¹⁹⁵ The ambiguity starts from the meanings of the concepts. Although the concepts of type and typology are generally used interchangeably, they have different meanings. The suffix -ology of typology originates from the Greek word *logos*, which signifies a discourse, treatise, theory or science. Hence, typology is the discourse, theory, treatise (method) or science of type.

them to explore alternative approaches to shape the built environment.¹⁹⁶ The concept of *continuity* seemed promising to overcome this period of uneasiness, to the extent that it was incorporated into the title of *Casabella*, one of the most influential architectural magazines of the time.¹⁹⁷ (Figure 3.5)



Figure 3.5 Cover of the 253rd issue of *Casabella Continuità*, published in July 1961, and an image from Rossi's article “La città e la periferia” featured in the same issue. Source: Aldo Rossi, “La città e la periferia,” *Casabella Continuità* 253 (1961):27.

In this context, Saverio Muratori reintroduced the concept of type as part of his solution to navigate the crisis. His theoretical framework comprises numerous interconnected concepts, including operative history, spontaneous consciousness, critical consciousness, architectural organism, and building type. These concepts will be discussed in this section, primarily drawing on Muratori's and Caniggia's city monographs and course books, as well as the writings of their students and followers

¹⁹⁶ Lisa Finetti and Chiara Palombella, ‘L’insegnamento Dell’architettura in Italia Dal Dopoguerra Alla Contestazione Studentesca’ (Tesi di laurea Magistrale, Milano, Politecnico di Milano, 2010), 25.

¹⁹⁷ The name of the magazine was *Casabella Continuità* throughout the period of Ernesto N. Rogers directorship in the years between 1953 and 1965.

including Giancarlo Cataldi, Gian Luigi Maffei, and Attilio Petruccioli.

3.2.1 Operative history, spontaneous consciousness and critical consciousness

Muratori's conceptualization of operative history was directly related to his ideas around the manner in which society would act in times of crisis. According to him, cultural norms disappeared in times of crisis, characterized by the acceleration and spread of large-scale changes that are too extreme for human psychological and social adaptive capacity.¹⁹⁸ Muratori's claim was that one of these cultural crises in the history of civilization, exemplified by the beginnings of enlightenmentism, romanticism, positivism, and relativism, coincided with his own time.¹⁹⁹ He problematized architectural practice and education in his own time as the reflection of a general cultural crisis on the discipline of architecture.²⁰⁰

A crisis often carries a negative connotation, causing discomfort for those affected. However, it can also be a catalyst for progress. In this sense, Muratori's view of crisis aligns with his contemporary Thomas S. Kuhn's concept of crisis followed by a paradigm shift, as described in *The Structure of Scientific Revolutions*.²⁰¹ Kuhn posited that a dominant scientific paradigm, like Newtonian physics, disintegrated in time under the weight of unexplained findings, leading to a period of uncertainty and competing theories. Eventually, a new theory, such as Einstein's physics, resolved these anomalies, ushering in a new era of "normal science." Similarly, Muratori proposed that when cultural norms failed to meet the evolving needs of society, a crisis ensued. This period of uncertainty, marked by the dissolution of existing norms, concluded when new norms emerged that better reflected the changing

¹⁹⁸ Muratori et al., *Studi per Una Operante Storia Urbana Di Roma*, 11.

¹⁹⁹ Muratori et al., 11.

²⁰⁰ Muratori, *Studi per Una Operante Storia Urbana Di Venezia*, 8.

²⁰¹ Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago IL: The University of Chicago Press, 1962).

reality.²⁰²

In periods when culture does not undergo radical change, people tend to reflect the culture they inherit in their work without feeling an urge to make innovation. Muratori defined this attitude as *spontaneous and normal consciousness*.²⁰³ For instance, builders build houses without thinking twice; in such a way that their own cultural area suggests at that particular moment in time. However, during a crisis, spontaneous consciousness is replaced by *critical consciousness* or *auto-consciousness*.²⁰⁴ People are forced to choose their actions, not because they have gained more maturity, but because there is no consensus on what is right and wrong. During such periods, dominant norms that guide societal actions disappear.²⁰⁵ Muratori argued that the only way to overcome crises was to study the history of the built reality in order to restore spontaneous consciousness. Unlike “normal” times when architectural culture orients architects and builders, during crises this guidance disappears. Muratori posited that it is essential for architects to design according to “a strict conceptual grid, in a continuous interchange with the direct examination of real structures”²⁰⁶ during these periods. This approach would enable them to avoid being “vague” and “adventurous.”²⁰⁷

This argument underlies his idea of the operative history (*la storia operante*) of the built environment, the concept that he borrowed from the ideas of Benedetto Croce.²⁰⁸ From the 1950s onwards, history became the cornerstone of Muratori's work. He approached it not as historiography but as a structure and process, focusing on its operative potential rather than its analytical value. As both an architect and a

²⁰² Caniggia and Maffei, *Composizione Architettonica e Tipologia Edilizia 1. Lettura Dell'Edilizia Di Base*, 15.

²⁰³ Muratori et al., *Studi per Una Operante Storia Urbana Di Roma*, 11.

²⁰⁴ Muratori et al., 11.

²⁰⁵ Caniggia and Maffei, *Composizione Architettonica e Tipologia Edilizia 1. Lettura Dell'Edilizia Di Base*, 41.

²⁰⁶ Caniggia and Maffei, 12.

²⁰⁷ Caniggia and Maffei, 12.

²⁰⁸ Castex, ‘Saverio Muratori (1910–1973): The City as the Only Model’, 26.

scholar, Muratori was more interested in “reading” history through concrete facts, such as architecture, to “write” it through “the project” than “recounting” it.²⁰⁹

According to him, the history of the built reality needed to be neither descriptive nor abstract. It should be operational and concrete, which requires: (i) a recognition of the dialectical relation between events, processes and the built reality, (ii) an awareness of the fact that the urban fabric consists of the superimposition of multiple layers, each belonging to a different period and having its own autonomy, (iii) an investigation of the permanence of the sequential layers, and (iv) an investigation of the hidden rationale behind the exceptions and variations.²¹⁰

In other words, through his operative history of the built reality, he suggested studying the urban fabric in relation to certain background processes that would create an awareness towards its complex nature. He set the goal to be uncovering the past norms of architectural culture by analyzing the built environment as a product of spontaneous consciousness, and establishing *a new normal* that can meet current needs in continuity with the past, hence re-establishing the spontaneous consciousness.

In his city monographs titled *Studi per una operante storia urbana di Venezia* (Studies for operative urban history of Venice) and *Studi per una operante storia urbana di Roma* (... of Rome), he provided his followers with two significant models on how to apply operative history to particular contexts.²¹¹

²⁰⁹ Marco Maretto, ‘The Early Contribution of Saverio Muratori: Between Modernism and Classicism’, *UrbanMorphology* 16, no. 2 (2012): 131.

²¹⁰ Attilio Petruccioli, ‘Alice’s Dilemma’, in *Typological Process and Design Theory*, ed. Attilio Petruccioli (Cambridge MA: Aga Khan Program for Islamic Architecture, 1998), 60.

²¹¹ Muratori, *Studi per Una Operante Storia Urbana Di Venezia*; Muratori et al., *Studi per Una Operante Storia Urbana Di Roma*.

3.2.2 A-posteriori type vs. a-priori type

Muratori was aware of that architecture exists in time as well as in space. He used the term *architectural organism* referring to buildings, which, according to him, meant “formal unity of co-operating, cohesive and conspiring structures, subject to transformation in space-time.”²¹² ²¹³ He argued that the urban fabric consists of those architectural organisms which emerge, transform, and disappear correlatively. He also used the term *urban organism* to emphasize both the transformational nature of the city and the dynamic correlation between architectural organisms and the city.²¹⁴

Muratori suggested the concept of building type as “a mental tool used to facilitate orientation in the intriguing stratified layers of the [urban] fabric.”²¹⁵ This conceptualization of type diverges from the conventional understanding that refers to a group of buildings with a series of common characteristics.²¹⁶ In the old architecture manuals, the buildings were grouped according to a certain function in common (i.e. schools, dwellings, hospitals, prisons etc.) and less generally they were grouped according to their structural-distributive plan (i.e. baptisteries with a central plan). Muratori argued that such classifications were a result of *a-posteriori analysis* and were inductively derived.²¹⁷ For him, type was not merely a collection of examples for taxonomy, as in the positivist sciences.²¹⁸ He emphasized the *reason* behind the common characteristics of a group of building as it was more significant to read the urban tissue for him. He saw type as “a synthesis a priori, a mental

²¹² Cataldi, ‘From Muratori to Caniggia: The Origins and Development of the Italian School of Design Typology’, 23.

²¹³ Petruccioli notes that the term “architectural organism” was quite popular before Muratori in the School of Architecture in Rome since its foundation in the 1920s by Gustavo Giovannoni.

Petruccioli, ‘Exoteric – Polytheistic – Fundamentalist Typology’, 12.

²¹⁴ Muratori, *Studi per Una Operante Storia Urbana Di Venezia*, 14.

²¹⁵ Petruccioli, ‘Exoteric – Polytheistic – Fundamentalist Typology’, 12.

²¹⁶ Caniggia and Maffei, *Composizione Architettonica e Tipologia Edilizia 1. Lettura Dell’Edilizia Di Base*, 47.

²¹⁷ Caniggia and Maffei, 47.

²¹⁸ Petruccioli, ‘Alice’s Dilemma’, 62.

construct that anticipates any event.”²¹⁹ His student Petruccioli explains a-priori character of Muratori’s type with an example:

In a traditional village the peasant and the mason and all the inhabitants have a clear idea of what a house should be like and how it should be built. The houses of a certain limited cultural area in a given time were all similar in character but different in detail, and people . . . used to make their houses without much thought.²²⁰

Muratori’s a-priori type was, then, what was common in people’s mind regarding to a certain set of buildings as a direct result of the spontaneous consciousness in a certain cultural area at a certain moment in time.²²¹ Type was not derived from analysis but was intuitively known beforehand. The French architectural historian and typomorphologist Jean Castex quotes his Swiss fellow Sylvia Malfroy’s phrase as a memorable expression of type: “You always have type with you.”²²² According to Muratori, the formal commonalities in the built environment were the reflections of the commonalities in the collective consciousness. He thought that the latter was far more significant than the former in understanding the built reality.

Undoubtedly, Muratori’s conceptualization of type was not without antecedent. Cataldi, a student of Muratori, highlights the following quote from Aristotle to establish a historical and conceptual continuity:

If we analyze the building process of a house, we see that the builder has the form of the house in mind: he knows what houses are all about. To a certain extent, houses originate from houses: from something intangible (their concept) that generates something that includes matter.²²³

²¹⁹ Petruccioli, 62.

²²⁰ Petruccioli, 62.

²²¹ Cataldi, ‘From Muratori to Caniggia: The Origins and Development of the Italian School of Design Typology’, 23.

²²² Jean Castex, ‘The City as the Only Model: A Critical Study, a Century after Muratori’s Birth’, in *Saverio Muratori Architetto, Modena 1910 - Roma 1973, a Cento Anni Dalla Nascita, Atti Del Convegno Itinerante*, ed. Giancarlo Cataldi (Florence: Aión Edizioni, 2013), 191.

²²³ Aristotle, *Metaphysics*, VII, 9, 1034a in Giancarlo Cataldi, ‘Towards a General Theory of Urban Morphology: The Type-Morphological Theory’, in *Teaching Urban Morphology*, ed. Vítor Oliveira (Cham: Springer, 2018), 67.

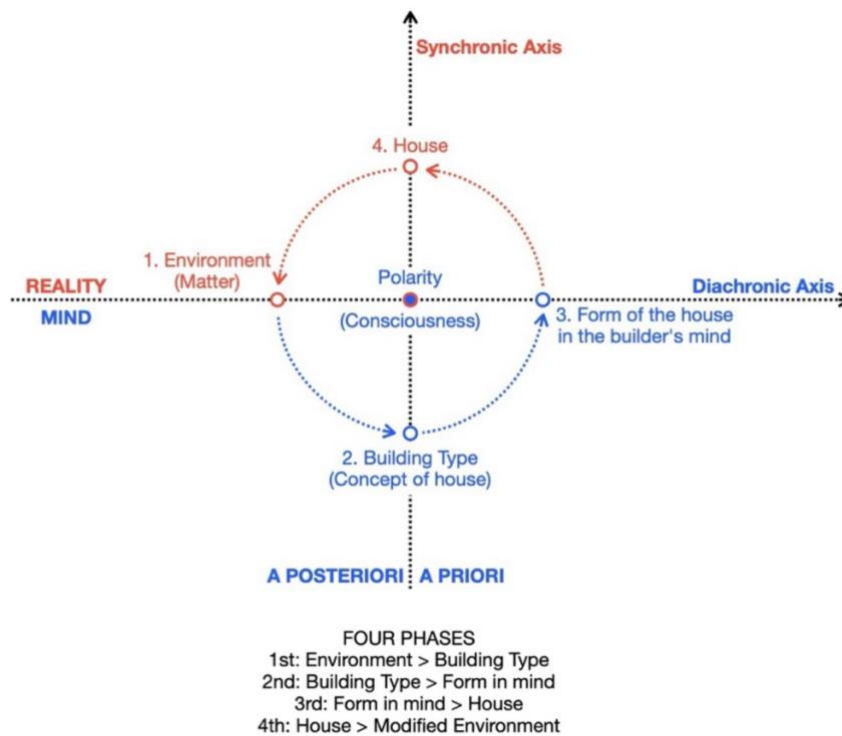


Figure 3.6 Cataldi's four phase model.

Source: Giancarlo Cataldi, "Towards a General Theory of Urban Morphology: The Type-Morphological Theory," in *Teaching Urban Morphology*, ed. Vítor Oliveira, Cham: Springer, 2018, 70. Redrawn by the author.

Drawing on Aristotle, Cataldi further elaborates and visualizes Muratori's conceptualization of type in a diagram. (Figure 3.6) The horizontal diachronic axis divides the diagram into the realms of reality and mind, while the synchronic axis separates a-posteriori (inductive, universal to particular) and a-priori (deductive, particular to universal) operations. According to Cataldi, a cyclic relationship between the built environment, the building type, the conceived building form in builder's mind, and the individual building takes place on these two axes: In the first phase of the cycle, the built environment generates the building type; in the second, the building type informs the form of the building conceived by the builder; in the

third, the building is constructed according to this form; and in the final phase, the building becomes part of the built environment, inevitably influencing its character.

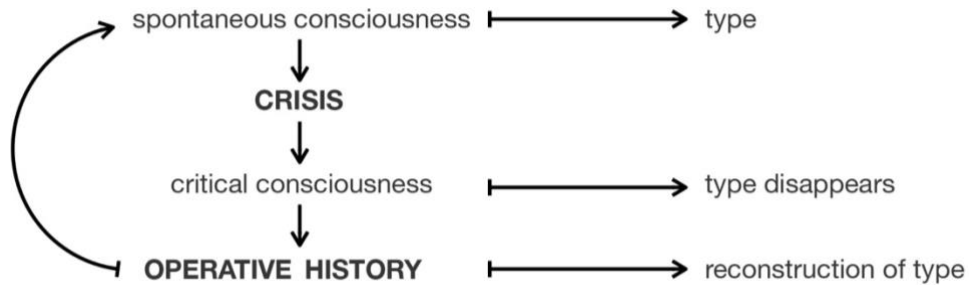


Figure 3.7 Type and its transformation during crisis.

Source: Prepared by the author.

Cataldi's diagram effectively illustrates the cyclical association of building type with a-priori and a-posteriori operations during periods of spontaneous consciousness. It is important to note that the first phase, in which the building type is generated from the built environment, is not a positivist classification process. Instead, the type emerges spontaneously as a product of the building culture in which the builder operates. In a period of crisis, commonalities in thought as a result of spontaneous consciousness become fragmented; and thus, the a-priori type vanishes. It could be reconstructed with the help of the history; yet this time it becomes a posteriori.²²⁴ (Figure 3.7)

3.2.3 Basic buildings vs. specialized buildings

When typology is considered a-posteriori analysis tool for classifying buildings based on their functions, housing emerges as just one among hundreds of *use* types. Durand's typological research treated housing like any other building type, or it found no place at all in Nikolaus Pevsner's collection of building types.²²⁵ However,

²²⁴ Petruccioli, 'Alice's Dilemma', 62.

²²⁵ Nikolaus Pevsner, *A History of Building Types* (Princeton NJ: Princeton University Press, 1979).

if the distribution of these building types in the built environment is taken into account, housing overwhelmingly dominates the others. In the urban analyses of typomorphologists, aiming to uncover the structure of the cityscape, housing inevitably occupies a central position compared to other building uses.

While typomorphologists problematized the crisis in the architectural culture of their time, they were particularly critical of the unquestioned commitment to invention and originality in architectural practice and education. They argued that even though there was a perception that the historical distinction between *architecture* and *building*—referred to as *the craft of building* and *the art of building* through Quatremère's texts in the previous chapter—had softened in their time, and that everything was considered architecture, this was not the case. According to them, this distinction persisted as Architecture with capital 'A' and architecture with lowercase 'a'.²²⁶ The former referred to special and distinctive buildings while the latter encompassed the remaining ordinary buildings that were found everywhere. They criticized architectural education for its overemphasis on the first group, with architectural history focused on exceptional buildings and architectural composition encouraged exceptional design. Typomorphologists advocated for reversing the traditional hierarchy of values associated with these terms. In their view, "built objects" were as worthy of interest, critical appraisal, and study as "architectural objects" because they constituted "the general built context," and had "a leading role in the human environment and in civil history."²²⁷ Their distinction between building and architecture also explains why they adopted the term *building* type instead of *architectural* type.

²²⁶ Caniggia and Maffei, *Composizione Architettonica e Tipologia Edilizia 1. Lettura Dell'Edilizia Di Base*, 18; Caniggia and Maffei, *Architectural Composition and Building Typology: Interpreting Basic Building*, 33.

²²⁷ Caniggia and Maffei, *Composizione Architettonica e Tipologia Edilizia 1. Lettura Dell'Edilizia Di Base*, 18; Caniggia and Maffei, *Architectural Composition and Building Typology: Interpreting Basic Building*, 33.

Caniggia argued that the contrast between the history of contemporary architecture, as it had been widely acknowledged, and “the real city” (*la città reale*), as it had been built and experienced daily, took on paradoxical dimensions, characterized by radical opposition rather than reasonable comparability.²²⁸ Thus, the typomorphologists' interest in built reality led them to focus on the ordinary buildings prevalent in the city, rather than the monumental buildings they believed were overly prioritized. According to them, these buildings, which constituted the majority of the city due to their quantitative dominance and the urban fabric that they formed, were “the depository of all human action” and contained “the highest cultural and civic meanings.”²²⁹

In their book *Composizione architettonica e tipologia edilizia: 1. Lettura dell'edilizia di base* (translated as *Architectural Composition and Building Typology: Interpreting Basic Building*), Caniggia and his student Maffei²³⁰ distinguish between ordinary and exceptional buildings of the urban fabric through the concepts of “basic building” (*edilizia di base*) and “specialized building” (*edilizia specialistica*).²³¹ This distinction constitutes the initial stage of their multi-stage typological classification. According to Caniggia and Maffei, the typological structures can be investigated according to a progressive examination range, which they termed as “level of specificity” (*livello di tipicità*).²³² The initial degree of

²²⁸ Gianfranco Caniggia, ‘Permanenze e Mutazioni Nel Tipo Edilizio e Nei Tessuti Di Roma (1880-1930)’, in *Tradizione e Innovazione Nell'Architettura Roma Capitale 1870-1930*, ed. Giuseppe Strappa (Rome: Edizioni Kappa, 1989), 13.

²²⁹ Petruccioli, ‘Alice’s Dilemma’, 59.

²³⁰ Maffei continued the book series with *Lettura dell'edilizia speciale*, co-authored with Mattia Maffei and published in 2011, and the book was translated into English as *Interpreting Specialised Buildings* in 2018: Gian Luigi Maffei and Mattia Maffei, *Lettura Dell'edilizia Speciale* (Florence: Alinea Editrice, 2011); Gian Luigi Maffei and Mattia Maffei, *Interpreting Specialised Buildings* (Milan: AltraAlinea Edizioni, 2018).

²³¹ Caniggia and Maffei, *Composizione Architettonica e Tipologia Edilizia 1. Lettura Dell'Edilizia Di Base*, 81; Caniggia and Maffei, *Architectural Composition and Building Typology: Interpreting Basic Building*, 81.

²³² Caniggia and Maffei, *Composizione Architettonica e Tipologia Edilizia 1. Lettura Dell'Edilizia Di Base*, 95; Caniggia and Maffei, *Architectural Composition and Building Typology: Interpreting Basic Building*, 95.

specificity requires a low level of detail, grouping a wide variety of buildings into a single category. As the level of specificity advances, they deepen their typological analysis and, as will be discussed in the next section, they document typological processes through evolutionary typological matrices. In the first stage of typological classification, the buildings are simply divided into two: basic buildings were characterized by their repetitive modularity within the urban fabric, while larger, more complex buildings that engage with the urban setting in a distinct manner were referred to as “specialized buildings.”²³³ While the former typically consisted of residential buildings, the latter comprised monumental buildings such as churches, palaces, and schools. In his texts, Caniggia also refers to specialized buildings as “*emergenze*.”²³⁴

It is important to note that the adjective “specialized” comes from the typomorphologists’ central claim on typological process that these buildings were derived from houses through a complex process of progressive specialization of their parts.²³⁵ Typological process assumes that all the buildings—and building types as their representatives—are in constant evolutionary transformation. Typomorphologists claim that the process of formation and transformation for each building can be traced as far back as their “base type” (*tipo base*), which, according to them, is the monocellular shelter with dimensions of approximately 5-6 meters by 5-6 meters.²³⁶ The evolution of the base type over time into basic buildings and building types is followed by the transformation of basic buildings into specialized buildings and specialized types. For typomorphologists, building types are not *different* but *differentiated*.²³⁷ Caniggia and Maffei also refer to “a type of building

²³³ Caniggia and Maffei, *Architectural Composition and Building Typology: Interpreting Basic Building*, 81.

²³⁴ Caniggia, ‘Permanenze e Mutazioni Nel Tipo Edilizio e Nei Tessuti Di Roma (1880-1930)’, 15.

²³⁵ Petruccioli, ‘Alice’s Dilemma’, 63.

²³⁶ Caniggia and Maffei, *Composizione Architettonica e Tipologia Edilizia 1. Lettura Dell’Edilizia Di Base*, 108; Caniggia and Maffei, *Architectural Composition and Building Typology: Interpreting Basic Building*, 106.

²³⁷ Caniggia, *Lettura Di Una Città: Como*, 18.

which, in order to be used as a family residence for the majority, is the type that complies, in a certain era and place, with the majority of buildings in an aggregate” as “foundation type” (*tipo di base*).²³⁸ An essential characteristic of basic buildings, determined by foundation types, was their consistently lower level of idiosyncrasy. In contrast, specialized buildings were so idiosyncratic that the architect, client, builder, or inhabitants, were often well-known.²³⁹ Caniggia and Maffei points out that the majority of building experience defining a civil area relies on foundation types rather than others. According to them, the concept of building type at a spontaneous consciousness level was shaped by the general nature of experience rather than specific instances.²⁴⁰

In a study focusing on the period between 1880 and 1930, Caniggia addresses the complementary relationship between housing and monuments in pre-industrial Rome, as well as between the actors who are shaping them. He states that “extraordinary” (*emergenze*) buildings, palaces, churches and in any case representative and exceptional buildings were designed by the traditional figure of the architect, whereas basic buildings and residential fabric were produced in a less mediated way by builders with less professional experience. “Non-architects” (*non architetti*) undertook what Caniggia called “spoken buildings” (*parlato edilizio*), that are houses built without design and the mediation of drawing, shaped by its users and their demands; architects, on the other hand, have realized their “literary works” (*opere letterarie*) by drawing on the building culture continuously developed by non-architects and, by refining its components, and created the distinctive language of exceptional buildings. According to Caniggia, it was this co-dependency that made

²³⁸ The term was translated as such by Susan Jane Fraser: Caniggia and Maffei, *Composizione Architettonica e Tipologia Edilizia 1. Lettura Dell'Edilizia Di Base*, 109; Caniggia and Maffei, *Architectural Composition and Building Typology: Interpreting Basic Building*, 107.

²³⁹ Caniggia and Maffei, *Architectural Composition and Building Typology: Interpreting Basic Building*, 105.

²⁴⁰ Caniggia and Maffei, 105.

possible the extraordinary unity between houses and monuments, between the “spoken” and the “literary” in pre-industrial Rome.²⁴¹

3.2.4 Typological process: Diachronic/diatopic and synchronic/syntopic variations

Gianfranco Caniggia was a member of the Saverio Muratori’s assistant team in the Faculty of Architecture in Rome in the early 1960s. As Muratori’s principal follower, he further developed Muratori’s ideas and introduced complementary concepts such as *typological process* and *typological variations*. Through his work, Caniggia laid the foundations for the process-typological approach, which has become one of the most renowned branches of the contemporary research in the field of urban morphology.²⁴²

According to typomorphologists, building types are cultural constructs. Like all cultural constructs, within their historicity, they are anchored in a specific moment in time and place. These constructs are inherently tied to their contexts and transform in response to temporal and spatial changes. Regarding this, Caniggia and Maffei argue:

Historicity—which is the essential condition to man's existence and every object he produces, together with every event concerning him—cannot be separated from a dual time-space relationship. A man, an object and an event exist in so far as they are fixed in time and space. History is a system of time-space individuation readable through its formation and transformation processes, produced by the distinguishing unit that arises from each

²⁴¹ Caniggia, ‘Permanenze e Mutazioni Nel Tipo Edilizio e Nei Tessuti Di Roma (1880-1930)’, 15.

²⁴² Vitor Oliveira, Paisios Skitini, and Silvia Maria Caser Spolaor, ‘Emerging Perspectives on Urban Morphology’ (Nicosia, 2020), 20–24, https://www.researchgate.net/profile/Vitor-Oliveira-15/project/Emerging-Perspectives-on-Urban-Morphology-EPUM/attachment/5fdbb7403b21a2000162b6e5/AS:96 9821265068034@1608234816856/download/EPUM_OPEN-LEARNING-RESOURCES.pdf?context=ProjectUpdatesLog.

individuation being placed in a reciprocal link that is also reciprocal opposition. Nothing exists or ever has without being fixed in space and time.²⁴³

Caniggia further elaborates on Muratori's notion of operative history by introducing the concept of typological process. The concept acknowledges the progress of building type and regards a critical understanding of the urban palimpsest as a scientific tool for addressing contextual questions.²⁴⁴ It focuses on the formal transformation of building types over both time and space. Any building can be perceived as "a historic (spatial and temporal) individuation of the typological process."²⁴⁵

Caniggia and Maffei argues that typological investigation of contemporaneous urban areas reveals *diatopic* diversification and variations in typological process.²⁴⁶ For example, the same building type varies across different cultural areas: The fourteenth-century row houses built in Florence and Rome are not identical but rather *diatopic variants* of each other. The coexistence of different building types in different cities during the same period is also a result of diatopic diversification in typological process.

In contrast, a typological investigation of a specific urban area over a period of time reveals *diachronic* diversification and variations in typological process.²⁴⁷ Building types are in a constant state of change and transformation over time adapting to the needs of the cultural area to which they belong. This change is not radical for buildings which are constructed within relatively short period after one another, and considered as *diachronic variants* of each other. However, over an extended

²⁴³ Caniggia and Maffei, *Architectural Composition and Building Typology: Interpreting Basic Building*, 56.

²⁴⁴ Petruccioli, 'Alice's Dilemma', 62.

²⁴⁵ Caniggia and Maffei, *Architectural Composition and Building Typology: Interpreting Basic Building*, 59.

²⁴⁶ Caniggia and Maffei, 76.

²⁴⁷ Caniggia and Maffei, 76.

period—referred to as “phase” (*fase*)—the building type undergoes structural changes and evolves into a new building type.²⁴⁸

Caniggia and Maffei conceptualize *synchronic variants* as “the application of the same type, the same ‘house concept’ in situations less fitting than with the type itself and, therefore, producing less efficient buildings.”²⁴⁹ For instance, the adjustment of a row house to adapt to an unusual situation in the urban layout, such as a corner lot, or to a challenging topography, results in a synchronic variant of the row house. *Syntopic variant*, on the other hand, refers to “the total amount of modifications occurred to a building type within the same cultural area at the same time according to different social and cultural needs.”²⁵⁰

According to Caniggia and Maffei, examining the typological process of producing any human object reveals—particularly in areas experiencing civil expansion where objects, specialization, and relational hierarchies proliferate, indicating “progress”—human products tend to become more complex. They argue that tracing the development of a building type makes it evident that the primary difference between earlier and later types lies in the greater complexity of the latter. By studying the typological process, Caniggia and Maffei suggest that one can trace a modern product back to its origins, moving from the contemporary manifestation, which can be readily perceived, to its less recent predecessors, thus identifying the stages that bridge the gap between the modern product and its origins.²⁵¹ It can also be concluded that by typological process, they refer not merely to tracing *a* specific building type back to its origins and its intermediate transformations, but to a historical-evolutionary interpretation of *all* building types within a given geography, based on their assumption that buildings descend from a common origin and become increasingly diversified and complex through an evolutionary process.

²⁴⁸ Caniggia and Maffei, 55.

²⁴⁹ Caniggia and Maffei, 76.

²⁵⁰ Caniggia and Maffei, 246.

²⁵¹ Caniggia and Maffei, 60.



Figure 3.8 Graphic anatomy of Venice monograph.
 Source: Drawn by the author.

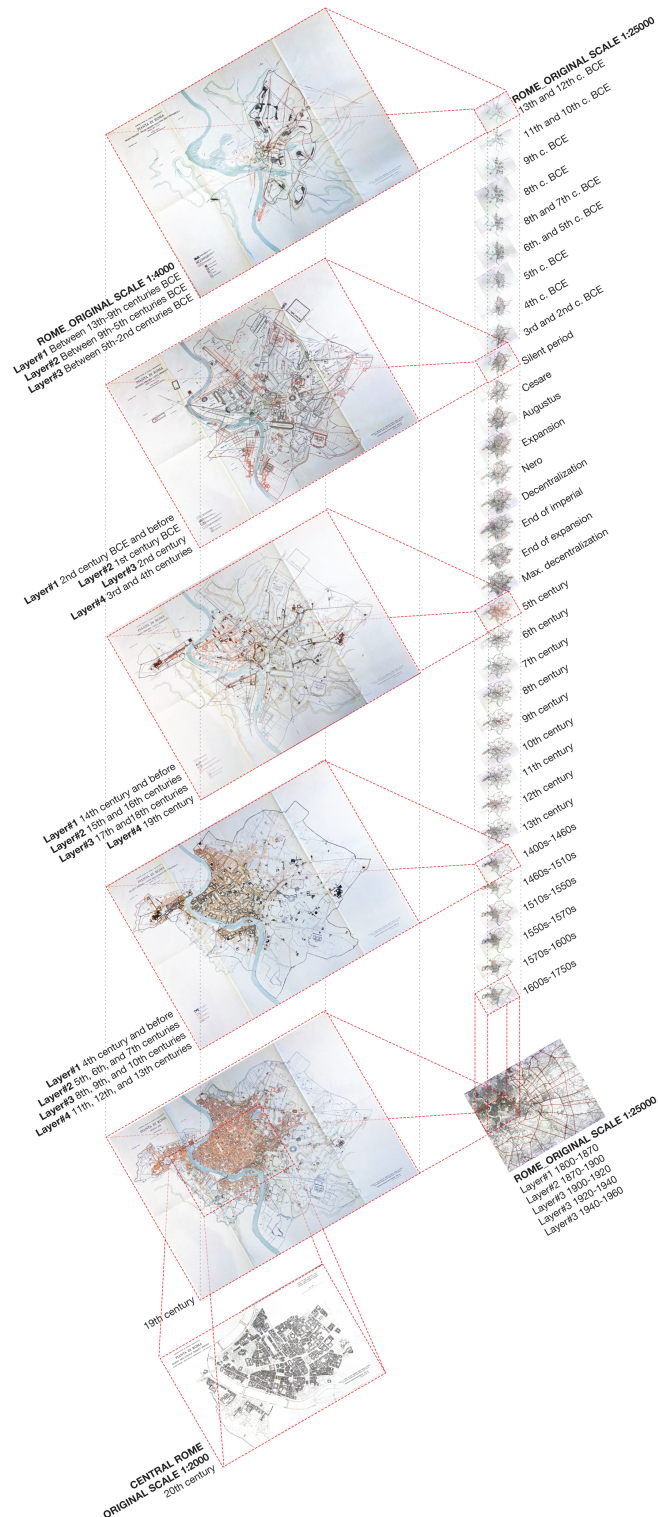


Figure 3.9 Graphic anatomy of Rome monograph.
 Source: Drawn by the author.



Figure 3.10 Graphic anatomy of Como monograph.
Source: Drawn by the author.

3.3 Neorationalism and Urban Architecture: Readings of contemporary peripheries of the historical Italian cities by Carlo Aymonino and Aldo Rossi through Padua (1960s-1980s)

We can study the city from a number of points of views, but it emerges as autonomous only when we take it as a fundamental given, as a construction and as architecture; only when we analyze urban artifacts for what they are, the final constructed result of a complex operation, taking into account all of the facts of this operation which cannot be embraced by the history of architecture, by sociology, or by other sciences. Urban space, understood in this way, can be seen in its comprehensiveness to constitute one of the principal chapters in the history of culture.²⁵²

Aldo Rossi's *L'architettura della città* and Robert Venturi and Denise Scott Brown's *Complexity and Contradiction in Architecture*, both published in 1966, were two seminal works that critique Modernism and laid the theoretical groundwork for post-modern architectural theory and criticism.²⁵³ As Atilla Yücel described, Rossi's approach contrasted with Venturi and Scott Brown's emphasis on expression and easily graspable meanings by instead exploring the relationships between historical development, urban fabric, and building types. Rossi sought to uncover the rational principles underlying forms that remain constant over time.²⁵⁴ His neorationalist perspective viewed the city as a meaningful entity, where streets, squares, buildings, and monuments are interconnected, governed by logical relationships similar to linguistic syntax.²⁵⁵

In her article "Aldo Rossi," Micha Bandini, a former assistant of Bruno Zevi, mentions that *L'architettura della città* was initially developed as teaching notes for Rossi's students at IUAV, but she does not reference Carlo Aymonino or his course

²⁵² Rossi, *The Architecture of the City*, 22.

²⁵³ Atilla Yücel, 'Kuramcı ve Sanatçı Aldo Rossi: Rasyonalizm ve Manyerizm Arasında (Theorist and Artist Aldo Rossi: Between Rationalism and Mannerism)', *Arredamento Dekorasyon* 7 (1991): 118.

²⁵⁴ Yücel, 118.

²⁵⁵ Yücel, 118.

“*Caratteri distributivi degli edifici*,” where Rossi served as his assistant.²⁵⁶ Joan Ockman, in her *Architecture Culture 1943–1968: A Documentary Anthology*, states that Rossi elaborated his ideas on building typology and urban morphology while teaching in Milan, culminating in *L’architettura della città*.²⁵⁷ The chronology of events suggests that both accounts are partially true. A review of Rossi’s writings from 1952 to 1972²⁵⁸ reveals that his exploration of building typology and urban morphology began at IUAV during his collaboration with Aymonino. Rossi joined IUAV in 1963 as Aymonino’s assistant for the “*Caratteri distributivi degli edifici*” course, contributing four chapters to two of the three course books published at the end of each academic year (1964, 1965, and 1966).²⁵⁹ These chapters, along with his 1964 research report, “*Contributo al problema dei rapporti tra tipologia edilizia e morfologia urbana*,”²⁶⁰ represent his early writings on typomorphology.

When comparing the content of the chapters written by Rossi, Aymonino, and the other course assistants (Carlo Cristofoli, Costantino Dardi, Pier Maria Gaffarini, Gianni Fabbri),²⁶¹ with the content of Rossi’s *L’architettura della città*, a significant

²⁵⁶ Micha Bandini, ‘Aldo Rossi’, *AA Files* 1 (1981): 106.

²⁵⁷ Joan Ockman, ed., *Architecture Culture 1943–1968: A Documentary Anthology* (New York NY: Rizzoli International Publications, 1993), 392.

²⁵⁸ Rossi, *Scritti Scelti Sull’architettura e La Città, 1956–1972*.

²⁵⁹ In 1964, Rossi obtained the qualification to independently teach the “*Caratteri distributivi degli edifici*” course, and from 1965 to 1970, he taught the course at the Politecnico di Milano. He changed the course name to “*Caratteri degli edifici*” arguing that the distributive characteristics of buildings could not be separated from their constructional (*costruttivi*), stylistic (*stilistici*), and historical (*storici*) characteristics. The fact that Rossi authored two chapters in *Rapporti tra la morfologia urbana e la tipologia edilizia*, published as “*Caratteri distributivi degli edifici*” course book for the 1965–1966 academic year, suggests that he was at IUAV with Aymonino during that time. However, Florencia Natalia Andreola shared archival documents in her doctoral dissertation, which show that Rossi was teaching the same course at the Politecnico di Milano that year. See: Florencia Natalia Andreola, ‘Architettura Insegnata: Aldo Rossi, Giorgio Grassi e l’insegnamento Della Progettazione Architettónica (1946–1979)’ (PhD dissertation, Bologna, Università di Bologna, 2015), 181–184.

²⁶⁰ Aldo Rossi, ‘Contributo al Problema Dei Rapporti Tra Tipologia Edilizia e Morfologia Urbana’, in *Scritti Scelti Sull’architettura e La Città, 1956–1972*, ed. Rosalo Bonicalzi (Milan: Clup, 1975), 253–60.

²⁶¹ Umberto Perini was also an assistant for the course, but he did not contribute a chapter to the course books.

overlap can be observed as noted by many scholars.²⁶² These three course books were later republished as a city monograph titled “*La città di Padova: Saggio di analisi urbana*” which incorporated additional course material.²⁶³ Aymonino indicated that the research method of Padua monograph largely aligned with the method outlined in *L’architettura della città*.²⁶⁴ A comparative reading of these sources is crucial for understanding both Rossi's and Aymonino's perspectives on building typology and urban morphology.

Given that it served as a source for both the Padua monograph and Rossi's *L’architettura della città*, it is important to examine the content of the “*Caratteri distributivi degli edifici*” course as restructured by Aymonino. In his introduction to the first course book, he stated that the course originally played both an informative and normative role in the past. However, he argued that, with the growing availability of architectural information through journals, essays, specialized publications, and conferences, it was no longer appropriate to view the course as simply updating architectural rules or models.²⁶⁵ Instead, it should be seen as offering specific contributions or integrating with other disciplines to provide information on the formation processes of architectural organisms in the early years and a critical assessment of compositional experience in architecture in the later years.²⁶⁶

²⁶² Pier Vittorio Aureli, *The Project of Autonomy: Politics and Architecture within and against Capitalism* (New York NY: Princeton Architectural Press, 2008), 98–99; Florencia Natalia Andreola, ‘Architettura Insegnata: Aldo Rossi, Giorgio Grassi e l’insegnamento Della Progettazione Architettónica (1946-1979)’ (PhD dissertation, Bologna, Università di Bologna, 2015), 178, <http://amsdottorato.unibo.it/7465/>; Esin Kömez Dağlıoğlu, ‘Reclaiming Context: Architectural Theory, Pedagogy and Practice since 1950’ (PhD dissertation, Delft, TU Delft, 2017), 84; Kenta Matsui, ‘Monument in Revolution: 1968, Tendenza and Education in Aldo Rossi’, *Histories of Postwar Architecture* 1, no. 2 (2018): 8, <https://doi.org/10.6092/issn.2611-0075/7753>.

²⁶³ Aymonino et al., *La Città Di Padova: Saggio Di Analisi Urbana*, 3.

²⁶⁴ Aymonino et al., 21.

²⁶⁵ Carlo Aymonino, ‘I Caratteri Distributivi Degli Edifici: Possibilità Di Modificare Alcuni Concetti Tradizionali e Programma Del Corso’, in *Aspetti e Problemi Della Tipologia Edilizia: Documenti Del Corso Di Caratteri Distributivi Degli Edifici. Anno Accademico 1963-64*, by Carlo Aymonino et al. (Venezia: Editrice Cluva, 1964), 4.

²⁶⁶ Aymonino, 4.

According to him, the course should revise its cognitive-operative tools—such as norms, regulations, typologies, standards, and functional classifications—since they had been challenged by the expansion of planning and the evolution of modern architectural history, presenting architects with new and different dimensions for intervention and invention.²⁶⁷ He argues that the research conducted as part of the course should aim to provide a set of material data and some hypothesis testing for an investigation of the origin and subsequent developments of the *speculative city* as a site for urban development based on land ownership. For Aymonino, it was necessary to shift the focus of course from individual buildings to the organizational-distributive problems they imply, such as their complementary or integrative relationships, the reasons for their birth and formation, their transformation within the same social and economic system, the laws that determined their validity and prefigured their quantity.²⁶⁸

Within this overall framework, Aymonino proposed six research tracks: (i) analysis of typology theories and building types through a historical overview; (ii) analysis of the relationship between building regulations and architecture; (iii) analysis of the structure of the contemporary city through an investigation of the evolution and deformation of urban architecture (birth of suburbs, transformation of historic centers, new service infrastructures); (iv) analysis of the relationships between different services (business districts, administrative centers, transportation infrastructure, community centers, social housing etc.); (v) analysis of the possibilities of rationalization and quantification of building construction (standardization, prefabrication, technological standards etc.) through an investigation of possible fields for an optimization of quantity and quality;²⁶⁹ and

²⁶⁷ Aymonino, 4.

²⁶⁸ Aymonino, 4.

²⁶⁹ This is not the only point of intersection between the systems approach, flexible housing design, and the field of typomorphology. The following chapter examines Anne Vernez Moudon's background in this area, particularly in connection with how she developed her own typomorphological method.

(vi) analysis of the relationships between utopias and their realizations through a historical-critical overview and identification of the possibilities for new utopias.²⁷⁰

These six research tracks were investigated by students in six different sections, each under the guidance of a different tutor, with Rossi leading the second and Aymonino the third.²⁷¹ Specific research topics were defined under each research track, which were listed in the last chapter of the first course book along with their research team and content.²⁷² In the 1963-1964 academic year, approximately ninety students enrolled in the course conducted their research over two semesters, either individually or in groups of 2-10, depending on the scope of the topic they were investigating.²⁷³ Students were expected to present their research outputs with the necessary references and graphic materials at the final seminar held at the end of the second semester. Aymonino claimed that, with the renewed framework of the course, he developed a pedagogical methodology that revealed the necessary transitions between hypotheses, factual data, and possible syntheses for urban studies.²⁷⁴

This section of the thesis aims to summarize Aymonino and Rossi's approach to typomorphology in four subsections. The first subsection examines how they established the relationship between building typology and urban morphology, while the second subsection explores their interpretation of the relationship between urban analysis and architectural design, distinct from that of Muratori and Caniggia. The third subsection analyzes Rossi's distinction between typological indifference and distributive indifference, and the final subsection discusses the difference between building type.

²⁷⁰ Aymonino, 'I Caratteri Distributivi Degli Edifici: Possibilita' Di Modificare Alcuni Concetti Tradizionali e Programma Del Corso', 4-5.

²⁷¹ 'Indice Ragionato Delle Ricerche Effettuate Dagli Studenti', in *Aspetti e Problemi Della Tipologia Edilizia: Documenti Del Corso Di Caratteri Distributivi Degli Edifici. Anno Accademico 1963-64*, by Carlo Aymonino et al. (Venezia: Editrice Cluva, 1964), 118-24.

²⁷² 'Indice Ragionato Delle Ricerche Effettuate Dagli Studenti'.

²⁷³ 'Indice Ragionato Delle Ricerche Effettuate Dagli Studenti'.

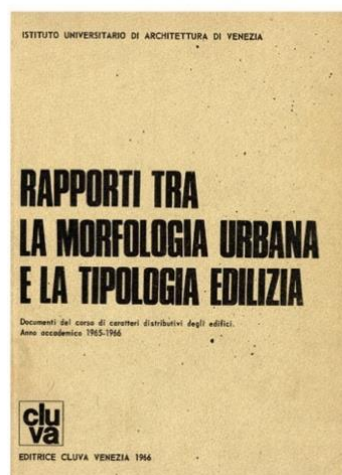
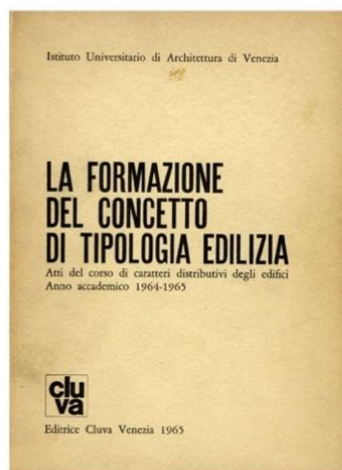
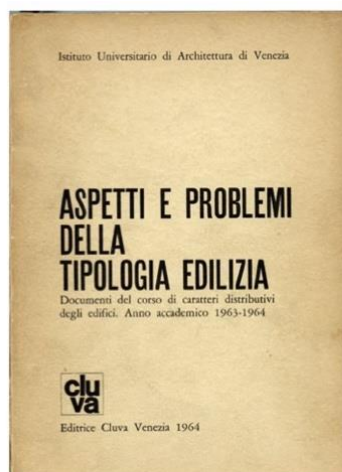
²⁷⁴ Aymonino, 'I Caratteri Distributivi Degli Edifici: Possibilita' Di Modificare Alcuni Concetti Tradizionali e Programma Del Corso', 5.

3.3.1 The relationship between urban morphology and building typology

The term *urban morphology* was never a keyword in the writings of Muratori and Caniggia, as they used it only sparingly.²⁷⁵ This was not because their research lacked attention to urban form or scale but because they preferred to refer to it differently. They considered (i) buildings as individuations of building types, (ii) aggregates as individuations of typical tissues, (iii) urban organism as individuation of typical connections between aggregates, and (iv) territorial organism as individuation of typical connections between routes, settlements, productive and urban organisms, the multiscalar study of which was called “historic-typological interpretation of the environment” instead of typomorphology or urban morphology by Caniggia and Maffei.

Through the works of Aymonino and Rossi, the term *urban morphology* became an integral part of typomorphology, unlike building typology, which had been used from the very beginning. The three books published as outputs of Aymonino’s “*Caratteri distributivi degli edifici*” course at IUAV, titled *Aspetti e problemi della tipologia edilizia* (Aspects and problems of the building typology), *La formazione del concetto di tipologia edilizia* (The formation of the concept of building typology), and *Rapporti tra la morfologia urbana e la tipologia edilizia* (Relations between urban morphology and building typology), provide significant insights into how the concept had evolved into a more central position in their theoretical frameworks over time. (Figure 3.11)

²⁷⁵ It should be noted that this does not imply that they focus more on architectural scale than on urban scale. They constructed the multiscalarity of their work through what Caniggia and Maffei defined as scalar components: elements, structures, systems, and organisms. They proposed a nesting relationship in the built environment where elements form structures, structures form systems, and, finally, systems form organism. When the research object is selected as the city, elements correspond to buildings, structures correspond to tissues, systems correspond to districts, and organisms correspond to the whole city. See: Caniggia and Maffei, *Architectural Composition and Building Typology: Interpreting Basic Building*, 73-74.



Aspects and problems of the building typology

Documents of the course of distributive characteristics of buildings
Academic year 1963-1964

Carlo Aymonino	
The distributive characteristics of buildings:	
Possibility to modify some traditional concepts and course program.....	1
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Architectural process and typological moment	7
Aldo Rossi	
Considerations on urban morphology and building typology	15
Carlo Aymonino	
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Carlo Cristofoli	
Relationships between building-urban planning regulations and architecture	47
Pier Maria Gaffarini	
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The formation of the concept of building typology

Introduction to the course of distributive characteristics of buildings
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Relations between urban morphology and building typology

Documents of the course of distributive characteristics of buildings
Academic year 1965-1966

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Figure 3.11 Tracing the concepts of “building typology” and “urban morphology” in the three books of the course “*Caratteri distributivi degli edifici*” given by Aymonino and his assistants in the years between 1964 and 1966.

Source: Prepared and translated by the author.

The term *typomorphology*, coined from the combination of *building typology* and *urban morphology*, would take some time to be fully adopted by the research field. While it was rarely mentioned in the works of the Italian school,²⁷⁶ its use as a comprehensive reference to the entirety of the field emerged through the contributions of the French school which will be discussed in the next chapter. The term first appeared in 1977 in Ahmet Gülgönen and François Laisney's research report titled "*Morphologie urbaine et typologie architecturale*" (Urban Morphology and Architectural Typology) as "*la crise typo-morphologique*" (the typomorphological crisis).²⁷⁷ Later, in 1982, Philippe Panerai and Jean Castex employed the term to describe the field as a whole in their article "*Prospettive della tipomorfologia / Prospects of Typomorphology*" published in the bilingual architectural magazine *Lotus International*.²⁷⁸ From the mid-1980s onwards the term was adopted by many scholars, including Rossi and Aymonino.²⁷⁹

In his chapter "*Considerazioni sulla morfologia urbana e la tipologia edilizia*" (Considerations on urban morphology and building typology) in *Aspetti e problemi della tipologia edilizia*, Aldo Rossi defined urban morphology as the study of the urban forms and building typology as the study of building types.²⁸⁰ He stated that both disciplines, as he called them, studied two different orders of similar phenomena, although he emphasized building typology by noting that the building types were the ones that physically constituted the city.²⁸¹ He asserted that through

²⁷⁶ Manlio Brusatin, 'Costruzione Della Campagna e Dell'architettura Del Paesaggio', in *La Città Di Padova: Saggio Di Analisi Urbana*, ed. Carlo Aymonino (Rome: Officina Edizioni, 1970), 284.

²⁷⁷ Ahmet Gülgönen et al., 'Morphologie Urbaine et Typologie Architecturale', Research Report (Paris: Institut d'études et de recherches architecturales et urbaines (IERAU); Ecole Nationale Supérieure d'Architecture de Paris-Belleville; Comité de la recherche et du développement en architecture (CORDA), 1977), 23–24, <https://hal.science/hal-03087651>.

²⁷⁸ Jean Castex and Philippe Panerai, 'Prospettive Della Tipomorfologia / Prospects for Typomorphology', *Lotus International* 36 (1982): 94–99.

²⁷⁹ Oswald Mathias Ungers et al., 'Dieci Opinioni Sul Tipo / Ten Opinions on Type', *Casabella* 509–510 (1985): 92–112.

²⁸⁰ Aldo Rossi, 'Considerazioni Sulla Morfologia Urbana e La Tipologia Edilizia', in *Aspetti e Problemi Della Tipologia Edilizia: Documenti Del Corso Di Caratteri Distributivi Degli Edifici. Anno Accademico 1963-64*, by Carlo Aymonino et al. (Venezia: Editrice Cluva, 1964), 16.

²⁸¹ Rossi, 16.

the study of urban forms one could get closer to understanding the structure of the city.²⁸² To him, the notion of the urban landscape (*paysage urbain*), introduced by the French geographer Georges Chabot, was one of the primary objects of study in urban morphology.²⁸³

Aymonino stated that their analysis of building types and certain phases of the urban form of Padua revealed a *dialectical*, rather than causal, relationship between building typology and urban morphology.²⁸⁴ He argued that this finding supported their thesis that *the existence of the city as a unified whole* was based on this relationship, understood as a *permanent variable* rather than a *constant*. He underscored that this relationship was the dominant and significant characteristic of the urban phenomenon in its physical totality. The relationship, according to Aymonino, could only be observed when the physical aspects of the city became more complex than just simple dwellings or shelters. While these early dwellings could be categorized typologically, they offered no morphological insights beyond the basic forms of various shelters, such as caves or huts.²⁸⁵

Rossi distinguished two main approaches to studying cities: one focused on analyzing functional systems (economic, political, and social) as generators of urban space, while the other viewed the city as a spatial structure, emphasizing spatial relationships.²⁸⁶ He pointed out that the first approach had a vast and fundamental literature, including the works of important figures such as Max Weber, Carlo Cattaneo, and Friedrich Engels. According to him, these works illuminated urban reality from an economic or political perspective. On the other hand, the second approach lacked such a solid foundation, one that could potentially be established through the integration of building typology and urban morphology.²⁸⁷ He

²⁸² Rossi, 16.

²⁸³ Rossi, 16.

²⁸⁴ Aymonino et al., *La Città Di Padova: Saggio Di Analisi Urbana*, 23.

²⁸⁵ Aymonino et al., 23.

²⁸⁶ Rossi, 'Considerazioni Sulla Morfologia Urbana e La Tipologia Edilizia', 17.

²⁸⁷ Rossi, 17.

emphasized that urban morphology was not just about describing urban form, but rather, this description served as the method for understanding broader urban phenomena.²⁸⁸

While Caniggia and Maffei focused on four different scales, namely scale of building, aggregate, city, and territory,²⁸⁹ Rossi emphasized three different scales, corresponding to the first three scales of Caniggia and Maffei, in the multiscale analysis of the built environment: (i) the scale of the street, (ii) the scale of the neighborhood (*quartiere*) as a set of urban blocks with common characteristics, and (iii) the scale of the entire city as a set of neighborhoods.²⁹⁰

The first scale was primarily concerned with buildings in general and housing in particular.²⁹¹ Rossi, like Muratori and Caniggia, paid special attention to housing among building uses. While he used the term “*immobili d'abitazione*” (residential property) to refer to residential buildings,²⁹² he grouped remaining buildings under broader terms “*immobili specializzati*” (specialized property) and “*immobili misti*” (mixed property).²⁹³ The nomenclature “*immobili specializzati*” recalls Caniggia and Maffei's use of “specialized buildings,” discussed in detail in the previous section of the thesis.

Rossi classified residential buildings based on planimetric considerations, identifying four types: (i) block houses surrounded by open space, (ii) block houses aligned in a continuous row along the street, (iii) deep block houses that nearly fully occupy its lot, and (iv) courtyard houses. According to him, this classification,

²⁸⁸ Rossi, 17.

²⁸⁹ Caniggia and Maffei, *Composizione Architettonica e Tipologia Edilizia I. Lettura Dell'Edilizia Di Base*, 37.

²⁹⁰ Rossi, ‘Considerazioni Sulla Morfologia Urbana e La Tipologia Edilizia’, 17.

²⁹¹ Rossi, 17–18.

²⁹² Rossi defined “*immobile*” as a cadastral parcel where the primary occupation of the land consists of built surfaces. See: Aldo Rossi, ‘Considerazioni sulla morfologia urbana e la tipologia edilizia’, in *Aspetti e problemi della tipologia edilizia: Documenti del corso di caratteri distributivi degli edifici. Anno accademico 1963-64*, by Carlo Aymonino et al. (Venezia: Editrice Cluva, 1964), 17-8.

²⁹³ Rossi, ‘Considerazioni Sulla Morfologia Urbana e La Tipologia Edilizia’, 18.

descriptive in nature, was a geometric or topographic analysis, which can be expanded by gathering additional data related to technical details, stylistic elements, and the relationship between built and green areas. Rossi further categorizes the issues arising from this data into three main groups: (i) rational data, (ii) the influence of land ownership structure and economic factors, and (iii) historical and social influences.²⁹⁴

He referred to *rational data* as the technical factors related to architecture, urban planning, and related fields. Some of these factors were purely technical in nature. These technical data were not absolute principles and depended on the historical and cultural context of a particular time.²⁹⁵ Additionally, all aspects related to building regulations were linked to these rational data. According to him, understanding such data shed light on the form and type of housing in a particular period, and consequently, the urban landscape of that era.²⁹⁶

Rossi also emphasized the importance of understanding *land ownership structures and economic factors*, which were closely tied to historical and social influences. He explained that the shape and evolution of urban lots reflect the history of urban property and class struggles, as highlighted by social geographer Jean Tricart. Rossi noted that shifts in land structures, visible in cadastral maps, signaled the rise of the bourgeoisie and the concentration of capital. He proposed a parallel classification of housing that corresponds to the four formal types he outlined—extra-capitalist, capitalist, para-capitalist, and socialist—each representing distinct economic and social dynamics.²⁹⁷ His interest in land ownership structures can be contextualized

²⁹⁴ Rossi, 18.

²⁹⁵ Rossi, 18.

²⁹⁶ Rossi, 19.

²⁹⁷ Rossi, 20.

in his and Aymonino's endeavor to understand and theorize the speculative city in which, they argued, the urban development was based on land ownership.²⁹⁸

Rossi also highlighted the importance of considering *historical and social factors* when analyzing cities, highlighting that history produces key elements in urban development, which can either constrain or promote progress. He discussed how the concept of permanence, seen in the continuity of buildings and urban layouts, plays a crucial role in understanding both ancient and modern cities. He argued that urban morphology studies must be grounded in concrete examples, using cities like Vienna and London to demonstrate how specific historical and socio-economic conditions shaped their urban forms. In Vienna, historical factors like the *Hofquartierspflicht* law reshaped the city's residential structures, while in London, the development of specialized residential zones and narrow, vertically organized homes reflected unique urban conditions. Rossi stressed that understanding urban housing types requires studying the city's form and its broader context, not just relying on art history or purely stylistic analyses.²⁹⁹

According to Rossi, after housing and the street, the next study area suitable for empirical research was the *neighborhood*. For him, the neighborhood represented a tangible and observable reality, shaped by the division or segregation of urban classes, rooted in a concrete way of urban life, and often reinforced by tradition or historical permanence.³⁰⁰ Rossi suggested to use functional, morphological, and social structure criteria in studying the neighborhood. It was understood as a morphological and structural unit, characterized by a specific urban landscape, social content, and function. Any change in one of these elements was enough to alter the boundaries of the neighborhood. Within the neighborhood, due to spatial factors, the building typology was similar or homogeneous and tended to become increasingly

²⁹⁸ Aymonino, 'I Caratteri Distributivi Degli Edifici: Possibilita' Di Modificare Alcuni Concetti Tradizionali e Programma Del Corso', 4.

²⁹⁹ Rossi, 'Considerazioni Sulla Morfologia Urbana e La Tipologia Edilizia', 21–23.

³⁰⁰ Rossi, 23–24.

so. Processes of transformation and homogenization dominated individual buildings, making it possible to predict a certain building typology in a given area.³⁰¹

Regarding the urban scale, Rossi argued that cities often underwent sudden, sometimes drastic changes, as properties and the wider areas surrounding them were transformed, leading to urban transformation. He questioned what drove this urban transformation and how it could be explained by studying the urban landscape. Through a morphological analysis, he argued that this force was primarily economic. In capitalist cities, speculation was one key explanation for this economic force, often rendering other factors ineffective or irrelevant. He also stated that fully understanding the relationship between urban morphology and building typology, and grasping each aspect independently, required greater knowledge of these economic factors. Speculation, according to Rossi, had become an essential part of the mechanism driving city growth. It represented the economic reality that historically shaped cities during the capitalist-bourgeois era.³⁰²

3.3.2 Urban analysis and architectural design: Convention vs. invention

The two camps of Italian school of typomorphology had radically different views on to what extent urban analysis should inform and determine architectural design. Muratori and Caniggia asserted that architectural design was a direct outcome of urban analysis, while Aymonino and Rossi argued that architectural design could either follow or diverge from urban analysis.³⁰³ The titles of the city monographs they published reflect this fundamental contrast between them: while Muratori used the term *operative history* in his Venice and Rome monographs, Aymonino's Padua monograph bears a rather modest subtitle *an essay in urban analysis*.

³⁰¹ Rossi, 25.

³⁰² Rossi, 27.

³⁰³ Vernez Moudon, 'Getting to Know the Built Landscape: Typomorphology', 294–95.

Caniggia left the Faculty of Architecture in Rome in 1968, where he had served as Muratori's assistant for his much-criticized architectural composition course. Afterward, he taught the same course, first at *Istituto Universitario Statale di Architettura* (IUSA) in Reggio Calabria and then at the Faculty of Architecture in Genoa. In 1973, he joined the Faculty of Architecture in Florence, where he continued teaching architectural composition following Muratori's approach for ten more years.³⁰⁴ Later in 1979 and 1984, together with Maffei, he compiled the course notes into two books: *Composizione architettonica e tipologia edilizia I: Lettura dell'edilizia di base* and *Composizione architettonica e tipologia edilizia II: Il progetto nell'edilizia di base*.³⁰⁵ Given that the course was an architectural design course, these books serve as significant references for understanding the perspective of the Italian typomorphology school's first camp on the relationship between urban analysis and architectural design.³⁰⁶ In a section of the first book outlining the course structure, Caniggia and Maffei clearly articulate the theoretical link they establish between urban analysis and architectural design.³⁰⁷

Caniggia and Maffei viewed the architect not as an inventive individual creator, but rather as a *technician* of the built environment, serving the collective needs of society.³⁰⁸ They argued that this perspective stemmed from the *crisis* in contemporary architecture of their time, marked by a gradual decline in *spontaneous consciousness*—the inherited, culturally shared behaviors that people follow without conscious reflection. In its place, *critical consciousness* arose, where individuals had

³⁰⁴ Menghini and Palmieri, *Saverio Muratori: Didattica Della Composizione Architettonica Nella Facoltà Di Architettura Di Roma 1954 - 1973*, 422.

³⁰⁵ Caniggia and Maffei, *Composizione Architettonica e Tipologia Edilizia 1. Lettura Dell'Edilizia Di Base*; Caniggia and Maffei, *Composizione Architettonica e Tipologia Edilizia 2. Il Progetto Nell'Edilizia Di Base*.

³⁰⁶ It is noteworthy that while the first book, which centers on urban analysis, has been translated into English, the second book, which emphasizes architectural design, remains untranslated.

³⁰⁷ Gianfranco Caniggia and Gian Luigi Maffei, 'Esempio Di Programma Didattico', in *Composizione Architettonica e Tipologia Edilizia 1. Lettura Dell'Edilizia Di Base* (Venezia: Marsilio Editori, 1979), 29–38.

³⁰⁸ Caniggia and Maffei, 32.

to make deliberate, often fragmented, choices due to their inability to recognize faded collective behaviors.³⁰⁹ They claimed that this shift in consciousness began with the ruling class and gradually spread to broader cultural levels. Caniggia and Maffei claimed that it is essential to apply critical awareness, focusing on reviving the underlying collective behaviors found especially in ordinary cultural products, while striving to minimize the inefficiencies caused by the individualizing tendencies that often accompany critical decisions.³¹⁰

According to Caniggia and Maffei, the individualization of architectural interventions, with each architect making choices from a vast repertoire, led not to genuine experimentation but to an affirmation of personal style and rejection of collective norms.³¹¹ They believed that the solution to this crisis lay in applying critical consciousness to understand the spontaneous “structuring of the environment” (*strutturazione dell'ambiente*), which they saw as an organic process driven by collective forces over time and space. This spontaneous structuring created a process of “spontaneous planning” (*pianificazione spontanea*) that optimized individual contributions within a larger environmental framework, rather than being the sum of isolated interventions.³¹²

Their analysis of the built environment extended across multiple scales, from individual buildings to entire cities and territories. They argued that an architect's understanding of a building is incomplete unless it is contextualized within the broader urban and territorial structures. This required architects to develop the skills to comprehend and intervene at every scale while understanding how each scale influenced and was influenced by others.³¹³

³⁰⁹ Caniggia and Maffei, 30.

³¹⁰ Caniggia and Maffei, 30.

³¹¹ Caniggia and Maffei, 30.

³¹² Caniggia and Maffei, 30.

³¹³ Caniggia and Maffei, 30–31.

Caniggia and Maffei considered the methodological framework that they established—although it was yet to be elaborated—as “specific science of the environment” (*scienza specifica dell’ambiente*).³¹⁴ This science, they contended, aligned with the principles of scientific research of their time: verifiability in reality, applicability to reality, the ability to self-correct and self-refute within its postulates, and specificity in its field of application.³¹⁵ Parallel to Rossi, they criticized architects for borrowing tools from other disciplines such as psychology, sociology, and economics in a rather superficial way, which can be contextualized in debates of architectural autonomy in Italy.³¹⁶ According to them, this created a disconnect between the research and the final product, as the outcome could not be directly derived from these investigations which resulted in that architects kept relying on individual invention. Caniggia and Maffei argued that this occurs because architects overlooked the possibility of a specific science of building and the environment, where *research* and *experimentation*, *analysis* and *design* are unified within a single activity.³¹⁷

Caniggia and Maffei structured the architectural composition course in two parts: the first focused on urban analysis, and the second on architectural design. Given their view that operational applicability is one of the key attributes of scientific rigor, they saw the second part of the course as the platform for testing the scientific validity of their research. To emphasize the distinction from what they called “design of invention” (*la progettazione di invenzione*), they favored the term “*riprogettazione*” (redesign) over “*progettazione*” (design).³¹⁸

In the 1985 issue of *Casabella* themed “*I terreni della tipologia / The Grounds of Typology*,” both Carlo Aymonino and Aldo Rossi argued against a direct,

³¹⁴ Caniggia and Maffei, 31.

³¹⁵ Caniggia and Maffei, 31.

³¹⁶ Aureli, *The Project of Autonomy: Politics and Architecture within and against Capitalism*, 13–14.

³¹⁷ Caniggia and Maffei, ‘Esempio Di Programma Didattico’, 31.

³¹⁸ Caniggia and Maffei, 36.

mechanical relationship between urban analysis and architectural design.³¹⁹ Aymonino critiqued the widespread use of typological analyses as mere support for design interventions in many Italian architecture schools, though he acknowledged that these methods have contributed to a greater focus on the built urban environment and the necessary relationship between new interventions and existing urban reality, which he considered a hallmark of contemporary Italian architecture of his time.³²⁰

He stressed the importance of extending the scope of classification beyond historic city centers—where it had been rigorously applied—to the contemporary urban expansion areas. He argues that this shift in domain would have allowed the discovery of not only the principles of urban growth but also “the modes of new urban representation.”³²¹ He argued that in these areas, the relationship between building type and urban form was reversed compared to that in the historic city. In his view, while in the medieval city compact building types could only exist within the urban form, in the contemporary city, building types neither drew from nor contributed to the urban form, instead creating their own isolated enclaves.³²² According to Aymonino, in the contemporary context where the relationship between building type and urban form had weakened, viewing architectural design as a direct result of urban analysis was to evade questioning the standards and regulations that persisted as “a minimum collective guarantee.”³²³

In a parallel line, Aldo Rossi suggested that considering typomorphological studies as the main path to architecture might have restricted the freedom of a young architect's education. He pointed out that many great architects had come from diverse backgrounds, including engineering and humanities. For Rossi, success in architecture often depended more on luck than on following a specific educational

³¹⁹ Ungers et al., ‘Dieci Opinioni Sul Tipo / Ten Opinions on Type’.

³²⁰ Ungers et al., 96.

³²¹ Ungers et al., 96.

³²² Aymonino et al., *La Città Di Padova: Saggio Di Analisi Urbana*, 29–34.

³²³ Ungers et al., ‘Dieci Opinioni Sul Tipo / Ten Opinions on Type’, 96.

path. He believed that education should support this journey without imposing limitations or creating new myths, as functionalism once did, and as typomorphological analysis might also do.³²⁴

3.3.3 Typological indifference vs. distributive indifference

In his 1970 article published in *Lotus* magazine under the theme “*L'architettura nella formazione della città moderna / Architecture in the Making of the Modern City*,” Rossi introduced two new terms to typology theory: *typological indifference* and *distributive indifference*.³²⁵

His article, titled “*Due progetti di abitazione*,” focused on two housing designs representing what he identified as the two fundamental types in urban residential typology: in-line house (*casa in linea*) and courtyard house (*casa a corte*).³²⁶ The first project was his well-known housing design in collaboration with Aymonino, located in Milan's Gallarate district, while the second was an unbuilt proposal for a housing competition in Monza, designed in partnership with Giorgio Grassi.

According to Rossi, these two designs were based on, in his words, two different schemes of idea and reference.³²⁷ (Figure 3.12) In the first scheme, a series of similar, equivalent spaces were organized along a linear circulation, while in the second scheme, they are arranged around a courtyard. It is possible to relate these schemes (i) to the concept of *parti* from the École des Beaux-Arts tradition, meaning a simplified diagram of spatial organization from which an architectural project will be developed,³²⁸ (ii) to Argan's concept of the *interior structure* of a form, which

³²⁴ Ungers et al., 100.

³²⁵ Aldo Rossi, ‘Due Progetti Di Abitazione’, *Lotus* 7 (1970): 62–85.

³²⁶ Rossi, 62.

³²⁷ Rossi, 62.

³²⁸ Xing Ruan, ‘What Can Be Taught in Architectural Design? — Parti, Poché, and Felt Qualities’, *Frontiers of Architecture and Civil Engineering in China* 4, no. 4 (2010): 451–52, <https://doi.org/10.1007/s11709-010-0098-y>.

embodies the potential for limitless formal variations and additional structural adaptation,³²⁹ and (ii) to Lee's notion of *deep structure*, defined as “an irreducible structure that holds the potential to organize.”³³⁰

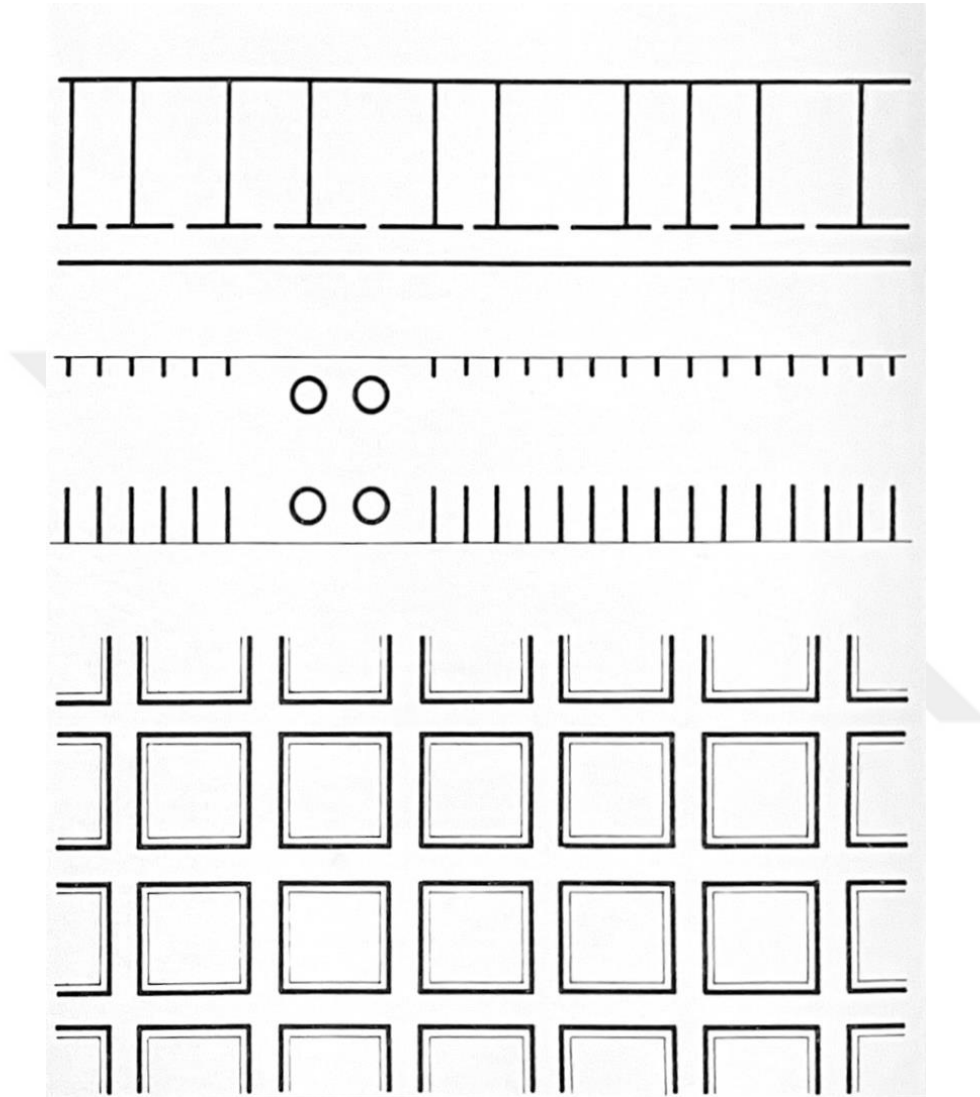


Figure 3.12 Aldo Rossi's typological schemes for typical and ground floor plans of Gallarate Housing in Milan (top); typical floor plan of San Rocco Housing in Monza (bottom).

Source: Aldo Rossi, 'Due progetti di abitazione,' *Lotus* 7 (1970): 67.

³²⁹ Argan, 'On the Typology of Architecture', 565.

³³⁰ Lee, 'The Fourth Typology: Dominant Type and The Idea of the City', 4.

In these two projects, Rossi referenced two building types from the historic Italian city. He argued that adopting these typological forms meant acknowledging the primacy of typology in housing. He considered this recognition as the initial step toward design, a proposal for a structured design system. For him, the organizational value of typology—and thus its precedence in architecture—was a compositional matter that fundamentally involved choice and direction.³³¹

In in-line type, the gallery functioned as a long external corridor, providing access to interior rooms, and when incorporated in the courtyard type, it would wrap around the courtyard. Rossi emphasized that this design feature reflected what he termed “distributive indifference” (*l'indifferenza distributiva*) —the capacity for internal spaces to be configured in various ways without rigid adherence to a single prescribed layout.³³² This flexibility was meant to accommodate changes in use and lifestyle, reflecting a freedom in architectural layout that did not rely on stringent spatial distinctions. For Rossi, distributive indifference was central to architectural adaptability and resilience, supporting a form that allowed for multiple configurations while maintaining a cohesive formal integrity.³³³

Importantly, Rossi contrasted this distributive indifference with “typological indifference” (*l'indifferenza tipologica*) which he saw as fundamentally different and frequently misunderstood. Typological indifference, he argued, was a problematic approach, as it risked creating what he referred to as “containers”—volumes devoid of specific identity or meaning, which could be assigned any function, form, or use.³³⁴ This approach would endorse a level of ambiguity or, as he described, a “non-architecture,” in which spaces were made generic to serve any purpose. To Rossi, this non-architecture implied a lack of deliberate architectural decision-making, where spaces were void of identity and lacked the formal qualities that defined a

³³¹ Rossi, 62.

³³² Rossi, ‘Due Progetti Di Abitazione’, 64.

³³³ Rossi, 64.

³³⁴ Rossi, 64.

cohesive architectural statement. Such an approach to design, he argued, ultimately led to a form of architectural disorder that could compromise the integrity of the built environment.³³⁵

Typological indifference, therefore, went beyond functional adaptability, resulting instead in disordered spaces that failed to achieve meaningful architectural and/or urban form. Rossi viewed this type of disorder as different from the expressive or experimental disorder that could sometimes be deliberately sought in certain architectural styles. Rather, typological indifference introduced what he referred to as the disorder of non-choice or the disorder of non-architecture. It suggested a lack of clear direction and intent in the design process, which Rossi believed could harm the integrity of the architecture and create spaces that lacked purpose and cohesion. By contrast, he believed that distributive indifference within an architectural context could be employed thoughtfully to support adaptability, allowing spaces to transform within a clear architectural and urban framework.³³⁶

To illustrate this distinction, Rossi referred to historical transformations of historical buildings. He saw these examples as evidence of distributive indifference's practical value and resilience. The transformations of ancient amphitheaters, such as those in Arles, the Colosseum in Rome, and Lucca, demonstrated how architecture could provide distributive flexibility while retaining *typological precision*. These amphitheaters were initially constructed with specific uses in mind, yet their designs were able to accommodate a wide range of new functions across time. Rather than stripping these spaces of architectural meaning, these transformations honored the original form, maintaining the building's architectural clarity while introducing new uses.³³⁷

³³⁵ Rossi, 64.

³³⁶ Rossi, 64.

³³⁷ Rossi, 64.

For Rossi, this ability to retain formal clarity while adapting functionally served as a testament to the fundamental difference between architecture and function. He saw architecture as a discipline that, at its best, went beyond meeting immediate functional needs. Architecture that embraced distributive indifference achieved an ideal balance where spaces maintained their architectural significance even as their uses evolved. This approach, which remained rooted in architectural form, provided greater freedom without dissolving the structure's inherent architectural meaning.³³⁸



³³⁸ Rossi, 64.

CHAPTER 4

CONTINUITIES AND DIVERGENCES: THE LEGACY OF THE ITALIAN SCHOOL OF TYPOMORPHOLOGY

This chapter traces the dissemination of typomorphology beyond Italy, beginning in the 1970s. As mentioned in the previous chapter, typomorphology eventually led to the development of two distinct research communities. The first community, which centers on the works of Muratori and Caniggia while also acknowledging those of Aymonino and Rossi, gained international recognition—initially in France during the 1970s and, from the 1990s onwards, through ISUF and its regional networks, particularly ISUF Italia. The second research community focuses on the works of Aymonino and Rossi, placing them at the core of their research on urban architecture while overlooking those of Muratori and Caniggia. Following an overview of the contributions of researchers involved in typomorphology studies in France from 1970s to 1990s, the chapter focuses on the works of Anne Vernez Moudon and Christopher C. M. Lee as two representatives of these two research communities. (Figure 3.4)

Anne Vernez Moudon was among the first to introduce the Italian school of typomorphology into the English-language literature, making the works of these key figures accessible to a broader audience. She also pioneered expanding typomorphological research beyond Europe, applying it to American cities. Additionally, she played a crucial role in institutionalizing the field by integrating various urban morphology approaches. Christopher C. M. Lee's works are included to illustrate how typomorphological analysis can be applied to contemporary, non-Western urban contexts. The chapter aims to establish theoretical and methodological continuity in typomorphology by drawing parallels between Lee's

concepts and methods—which were influenced mainly by the approaches of Aymonino and Rossi—and those of Muratori and Caniggia.

4.1 Typomorphology of the Ordinary and the Extraordinary: Multidisciplinary Explorations in France (1970s-1990s)

The concentration of research efforts to understand and theorize cities through their building types and urban forms in Italy during the 1960s was followed by the emergence of a second group in France in the 1970s. The former group, comprised of Italian architects, primarily focused on historical Italian cities, while the latter group, consisting of architects, urbanists, historians, and sociologists based in France, expanded the research repertoire to include French cities such as Versailles, Paris, Nancy, Le Creusot, as well as the new development areas of historic European cities. The 1970 issue of *L'architecture d'aujourd'hui*, themed “La ville,” which includes both Roland Barthes’ article “*Sémiologie et urbanisme*”³³⁹ and Jean Castex and Philippe Panerai’s “*Notes sur la structure de l’espace urbain*,”³⁴⁰ heralded future studies that would seek to interpret the city through typomorphology.³⁴¹

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³³⁹ Roland Barthes, ‘Sémiologie et Urbanisme’, *L’architecture d’aujourd’hui* 153 (1970): 11–13.

³⁴⁰ Jean Castex and Philippe Panerai, ‘Notes Sur La Structure de l’espace Urbain’, *L’architecture d’aujourd’hui* 153 (1970): 30–33.

³⁴¹ As he mentioned in another of his writings later on, this text was translated into Turkish by Aykut Köksal around its original publication years, but the translation was not published until 2005. See: Jean Castex and Philippe Panerai, ‘Kentsel Mekânın Yapısı Üzerine Notlar’, in *Selçuk Batur İçin Mimarlık Yazıları*, ed. Ayda Arel, Ersen Gürsel, and Suha Özkan, trans. Aykut Köksal (İstanbul: TMMOB Mimarlar Odası, 2005), 110–21; Aydan Balamir and Aykut Köksal, ‘Karşılaşmalar: Atilla Yücel’, *Betonart* 62 (2019): 11.

France, expanded the research repertoire to include French cities such as Versailles, Paris, Nancy, Le Creusot, as well as the new development areas of historic European cities. The 1970 issue of *L'architecture d'aujourd'hui*, themed “*La ville*,” which includes both Roland Barthes' article “*Sémiologie et urbanisme*” and Jean Castex and Philippe Panerai's “*Notes sur la structure de l'espace urbain*,” heralded future studies that would seek to interpret the city through typomorphology.

In France, interest in typomorphology grew out of the broader social and intellectual challenges to established theories and practices sparked by the May 1968 movement.³⁴² Criticisms around urban development intensified with Henri Lefebvre's *Le droit à la ville*, originally published in 1968 and translated into English as *Right to the City* in 1996, arguing for the city as a social space for public engagement.³⁴³ The 1968 uprisings, driven by university-based demands, led to widespread institutional strikes and the closure of the *École des Beaux-Arts* in Paris.³⁴⁴ Instead, new “Pedagogical Units” (*Unités Pédagogiques*, UP) were then introduced, reflecting a shift among architects and urban designers toward transforming society through rethinking the production of cities and architecture.³⁴⁵

Philippe Panerai's final book, *La ville de demain*, published in 2022, a year before his passing, reflected on “the 1970s and the rediscovery of the city,” as noted in the eulogy by Jean Castex, David Mangin, and Anne Vernez Moudon.³⁴⁶ He wrote that these years marked a generation that, empowered by the events of May, accessed academia through paths other than professional success, allowing them to critique

³⁴² Catherine Blain and Marlène Ghorayeb, ‘France: From History to Urban Project’, in *The Morphology of Urban Landscapes: History, Analysis, Design*, ed. Andri Gerber et al. (Berlin: Reimer, 2021), 63.

³⁴³ Henri Lefebvre, *Writings on Cities*, trans. Eleonore Kofman and Elizabeth Lebas (Oxford: Blackwell Publishers, 1996).

³⁴⁴ Barcellos de Souza, ‘A Cidade Redescoberta: O Debate Sobre a Tipo-Morfologia No Contexto Europeu Dos Anos 1970 / The Rediscovered City: The Debate about Type-Morphology in the European Context of the 1970s’, 76.

³⁴⁵ Blain and Ghorayeb, ‘France: From History to Urban Project’, 64.

³⁴⁶ Jean Castex, David Mangin, and Anne Vernez Moudon, ‘Philippe Panerai (1940–2023)’, *Urban Morphology* 27, no. 2 (2023): 188, <https://doi.org/10.51347/UM27.0016>.

the work of their predecessors freely.³⁴⁷ Inspired by Rossi and Italian trends, a leftist turn toward urbanism emerged, symbolized by the 1974 Grenoble conference “*Pour un urbanisme*,” organized by the Communist Party and *La Nouvelle Critique*.³⁴⁸ This period saw shifts in French architectural journals, with new editors at *AMC (Architecture Mouvement Continuité)* and *L'Architecture d'aujourd'hui*.³⁴⁹ In the same year, the *CORDA (Comité d'orientation de la recherche et du développement en architecture)*, founded two years earlier, launched its first research program, focusing significantly on urban issues, to which Panerai and his colleagues responded.³⁵⁰

In their book chapter “France: from history to urban project,” Catherine Blain and Marlène Ghorayeb highlighted that architecture and urban research in France were significantly supported by the state during the late 1960s and early 1970s.³⁵¹ This support led to the establishment of new institutions aimed at fostering interdisciplinary research, including *CORDA* founded in 1972 and the *Institut de l'Environnement* in 1969, which sought to unite various fields interested in the living environment.³⁵²

New architecture schools, established during this period, introduced teaching and research methods that integrated disciplines like geography, sociology, philosophy, and history, signaling a shift towards a more holistic approach to architectural education.³⁵³ Among the emerging research groups of this era, two became central to typomorphological studies. One group, led by Philippe Panerai and Jean Castex

³⁴⁷ Philippe Panerai, *La Ville de Demain* (Paris: Presses Universitaires de France, 2022), 31.

³⁴⁸ Panerai, 31–32.

³⁴⁹ Panerai, 32.

³⁵⁰ Panerai, 32.

³⁵¹ Blain and Ghorayeb, ‘France: From History to Urban Project’, 66.

³⁵² Blain and Ghorayeb, 66.

³⁵³ Bilsel, ‘Kent Mekânlarının Yeniden Üretiminde Kentsel Morfoloji ve Kent Mimarlığı Yaklaşımı: Paris Örneği (Urban Morphology and Urban Architecture Approach in Reproduction of Urban Spaces: The Case of Paris)’, 35.

at the *Unité Pédagogique n°3* (UP3) in Versailles,³⁵⁴ operated through the ADROS Lab (later became LADRHAUS), while the other, led by Bernard Huet at *Unité Pédagogique n°8* (UP8) in Paris,³⁵⁵ worked under IERAU (later became IPRAUS).³⁵⁶ According to Blain and Ghorayeb, influenced by historian André Chastel, these groups aimed to analyze cities through historical and material perspectives. They combined early twentieth-century insights from architects, geographers, and urban planners with urban analysis techniques from Italian theorists like Saverio Muratori, Carlo Aymonino, and Aldo Rossi.³⁵⁷ This approach allowed them to develop a typomorphological framework that understood architectural and urban forms as products of historical, social, and material influences, thereby broadening the scope of architecture to include societal and cultural dimensions.³⁵⁸

The works of Panerai and Castex were among the first examples of typomorphology extending beyond Italian borders.³⁵⁹ Some consider them pioneers of a distinct French school of typomorphology,³⁶⁰ while others—as will be discussed in the next section of the thesis—as followers of the typomorphological approach to the field of urban morphology.³⁶¹ Four primary outcomes of their research conducted during the 1970s and 1980s can be identified as four primary sources to examine how they interpreted typomorphology within the French context. The first one is the book

³⁵⁴ The school was founded in 1968 and renamed the *École d'architecture de Versailles* in 1984 and later became the *École nationale supérieure d'architecture de Versailles* (ENSA-V) in 2005.

³⁵⁵ The school was founded in 1969 renamed the *École d'architecture de Paris-Belleville* in 1986 and later became the *École nationale supérieure d'architecture de Paris-Belleville* (ENSA-PB) in 2005.

³⁵⁶ Blain and Ghorayeb, 'France: From History to Urban Project', 66.

³⁵⁷ Blain and Ghorayeb, 66–67.

³⁵⁸ Blain and Ghorayeb, 66.

³⁵⁹ Barcellos de Souza, 'A Cidade Redescoberta: O Debate Sobre a Tipo-Morfologia No Contexto Europeu Dos Anos 1970 / The Rediscovered City: The Debate about Type-Morphology in the European Context of the 1970s', 77.

³⁶⁰ Vernez Moudon, 'Urban Morphology as an Emerging Interdisciplinary Field'; Chen and Thwaites, *Chinese Urban Design: The Typomorphological Approach*, 58.

³⁶¹ Karl Kropf, *The Handbook of Urban Morphology* (Somerset: John Wiley & Sons, Incorporated, 2018), 234.

Formes urbaines de l'îlot à la barre published in 1977, in which they critically documented the evolution of urban block in urbanism from the nineteenth to twentieth century.³⁶² The second one is the book *Éléments d'analyse urbaine* published in 1980, in which they compiled methodological components for analyzing urban forms and fabrics.³⁶³ The third one is the city monograph *Lecture d'une ville: Versailles* published in 1979, in which they tested their urban analysis method.³⁶⁴ And the last one is *Les Bastides d'Aquitaine, du Bas-Languedoc et du Béarn: essai sur la régularité* published in 1983, in which they explored the morphology of fourteenth-century French new towns.³⁶⁵

Blain and Ghorayeb point out that the first two books were evolved from the same research project conducted by Panerai, Castex and sociologist Jean Charles Depaule under ADROS, in collaboration with CORDA, which was completed in 1975.³⁶⁶ The title of the project was “*Evolution comparée des modèles architecturaux et des modèles culturels dans la ville industrielle d’Haussmann à Le Corbusier*” (Comparative evolution of architectural models and cultural models in the industrial city from Haussmann to Le Corbusier).³⁶⁷ The first volume of the nearly 400-page project report, “*De l’îlot à la barre: Contribution à une définition de l’architecture urbaine,*” was published as *Formes urbaines: de l’îlot à la barre* initially in 1977³⁶⁸

³⁶² Jean Castex, Jean-Charles Depaule, and Philippe Panerai, *Formes Urbaines de l’Îlot à La Barre* (Paris: Dunod, 1977).

³⁶³ Philippe Panerai et al., *Éléments d’analyse Urbaine* (Brussels: Archives d’Architecture Moderne (AAM), 1980).

³⁶⁴ Jean Castex, Patrick Celeste, and Philippe Panerai, *Lecture d’une Ville: Versailles* (Paris: Éditions du Moniteur, 1979).

³⁶⁵ The authors wrote that idea for this book gradually took shape during the course “*Histoire des Villes et Analyse Urbaine*” (History of Cities and Urban Analysis), which was created in 1979 at the UP3: Françoise Divorne et al., *Bastides d’Aquitaine, Du Bas-Languedoc et Du Béarn: Essai Sur La Régularité* (Brussels: Archives d’Architecture Moderne (AAM), 1983).

³⁶⁶ Blain and Ghorayeb, ‘France: From History to Urban Project’, 68.

³⁶⁷ Jean Castex, Jean-Charles Depaule, and Philippe Panerai, ‘Evolution Comparée Des Modèles Architecturaux et Des Modèles Culturels Dans La Ville Industrielle d’Haussmann à Le Corbusier’, Research Report (Versailles: Association pour le Développement de la Recherche sur l’Organisation Spatiale (ADROS); Comité de la recherche et du développement en architecture (CORDA), 1975), <https://hal.science/hal-03085906v1>.

³⁶⁸ Castex, Depaule, and Panerai, *Formes Urbaines de l’Îlot à La Barre*, 1977.

and was republished in 1999,³⁶⁹ while the second volume, “*Principes d’analyse urbaine*,” was published as *Eléments d’analyse urbaine* in 1980³⁷⁰ and later as *Analyse urbaine* in 1999.³⁷¹

As Panerai noted, this research, conducted in 1974 and 1975, was actually based on week-long excursions to neighboring countries with his students from the UP3 in Versailles.³⁷² He wrote that, through these excursions, they aimed both to observe significant recent architectural works on-site and to identify the successive forms of urban fabric production.³⁷³ The chapters of the research project took shape through case studies conducted during these excursions, along with the gradual exploration of Haussmannian Paris through walks, studies, and projects integrated into the school’s curriculum. The initial copy of the research report distributed to students traced an evolutionary path—from Haussmann’s block structure to English garden cities, through Amsterdam’s developments of the 1910s and 1930s, the Frankfurt’s *Siedlungen* built during the short-lived Weimar Republic, and finally Le Corbusier’s *Unité d’Habitation*.³⁷⁴ Panerai also highlights that the research was conducted in collaboration with their students, who revisited sites to complete or verify drawings, with some even assisting in the writing process. As noted by Panerai, from the earliest years, their students were actively involved in research projects that enriched their teaching and materialized the debates within it.³⁷⁵

Panerai and Castex’s city monograph on Versailles was originated from another research project titled “*Développement morphologique et typologie architecturale de la ville de Versailles*” (Morphological Development and Architectural Typology

³⁶⁹ Jean Castex, Jean-Charles Depaule, and Philippe Panerai, *Formes Urbaines de l’Îlot à La Barre* (Paris: Éditions Parenthèses, 1997).

³⁷⁰ Panerai et al., *Eléments d’analyse Urbaine*.

³⁷¹ Panerai, Demorgon, and Depaule, *Analyse Urbaine*.

³⁷² Panerai, *La Ville de Demain*, 32.

³⁷³ Panerai, 32.

³⁷⁴ Panerai, 32.

³⁷⁵ Panerai, 33.

of the City of Versailles), completed in 1978.³⁷⁶ Additionally, years later, Castex published another city monograph on Chicago, following the typomorphological analysis method that he and Panerai had interpreted, as in Versailles monograph.³⁷⁷

As with the Italian typomorphology literature, only one of these primary sources was translated into English, *Urban Forms: The Death and Life of the Urban Block*, and not until 2004.³⁷⁸ Ivor Samuels, listed as an additional co-author of the book, played a crucial role alongside Anne Vernez Moudon in introducing typomorphology to English-speaking academic circles. His comparative study of typomorphological research in Italy and France, along with urban morphology research in the UK, during the 1980s, significantly contributed to this effort and will be explored in the following section.

In 1970s France, another center for typomorphology studies was UP8, later known as the *École d'architecture de Paris-Belleville*. The IERAU, founded by Bernard Huet and sociologist Henri Raymond, hosted many researchers focused on typomorphology, including Christian Devillers, Ahmet Gülgönen, and François Laisney,³⁷⁹ who concentrated on urban contexts primarily within France in their research.³⁸⁰ The project “*Recherche sur les outils d’analyse pour le projet dans l’architecture urbaine permettant de mettre en relation les notions de morphologie urbaine et de typologie des édifices et des espaces intra-urbains*” (Research on analytical tools for urban architecture projects enabling the connection between

³⁷⁶ Katherine Burlen et al., ‘Développement Morphologique et Typologie Architecturale de La Ville de Versailles’, Research Report (Versailles: Comité de la recherche et du développement en architecture (CORDA); Unité pédagogique d’architecture n°3 (UP3); Association pour le Développement de la Recherche sur l’Organisation Spatiale (ADROS), 1978), <https://hal.science/hal-01885739v1>.

³⁷⁷ Jean Castex, *Chicago 1910-1930: Le Chantier de La Ville Moderne* (Paris: Éditions de La Villette, 2009).

³⁷⁸ Philippe Panerai et al., *Urban Forms: The Death and Life of the Urban Block*, trans. Olga Vitale Samuels (Oxford: Architectural Press, 2004).

³⁷⁹ Blain and Ghorayeb, ‘France: From History to Urban Project’, 69–70.

³⁸⁰ Michaël Darin, ‘The Study of Urban Form in France’, *Urban Morphology* 2, no. 3 (1998): 65–66, <https://doi.org/10.51347/jum.v2i2.3879>.

urban morphology and the typology of buildings and intra-urban spaces), led by Gülgönen and Laisney, was one of the group's initial research projects.³⁸¹ In the three-volume research report titled "*Morphologie Urbaine et Typologie Architecturale*," supported by CORDA, the team led by Gülgönen and Laisney first provided (i) a general assessment of typology and typomorphology theory, then examined (ii) Saint-Denis as an example of the suburbs, which they viewed as a distinct urban phenomenon, (iii) the belt of HBMs³⁸² around Paris, and finally (iv) the city of Nancy through typomorphology.³⁸³

Another significant research project of the IERAU focuses on the industrial city of Le Creusot. The project, led by Bernard Huet and Christian Devillers in 1974, focused on the growth of an industrial town to gain insights into the particular methods of city building in the nineteenth century.³⁸⁴ Published as a book in 1981,³⁸⁵ it became the only project by the group to evolve from a research report into a full publication.³⁸⁶ In his article "The Study of Urban Form in France" published in *Urban Morphology* journal, Michaël Darin noted that the majority of urban form studies in France was largely unrecognized, with fragmented publishing and limited availability beyond local outlets, while the French research system often produced only a small number of research reports intended for funding agencies.³⁸⁷

From 1974 to 1977, *L'Architecture d'aujourd'hui*, under Bernard Huet's editorship, played a significant role in raising the visibility of typomorphology and urban morphology studies within the French context.³⁸⁸ In "The Italophiles at Work," Jean-

³⁸¹ Gülgönen et al., 'Morphologie Urbaine et Typologie Architecturale'.

³⁸² HBM (*Habitations à Bon Marché*) refers to affordable housing developed in France in the late 19th and early 20th centuries to improve living conditions for the working class. These buildings, often located on the outskirts of cities, represent an early phase of social housing in France.

³⁸³ Gülgönen et al., 'Morphologie Urbaine et Typologie Architecturale'.

³⁸⁴ Darin, 'The Study of Urban Form in France', 66.

³⁸⁵ Christian Devillers and Bernard Huet, *Le Creusot : Naissance et Développement d'une Ville Industrielle 1782-1914* (Seyssel: Champ Vallon, 1981).

³⁸⁶ Darin, 'The Study of Urban Form in France', 65–66.

³⁸⁷ Darin, 71.

³⁸⁸ Blain and Ghorayeb, 'France: From History to Urban Project', 70.

Louis Cohen argues that under Huet's direction, the journal featured issues that engaged Italian architectural culture with theoretical rigor, transforming it from a mere architectural catalog into a platform of intellectual depth.³⁸⁹ Through his editorial approach, Huet extended the vibrant debates that had been introduced from Italy into French educational and research circles, further expanding them into the publishing world.³⁹⁰ Devillers' article, "*Morphologie urbaine et typologie de l'habitat*," and the journal's "*Italie 75*" themed issue coincide with this period of influence.³⁹¹

In the late 1970s and early 1980s, another group of researchers—Alain Borie, Pierre Micheloni, Pierre Pinon, and Stéphane Yerasimos³⁹²—emerged at the *École d'Architecture Paris-la-Défense* around a research oriented studio, *Atelier Turquie*, that they conducted until 1990s. Their work included both studies of urban morphology and architectural typology, drawing on a variety of sources of inspiration in their research, including Italian typomorphologists.³⁹³ Along with their work on morphological analysis of architectural and urban objects,³⁹⁴ they studied the urban fabric across numerous cities, including İstanbul, İzmir, Beirut, Damascus,

³⁸⁹ Jean-Louis Cohen, 'The Italophiles at Work', in *Architecture Theory since 1968*, ed. K. Micheal Hays, trans. Brian Holmes (Cambridge MA: The MIT Press, 2000), 512.

³⁹⁰ Cohen, 512.

³⁹¹ Christian Devillers, 'Morphologie Urbaine et Typologie de l'habitat', *L'Architecture d'Aujourd'hui* 174 (1974): 18–22.

³⁹² Also known as Stefanos Yerasimos in Türkiye.

³⁹³ Darin, 'The Study of Urban Form in France', 66.

³⁹⁴ Alain Borie, Pierre Micheloni, and Pierre Pinon, 'Analyse Morphologique et Composition Architecturale', Research Report (Paris: Ecole d'Architecture de Paris-La Défense; Bureau de la recherche architecturale (BRA), 1987), <https://hal.science/hal-03091720v1>; Alain Borie, Pierre Micheloni, and Pinon Pierre, *Forme et Déformation Des Objets Architecturaux et Urbains* (Marseille: Éditions Parenthèses, 2006).

and Jaipur.³⁹⁵ There were also some intersections in the work of these research groups.³⁹⁶

4.2 From theory of typomorphology to institution of urban morphology: Readings of the American city by Anne Vernez Moudon through San Francisco and the formation of ISUF (1970s-1990s)³⁹⁷

The evolution of the broader research field of urban morphology can be observed through the narratives of theoretical and institutional formations. The theoretical narrative starts with isolated studies, conducted in different disciplines, countries, and languages, and continues as these studies are collated and comparatively presented, initially in different languages and subsequently in English. The

³⁹⁵ Alain Borie et al., 'L'occidentalisation d'Istanbul et Des Grandes Villes de l'Empire Ottoman Aux XIXe et XXe Siècles : Izmir, Beyrouth, Damas', Research Report (Paris: Ecole d'Architecture de Paris-La Défense; Bureau de la recherche architecturale (BRA), 1994), <https://hal.science/hal-03102014v1>.

³⁹⁶ F. Candaş Bilsel collaborated with Ahmet Gülgönen from the second group on the morphological analysis of Fatih complex in İstanbul. Ahmet Gülgönen and F. Candaş Bilsel, 'Le Complexe de Fatih', Research Report (Paris: Ecole Nationale Supérieure d'Architecture de Paris-Belleville; Ministère de l'équipement, du logement, des transports et de la mer / Bureau de la recherche architecturale (BRA), 1991), <https://hal.science/hal-02970856v1>.

F. Candaş Bilsel contributed also to the collective report edited by Alain Borie, Pierre Pinon and Stéphane Yerasimos on the transformation of Ottoman cities in the 19th century, with her doctoral study on the urban transformation of the port city of Izmir. Later, she organized an exhibition and published an edited book with Pierre Pinon on Henri Prost's planning of İstanbul. F. Candaş Bilsel and Pierre Pinon, eds., *İmparatorluk Başkentinden Cumhuriyet'in Modern Kentine: Henri Prost'un İstanbul Planlaması (1936-1951) / From the Imperial Capital to the Republican Modern City: Henri Prost's Planning of İstanbul (1936-1951)* (İstanbul: İstanbul Araştırmaları Enstitüsü, 2010).

³⁹⁷ This part of the thesis research was conducted as a PhD research project at the University of Washington Urban Form Lab, under the guidance of Anne Vernez Moudon, from October 2021 to August 2022. It was supported by the Fulbright Foreign Student Program through a Visiting Student Research Grant awarded by the Turkish Fulbright Commission. A preliminary version of this study was presented at the Fourth Symposium on Urban Morphology, hosted by Konya Technical University in 2023. A more comprehensive version was later published in Urban Morphology journal in 2024. See: Neris Parlak Temizel and F. Candaş Bilsel, 'Kuram'ın ve 'Kurum'un İnşası Arasında: Anne Vernez Moudon'un Kentsel Morfoloji Alanına Katkıları Üzerine', in *IV. Kentsel Morfoloji Sempozyumu Bildiriler Kitabı* (Morfolojinin Evrimi: Geçmişten Geleceğe, Teoriden Pratiğe, Konya: Konya Teknik Üniversitesi Mimarlık ve Tasarım Fakültesi, 2023), 51–69, <https://isufturkey.org/index.php/tnum/article/view/85>; Neris Parlak Temizel, 'From Theory-Building to Institution-Building: The Contributions of Anne Vernez Moudon to Urban Morphology', *Urban Morphology* 28, no. 1 (2024): 27–44, <https://doi.org/10.51347/UM28.0002>.

institutional narrative begins with the convergence of an international and multidisciplinary collective of researchers, galvanized by the comparative theoretical studies, under the organizational umbrella of ISUF. Today, it continues to evolve, punctuated by annual international conferences hosted in alternating countries, national and regional symposiums orchestrated by regional networks, and the publication of *Urban Morphology* journal.

The research journey of Anne Vernez Moudon intersects with both the theoretical and institutional narratives of the research field at four pivotal junctures. Firstly, her research on San Francisco, though independently conducted and unknowing of pre-existing typomorphology studies, is an instance of typomorphological study, creating its own method. Secondly, during the process of publishing her San Francisco study as a book, she becomes aware of the former studies and becomes one the first scholars delineate a detailed view of the researchscape by bringing them together. Thirdly, she contextualizes urban morphology and typomorphology studies developed around different schools within the urbanism literature through an epistemological map premised on the "prescriptive-descriptive" dichotomy. Lastly, thanks to the awareness generated by her work and the connections she made while conducting this research, she plays a pivotal role in the establishment of ISUF.

This sub-chapter examines Anne Vernez Moudon's contributions to the field of urban morphology and typomorphological approach through these four processes; thus, it aims to contribute to the literature on the history of the field and the approach. In pursuit of this goal, a literature review was conducted, a series of interviews with Anne Vernez Moudon were carried out, and thorough archival research was undertaken within her collection at the Washington University Library.

4.2.1 Flexibility in modernist housing design vs. adaptability in historical residential fabric

Trained as architect first in EPFL (1964-1966) and then in UC Berkeley (1966-1969), Moudon's early research endeavors were on the flexibility in housing design and use in residential environments. During the 1970s, the standardized mass housing designs that emerged after the Second World War came under criticism. Architects and researchers challenged "the tight-fit functionalism" of these previous designs, advocating for "flexibility" and "multi-use of restricted space as a means of providing opportunities for choice and personalization."³⁹⁸



Figure 4.1 Covers of the November 1973 and February 1974 issues of *AD* magazine featuring research on flexibility and adaptability in housing design and its applications.

³⁹⁸ Andrew Rabeneck, David Sheppard, and Peter Town, 'Housing Flexibility?', *Architectural Design* XLIII November 1973 (1973): 698.

Moudon's interest on flexibility in housing design was started in her late college years when the systems approach was gaining popularity and Christopher Alexander was a pivotal figure at UC Berkeley. It was further deepened while she was working as a professional designer at Building Systems Development Inc., a company founded by Ezra Ehrenkrantz, who was her professor and a prominent figure of the systems approach. The company, which aimed to design long-lasting buildings featuring modular materials and flexible layouts constructed both rapidly and cost-effectively, pioneered the early applications of system-based architecture.³⁹⁹ Andrew Rabeneck, the managing director of the company's London branch, along with two of his colleagues, guest-edited the 1973 and 1974 issues of *AD* magazine, focusing on the theme of housing flexibility and adaptability.⁴⁰⁰ (Figure 4.1)

Anne Vernez Moudon, after working as an architect for a while, became a lecturer at her alma mater, UC Berkeley, in 1973. Besides offering seminar courses on building technology and systems, she also joined a design studio group that included Sarah Ishikawa, co-author of Christopher Alexander's seminal books *Pattern Language* and *The Oregon Experiment*. During group's design studio in 1975, which focused on the conservation of neglected Victorian houses in San Francisco's urban renewal area, Moudon developed an interest in traditional residential environments. Her observation and realization of the fact that traditional domestic architecture has no less to offer to the flexibility discussions in architecture shifted her focus. Her research on adaptability and flexibility of the neighborhood architecture in San Francisco which started at UC Berkeley and continued at MIT with a prestigious funding from National Endowment of the Arts was a result of this shift in interest.

³⁹⁹ The company carried out the School Construction Systems Development (SCSD) project in the years between 1961 and 1967. As a leading application of the systems approach in the construction industry, the project aimed to rapidly and cost-effectively construct high-quality, flexible educational buildings using modular materials.

⁴⁰⁰ Rabeneck, Sheppard, and Town, 'Housing Flexibility?'; Andrew Rabeneck, David Sheppard, and Peter Town, 'Housing Flexibility/Adaptability?', *Architectural Design* XLIX February 1974 (1974): 76–91.

The research consequently evolved into a seminal book *Built for Change: Neighborhood Architecture in San Francisco* published in 1986.⁴⁰¹ (Figure 4.2)

While her research in San Francisco was ongoing, Anne Vernez Moudon simultaneously served as a faculty member at MIT from 1975 to 1981. During this period, she taught the courses “Support Concept: Housing and Related Design Problems” and “Design and Production Approaches for Residential Environments: SAR Philosophy and Methods” with N. John Habraken, professor and director of the Department of Architecture, on support systems and SAR⁴⁰² methodology design frameworks.



⁴⁰¹ Anne Vernez Moudon, ‘San Francisco: A Place in Space, Continuity and Change in Urban Form’ (1980), Anne Vernez Moudon’s Personal Archive; Anne Vernez Moudon, *Built for Change: Neighborhood Architecture in San Francisco* (Cambridge MA: The MIT Press, 1986).

⁴⁰² The name is derived from the name of the foundation which developed the methodology – the Foundation for Architectural Research (*Stichting Architecten Research*, abbreviated as *SAR* in Dutch) which initiated by Habraken in the Netherlands in 1964 to stimulate industrialization in housing design.

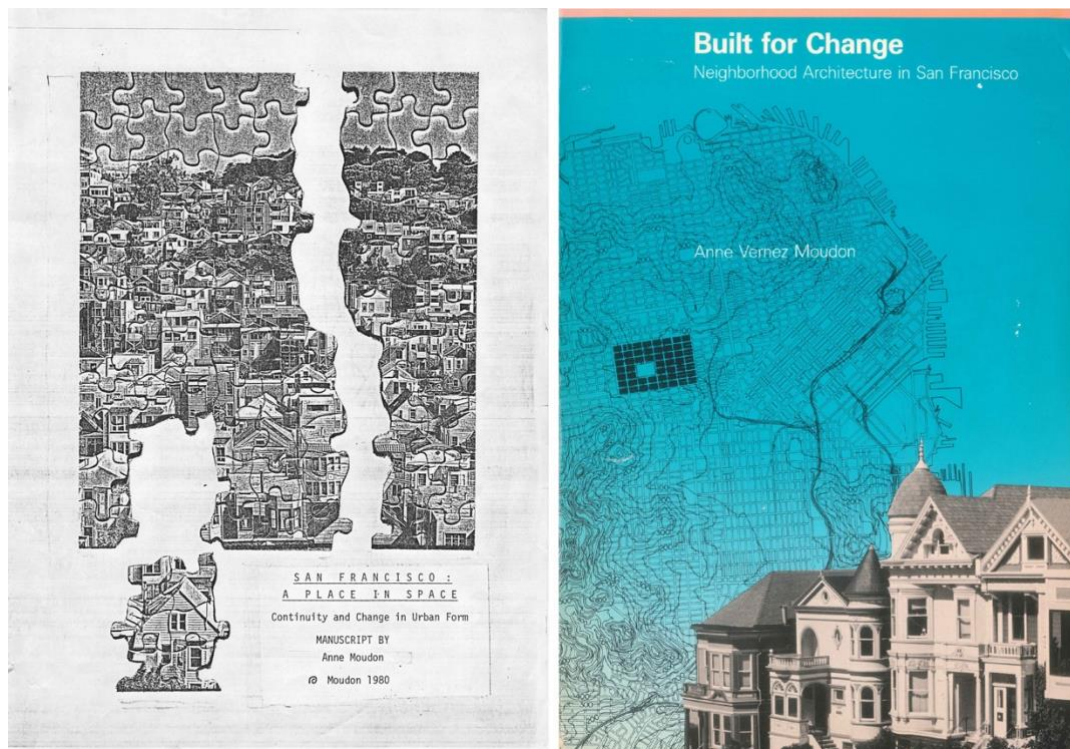


Figure 4.2 *Built for change*. The first manuscript was written in 1980 with the title *San Francisco: A place in space, Continuity and change in urban form*, and finally published in 1986.

Source for the left image: Anne Vernez Moudon's personal archive.

The book *Built for Change: Neighborhood Architecture in San Francisco* argues that plot-based and incremental urbanization is resilient enough to accommodate change in time in residential environments, based on a multi-scalar investigation of urban form in the city of San Francisco. It is organized in four main parts, the first of which provides information on everyday experience and history of the study area. The second and the third parts focus on the prevailing residential types of the nineteenth and twentieth century and the physical structure of urban space that these types generated. These parts investigate how a building type transforms into another one, how this transformation affects the structure of urban space, and how it is affected by it, through the transformation of historical Victorian houses to contemporary apartment blocks. The last part discusses what planners and architects can learn from spontaneous plot-based urbanization with its incrementality, control mechanisms, density, and resilience.

It is possible to assert that Moudon's research is a typomorphological analysis of the city of San Francisco, and, interestingly enough, she conducted this research well before the studies of early typomorphologists were introduced to her.⁴⁰³ A careful comparison of both the Italian typomorphologists' and her work shows that there are several resemblances between them. First, they all focus on vernacular architecture not "architects' architecture" or "planners' plans." In the same line of thought with Muratori, Moudon writes that:

We became interested in the processes that actually shape ordinary urban environments. Designers, we knew, were unfamiliar with them because they limited most of their observations to the consciously articulated products of designers, the 'architects' architecture' and the 'planners' plans.' Even those designers – like Venturi, Scott Brown, and Izenour . . . – who turned to the study of vernacular environments focused only on what was special in them. By contrast, we were looking at processes that were commonly used, were part of a collective wisdom, and within which small-scale incremental change provided opportunities for individual expression and facilitated the involvement of residents.⁴⁰⁴

As stated in a personal interview, she refers to ordinary and anonymous architecture which makes up fine-grained urban fabrics as "architecture with lowercase a" in contrast to "Architecture with capital A" signifying the monumental and exceptional works of well-known architects.

⁴⁰³ Anne Vernez Moudon, 'The Research Component of Typomorphological Studies', in *Proceedings of the AIA/ACSA Research Conference* (Boston MA, 1987), 7.

⁴⁰⁴ Vernez Moudon, *Built for Change: Neighborhood Architecture in San Francisco*, xvii.

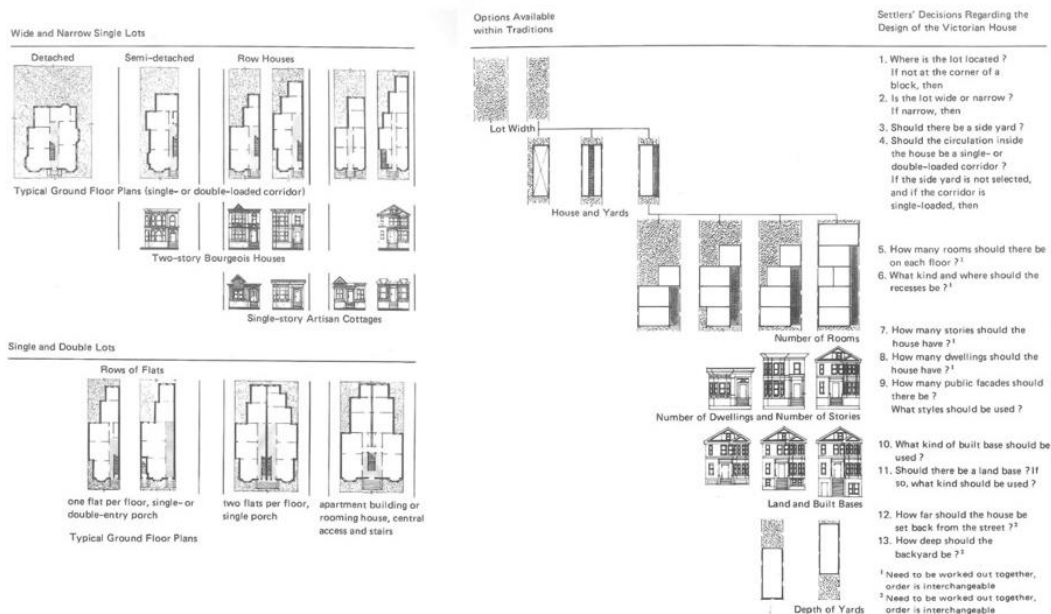
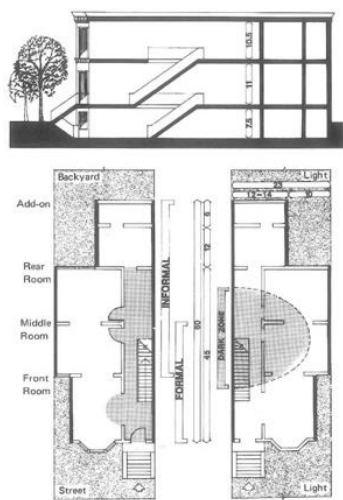


Figure 4.3 Three samples from the rich set of drawings in *Built for change* representing: (i) basic structure of Victorian house type; (ii) how the type adapt itself to different lots; (iii) algorithm of Victorian house design within building traditions.

Source: Anne Vernez Moudon, *Built for Change: Neighborhood Architecture in San Francisco*, Cambridge, MA: The MIT Press, 1986, 57-73.

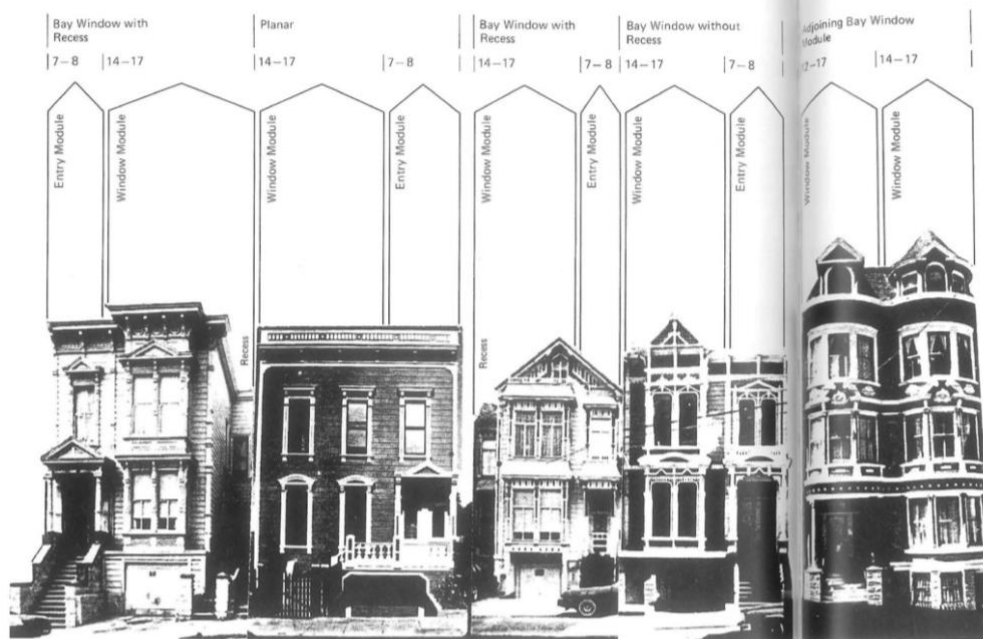


Figure 4.4 Two collages from *Built for change* showing (i) rhythm and structure of street frontage of a Victorian row (ii) adaptation patterns of Victorian houses to San Francisco's challenging topography.

Source: Anne Vernez Moudon, *Built for Change: Neighborhood Architecture in San Francisco*, Cambridge, MA: The MIT Press, 1986, 70-77.

Secondly, like the Italians, Moudon relies on typology to reveal spatial structure of the built environment. She unfolds three dominant building traditions of San Francisco's history in three different types each corresponding to different time periods: Victorian houses, apartment buildings and modern/contemporary

buildings.⁴⁰⁵ She documents the general structure of each type (how circulation, rooms and units are organized) and how these types are integrated to the lot structure, gridiron, and challenging topography of San Francisco via plan and elevation diagrams, axonometric drawings, and photographs. (Figure 4.3, Figure 4.4) Her statement regarding Victorian house type echoes of Muratori's definition of type: "The imagination and creativity of the nineteenth-century American settlers were tempered by what they had seen or by what they knew had been built before. Traditions are, in this sense, a framework of rules guiding design and planning."⁴⁰⁶ Additionally, the terms and expressions Moudon used in describing the research reminds Gianfranco Caniggia's typological transformation process: "In developing typologies of buildings, we had three tasks: identifying different generations of buildings, identifying types of buildings within each generation, and determining the transformations of each type within each generation over time."⁴⁰⁷

Lastly, similar to the Italian typomorphologists, Moudon tries to set up a multiscalar relationship between physical elements of the city to reveal the structure of the built environment. She first identifies different building traditions and their corresponding types for different time periods throughout the history of the city, then, analyzes the physical structure of each period. For her, this structure is made up of *physical elements* and *rules* governing these elements.⁴⁰⁸ There is an element dominant and repetitive on each scale: rooms, houses, city blocks, elements of road/street structure and geographical formation are five elements corresponding to five different scales. Rules, on the other hand, determine either "how to combine two elements at the same scale – for example, how to relate one room to another by using a certain arrangement

⁴⁰⁵ The difference between "apartment buildings" and "modern/contemporary buildings" may need further clarification: The former type is 1920s multi-residential building that is well-adapted to the existing urban fabric whereas the latter type is a product of 1960s post-war building tradition associated with very large lots and liberally formed buildings typical of urban renewal during that period.

⁴⁰⁶ Vernez Moudon, *Built for Change: Neighborhood Architecture in San Francisco*, 75.

⁴⁰⁷ Vernez Moudon, 245.

⁴⁰⁸ Olgu Çalışkan, 'Pattern Formation in Urbanism: A Critical Reflection on Urban Morphology, Planning and Design' (PhD dissertation, Delft, TU Delft, 2013), 98.

along a corridor; or, how to fit an element of one scale into the next scale – for example, how to put rooms together to make a house.”⁴⁰⁹ (Figure 4.5, Figure 4.6)

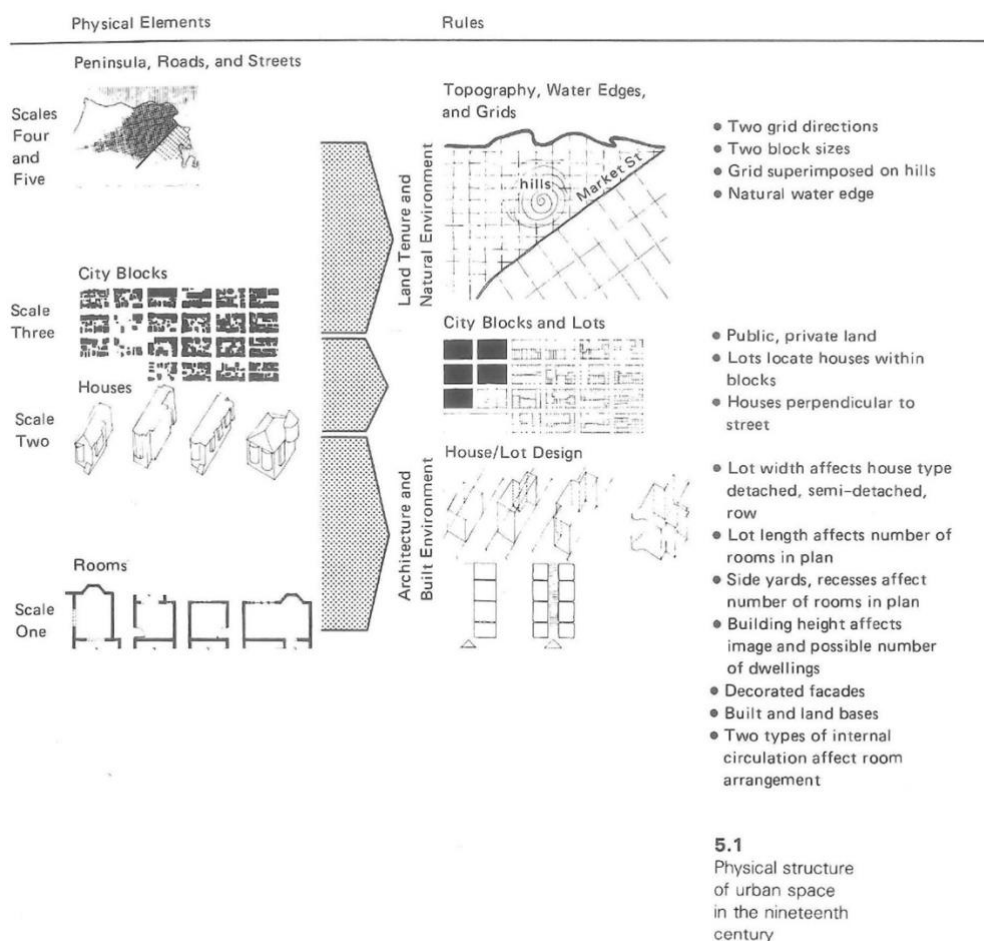


Figure 4.5 Diagram from *Built for change* showing “physical structure of urban space in the nineteenth century.”

Source: Anne Vernez Moudon, *Built for Change: Neighborhood Architecture in San Francisco*, Cambridge, MA: The MIT Press, 1986, 90.

⁴⁰⁹ Vernez Moudon, *Built for Change: Neighborhood Architecture in San Francisco*, 91.

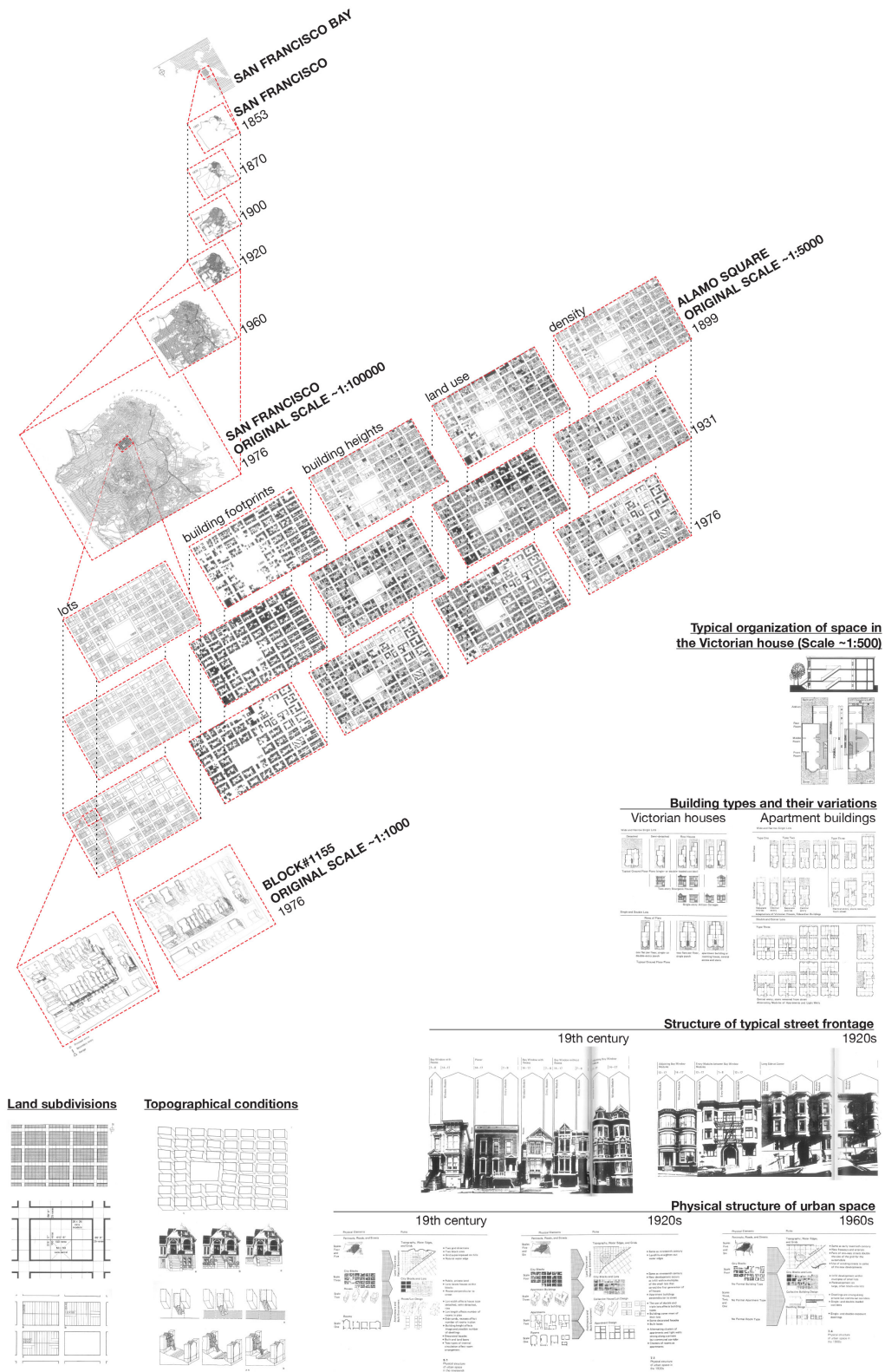


Figure 4.6 Graphic anatomy of San Francisco monograph.
 Source: Drawn by the author.

In this study, Moudon, holding firmly to the belief that a city can be read and analyzed through its physical form, similar to how Muratori studied Venice and Rome, or how Caniggia explored Como and Florence, concentrated on examining the spatial attributes of San Francisco's buildings, plots, and streets across different scales and their evolution over time.

As Moudon herself has stated, she conducted a typomorphological analysis of San Francisco before becoming familiar with the studies of typomorphology schools. This illustrates that a possible connection could be drawn between the quest for system-building in the 1970s' flexible housing design research and the typomorphology method's pursuit of system-finding in the built environment. Even without prior knowledge of typomorphology studies, Moudon leveraged her understanding and experience to unravel the multi-scalar complex spatial system of the built environment through reverse engineering.

Moudon's San Francisco study not only shares commonalities with the early typomorphologists' work, but it also reinvigorates it with regard to how she structures the study. Neighborhood scale is considered as a starting point, and Alamo Square, consisting of the 56 city blocks covering approximately 85-hectare of land, is selected as a sample area through which San Francisco's built environment is analyzed. The sample area is meticulously studied to show the transformation of parcellation, building footprints, building heights, and building programs over time, as well as the effect of topography on the built environment. Three generation of building types are diagrammatized as a result of the in-depth study of the buildings on the sample area. For further elaboration, ten blocks within the area are selected to make calculations of building and user densities. Focusing on and limiting the study with a sample area contributes to the multiscalarity of the research by emphasizing the often-disregarded architectural dimension in the early typomorphological studies. In a paper that she wrote later in 1995, she argues that sampling is an

indispensable tool for the analysis of large spread-out contemporary cities which have larger footprints than their older counterparts.⁴¹⁰

Moudon's typomorphological analysis was instrumental in shaping the planning of San Francisco during the 1970s. From 1974 to 1978, a team of faculty and students from UC Berkeley, led by Daniel Solomon, a practicing architect and associate professor there, collaborated with the San Francisco Department of City Planning.⁴¹¹ This joint effort culminated in the booklet *Change without loss: residential development and preservation for San Francisco Neighborhoods*, providing spatial planning recommendations to the planning department, informed by historic development patterns identified by Moudon.⁴¹² Her comprehensive work provided valuable data, analyses and rationale for pinpointing historical patterns that new development should uphold and perpetuate in order to curtail further degradation of the urban fabric. The suggestions of Solomon's team became a foundational part of the 1978 Planning Code asking for (i) building bulks, front and rear setbacks which are to be determined by the adjacent buildings and lots; (ii) increase in the frequency of pedestrian entries and decrease in the number of garage entries; and (iii) stepping buildings with slopes.⁴¹³ In recognition of their work, Solomon's team received an urban design and planning award from the journal *Progressive Architecture* in 1979.⁴¹⁴ Four years later, the same journal honored Moudon's contributions with an applied research award. The jury praised the "depth and scholarliness of [her]

⁴¹⁰ Anne Vernez Moudon, 'Sampling Approach to Urban Morphology: Morphological Indicators for Seattle, WA' (The Second International Seminar of Urban Morphology, Lausanne, 1995), 5–8.

⁴¹¹ Vernez Moudon, 'San Francisco: A Place in Space, Continuity and Change in Urban Form', 192.

⁴¹² Daniel Solomon et al., 'Change without Loss: Residential Development and Preservation for San Francisco Neighborhoods' (University of California, Berkeley, 1977), 4, <https://archive.org/details/changewithoutlos1977solo/page/14/mode/2up>.

⁴¹³ Department of City Planning, San Francisco, 'Final Environmental Impact Report for the Proposed Amendments to the Text of the City Planning Code and to the Zoning Map Relating to Residential Districts and Development, EE 76.182', 27 June 1978, <https://archive.org/details/finalenvironment2719sanf/page/n99/mode/2up>; Department of City Planning, San Francisco, 'Residential Design Guidelines for New Buildings in Older Neighborhoods', 1979, <https://archive.org/details/residentialdesig1979sanf/mode/2up>.

⁴¹⁴ 'Urban Design and Planning Award: Daniel Solomon', *Progressive Architecture*, January 1979, 106.

submission” and hailed it as “a model of research into the physical structure of a city and as an innovative use of historical documentation for zoning.”⁴¹⁵

Moudon’s city monograph on San Francisco is significant in the context of typomorphology studies because of several other reasons. First, it is one of the early examples exploring the relation between building typology and urban morphology outside of Europe. Also, it is one of the early city monographs published in English, which render it a primary reference especially for the Anglo-American world. Second, it is also one of the early examples focusing on a contemporary city with no more than 250-years-old past, in contrast to cities and towns with a long settlement history studied by the Italians. Parallel to this, by focusing on contemporary, planned cities rather than spontaneously developed historical ones, the study provides insights into how city plans can be incorporated into typomorphological analysis. And last but not least, it was written even before the typomorphology studies in Italy and France had become known outside of Europe. Frankly, Moudon is the one who wrote extensively about these studies and introduced them to English literature.

4.2.2 Prescriptive knowledge vs. descriptive knowledge

As argued in the previous chapter, Rossi’s ideas were very well known outside Italy due to his active role in Milan Triennial XV in 1973 and his involvement in the New York-based Institute for Architecture and Urban Studies - the institute that was publishing *Oppositions* journal in the years between 1973 and 1984. However, there were limited references to the works of Muratori and Caniggia in English texts preceding Moudon’s publications.⁴¹⁶ Among these, the most related to the field of urban morphology are the texts "Towards an Architectural Analysis of Urban Form:

⁴¹⁵ ‘Applied Research Award: Anne Vernez-Moudon’, *Progressive Architecture*, January 1983, 134.

⁴¹⁶ Moneo, ‘On Typology’, 35; Massimo Scolari, ‘L’impegno Tipologico’, *Casabella* 509–510 (1985): 42–43. Note that *Casabella* was a bilingual magazine with parallel articles in Italian and English.

Conservation Studies in Britain and Italy" and "Urban Morphology in Developed Countries" by Ivor Samuels, British architect and lecturer at Oxford Polytechnic.⁴¹⁷

The report of a research supported by another fellowship from the National Endowment for the Arts Program during 1986-1987 "Typology/Morphology: Report on Research in England, Italy and France" and the correspondence on early typomorphology studies – both available in Moudon's archive in the University of Washington Libraries – show that her interest in the history of the field started in the early 1980s.⁴¹⁸ Following the two proceedings published in 1987 and 1989⁴¹⁹, the first journal article in which she refers to the early typomorphology studies titled "A Catholic Approach to Organizing What Urban Designers Should Know" was published in 1992. It aims to outline an epistemological map for urban design by categorizing knowledge produced by various disciplines including history, sociology, psychology, anthropology, geography, architecture, landscape architecture and urban planning.

UNDERSTANDING CITIES _____	DESIGNING CITIES _____
past/present _____	present/future _____
what was, what is _____	what should be _____
descriptive _____	prescriptive _____
substantive _____	normative _____
research, reflection, knowledge _____	action, projection _____
urban science _____ urbanism _____	urban design _____

Figure 4.7 Moudon's representation of
"knowledge versus action and associated terms"

Source: Anne Vernez Moudon, "A Catholic Approach to Organizing What Urban Designers Should Know," *Journal of Planning Literature* 6, no. 4 (1992): 334.

⁴¹⁷ Samuels, 'Towards an Architectural Analysis of Urban Form: Conservation Studies in Britain and Italy'; Samuels, 'Urban Morphology in Developed Countries'.

⁴¹⁸ Vernez Moudon, 'Typology/Morphology: Report on Research in England, Italy and France'.

⁴¹⁹ Vernez Moudon, 'The Research Component of Typomorphological Studies'; Anne Vernez Moudon, 'The Role of Typomorphological Studies in Environmental Research', in *Proceedings of the Twentieth Annual Conference of Environmental Design Research Association* (EDRA 20 Changing Paradigms, Black Mountain NC, 1989), 41–48.

In the article, Moudon, first, draws attention to the necessity to distinguish between *prescriptive* and *descriptive* knowledge produced by/for design fields. She argues that *normative* or *prescriptive* information concerns with ‘what should be’ whereas *substantive* or *descriptive* information is interested in ‘what is’ and/or ‘why’ when studying the built environment. For her, the continuity between these two poles is crucial; and description must precede any kind of prescription in research.⁴²⁰ She also argues that the lack of clear differentiation between normative and substantive knowledge is also reflected in the name of the field: “the Anglo-Saxon term ‘urban design’ is coveted by Latins who have to contend with *urbanisme* or *urbanismo*, terms that are clearly more reflective, less action-oriented than ‘urban design.’ Only in Italy can one find ‘urban science’ and ‘urbanism’ used commonly to define the spectrum of description versus prescription, research versus design.”⁴²¹ (Figure 4.7) She favors *city building* as an alternative name for *urban design* or *urbanism* due to its emphasis on process.

She argues that there is knowledge produced by various disciplines that is available for designers to liberally select and use in their design process. Typology-morphology studies are one of the nine main categories that she defines as “concentration of inquiry” along with urban history studies, picturesque studies, image studies, environment-behavior studies, place studies, material culture studies, space-morphology studies and nature-ecology studies, and it is represented in a map with reference to the works of Aymonino, Caniggia, Maffei, Castex, Conzen, Maretto and Muratori, Myers & Baird, Panerai, Rossi, Slater and Whitehand as well as her work on San Francisco.⁴²²

⁴²⁰ Vernez Moudon, “A Catholic Approach to Organizing What Urban Designers Should Know,” 332–34.

⁴²¹ Vernez Moudon, 334.

⁴²² Vernez Moudon, 333.

Moudon's differentiation of *normative* and *substantive* studies adds upon Nigel Cross' well-known discussion on *designerly ways of knowing*.⁴²³ Cross argues that design is a discipline in which the transferable/instructible knowledge can be produced via investigating (i) practice of design (how to, what should be); (ii) what have been designed and constructed/manufactured before (what is, why); (iii) practice of construction/manufacture. It is clear that both architecture and urbanism are design disciplines and have different epistemological structures than social and natural sciences or constructive humanities. Moudon maintains that despite the existence of numerous normative studies in urbanism, any kind of normative/prescriptive theory should be preceded by substantive/descriptive research; and thus, she defines a specific relation between Cross' first and second ways of knowing in urbanism as a design discipline: the former should be grounded on and justified by the latter. This is significant for the position of typomorphological approach in particular and urban form studies in general within the discipline of urbanism since the knowledge that they reveal on the physical and spatial structure of cities through urban form has a potential to act as a basis for normative theories.

4.2.3 Three schools of typomorphology and institutionalization of the field

In her 1994 book chapter "Getting to Know the Built Landscape: Typomorphology"⁴²⁴ and 1997 article "Urban Morphology as an Emerging Interdisciplinary Field,"⁴²⁵ Moudon defines three schools within the field of typomorphology: the Italian, the British and the French. With these texts, she aims to bring together and present comparatively the dispersed research efforts on urban form in different countries, languages, and disciplines. The former text focuses more

⁴²³ Nigel Cross, 'Designerly Ways of Knowing: Design Discipline versus Design Science', *Design Issues* 17, no. 3 (2001): 49–55, <https://doi.org/10.1162/074793601750357196>.

⁴²⁴ Vernez Moudon, 'Getting to Know the Built Landscape: Typomorphology'.

⁴²⁵ Vernez Moudon, 'Urban Morphology as an Emerging Interdisciplinary Field'.

on theoretical and methodological aspects whereas the latter highlights the social context in which these schools interacted with each other and summarizes the commonalities and differences between them. She interprets the English school through the works of the geographer Conzen; the Italian school through the works of architects Muratori, Caniggia, Aymonino, and Rossi; and the French school through the works of the architects Panerai and Castex.

She argues that all three schools share a common interest: they try to understand the physical qualities of urban form on different scales and its transformation in time. In other words, the main aim of their research is to read urban form through the continuity of space (on different scales) and time (through transformations). *Form*, *resolution*, and *time* are three fundamental research components shared by all.⁴²⁶

On the other hand, Moudon argues that the main difference between these schools is their purpose, which affects their choice of case studies and methods used in analytical process. For her, the research motivation of the Italian and French schools is prescriptive whereas the motivation behind the works of British school is rather descriptive.⁴²⁷ In other words, the former group is after how cities should be built whereas the latter focuses on how cities are built and why.

She also underscores that the French school's interest in urban form is related to their motivation to assess the impact of past theories on the city building process, acting as design criticism:

The study of urban form to assess the *impact of past design theories on city building* . . . is in the realm of design criticism, which makes the sophisticated distinction between the *theory of design 'as idea'*, and the *theory of design 'as practised'*. Such studies assess the differences or similarities between stated directives about what should be built (normative theories) and what has actually been built. The French School has championed this use of

⁴²⁶ Vernez Moudon, 7.

⁴²⁷ Vernez Moudon, 8.

morphological analysis, tracing successfully the roots of modernism in urban design back to the eighteenth century.⁴²⁸

The normative-substantive dichotomy provides a sound evaluation ground for the relation between analysis and design that each typomorphology school suggests. According to Moudon's comparison:

"Italy's [school] provides a theoretical foundation for planning and design within age-old traditions of city building. England's offers a scholarly approach to researching how the built landscape is produced. And France's outlines a new discipline that combines the study of the built landscape with a critical assessment of design theory."⁴²⁹

Within the normative-substantive dichotomy, the British School is purely substantive; the Italian school favors a continuity between the substantive and the normative; and the French School uses their substantive research to critique normative design theories.

The naming of the schools reflects the geography-bounded character of the research sociology in the mid-twentieth century. Moudon sometimes refers to these schools as Muratorian, Conzenian and Versailles -instead of Italian, British and French, respectively- to emphasize the role of the founding scholars.⁴³⁰ On the other hand, it can be argued that the geographical naming have the risk of exclusion of the research outside these countries, for example the ones in Switzerland and even her own studies in the US.

In contemporary studies circulated within the ISUF network, distinct nomenclatures are attributed to these schools. The term typomorphology is no longer utilized to describe a research domain encompassing all three schools; instead, this name is now associated with an approach that envelops the Italian and French schools. Since the first ISUF meeting, the research field is encapsulated by the notion of urban

⁴²⁸ Vernez Moudon, 8.

⁴²⁹ Vernez Moudon, 'Getting to Know the Built Landscape: Typomorphology', 308.

⁴³⁰ Anne Vernez Moudon, 'A Field of Urban Morphology? Commonalities and Differences between Traditions and Schools' (The First International Seminar of Urban Morphology, Lausanne, 1994), 7.

morphology, which has been considered more comprehensive than typomorphology, which will be discussed in the following section. The typomorphological approach is referred to as the process-typological approach in some rather recent studies, and the approach of the British school, which is thought to be different from these two schools, is identified as the historical-geographical approach. Over time, the scope of research field has broadened with the incorporation of various approaches such as the space-syntax, spatial-analytical approach, relational-material approach, and others.⁴³¹ (Figure 4.8)

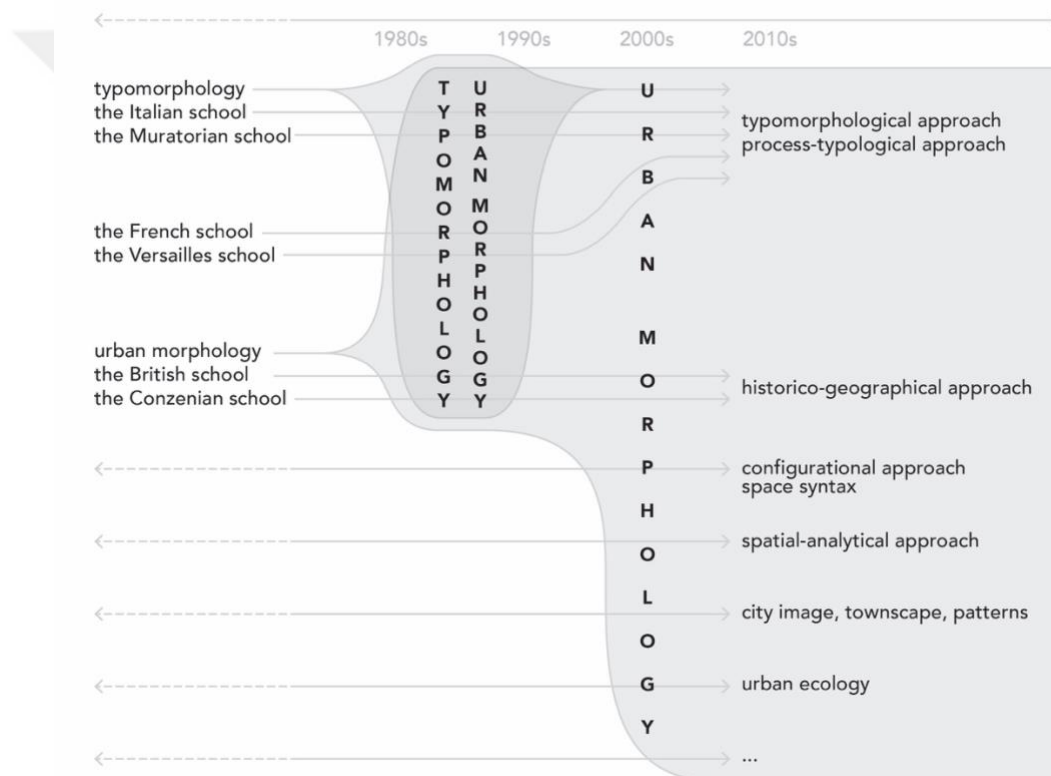


Figure 4.8 Terminological development of the field of urban morphology and the approaches within it.
Source: Drawn by the author.

⁴³¹ Kropf, *The Handbook of Urban Morphology*, 16–18; Oliveira, Skitini, and Caser Spolaor, 'Emerging Perspectives on Urban Morphology', 13–24.

International Seminar of Urban Form (ISUF), founded in 1994, is the result of the international and interdisciplinary realization that similar studies had been conducted by different research groups from different disciplines, in different countries and as a result in different languages.⁴³² Its formation can be contextualized within the new intellectual and discursive spirit of the late 1980s and early 1990s that witnessed an increasing interest in interdisciplinary studies and blurring disciplinary boundaries.⁴³³

The publications and connections of Moudon, who became the founding general secretary/director of the institution in 1997, played a crucial role in the formative process of ISUF. As portrayed in detail later in 1997 by Moudon in the introductory article in the first issue of the *Urban Morphology Journal*,⁴³⁴ there were several events and visits formed an international network among the researchers in the field: The success of rehabilitation programme of Bologna's historic center, in which Caniggia was a consultant initiated the process,⁴³⁵ after which he visited Oxford Polytechnic as an invitee of Ivor Samuels, lecturer at the Joint Center for Urban Design, in the early 1980s. In May 1984, he was invited to ETH Zürich by Sylvain Malfroy, professor in art, architecture and urbanism in EPFL, in collaboration with André Corboz, professor in history of urbanism in ETH Zürich, to present his study

⁴³² The initial name of the institution was International Seminar of Urban Morphology that was renamed as International Seminar of Urban Form in 1995 because a research group in Italy which was not following the Muratorian tradition adopted the term Urban Morphology. See: 'The Second International Seminar of Urban Morphology', Seminar Report (Lausanne: EPFL, July 1995), Accession No. 5905-001, The University of Washington Libraries, Special Collections, Anne Vernez Moudon Papers, 1964-2008.

⁴³³ Zeynep Mennan, 'Theory on Borderlines: A Collective Experience and a Free Market', in *Shifting Borders Negotiating Places: Cultural Studies and the Mutation of Value(s)*, ed. Brent Adkins et al. (Rome: Bordighera Press, 2006), 67.

⁴³⁴ Vernez Moudon, 'Urban Morphology as an Emerging Interdisciplinary Field', 6.

⁴³⁵ 1969 plan for the historical centre of Bologna is an early application of typomorphological approach. For the details of the plan, see: Luisa Bravo, 'Area Conservation as Socialist Standard-Bearer: A Plan for the Historical Centre of Bologna in 1969', in *E-Proceedings of the Joint Conference by DOCOMOMO International and the Architectural Heritage Society of Scotland: Mirror of Modernity: The Post-War Revolution in Urban Conservation, 1-2 May 2009, Edinburgh, Scotland* (Paris: DOCOMOMO International, 2009), 44–53, <https://sites.eca.ed.ac.uk/docomomoiscul/files/2011/02/Docomomo-E-proceedings2.pdf>.

on Florence with Maffei in the form of a lecture titled “A Structural Reading of Florence.”⁴³⁶ After meeting with Caniggia at a seminar honoring Kevin Lynch’s work in Naples in March 1985, Anne Vernez Moudon invited him to the University of Washington with her colleague Dennis Ryan, then Chair of the Department of Urban Design and Planning at the University of Washington, in the spring of following year.

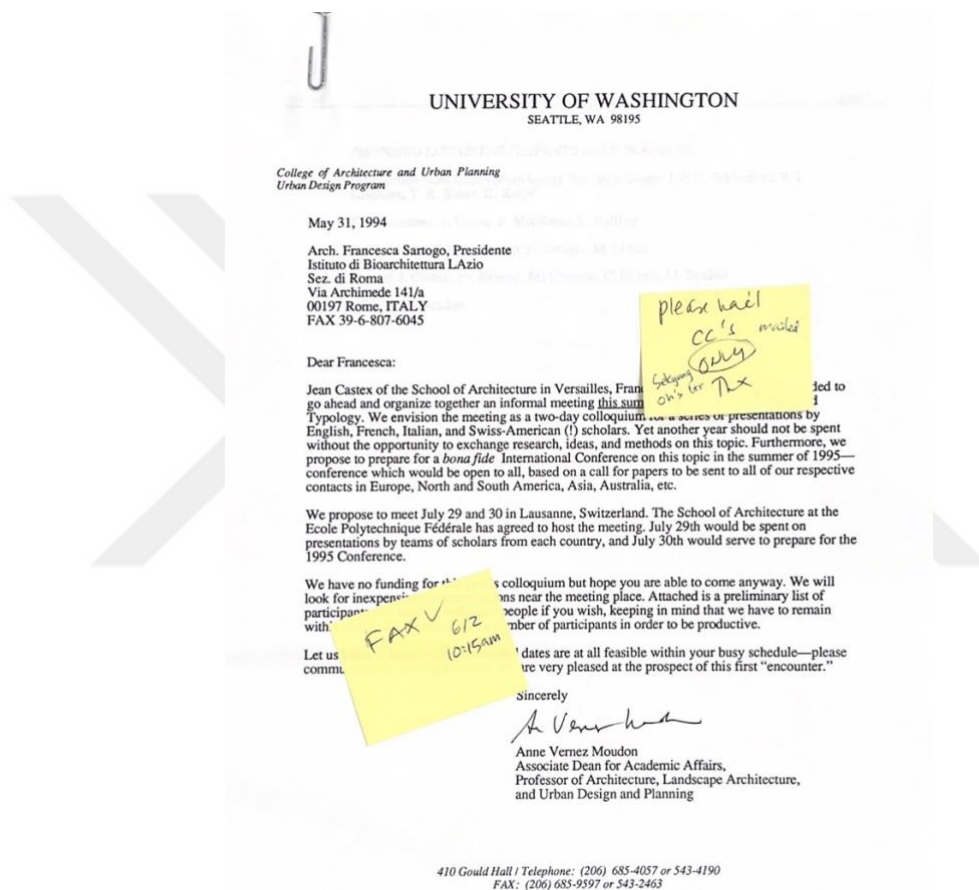


Figure 4.9 An invitation letter by Vernez Moudon for the first ISUF meeting.
Source: Anne Vernez Moudon Papers, 1964-2008, The University of Washington Libraries, Special Collections, Accession No. 5905-001.

⁴³⁶ In 2022, Sylvain Malfroy posted a retrospectively edited video of this lecture online, of which I became aware thanks to Anne Vernez Moudon: *Gianfranco Caniggia: A structural reading of Florence (1984)* (Zurich, 1984), <https://tube.switch.ch/videos/PiY1YwWshu>.

These connections were effective in connecting the three main schools of urban morphology until 1986. Anne Vernez Moudon started to correspond with the members of these schools starting from 1986 and these correspondences eventually led to the first ISUF meeting.⁴³⁷ The content of the letters shows that Moudon is the one who initiated these meetings that, in time, evolved into a very influential international interdisciplinary research network that is still active today. (Figure 4.9)

The first three ISUF meetings were hosted by EPFL consecutively in 1994, 1995 and 1996 in Switzerland.⁴³⁸ In the first of these formative meetings, the researcher teams from France, the UK, Italy, the US, and Switzerland shared their work to get to know each other as well as to discover the ways to communicate in the future and to further the new research field that they were forming. The second and the third meetings were curated as seminars in which maximum twenty papers would be presented by maximum thirty-five researchers to avoid lengthy presentations and to encourage productive discussions and interactions between different research groups. Moudon was responsible for the coordination of these three meetings. She gave introductory speeches with Jean Castex and helped compiling the meeting reports as well as she presented her own research on urban morphology.⁴³⁹

⁴³⁷ Series of correspondence with the members of the Italian, French and British Schools can be found in the Moudon's archive, The University of Washington Libraries, Special Collections, Anne Vernez Moudon Papers, 1964-2008, Accession No. 5905-003.

⁴³⁸ The group of professors in department of architecture from EPFL acted as facilitators who dealt with the logistics of these meetings, hosted dinners and tours of Lausanne and Geneva: Leopold Veuve, Jean-Marc Lamunier, Sylvain Malfroy, and Bruno Marchand.

⁴³⁹ 'Urban Morphogenesis: Urban Morphology/Building Typology (The First International Seminar of Urban Morphology)', Meeting Report (Lausanne: EPFL, July 1994), Accession No. 5905-001, The University of Washington Libraries, Special Collections, Anne Vernez Moudon Papers, 1964-2008; 'The Second International Seminar of Urban Morphology'; 'The Third International Seminar of Urban Morphology', Seminar Report (Lausanne: EPFL, July 1996), Accession No. 5905-001, The University of Washington Libraries, Special Collections, Anne Vernez Moudon Papers, 1964-2008.

4.2.4 Discussion

Theories form the foundations on which new research can build; institutions, on the other hand, play a critical role in defining the research field, forming a research agenda and scientific community by bringing these foundations together. Anne Vernez Moudon has made significant contributions to the field of urban morphology research in general and to the typomorphological approach in this field in particular, with her endeavor to both theory- and institution-building. The sub-chapter aimed to illustrate this through (i) the typomorphological method Moudon developed for neighborhood architecture research in San Francisco, (ii) comparative methodology research, in which she brought together previous studies conducted in this field to guide future researchers in their studies, (iii) contextualizing urban form studies within the discipline of urbanism through the prescriptive-descriptive dichotomy, and (iv) her pioneering role and rigorous effort in the institutionalization process of the field.

In summary, Moudon's research and publications made typomorphological approach well-known in English-speaking academic circles. She is one of the first names to draw attention to Saverio Muratori as the pioneer of the typomorphological approach which formed the basis of the theories developed by Aldo Rossi and Carlo Aymonino. Moreover, she contextualized the typomorphological approach within the field of urban form studies and the broader discipline of urbanism. She also played a critical role in the formation of ISUF that became a very influential platform for urban form studies.

A number of additional conclusions can be drawn. Firstly, it can be thought that while Anne Vernez Moudon developed her own typomorphological research method without being aware of her previous studies, she benefited from the similarity between the systematics of the typomorphological approach and systematics of the flexible mass housing design in the 1970s. This similarity on the intersection of architectural design and urban analysis has the potential to be an important starting

point for associating two rich corpora of literature that were independent from each other.

Secondly, looking from Moudon's dualities of descriptive research-prescriptive theory and analysis-design which are unique to design disciplines underline the importance of urban morphology and typomorphological approach. The urban morphology and typomorphological approach have the potential to provide the researcher with solid scientific foundations to develop new prescriptive theories. It provides alternative methods for the urban planner, urban designer and architect to analyze the built environment before planning and design action.

Finally, the contribution of the typomorphological research to urban conservation planning should be mentioned. Moudon's San Francisco research formed the basis for the 1978 San Francisco Planning Ordinance. This regulation played a key role in transforming the research area, primarily composed of poorly maintained Victorian houses in the 1970s, into a sought-after and vibrant residential environment. The typomorphological research conducted by Vernez Moudon and her team formed the basis for urban conservation planning. It has brought new insights into what spatial control tools can be to maintain the continuity between the old and the new fabric.

4.3 Incorporating typological urbanism to typomorphology: Readings of the contemporary developmental city by Christopher C. M. Lee through Xiamen and Singapore (2010s-2020s)

One of the reasons why Rossi's theory of "architecture of the city" remains frequently referenced in architecture and urbanism is the ongoing search for the missing spatial qualities in the contemporary non-Western city, that are present in the historical European city. However, to more effectively explain the rapidly urbanized cities of the developing world, which often underwent tabula rasa-style development, it is essential to re-examine concepts such as collective memory, genius loci, and urban artifact, which were originally devised to understand the historical city.

As an advocate for the relevance of type and typology in the context of the twenty-first-century city, Christopher C. M. Lee builds upon Aldo Rossi's legacy and elaborates his theory to better explain the rapidly urbanizing contemporary city. He deconstructs Rossi's "architecture of the city" and reconstructs it as "the idea of the city" by transforming the *urban artifact* into *dominant type* and the *historical city* into *developmental city*. These reinterpretations are central to his evolving theory of "the fourth typology"⁴⁴⁰ which took shape during his design tutorship years at the AA, intellectually matured through his PhD at Berlage Institute and TU Delft, and was further refined through seminar courses and design studios that he offered at Harvard GSD.

Christopher C. M. Lee received his architecture degree from the National University of Singapore, a diploma degree from the AA, and a PhD degree from Berlage Institute and TU Delft. He worked as a design tutor at the National University of Singapore, the Architectural Association (AA), and Harvard Graduate School of Design (GSD). Following the publication of the studio report *Typological Formations: Renewable Building Types and The City* as an end product of the design studio that he offered at the AA with Sam Jacoby, he co-edited a thematic issue of *Architectural Design (AD)* magazine titled *Typological Urbanism: Projective Cities* again with Sam Jacoby in 2011. He became an associate professor in practice of urban design at Harvard GSD in 2013. His PhD dissertation "The Fourth Typology: Dominant Type and the Idea of the City" laid the theoretical ground for the graduate seminar and design studios that he taught at Harvard GSD. Three studio reports on three Chinese cities are compiled in the book *Common Frameworks: Rethinking the Developmental City in China*, published by Harvard University Press in 2016. He is

⁴⁴⁰ The title of Lee's PhD dissertation is "The Fourth Typology: Dominant Type and the Idea of the City" referring to Anthony Vidler's well-known article "The Third Typology." He used the same title for the graduate seminar course that he offered between 2012 and 2014; and revised it first as "Type and the Idea of the City" in 2016; then as "Types and the Idea of the City: Architecture's Search for What is Common" in 2020.

currently running his practice, Serie Architects, active in the UK, India, and Singapore, and teaching as a design critic at Harvard GSD.

In his publications, Lee refers neither to the field of urban morphology nor to the typomorphological approach; instead, he labels his work as “typological urbanism” and “the fourth typology.” Nonetheless, his theory aligns with typomorphology because of his focus on comprehending and theorizing the city through its types, echoing the works of Muratori, Caniggia, Aymonino, and Rossi.

It should be noted that Lee’s scholarship does not stand alone; other studies have also utilized typological or typomorphological analysis to examine contemporary cities in developing countries.⁴⁴¹ Some of these studies propose for methodological innovation and improvements.⁴⁴² Yet, Lee’s research advocates for a renewed and holistic typology theory that has a potential to broaden the scope of both conceptual framework and methodological tools of typomorphology.

Drawing from his published works, his unpublished doctoral thesis, and an interview with him, in this section of the thesis it is argued that acknowledging Lee’s theory as part of the typomorphological approach will enhance its applicability to the contexts in the developing world.

⁴⁴¹ Adel M. Remali et al., ‘A Chronological Exploration of the Evolution of Housing Typologies in Gulf Cities’, *City, Territory and Architecture* 3, no. 1 (22 September 2016): 14, <https://doi.org/10.1186/s40410-016-0043-z>; Elmira Ayşe Gür and Yurdanur Dülgeroğlu Yüksel, ‘Analytical Investigation of Urban Housing Typologies in Twentieth Century Istanbul’, *Archnet-IJAR: International Journal of Architectural Research*, no. 1 (2019): 93–111, <https://doi.org/10.1108/ARCH-12-2018-0047>.

⁴⁴² Chen and Thwaites, *Chinese Urban Design: The Typomorphological Approach*; Duygu Gokce and Fei Chen, ‘A Methodological Framework for Defining “Typological Process”: The Transformation of the Residential Environment in Ankara, Turkey’, *Journal of Urban Design* 24, no. 3 (4 May 2019): 469–93, <https://doi.org/10.1080/13574809.2018.1468215>; Edmond Manahasa, Ahsen Özsoy, and Odeta Manahasa, ‘A Hierarchical Definitional Framework for a Heterogeneous Context: Housing Typologies in Tirana, Albania’, *Open House International* 47, no. 2 (1 January 2022): 254–81, <https://doi.org/10.1108/OHI-07-2021-0157>.

4.3.1 “The architecture of the city” vs. “the idea of the city”

The urban challenges that cities in the developing world faced at the end of the twentieth century are different from those faced by cities in the developed world during the mid-twentieth century, and so are the solutions. Rossi looked to the historical European city for the answers to the post-war challenges of European cities. Lee, on the other hand, tries to bridge the theoretical gap between Rossi’s approach and the problems of the contemporary East Asian cities that have been urbanized at an unprecedented rate along with their South Asian and South American counterparts starting since the 1980s.

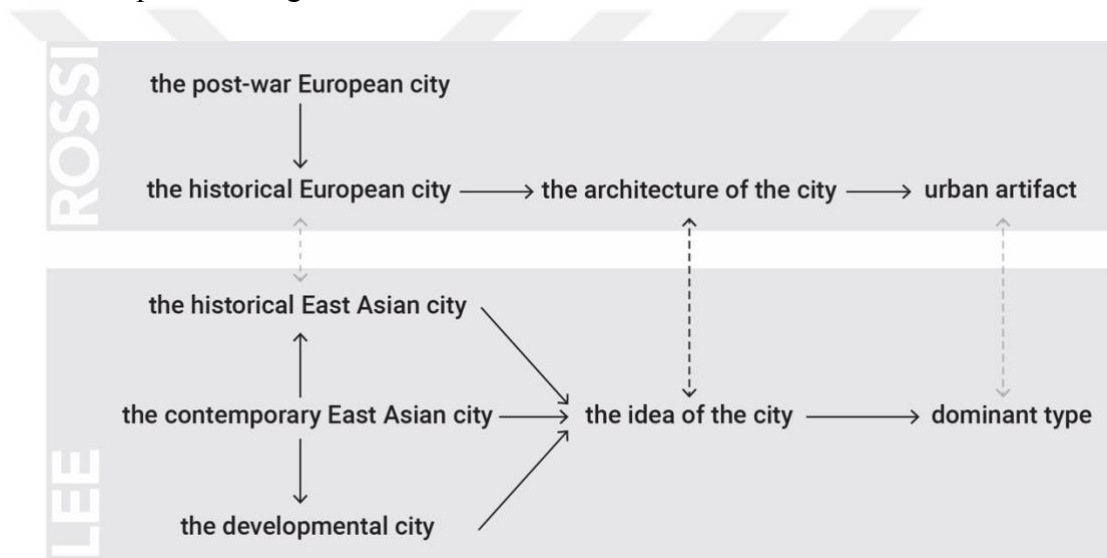


Figure 4.10 Relational structures and conceptual links between Rossi’s third and Lee’s fourth typology.

Source: Drawn by the author.

Rossi’s theory offers a potential perspective to read both historical and contemporary non-Western city, yet it needs to be updated due to its historical and geographical situatedness. In other words, the set of concepts he proposed was designed to uncover the values inherent in the historical European city. These concepts were specific to that context and would need to be adapted for other settings. To this end, Lee introduces the concepts of “dominant type” and “developmental city” as instead of Rossi’s emphasis on the “urban artifact” and “historical city.” The idea of the city

provides Lee with a conceptual link between their theories. Through this link, he is able to position his new conceptualization in conversation with Rossi's framework. (Figure 4.10)

Rossi's theory of the architecture of the city seeks, at the very least, to make the city legible to all, and at most, to lay the groundwork for *an urban science*. He is eager to find a qualitative analysis method for the built environment. As a member of the group forming *La Tendenza*, his agenda involves ascribing autonomy to architecture by liberating it from not only programmatic concerns but also its servitude to other disciplines.⁴⁴³ He embarks on revealing the physical structure of the city through the concepts of *urban artifact*, *primary element*, *monument*, *permanence*, *continuity*, *collective memory*, *locus*, and his criticism on the *naive functionalism*, where he argues that the city is greater than the collection of its parts, and it has its own architecture.⁴⁴⁴

Lee, on the other hand, acknowledges this structure, but also explicitly argues that there exists *an idea* manifested in this structure, which is only implicitly stated in Rossi's book.⁴⁴⁵ Lee defines the idea of the city "as the idea of what is common, . . . as what is shared in the collective imagination, as principle, custom or law that individuals subscribe to as citizens of the city."⁴⁴⁶ For him, each city can be described, understood, and theorized through this idea of what is common in that city. In other words, the city is an artifact that reifies the idea of the city. To him, the idea of a city is also what turns a city into a space of coexistence. It is an idea of what is common, and the reason that convinces free-willed individuals to live together. Each city has a cultural and philosophical basis that determines how it defines this coexistence. It varies from city to city, culture to culture, and evolves over time.

⁴⁴³ Turan, 'Production of a Discourse: Italian "Neo-Rationalism" as Case Study'.

⁴⁴⁴ Rossi, *L'architettura Della Città*.

⁴⁴⁵ Rossi, 179; Rossi, *The Architecture of the City*, 131.

⁴⁴⁶ Lee, 'The Fourth Typology: Dominant Type and The Idea of the City', 255.

At this point, it is necessary to mention the prescriptive function of this concept in Lee's theoretical framework. Lee agrees with Rossi that the solution to contemporary urban challenges lies in historical values. He believes that current problems can be solved if continuity between the contemporary non-Western city and its past can be established. In this sense, his aim is not just to understand and theorize the contemporary city but propose a solution. According to him, the concept of the idea of the city can potentially be instrumental in constructing the continuity between the past and the future. He argues that if the idea of the city in a particular culture that convinced people to live together in the past, is understood thoroughly; the problems can be addressed by restoring this idea in the contemporary city, which is largely shaped by real estate concerns.

Lee's theory draws from a diverse array of sources across multiple disciplines, much like Rossi's, which is informed by the ideas of Halbwachs, Cattaneo, Tricart, Levi-Strauss, Poete, Milizia, and Mumford, from philosophy, anthropology, geography, art, and architecture. The foundation of Lee's theoretical framework is comprised of Aristotle's *polis*, Schmitt's *homogenous demos*, Mouffe's *agonistic pluralism*, Rossi's *collective memory*, Agamben's *dispositif*, and Koolhaas' *heterogeneous containments*.

On the very bottom of this intellectual foundation lies Aristotle's definition and conception of the city.⁴⁴⁷ Aristotle defines the city or polis as a partnership pursuing a common good, with the purpose of allowing individuals to live a fulfilled life through education and law, leading to a rational and just society. The polis is neither a geographic allocation nor an aimless collection of human beings but rather an organization (form) and a structure (artifact) consisting of a compound and a whole rather than an aggregation of its parts. The constitution is the *form* of the polis and is essential for its existence, whereas the built environment is the *artifact* of the

⁴⁴⁷ Lee, *Common Frameworks: Rethinking the Developmental City in China*, 21–23.

polis.⁴⁴⁸ It requires citizens' acceptance or subscription to the common good or law, which is fundamental to Aristotle's definition of the polis as a partnership. It serves as a tangible habitat for its inhabitants and simultaneously as an intangible arena for civic engagement.⁴⁴⁹ It is "a space of association that comes into being for the sake of the common good . . . [which] requires both a '*nomos*'— i.e. constitution, law or customs—and a physical manifestation that consecrates this space of coexistence."⁴⁵⁰

Lee highlights the difference between Western and Eastern cities in order to arrive at a formulation of the idea of the city inclusive of both cultures. He reminds Rossi's comparison between the Greek city and the East Asian city with a note that the origins of historical European cities can be traced back to the ancient Greek polis:

The Greek city was characterized by a development from the interior toward the exterior; its constituting elements were its temples and its housing. Only after the archaic period, for purely defensive reasons, were the Greek cities encircled by walls, and in no case were these the original elements of the *polis*. In contrast, the cities of the Orient made walls and gates their *res sacra*, the constituting and primary elements of the city; the palaces and temples within the city walls were in turn encircled by other walls, like a series of successive enclosures and fortifications.⁴⁵¹

With this quotation from Rossi, Lee highlights that the Acropolis, as a place for worship and governance, is what defines the city, instead of the physical demarcation of city walls. He argues that what connects Athenians to the city is political, not residential: "As Roland Martin pointed out, the ties to the abstract idea of the city were more significant for Athenians than the ties to a physical space; they were

⁴⁴⁸ R.F. Stalley, 'Introduction', in *Politics*, by Aristotle, trans. Ernest Barker (Oxford: Oxford University Press, 1995), xi.

⁴⁴⁹ Lee, *Common Frameworks: Rethinking the Developmental City in China*, 22.

⁴⁵⁰ Lee, 'Type and the Developmental City: Housing Singapore', 988.

⁴⁵¹ Rossi, *The Architecture of the City*, 136.

interested in the form of the city as the political organization most favorable to the moral development of the citizens.”⁴⁵²

Lee elaborates on the similitude of the historical European city to its predecessor Greek polis. The former shares with the latter the dialectics of the abstract and the concrete, the domestic space of the family and the political space of free and equal people, housing and monuments, and the center and periphery. These dialectics, which render the city as a space of the coexistence of free humans with free will, is the idea behind the historical European city. Lee argues that Rossi masterfully reads the dialectics of the historical European city through urban artifacts as the architectures that embody the idea of the city.⁴⁵³ For him, the typical European city consists of an architecture of rule and exception. Housing, which manages private and family life, is the rule and typically follows a deep structure seen in entire housing districts like terrace houses and courtyard blocks. Monuments of the city, like churches, town halls, and libraries, are the exceptions to this rule. These buildings are expressions of the collective will, meant to be permanent singularities in the uniformity of the surrounding area, punctuators of artistic achievement and capital expenditure. In short, the historical European city “as the reification of the idea of what is held in common, as a space of coexistence and therefore a space of plurality, rests on the dialectics of form that Aristotle has bequeathed Western civilization.”⁴⁵⁴

Lee argues that the historical Chinese city, on the other hand, is conceived as a result of entirely different set of cultural and philosophical ideas that have underpinned the political, artistic and aesthetic production of the city as a total work of art.⁴⁵⁵ To him, the conception of the Chinese city is inseparable from the Chinese imperial city of the Zhou Dynasty. The Chinese imperial city was conceived as a whole, and its limits

⁴⁵² Lee, *Common Frameworks: Rethinking the Developmental City in China*, 23.

⁴⁵³ Lee, ‘Type and the Developmental City: Housing Singapore’, 988.

⁴⁵⁴ Lee, *Common Frameworks: Rethinking the Developmental City in China*, 23.

⁴⁵⁵ Lee, 23–28.

were conceptually predetermined and physically demarcated by city walls. The diagram of the walled courtyard house, defined by walls and freestanding pavilions, accommodates all functions of the city, from family dwellings to clinics, temples, schools, and the imperial palace. Lee argues that this self-similar physical structure can be read through the Chinese philosophical tradition, resting on the foundations of the bipolarity of yin and yang. This bipolarity indicates a relationship of two terms, each only being explicable by reference to the other. In this manner, each polar opposite is involved in the other, and at every given moment, things, reality, and the universe are a differential shade, gradient, or intensity of its other. Therefore, there is no separation between the family unit and the state in the Chinese conception of the city, and there is no conception of the individual standing separate from its other in confrontation and opposition in contrast to Western culture.⁴⁵⁶ Lee asserts that this contrast can also be observed in the architectures of the historical European and Chinese city. (Figure 4.11)



Figure 4.11 Athens and Beijing today.

Source: Christopher C. M. Lee, “Type and the Developmental City: Housing Singapore,” *The Journal of Architecture* 20, no. 6 (2015): 1023 (left); Nancy Shatzman Steinhardt, *Chinese Architecture: A History*, Princeton, NJ: Princeton University Press, 2019, xii (right).

⁴⁵⁶ Lee, ‘Type and the Developmental City: Housing Singapore’, 1021–26.

4.3.2 The historical city vs. the developmental city

While seeking remedies for the urban challenges of mid-twentieth-century European cities, Rossi supported his arguments on the architecture of the city through what he called “the historical city.” The built environments of the cities like Milan, Rome, Venice, Athens, Berlin, Vienna were among his primary references. He materialized concepts such as locus, urban artifact, and collective memory through these cities owing to their long history and genius loci. Lee’s search for solution, on the other hand, starts with the conceptualization of the contemporary non-western city as ‘the developmental city’ where one can speak of tabula rasa rather than genius loci in contrast to the historical city.⁴⁵⁷ In this sense, he expands the study area of typological research to include the problematic urban environments that are far from ideal.

The digital turn in architecture was a prevailing theme in the years when Lee was a diploma student at the AA. Similar to the frustration of the neo-rationalists regarding Modernism in combination with the speculative reconstruction of war-damaged cities during the 1950s and 1960s, he and his colleague Sam Jacoby⁴⁵⁸ were critical of architecture’s preoccupation in digital technologies after the millennium, whereas the unprecedented growth in the cities of the developing world remains architecturally and urbanistically under-explored. Bret Steele, the director of the AA at that time, notes that this is why Lee and Jacoby dwelled upon typology and prove its relevance in twenty-first-century city through their design studios in his foreword

⁴⁵⁷ He borrows the word ‘developmental’ from Manuel Castells, who refers to Singapore as a ‘developmental city-state’ in his book chapter “Four Asian Tigers with a Dragon Head: A Comparative Analysis of the State, Economy, and Society in the Asian Pacific Rim,” published in *States and Development in the Asian Pacific Rim* edited by Richard P. Appelbaum and Jeffrey Henderson in 1992.

⁴⁵⁸ In the years between 2004 and 2009, Lee and Jacoby taught a diploma unit together at the AA, five years later they graduated from the same school. Their partnership further extended through their editorship of the typology-themed *Architectural Design* issue “Typological Urbanism: Projective Cities” in 2007.

to their design studio publication.⁴⁵⁹ This publication shows that Lee, his partner, and their students were not content with focusing solely on Western cities. They aspired to read the contexts of cities such as Singapore, Seoul, and Macau as well as Bilbao, Blackpool, and London, through a typological understanding.⁴⁶⁰ Singapore, the city-state where Lee grew up, remained on his focus during his PhD, whereas his interest shifted to the rapidly developing cities of China, namely Beijing, Xiamen, Macau, and Taiqian, after he started teaching at Harvard GSD.

Lee highlights the characteristics of the contemporary cities in his repertoire, which differ drastically from the historical European cities. By doing so, he tries to arrive at a conceptualization of “the developmental city,” for which he sets forth three propositions: Firstly, the developmental city is still largely under construction and in a state of becoming. Unlike its European counterpart, the majority of its footprint is yet to be built. Secondly, it is mostly built from a blank state. The construction activity takes up vast empty lands so that context can barely function as design input. Thus, its types arise from the conditions of tabula rasa, and have no overt link to history or precedent. Lastly, ‘the idea of the city’ in the context of the developmental city is not concrete but rather dependent on circumstances, allowing it to change in parallel with the prevailing regimes of power.⁴⁶¹

In his book, *Common Frameworks: Rethinking the Developmental City in China*, Lee articulates his conception of the developmental city through illustrations from contemporary Chinese cities.⁴⁶² To him, in the developmental city, it is not the architecture that shapes it but rather the desire to earn excessive profit from real estate investments. The architecture profession, actually, designs spaces not to

⁴⁵⁹ Brett Steele, ‘Serial Sensibilities: A Diagrammatic Foreword to Typological Formations’, in *Typological Formations: Renewable Building Types and The City*, ed. Christopher C. M. Lee and Sam Jacoby (London: AA Publications, 2007), 4–5, <https://issuu.com/projective/docs/typoformations>.

⁴⁶⁰ ‘Typological Formations: Renewable Building Types and The City’, Design Studio Report (London: AA Publications, 2007), <https://issuu.com/projective/docs/typoformations>.

⁴⁶¹ Lee, ‘The Fourth Typology: Dominant Type and The Idea of the City’, 261–63.

⁴⁶² Lee, *Common Frameworks: Rethinking the Developmental City in China*, 11–33.

improve urban residents' lives but to generate greater profits for investors. Lee compares the nineteenth-century city and the developmental city and asserts that the urbanization occurred as a response to the housing deficit as a result of the increase in urban population in the former, whereas the growth of the latter is driven by an anticipated demand for real estate that is largely based on speculation. He argues that the approach of using state-owned urban land as a means of promoting development is proved to be effective in China, particularly following the market liberalization of the late 1970s. He points out that due to the underdeveloped nature of China's industries and service sectors, the state takes advantage of its abundant state-owned urban land by selling large plots to developers, which helps in return to reduce the burden of infrastructure provision for itself. This urbanization scenario is familiar and can be associated with many cities in developing countries.

Lee maintains that the developmental city relies heavily on market speculation as a means of operating, which requires planning strategies that avoid political resistance or restrictions to attract developers and financiers. These strategies are often presented as rational planning or the scientific method, while in fact they essentially are euphemisms for an unimpeded form of utilitarianism.⁴⁶³

He also argues that the developmental city has a particular way of urbanization, where the megaplot serves as a basic planning module. In the book *China Lab: Guide to Megablock Urbanism*, David Graham Shane notes that the terms block, superblock, and megablock represent a progression in urban form and organization reflecting greater capacity and scale over time, and they are associated with progressively larger cities, including the historical city, the modern metropolis, and the emerging megacities of Asia, respectively.⁴⁶⁴ Lee prefers the word megaplot instead of its more common equivalent to emphasize its single-handed ownership.

⁴⁶³ Lee, 11.

⁴⁶⁴ David Graham Shane, 'Block, Superblock, and Megablock: A Short Morphological History', in *China Lab: Guide to Megablock Urbanism*, ed. Jeffrey Johnson, Cressica Brazier, and Tat Lam (New York NY: Actar Publishers, 2020), 188.

The size of megaplot can vary depending on its location within the city, generally increasing from urban centers to peripheral regions. It is an effective planning tool that enables the government to rapidly develop urban areas by transferring the responsibility of infrastructure investment to developers. The state only provides the widely spaced basic infrastructure, while the developer is expected to provide the necessary infrastructure and public amenities within the megaplot.⁴⁶⁵ On the resultant sea of speculative enclaves that are also pertinent to many parts of the developing world, Lee states:

Within the megaplots, buildings are regulated by planning parameters that result in either freestanding towers in large, unconsolidated open spaces or colossal superblock housing developments, gated luxury communities or, in the cheaper version, unrelenting rubber-stamped blocks. The urbanization of these megaplots results in the dissolution of the city as a legible artifact; the civic dimension and public sphere play no part.⁴⁶⁶

In contrast to the dialectic of the norm and the exception as housing and monuments in the historical European city, the developmental city accommodates freestanding towers as both norm and exception, offering housing and other uses at the same time. They all are simple extrusions of their floor plans; however, they are marketed through their— what is superficially considered to be—exceptional characteristics.

Lee also argues that the megaplot facilitates an urban design that results in isolated enclaves slightly differentiated based on social class. These enclaves are fragmented by excessive and replicated roads, spaced-out tall buildings, large building blocks, superficial decorative landscaping, and lifeless ground planes. Moreover, they are enclosed by barriers such as fences, security gates, restricted public spaces and upscale facilities, with streets so wide that they pose difficulties for pedestrians. This

⁴⁶⁵ Lee, *Common Frameworks: Rethinking the Developmental City in China*, 17.

⁴⁶⁶ Lee, 17.

extensive urbanization does not represent the genuine essence of a city as a space for coexistence.⁴⁶⁷

Lee criticizes the advocates of the New Urbanism and transport-oriented development for missing the essence of the matter as well. According to him, their solution to these problems is relatively straightforward: narrower roads (but more of them), buildings that create street edges, mixed-use programs, appropriately sized blocks that encourage walking and biking, and public transportation with densely placed transit hubs. He argues that while these solutions are practical and praiseworthy, they overlook the fact that a city is not only a matter of effectively managing spaces for work, living, and leisure using a functional and mechanistic approach that is beyond cultural and political will. He maintains that reimagining the developmental city must challenge and propose an alternative to its ideological foundation, which starts with a recuperation of the idea of a city.

4.3.3 A-priori type vs. dominant type

Lee puts forth the concept of dominant type to offer a fresh perspective for the conceptualization of urban artifact to uncover the cultural, social, and political reasoning behind the architecture of the developmental city. Its clear explanation necessitates revisiting the urban artifact and its relationship with the historical city.

Along with permanence, continuity, memory, locus, and typology, urban artifact⁴⁶⁸ is a key term for Rossi in his effort to make the architecture of the city become readable for anyone. Rossi criticizes former urban studies for lacking interest in singular urban artifacts. For him, urban artifacts are rich sources of knowledge, and

⁴⁶⁷ Lee, 21.

⁴⁶⁸ In the original Italian edition, the concept is referred as "*fatto urbano*" not "*artefatto urbano*" which has a different meaning. The word *fatto* comes from the Latin noun *fāctu* derived from the Latin verb *facere* (to do/make). Probably because the English word "fact" – which has the same Latin root – is thought not to fully meet the concept, the word "artifact" – derived by adding the Latin *arte* (art) to the beginning – was preferred, and the concept was translated as "urban artifact."

disregarding them bears the risk of being reductive toward the built environment.⁴⁶⁹ Like his Italian predecessors, he is aware that architecture exists in time as well as in space, leading him to propose permanence and memory as complementary terms to continuity and locus in the built environment. He believes that the city is a momentary image of a never-ending collective construction process, complexity of which can be unfolded via these concepts.

According to Rossi, urban artifacts are constituent elements of the city,⁴⁷⁰ and they can be in the form of either monument or housing. This classification of Rossi synthesizes writings of Italian art historian Francesco Milizia and the persistence theory of French historian Marcel Poëte.⁴⁷¹ To Rossi, monuments are public buildings in the city. Their existence is more permanent than their functions as long as they have public uses. The number of monuments in the city is far less than that of housing; however, they are experienced by far more users. They have central locations in the city, and they are capable of transforming their surroundings. Over time, a monument's image becomes a part of the city's collective memory. On the other hand, housing represents the private realm of the city. The existence of an individual building in a housing area is temporary, unlike a monument, whereas the character of a housing area is permanent. Individual buildings in a residential area can be demolished and reconstructed, yet this does not change the character of these environments. As Lee puts it, the former, with its popularity, and the latter, with its sheer repetition, constitute "the repository of collective memory" of the city, as Lee puts it.⁴⁷²

⁴⁶⁹ Rossi, *L'architettura Della Città*, 10–11.

⁴⁷⁰ Urban artifact is different from primary element, defined as elements affecting the formation and development of surrounding urban environments by Rossi. Every monument is a primary element, yet the reverse is not always valid. Additionally, primary element does not have to be in the form of an urban artifact. An event can also transform a site into a *locus*; thus can be considered as a primary element. (Rossi, 1966, 105) (1982, 87) A masterplan or old nucleus of the city can also be a primary element. (1982, 99)

⁴⁷¹ Rossi, *L'architettura Della Città*, 44–46.

⁴⁷² Lee, *Common Frameworks: Rethinking the Developmental City in China*, 30.

According to Rossi, urban artifacts are permanent and propelling elements of the city that acts as a mnemonic structure for its inhabitants. To be considered an urban artifact, whether a monument or housing, it must have played a role in the city's ongoing development, remaining permanent and propelling throughout. The accumulation of the city's memory becomes ingrained in the structures of these artifacts; thus, "the architecture of the urban artifacts becomes one that is common to its citizens, an architecture of the city."⁴⁷³

Although Lee upholds and adopts Rossi's definition of urban artifact and interpretation of type, he is aware that these concepts might be inadequate to describe, conceptualize and theorize the contemporary city of the developing world.⁴⁷⁴ To him, collective memory, context, and history are no longer rich sources of knowledge in the contemporary city due to their relatively short lifespans. Therefore, he comes up with the idea of "dominant type" as a new interpretation of type:

... Dominant types can be understood as the typical elements that constitute the city and are the embodiment of *what is common*. To define discursively what is common in this manner uncovers fundamentally the *heuristic nature of type* itself, used as a device to seek out shared characteristics, and to uncover architecture's connection to society at every juncture in history when *the universal principles of architecture and its accepted conventions are no longer valid*.⁴⁷⁵ (The italics are mine.)

This definition, appearing in Lee's texts several times, very briefly mentions the following three conceptualizations, which requires further elaboration: the idea of what is common, type as a heuristic device, and architecture in crisis.

⁴⁷³ Lee, 'Type and the Developmental City: Housing Singapore', 988.

⁴⁷⁴ Lee, 988.

⁴⁷⁵ Lee, *Common Frameworks: Rethinking the Developmental City in China*, 33; Lee, 'The Fourth Typology: Dominant Type and The Idea of the City', 186; Lee, 'Type and the Developmental City: Housing Singapore', 989.

Firstly, with “the idea of what is common,” Lee refers to the idea of the city discussed in detail in the previous section. He argues that in the developmental city, the idea of the city is reified through dominant types. By looking at the dominant types of a city, one can understand the idea of what is common that creates the city.⁴⁷⁶

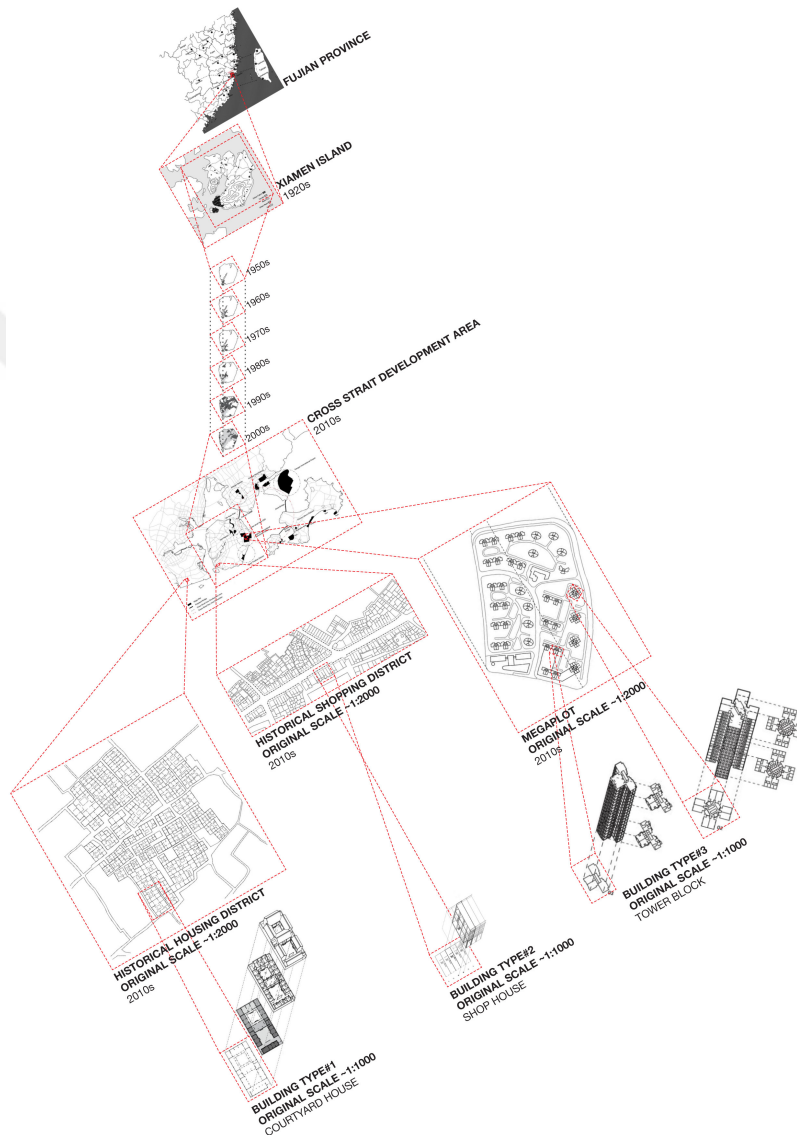


Figure 4.12 Graphic anatomy of Xiamen monograph.
Source: Drawn by the author.

⁴⁷⁶ Lee, ‘The Fourth Typology: Dominant Type and The Idea of the City’, 186.

Secondly, heuristic device is a concept he borrowed from sociology that is defined as “any procedure which involves the use of an artificial construct to assist in the exploration of social phenomena” in the Oxford Dictionary of Sociology.⁴⁷⁷ This sociological tool typically relies on assumptions that are based on previously conducted empirical research.⁴⁷⁸ With an agenda to revalidate the theory of type and its instrumentality for architectural production in today's globalized cities, Lee underscores the heuristic value of type as it was defined in architectural theory.

Lastly, with the position that “universal principles of architecture and its accepted conventions are no longer valid,” Lee refers to disciplinary crises of architecture that coincide with the arousal of the discussions on type and typology as delineated by Vidler in his “The Third Typology” article. According to him, discussions on type and typology arise when architecture is in a disciplinary crisis,⁴⁷⁹ such as the one experienced in the eighteenth century. Quatremère de Quincy developed his idea of type at a time when “the traditional discipline of architecture had been thrown into question by emerging social and technical revolutions” of the Enlightenment.⁴⁸⁰ His contemporary Durand attempted to systematize architectural knowledge with the help of typological method and construct a *science of architecture* in order to catch up with the rapid rise of other scientific disciplines of his time.⁴⁸¹ In the early twentieth century, a second crisis emerged as a result of the industrial revolution, which led to the questioning of the relationship between architecture, architectural production, and technology. The reintroduction of the concepts of type and typology in the 1950s to the architectural theory corresponded to yet another crisis, which stemmed from the spatial discontinuity in the city and the cultural discontinuity in the architectural practice as a result of the Modern Movement, and was further

⁴⁷⁷ John Scott, ‘Heuristic Device’, in *Oxford Dictionary of Sociology* (Oxford: Oxford University Press, 2014).

⁴⁷⁸ Scott.

⁴⁷⁹ Vidler, ‘The Third Typology’, 1.

⁴⁸⁰ Moneo, ‘On Typology’, 28.

⁴⁸¹ Lee, ‘The Deep Structure of Type: The Construction of a Common Knowledge in Durand’s Method’, 173; Madrazo, ‘Durand and the Science of Architecture’, 12.

exacerbated by the unfavorable and speculative reconstruction of the war-damaged cities in Europe after the Second World War.⁴⁸² Vidler describes these moments in architectural history as resulting in the first, the second, and the third typology. According to him, architects and theorists during those periods relied on the concept of type to justify the social and political significance of architecture and “the heuristic value of type became invaluable in these instances, as to raise the question of type is to raise the question of what is typical, and as such it is a search for what is common, not only to architecture itself but to the wider milieu in which it is produced.”⁴⁸³ Lee titles his work as “the fourth typology” arguing that the contemporary city is experiencing another crisis, which can be diagnosed and prognosed through its dominant types.⁴⁸⁴

The distinction between the concepts of dominant type and urban artifact is not very clear in Lee’s texts; however, it is possible to claim that Lee considers dominant type as a complimentary concept to urban artifact. To him, urban artifact is a geographically and historically bounded concept that he conservatively associates with the historical European city—and polis as its antecedent. Any displacement of the concept in space and time requires transformation to dominant type. For example, he uses dominant type when he refers to the historical Chinese city, which he perceives as an Eastern equivalent of the polis with a substantially different philosophical and cultural ground. Similarly, the contemporary Chinese city has its dominant types, not urban artifacts.⁴⁸⁵ Consequently, he implicitly suggests using urban artifact in the context of historical European city and dominant type in the remaining contexts like the historical non-Western city or the contemporary Western city.

⁴⁸² Forty, ‘Type’, 308.

⁴⁸³ Lee, ‘The Fourth Typology: Dominant Type and The Idea of the City’, xi.

⁴⁸⁴ Lee, 1–2.

⁴⁸⁵ Lee, ‘Type and the Developmental City: Housing Singapore’, 1021.

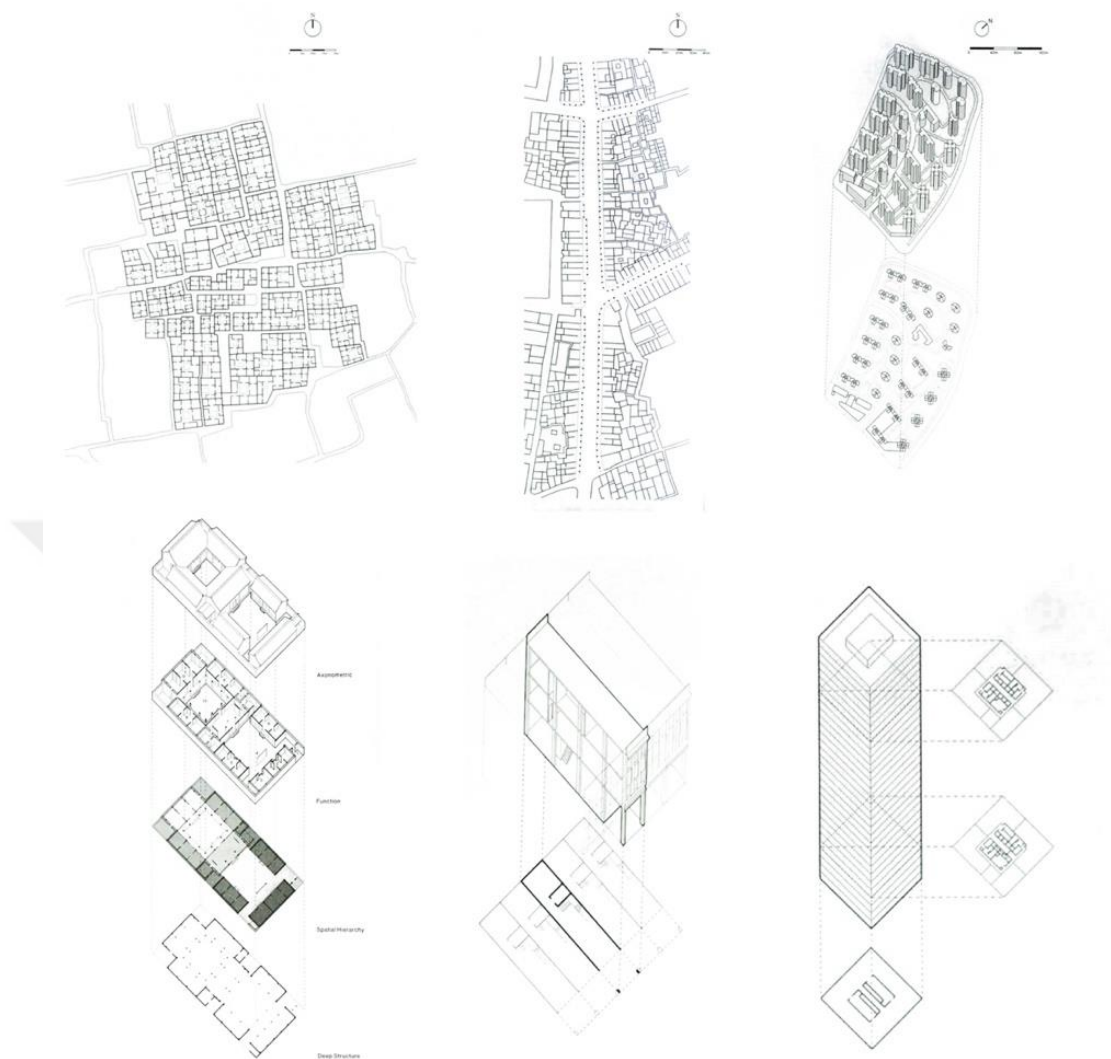


Figure 4.13 Three dominant types of Xiamen and their character areas:
walled courtyard house, *qilou*, and megaplot.

Source: Christopher C. M. Lee, ed. *Common Frameworks: Rethinking the Developmental City in China*, Cambridge, MA: Harvard University Press, 2017, 61-69.

According to Lee, typological analysis requires a simultaneous investigation of what constitutes the idea of the city in the given context. Typology is used as a heuristic tool to determine what is typical and most common to all. In other words, it is a way to locate commonality within plurality. In a simplified typomorphological analysis process, however, detection of types is relatively straightforward: the quantitatively dominant building types within the boundaries of a study area. This is a top-down

process proceeding hierarchically from urban scale to architectural scale. Lee's position reduces the significance of boundary and hierarchy in the analysis process. The context can be verbally defined without the designation of a demarcation line, and city scale and architectural scale can be linked without a sequence.

In the monograph of Xiamen, Lee and his students identify three phases of the city's history through its dominant types: Xiamen as (i) city of defense and its walled courtyard house, (ii) city of commerce and its *qilou* (shop house) and city of development and its megaplot. (Figure 4.12, Figure 4.13)

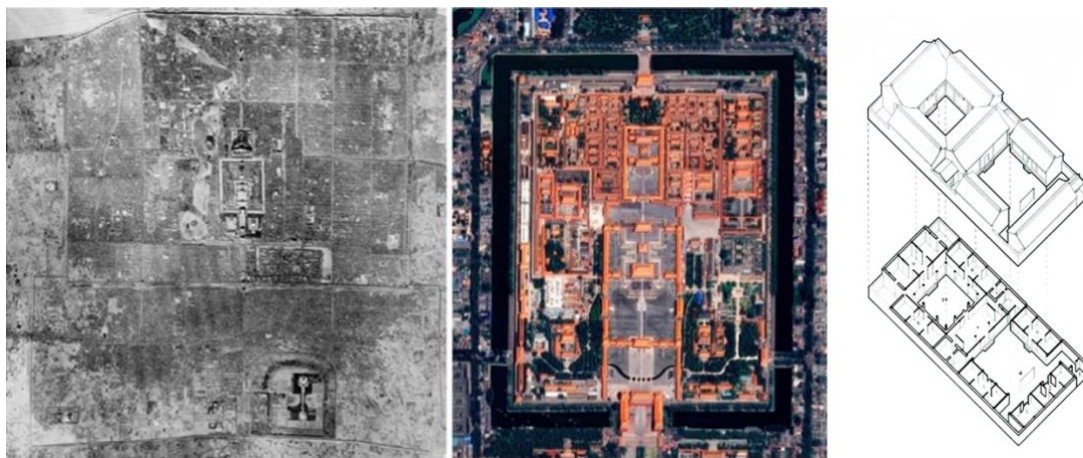


Figure 4.14 Aerial view of Beijing, Forbidden City in Beijing, and walled courtyard house in Beijing.

Source: Christopher C. M. Lee, ed. *Common Frameworks: Rethinking the Developmental City in China*, Cambridge, MA: Harvard University Press, 2017, 27-29.

Lee argues that the first phase is common for all Chinese cities—even for the cities in most East Asian countries, including South and North Korea, Taiwan, Japan, and Singapore—that have their roots in the Chinese imperial city of the Zhou Dynasty with its self-similar fractal-like structure of consecutive walls. The deep structure of the walled courtyard house, freestanding elements defined by walls, governs the spatial organization on various scales, from houses to palaces, from the sacred city to the entire city (Figure 4.14):

The city thus physically represents the ethics of Confucianism and the importance of unity, community, harmony, and balance. The ideal society is one that has strong moral values based on the family; individuals are conscious of their ethical responsibilities. Unlike a traditional European city, which has centers of concentration and is marked by an architecture of exception, monuments set apart from housing, the Chinese city can be viewed as a monument in its entirety. Its singular deep structure acts as a self-similar, fractal organizing structure, a neutral form that defines and accommodates all the plurality of city life: a common framework.⁴⁸⁶

The *qilou* type in the Xiamen monograph characterizes the second phase in the history of Xiamen, as a product of modernization efforts in the city that started in the 1920s and continued until 1960s. After being a city of defense due to its strategic location for a long time, Xiamen started to become an increasingly active commercial and trading center with the interventions of an increasing number of returning Chinese emigres bringing Western architectural and urban models—like the opening of new roads and formation of new commercial districts. Already popular in Southeast Asian colonial cities such as Singapore and Malaysia but not yet in mainland China, *qilou* would become common along these new roads in these new commercial districts after the 1920s.⁴⁸⁷ (Figure 4.15)

⁴⁸⁶ Lee, *Common Frameworks: Rethinking the Developmental City in China*, 28.

⁴⁸⁷ Yuan Zhan, Roy Yu-Ta Lin, and Dingliang Yang, 'Analysis: Xiamen', in *Common Frameworks: Rethinking the Developmental City in China*, ed. Christopher C. M. Lee (Cambridge MA: Harvard University Press, 2017), 58–71.



Figure 4.15 Qilou buildings on a shopping street in Xiamen.
 Source: Shuyi Xie, “Learning from Italian Typology- and Morphology-Led Planning Techniques: A Planning Framework for Yingping, Xiamen,”
Sustainability 11, no. 7 (2019): 8.

In the Xiamen monograph, the third phase of the city’s history, starting from the 1980s, identifies the megaplot as its dominant type and its characteristic as a city of development—or developmental city. Following the economic transformation of the country from state-led extensive industrialization to speculation-based intensive urbanization, the Standing Committee of the Fifth National People’s Congress approved the implementation of Special Economic Zones (SEZs) in 1980, and Xiamen was nominated as an SEZ along with Shenzhen, Zhuhai, and Shantou. Thus, it was officially defined as a ‘developmental city.’⁴⁸⁸ The City Planning Act of 1989 granted local governments the authority to control development and empowered them to create hierarchical development plans which led to a period of master plans as documents accompanied by a series of maps that outlines the designated functions of a city, its development goals, target size, and general land-use structure. These documents portray the city as patches of color, each one designating the land use for a developmental plot or megaplot. They are large parcels of land surrounded by oversized arterial roads with an overall sizing of 4 hectares in city centers and 40 hectares in its peripheries. Negotiations often transfer responsibility for secondary

⁴⁸⁸ Zhan, Lin, and Yang, 66.

roads and public goods to developers, making investment and megaplot development more appealing. However, the delivery of public goods is often delayed or ignored as developers prioritize profitability.⁴⁸⁹ Lee and his students argue that the megaplot is a dominant building type of the SEZ period not only of Xiamen, but also of urbanization across China. (Figure 4.16)



Figure 4.16 View of Huli district over Xiamen Gaoqi International Airport revealing the megaplot pattern of the city.

Source: <https://megaconstrucciones.net/en/xiamen-gaoqi-international-airport/>

Setbacks from main roads, distances between towers, density, and ground coverage in megaplot is regulated by the master plan. To maximize development capacity and thus profit, master plan offers higher densities leading to homogeneous fields of towers. The genericity of megaplot smoothens (yet over-simplifies) the otherwise-complex planning process. Redundant service roads adjacent to arterial roads around the megaplot further isolate it from its surroundings resulting in the formation of the city of enclaves. The spatial organization of residential towers is simple extrusion

⁴⁸⁹ Lee, *Common Frameworks: Rethinking the Developmental City in China*, 19.

and repetition of four corner-aspect units with a compact circulation core. Facades are minimally animated due to the ventilation requirements for the wet spaces.⁴⁹⁰ (Figure 4.17)



Figure 4.17 An example of a megaplot in Xiamen:
“Phoenix Flower City” housing development.

Source: https://xm.fang.lianjia.com/loupan/p_fhhcaawsf/xiangce/6923389.html

Lee aims to show how the idea of the city evolved by looking at the dominant types in the city of Xiamen. He reads the evolution of Xiamen from an introverted defense-oriented city to an extraverted commerce-oriented colonial city, and then to a developmental city that prioritizes economic development through three different dominant types. The idea of the city and the dominant types transform together in time. On the other hand, in his work on Singapore, he constructs a different relation

⁴⁹⁰ Zhan, Lin, and Yang, ‘Analysis: Xiamen’, 68–71.

between the idea of the city and the dominant types where he reads the transformation of the idea of the city over time through the same dominant types.



Figure 4.18 Three housing developments representing three phases of Singapore developmental city-state.

Source: Christopher C. M. Lee, "The Fourth Typology: Dominant Type and The Idea of the City." PhD, Berlage Institute and TU Delft, 2012, 288, 325.

Singapore has rather recent history in comparison to Xiamen history of which dates back to the BC, and the time interval that Lee studies is even shorter, starting with the inception of the republic in 1959. He argues that the idea of the city of Singapore is a developmental city state, and this idea is reified in two dominant types as an

evolving political project: High-rise, high-density tower and slab block, as an evolving political project. These two types make up almost all of Singapore's public housing projects and accommodate 85% of the total population. Lee identifies three periods in the evolution of the political climate which transforms Singapore as (i) a city of welfare between the 1960s and the 1990s, (ii) a city of leisure between the 1990s and the 2000s, (iii) and a city of spectacle after the 2000s.⁴⁹¹ (Figure 4.18)

Muratori's theory of operative history and Lee's theory of typological urbanism share some intriguing parallels. As thoroughly discussed in third chapter, Muratori contends that during periods of collective spontaneous consciousness, a-priori types are discernible. During these phases, individuals contribute to the built environment, drawing upon pre-existing building types ingrained in their minds, without consciously selecting from a range of options. In contrast, during times of crisis, this intuitive understanding fades, and society adopts a more analytical behavior acting with critical consciousness. Muratori believes that a historical examination of the built environment should be performed during these turbulent periods, with a focus on analyzing types and composing new buildings that reflect those types to maintain the historical continuity.⁴⁹²

In a similar vein, Lee establishes a correlation between the idea of the city and its dominant type, akin to the connection between spontaneous consciousness and a-priori type. He proposes that the idea of the city generates dominant types that can help to comprehend it. When the idea of the city ceases to be a common idea shared among the different parties of the city, a process of recuperation is required. This involves revisiting the past ideas of the city through its dominant types and

⁴⁹¹ Lee, 'Type and the Developmental City: Housing Singapore'.

⁴⁹² Parlak Temizel and Bilsel, 'Kuram'ın ve 'Kurum'un İnşası Arasında: Anne Vernez Moudon'un Kentsel Morfoloji Alanına Katkıları Üzerine', 131–33.

attempting to recreate it. This approach is clearly illustrated in the projects designed by students presented in the Xiamen monograph.⁴⁹³ (Figure 4.19)



Figure 4.19 Graduate student projects from “Common Frameworks: Rethinking the Developmental City” design studio.

Source: “Xiamen: The Megaplot,” Design Studio Report, (Cambridge, MA: Harvard GSD, 2013), 100–141.

⁴⁹³ ‘Xiamen: The Megaplot’, Design Studio Report, Common Frameworks: Rethinking the Developmental City in China (Cambridge, MA: Harvard GSD, 2013), 100–141, https://issuu.com/gsdharvard/docs/common_frameworks_part1; Lee, *Common Frameworks: Rethinking the Developmental City in China*, 72–101.

4.3.4 Discussion

Christopher C. M. Lee's contribution to typomorphology through his theory of typological urbanism presents a valuable framework for understanding and theorizing the rapidly urbanized contemporary city. While Aldo Rossi's "architecture of the city" theory remains influential, it should be reframed to explain the spatial qualities of non-western contemporary cities that have undergone rapid urbanization. Lee's work builds upon Rossi's ideas, deconstructing and reconstructing them to create "the idea of the city" through the transformation of urban artifact into dominant type and historical city into developmental city.

By incorporating Lee's concepts into the typomorphological approach, significant contributions can be made to update and enhance this field of study. There is a number of individual studies applying typological and typomorphological analysis to the contemporary cities of the developing world, and some also offer methodological novelties. Among them, Lee's works suggest a renewed typology theory with an alternative analysis method. The concept of developmental city can explain the urbanization processes and procedures in the cities like Bangkok, Buenos Aires, and İstanbul along with the East Asian contemporary cities. Dominant type reifying the idea of the city is instrumental to read the contexts without long history and memory like European historical centers.

Incorporating Lee's typological urbanism into typomorphology expands the analytical toolkit and theoretical framework available to researchers and practitioners. It encourages a nuanced examination of urban form, function, and evolution through the lens of types, shedding light on the unique characteristics and dynamics of different urban contexts. By embracing Lee's ideas, typomorphology can address the challenges posed by tabula rasa urbanization and contribute to a more holistic understanding of the contemporary city.

Lee's theory of typological urbanism, influenced by Aldo Rossi's "architecture of the city," presents a valuable and innovative approach to typomorphology. By

incorporating Lee's concepts, the field can evolve and adapt to the complexities of the rapidly urbanized contemporary city, providing deeper insights into urban form and development.





CHAPTER 5

CONCLUSION

The thesis has explored the evolution of typomorphology as a generative, productive, and relevant research field and its theoretical frameworks and a methodological tools for analyzing and theorizing the ordinary architecture of the city. By examining its conceptual origins, development, and impact, with a particular emphasis on the Italian school of typomorphology, and comparing its interpretations across diverse historical and geographical contexts, the study underscored typomorphology's richness and capacity to read the ordinary architecture of any city. Through a genealogical research, the thesis traced the theoretical and methodological continuities and divergences within typomorphology from its emergence to present, highlighted its fundamentals through its continuities, and reveal its richness and potentials through its divergences, and thus, established a theoretical and methodological foundation for its contemporary interpretations.

A parallel can be drawn between the typomorphologists' efforts to investigate the structural and dialectical relationships between building types and urban forms through their permanence (in time) and dispersal (in space), and the thesis's endeavor to uncover the conceptual origins, formation, historical transformations, and geographical translations of typomorphology through its conceptual and methodological continuities and discontinuities.

Continuities

Building typology was never perceived merely as a functional or formal classification tool among typomorphologists. There was a consensus that types emerged from prevailing building traditions within a particular geography and time. Thus, their existence was independent of the researcher's analysis or classification

criteria. With type, they referred to buildings that were quantitatively dominant within a historical and geographical context, sharing common formal characteristics as a result of the political, technological, economic, and socio-cultural factors prevalent in that context. Examples included the domus in ancient Rome, the Victorian house in eighteenth-century San Francisco, and the megaplot in developmental Xiamen—all exemplified this understanding of typology. Despite excluding any programmatic classification, this conceptualization of type prioritized housing over other building groups (and dwelling over other building uses) due to its repetition and prevalence in the built fabric. Whether called *a-priori type* or *dominant type*, its focus remained on a fundamental aspect of the city's ordinary architecture: urban housing, shaped incrementally and collectively by society rather than being designed by architects and planners.

A reciprocity between **urban morphology** and building typology was achieved through multiscalarity as a fundamental aspect of these studies. In their city monographs, typomorphologists proposed alternative approaches to contextualize a building (even a room) within a city (or even a territory) while accounting for the complexity of urban phenomena. In structuring the multiscalarity of their studies, Caniggia focused on the scales of building, aggregate, city, and territory; Rossi emphasized street, neighborhood, and city scales; and Moudon based her work on the scales of room, building, block, street pattern, and geographical formation. Regardless of the specific scales they emphasized—from room to territory—most suggested a nesting relationship to link building typology with urban morphology. This approach paralleled Durand's perspective, where building elements (such as columns, pilasters, walls, doors, and openings) were assembled to create intermediary parts (such as porches, staircases, and halls), which in turn were constructed into entire buildings, ultimately constituting cities. Furthermore, by definition, since a building type generates its own characteristic urban form, the scales identified with aggregate, street, or block held as much significance in their studies as the building scale itself.

Typomorphology have traditionally been closely linked with **architectural education**. The primary references in typomorphology literature were seen to emerge from seminar courses, design workshops, or research projects conducted in collaboration with students. Most researchers in this field were also involved in architectural education. They tested their theoretical and methodological frameworks on typomorphology in courses or research projects with their students. Muratori's "*Caratteri distributivi degli edifici*" course in IUAV, his "*Composizione architettonica*" course in the Faculty of Architecture in Rome, Caniggia's "*Composizione architettonica*" course in the Faculty of Architecture in Florence, Aymonino's "*Caratteri distributivi degli edifici*" course in IUAV, Rossi's "*Caratteri degli edifici*" course in Politecnico di Milano, Moudon's design studios and research projects at UC Berkeley and MIT, and Lee's seminar courses and design studios at Harvard GSD and many others illustrated the noteworthy position of typomorphology in architectural pedagogy. Moreover, a comparative examination of how typomorphology was regarded in composition/design-oriented courses versus analysis/research-oriented courses provides important historical insights into how the relationship between urban analysis and architectural design was addressed within typomorphology.

The **representation** of building and urban form through visual material (drawings and photographs) was an integral part of typomorphology studies. Each city monograph presented the spatial and temporal continuity of the built environment to its reader through a carefully curated set of drawings. (Figure 3.8, Figure 3.9, Figure 3.10, Figure 4.6, Figure 4.12) Spatial continuity was achieved through a series of drawings that descended from territorial diagrams to city maps, and from neighborhood maps to building plans, in successive steps from territorial to architectural scale. The level of detail and scale for each step was determined not only by technical drawing conventions but also by the physical features of the monograph (format, size, foldouts, etc.). (Appendix B) Temporal continuity was achieved by representing a comparative history of built forms through the repetition of drawings at the same scale and/or the superimposition of color-coded layers on a

single drawing. While the Italians strictly adhered to orthographic set and photographs, Moudon and Lee also included axonometric drawings in their visual investigation.

Beyond these, yet in connection with them, some partial continuities can also be observed in the theory and methodology of typomorphology. Firstly, debates on **autonomy in architecture** and the scientific nature of the discipline of architecture have intersected multiple times in the past with the trajectories of typology and typomorphology research in architecture, specifically in the works of Durand, Caniggia, and Rossi. Secondly, at times, conceptual continuity manifested itself through concepts like **parti / deep structure / typological precision** or **a-priori type / dominant type**—concepts that changed in name but remained consistent in essence.

Discontinuities

The findings of the thesis also indicated important discontinuities within the field. The most remarkable one lay in the opposing positions regarding how the **relationship between urban analysis and architectural design** should be established. While Muratori and Caniggia viewed urban analysis as the initial and obligatory phase of design, Aymonino and Rossi argued that rendering this relationship as a must would harm both discipline and education of architecture. Moudon introduced a new dimension to this debate by distinguishing between descriptive research and prescriptive research. According to her, although descriptive research, which could be associated with urban analysis, was not a prerequisite for architectural design, it should have been a prerequisite for prescriptive theory in urbanism. Additionally, her urban analysis research served as a basis for urban planning in the case of San Francisco. Lee, on the other hand, argued for the necessity of returning not to the architecture of the city but to the concept of the city itself in addressing the problematic urban environments of the contemporary city. While advocating for the continuity of the relationship between urban analysis

and architectural design, he tried to elevate it to a more metaphorical level in the context of non-Western contemporary cities.

Another discontinuity is linked to the **object of study**. Although the mid-20th-century Italian cities' speculative reconstruction was problematized by the Italian typomorphologists, their main focus was not on problematic new developments but on the historic city as an ideal model. The aim of Muratori and Caniggia was to identify inputs for architectural design, while Rossi sought to unveil the structure of the ideal city. Aymonino distinguished himself from others by seeking to analyze the structure of the speculative city in his research. Moudon, on the other hand, conducted typomorphological research to elucidate the adaptive potential inherent in the built environment. Her study area was a relatively historic neighborhood of San Francisco that was undergoing urban transformation. Her typomorphological analysis demonstrated that the adaptive potential of the older urban fabric exceeded that of newer developments. In other words, the idealized as well as the critical aspects of urbanity were embedded within her field of investigation. Lee began by examining problematic newly developed areas in the non-Western contemporary city, employing typomorphology as a diagnostic tool. Consequently, the solution was pursued through the urban and typological analysis of the historical core of the non-Western city. Those shifts in the object of study inevitably necessitated methodological diversifications.

Contributions

This thesis contributed to the typomorphology literature on two distinct levels. At the macro level, it brought together studies in the field with their theoretical frameworks and methodologies, thereby revealing the general scope, as well as the theoretical and conceptual richness of typomorphology. (Appendix A) Over its nearly 80-year history, typomorphology had been reinterpreted across different periods and geographies, each time adapting and expanding with new concepts suited to its new context. To highlight this conceptual richness, the thesis consolidated these diverse set of studies. Furthermore, it contributed to the English typomorphology

literature by translating key concepts from Italian sources—largely inaccessible due to limited translations—and discussing them in English. Additionally, the thesis drew connections between the long-standing discourse on typology within architectural theory and typomorphology theory through the works of Quatremère de Quincy and Durand. Lastly, it reestablished links with a research trajectory that had once diverged from the roots of typomorphology by relating Lee’s work—though not explicitly positioned within the typomorphology field—to typomorphology.

At the micro level, the thesis enriched the historical narratives of the field by highlighting overlooked connections and details, some of which had not been previously addressed in English literature. First, it underscored that the interaction between Italian and French literature on typology and typomorphology was considerably stronger than the interaction between Italian and English literature or between French and English literature. It was illustrated with the earlier resonance of Quatremère de Quincy and Durand’s works in Italian literature compared to English, and the adoption of Italian typomorphologists’ research by scholars in France well before those in England and the United States. Second, it investigated Anne Vernez Moudon’s contributions as a pivotal figure in the field of urban morphology through her research on San Francisco during the 1970s, where she developed a typomorphological method; her comparative analysis of the three major schools of urban morphology in the 1980s; and her critical role in facilitating the inaugural meetings of the International Seminar on Urban Form (ISUF) in the 1990s. Lastly, it pointed out the intriguing parallels between the flexible housing research of the 1970s and the system-finding approach of typomorphology—suggesting a deeper linkage that warrants further exploration.

Looking ahead, the thesis positions typomorphology as a significant research field for understanding and shaping contemporary urban environments. As cities around the world continue to experience rapid and complex growth, particularly in developing regions, typomorphology offers a nuanced framework for analyzing and responding to the forces shaping ordinary urban architectures. Its emphasis on

understanding urban form through collective, historical processes and its adaptability to different contexts suggest that typomorphology has much to offer not only in academic research but also in practical urban planning and architectural design. By establishing a comprehensive genealogical foundation, this thesis invites future research to expand upon the theories and methodologies of typomorphology to address the challenges of twenty-first-century urbanization, thereby connecting the insights gained from the history and theories of typomorphology to the practical demands of shaping contemporary urban environments.



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APPENDICES

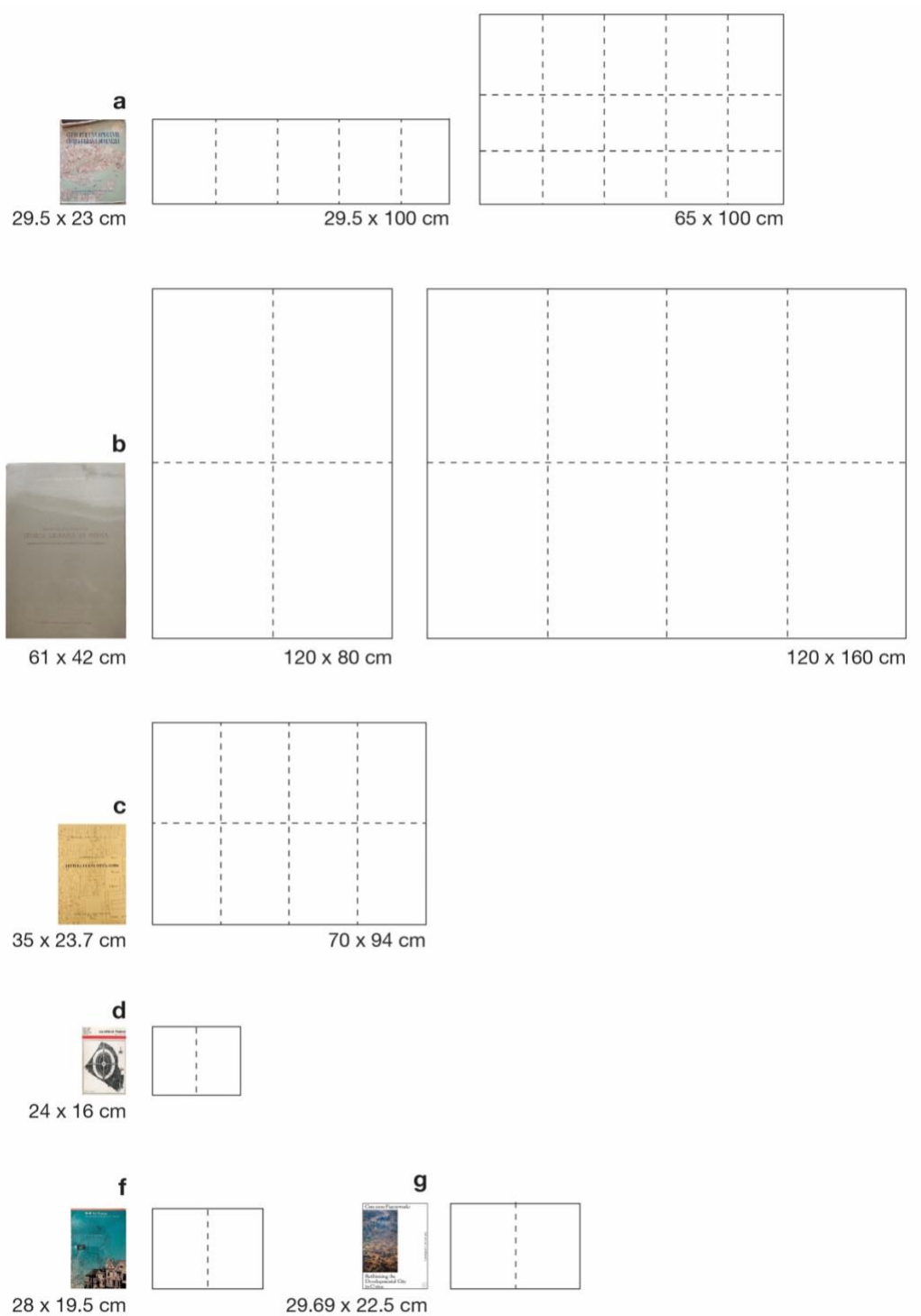
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B. The physical features of city monographs

Considering the extensive role that analyses based on architectural drawings and photographic images play in typomorphology, it is appropriate to address the physical characteristics of city monographs—such as format, size, shape, and color usage—that can have a restrictive impact on the graphic content before investigating/exploring their written and graphic contents.

All monographs, except Muratori's work on Rome, have been published in book format. The Rome monograph, published in portfolio format, measures 61 x 42 cm and contains five fascicles primarily composed of texts, six large plates folded into eight sections, and one large plate folded into four. This format allows for the inclusion of the most detailed and comprehensive maps in this monograph. The Venice and Como monographs stand out from other book-form monographs due to their slightly larger size. These two works also contain folded plates similar to those in the Rome monograph. Thanks to these foldouts, the Rome, Venice, and Como monographs include maps that represent the entire urban area under study at scales of 1:1000 and 1:4000 to their reader. The Padua, Versailles, San Francisco, and Xiamen monographs are larger than standard books. In these bound books, which do not contain any foldouts, the authors have used double-page spreads for drawings that exceed the book size. Apart from the color-coded maps in Muratori's Venice and Rome monographs and the colored photographs in Lee's Xiamen monograph, most of the monographs are printed in black and white.



Relative dimensions of the city monographs and their folded plates:
 Venice (a), Rome (b), Como (c), Padua (d), San Francisco (f), and Xiamen (g)
 Source: Drawn by the author.

C. Comparison of the cities studied in the city monographs



Venice
Population then: 150,242
Population now: 49,129



Rome
Population then: 2,155,093
Population now: 2,860,009



Como
Population then: 309,134
Population now: 491,000



Padua
Population then: 503,554
Population now: 698,000



San Francisco
Population then: 723,959
Population now: 746,481



Xiamen
Population then: 1,847,047
Population now: 2,626,970

Relative sizes and populations of Venice, Rome, Como, Padua,
San Francisco, and Xiamen (line scale to be added)

Source: Drawn by the author.

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EDUCATION

Degree	Institution	Year of Graduation
MArch	METU, Architecture	2015
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FOREIGN LANGUAGES

Turkish (Native), English (Advance), Italian (Intermediate), Spanish (Beginner)

PUBLICATIONS

Journal Articles

1. **Parlak Temizel, Neris**. “From theory to institution: Contributions of Anne Vernez Moudon to urban morphology,” *Urban Morphology* 28-1 (2024): 27-44.
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2. **Parlak Temizel, Neris**, and Bilsel, F. Candaş. “‘Kuram’ın ve ‘Kurum’un İnşası Arasında: Anne Vernez Moudon’un Kentsel Morfoloji Alanına Katkıları Üzerine”. *Türkiye Kentsel Morfoloji Ağı, IV. Kentsel Morfoloji Sempozyumu Bildiriler Kitabı*, Konya, 2023, 51-69.
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