



Urban Morphology Schools: A Review of the English, Italian, and French Schools of Thought

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Abstract

This article provides a comprehensive review of urban morphology schools, with a focus on the English, Italian, and French schools of thought. The analysis follows standard academic methods, identifying central themes and important considerations while integrating current insights and knowledge in the field. By presenting a transparent and systematic study aligned with academic standards, this article contributes to the expansion of knowledge in urban morphology and provides a clear framework for future research. The English School, rooted in the work of Otto Schlüter and popularized by MRG Conzen, emphasizes the study of the urban landscape and its impact on the city-making process. The Italian School, pioneered by Saverio Muratori and Gianfranco Caniggia, focuses on the morphology of existing cities and the relationship between buildings and urban form. The French School, founded by Philippe Panerai, Jean Castex, and Jean Charles Depaule, combines design theory and city-building theory, incorporating ideas from sociologists and architectural historians. The article highlights the contributions of these schools and their relevance in understanding urban form from analysis. Finally, a comparison is made among these schools, along with providing criticism to enhance our understanding of them.

1. INTRODUCTION

In order to present a comprehensive and up-to-date research on urban morphology, it is imperative to thoroughly examine the various schools of thought and the relevant information associated with them. To ensure that the analysis adheres to standard academic methods, it is crucial to identify the central themes and important considerations of the main schools, as well as to integrate current insights and knowledge in the field. This approach will result in a transparent and systematic study, aligned with academic standards, which will contribute to the expansion of knowledge in the field and provide a clear framework for future research endeavors.

The ISUF meetings have shown an interest in urban morphology from several generations of scholars from various countries such as England, Italy, France, and many other countries (<http://www.urbanform.org>). The area was dominated by German geographer M. R.G. Conzen (1907-2000) and the Italian architect, who taught in Venice and Rome, Saverio Muratori (1910-73). Within their respective fields of geography and architecture, both men's ideas were unique and contradictory; They started English and Italian schools. The attributes of Conzen's and Muratori's theories attracted researchers who saw the value of understanding the city and study of form. Whitehand (1981) confirmed Conzen's research by bringing together some of his works and researching the development and importance of his ideas. Whitehand, an urban and historical geographer, moved the boundaries of urban geography into urban economics and studied the relationship between the city and its habitats and the dynamics of the building industry. In the late 1960s, a third school arose in France after Conzen and Muratori settled the field for two primary schools in urban morphology [1] [2].

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2. RESEARCH METHODOLOGY

To ensure the research aligns with academic standards and integrates current insights and knowledge, a comprehensive review of the literature on urban morphology was conducted. In order to achieve this objective, a systematic and rigorous research methodology is employed to gather and analyze relevant information from primary and secondary sources.

2.1 Data Collection

The data collection process involved extensive literature review and analysis of scholarly articles, books, conference proceedings, and relevant research papers. Various academic databases. The search terms used included "urban morphology," "English school," "Italian school," "French school," and related keywords. The data were organized and categorized based on the different schools, their origins, influential figures, theoretical frameworks, methodologies, and major works. Comparative analysis was conducted to highlight similarities, differences, and the evolution of ideas within and across the schools.

2.2 Limitations

It is important to acknowledge the limitations of this research. The focus is primarily on the English, Italian, and French schools of urban morphology. Additionally, the research primarily draws from published literature in English and Persian, which may result in a potential language bias.

3. ENGLISH SCHOOL

The roots of the English school, which considered the most flourishing tradition of research in urban geographical morphology [2], can be traced back to Otto Schluter, a German-speaking geographer. who is undeniably recognized as the father of urban morphology [3]; He presented the morphology of the cultural landscape, which, in human geography, holds a role akin to geomorphology in natural geography. This made the study of the urban landscape an essential research topic, particularly in industrialized countries [4]. However, it is known that the origin of this school is British, as the most prominent studies within this context were conducted by Conzen in Britain [2].

Conzen, originally from Germany¹, developed his framework in Britain after relocating there and observing English cities [2]. His framework encompasses distinct features such as morphogenetic methodology, cartographic representation, and terminological precision [3]. However, Larkham suggests that this school can be referred to as the German school. This might be because English morphologists were more focused on describing and classifying rather than conceptualizing processes [6][8], or it could be attributed to Conzen's dissemination of his ideas beyond German-speaking countries, Hence, this school, which is considered the most influential and popular tradition in urban morphology research, is sometimes known as the German school [9] [7].

Conzen holds a prominent position in the field of town planning, with a philosophy that focuses on the city plan, building fabric, and land utilization. The key elements of Conzen's urban form can be summarized as follows: the street system, the building system (including plots and buildings), and the land-use pattern [10]. In other words, Conzen's analysis of the urban plan reveals that the three-component systems of roads, sections, and buildings come together separately in various areas of the city. Each combination is unique to its specific site circumstances and contributes to a level of morphological homogeneity or cohesion within its region [11].

¹ Studied geography, history, and philosophy at the University of Berlin, and later moved to Great Britain to pursue town and country planning studies at Victoria University, following the rise of the Nazi Party in 1933. While working in Macclesfield, Cheshire, in the field of regional and town planning. Conzen engaged in postgraduate research in historical geography at Victoria University of Manchester [5]. His education in Berlin exposed him to diverse perspectives from the arts, humanities, and natural sciences, enabling him to develop a profound understanding and insight [6] [7].

Proponents of this school of thought believe that studying the urban landscape establishes the foundation for the theory of city-making processes, which explains the history of urban development and guides future planning. It also introduces a new field of knowledge called townscape management [9]. MRG Conzen's view that the townscape represents the "objectification" of the human spirit serves as a valuable starting point for considering the philosophical basis of urban morphology. The urban environment reflects the past and present efforts and aspirations of its residents, evident in its physical form, such as street layout, buildings, and use of spaces. This physical form encapsulates the *genius loci* or spirit of place. Although many inhabitants may receive it unconsciously, its significance as part of their identity and sense of belonging remains profound [12].

One of Conzen's most significant works is his detailed morphological study of Alnwick, where he explains his methods and analysis of town planning. By examining the physical structure of urban space, Conzen utilized a historical geographical perspective to decipher the accumulation of forms created by generations of builders, planners, and ordinary people [13]. This research serves as an excellent example of morphology studies for small towns and villages.

In conclusion, the English School of Urban Geographical Morphology, rooted in the work of Otto Schluter, and popularized by MRG Conzen, has become one of the most flourishing traditions of research in the field. Conzen's contribution to town planning studies, his philosophy on the city plan and land-use pattern, and his detailed morphological study of Alnwick are widely recognized and continue to be a valuable source of inspiration for researchers and practitioners in the field of architecture and urban planning. The urban environment reflects the human spirit, and the Conzenian approach to urban morphology provides a foundation for understanding the history of urban development and shaping future plans, making the study of the urban landscape a vital and exciting area of research.

4. ITALIAN SCHOOL

During the 1950s in Italy, studies of morphology were started by Saverio Muratori (1910-1973). Muratori taught at the University of Venice in the 1950s and then the University of Rome in 1964, he was deeply unhappy with the impact of modern architecture on existing settlements and cities. He and his main follower, Gianfranco Caniggia (1932–1987), were analysed the building and the city process in classical Italian cities. Their methodology was based on the categories of buildings and open spaces associated with them, from their initial state to their subsequent changes over time. Their works had a significant impact on the theoretical and practical features of Italian architecture as well as on the use of building typologies in North American architectural design indirectly [7].

According to Muratori, the roots of architecture should not be traced back to imaginative modernist designs. However, they should instead be sought in the more coherent and consistent tradition of urbanization from the old times to the 1930s. Muratori first proposed the morphology of existing cities in his architectural design ateliers but it did not take long for his lesson to become a defining issue for Italian architects. They considered morphological studies and analysis an essential pre-design step (Ibid). For his study, Muratori defined four classification scales: *arredamento* (interior decoration), *edilizia* (building), *urbanistica* (town plan), and *territorio* (region). There are also two sub-groups for each major group: *seriali* and *organici*. The "Serial" groups are aggregated by adjacency. "Organic" groups are the ones in which cohesion and association combine elements. Although the classification table and the level of specificity between followers of Muratori are varied, generally, they begin at the smaller scale of the architecture and move to a higher urban and regional level [14].

The Muratori mantle, which supervised his 1963 study of Como's city, was taken over by Gianfranco Caniggia (1933–87) in Italy. Caniggia continued the Muratorian tradition through his works. He called it the 'procedural typology,' as the basic origin of urban form is building types, which is because of the emphasis on building types as the elemental basis of urban form [2]. Caniggia implemented the four-partite division in the same way as Muratori. However, its four scales included building, aggregate, urban organism, and territorial organism [14]. Like Muratori, Caniggia not only developed theory but also put it into practice, remaining actively involved in architecture and building throughout his life. He collaborated

with colleagues and students in various cities in Italy and North Africa, and the Muratorian Legacy has been continued by practitioners such as Giancarlo Cataldi, Gian Luigi Maffei, Maria Grazia Corsini, Paolo Maretti, Giuseppe Strappa, and others in Florence, Rome, Genoa, and Siena [2].

Many architects influenced by Muratori have regarded the historic city as a source of knowledge. The rejection of modernism by Muratori became the subject of further research by two well-known Italian architects: Aldo Rossi and Carlo Aymonino [15]. Aymonino and Rossi's work was clearly in line with the ideas of Muratori and Caniggia. However, the two students differed in their critique of modernism from their master's method of criticism.

Aldo Rossi's approach to urban morphology can be seen in his analysis of the historic geographical structure of the urban landscape. He explored the concept of morphological regions and their hierarchical organization within the urban fabric. Rossi believed that understanding the morphological structure of a city was crucial for designing and planning urban spaces [16]. His work emphasized the importance of historical context and the relationship between architecture and the urban environment.

Carlo Aymonino, on the other hand, focused on the rapid changes in urban morphology caused by urbanization. He analyzed the evolution of urban morphology in cities like Shenyang, China, using satellite remote sensing images from different time periods [17]. Aymonino's approach incorporated technological advancements and quantitative methods to study urban form and its transformation. He recognized the potential of computer-based geoprocessing and spatial analysis in understanding urban morphology [18]. Both architects contributed to the field of urban morphology by expanding the toolkit of quantitative analysis and exploring different aspects of urban form. Rossi's emphasis on historical context and Aymonino's integration of technology and quantitative methods provided valuable insights into the study of urban morphology.

Muratori and Caniggia believed that in order to restore the traditional relationship between buildings and cities in new urban areas, new building designs must be based on traditional city analysis. According to their approach, architectural design interventions should follow established structures, and the architect's role is that of a technician who organizes the human environment within the context of the growth and transformation process of the city [7]. The Italian school of thought emerged in response to the standardization of modernism, with a focus on the types of buildings that form the basis of the entire city [8].

In conclusion, the works of Saverio Muratori and Gianfranco Caniggia had a profound impact on the study of morphology in Italy during the 1950s. Their methodology of analyzing the building and city process, based on the classification of buildings and open spaces, remains relevant to this day and continues to influence architects in Italy and beyond. Their rejection of modernism and emphasis on the importance of analyzing traditional cities as a source of knowledge inspired architects such as Aldo Rossi and Carlo Aymonino but with different analysis techniques. The legacy of Muratori and Caniggia lives on through the work of their students and colleagues who continue to use their methodology and ideas in their practices.

5. FRENCH SCHOOL

The third school emerged in France during the latter half of the 1960s, with its foundation attributed to architects Philippe Panerai and Jean Castex, in conjunction with sociologist Jean Charles Depaule. The establishment of the d'Architecture de Versailles occurred contemporaneously with the dissolution of the Beaux-Arts. The French school's morphological framework, similar to that of the Italian school, was a response to the principles of modernism. The Versailles school displayed a dual focus, seeking to establish both a design theory and a theory of city building, with strong connections to the social sciences and a commitment to investigating issues of human interaction with their surroundings. This led to a rich intellectual discourse on urban life, incorporating critical ideas from sociologists such as Henry Lefebvre and architectural historians such as Françoise Boudon and André Chastel [2] [9]. Therefore, it can be

argued that the formation of the French school closely followed the studies conducted by the Italian school.

Meanwhile, Rossi and Aymonino's views have influenced the French school more than any other Italian thinker, such as Caniggia [19]. The most important feature of the French school is the formative theories of city form which focuses on the interplay between geographical, social, historical, and cultural factors in shaping urban environments. They provide a multidimensional perspective on urban development, considering both physical and intangible aspects of cities. For example, in a study of different European cities, they examined the effects of the city gardens theory on London's shape and the effects of Haussmann urbanization on the form of Paris with the idea of the shining city of Le Corbusier [20]. Therefore, this school's scholars mainly engage in the changes that have happened under modernism [8]. In terms of architecture, the French School aligns with Muratori's philosophy. It is believed that modernism constituted a decisive break with the past and that the roots of architecture should be rediscovered in tradition. While in Italy, it involved architects and geographers, in France, sociologists, historians, geographers, and planners all worked with architects to gain a deeper perception of the city. Such an approach to morphology not only relates to design and geography but also includes views of the literary and social sciences. Therefore, the Versailles view falls between the English school and the Italian school and deals with both the design and city-making process. The broad-minded French ones of the 1960s strongly criticized the organizations and individuals responsible for restoring the ruins of the war in the country. Based on the theories of modern architects, the macro housing policy ruined the French urban landscape perhaps more than any other European city [7].

Panerai and his colleagues criticize geographers' macroscopic approaches because they artificially divide the city into suburbs, downtowns, and urban margins, focusing solely on large-scale land use. Hence the more minor scales of the city where the made landscape is practically formed and felt are ignored [15]. Public cherished theories and elite's theories are both important and studied by members of the Versailles school. They denounce the fact that specific architectures and elite classes tend to cut off their relationship with the city. This phenomenon arises in thoughts of the city of Versailles and studies of the emergence of the modern movement [20].

Michelle Darin assumes that studies in France are very diverse and different, and many researchers are unaware of each other's work. In France, this domain is without particular order and priority, and no one is its owner [21]. However, Versailles adopts a distinct approach to studying the city that is used in the evaluation of design theory. The new illustration of this approach will unavoidably review methodology and philosophy with a multi-disciplinary background. There is no such requirement in Italian and English schools. Creating a practical way also provides the basis for a systematic evaluation and design approach. Investigating the process of traditional city-making and the elite's city-making simultaneously also requires a critical examination of design theory concerning its practical achievements [7]. This school considers the combination of tradition and innovation essential to cities' design and preserving existing historical values.

Therefore, this school is deeply rooted in practical design and theoretical research in French-speaking countries. Typological and morphological research has been thoroughly tied to the growing debate on the city and its design. However, despite its involvement in the fields associated with urban crises and its multi-disciplinary foundations, the French School of Urban Planning, which separated from architecture in the years following World War II in France, made no meaningful progress [15].

In conclusion, the French School of Urban Planning that emerged in the latter half of the 1960s, was a response to the principles of modernism. It had a strong connection to the social sciences and a commitment to investigating the issues of human interaction with their surroundings. The French school is rooted in practical design and theoretical research and considers the combination of tradition and innovation essential to the design of cities and preserving historical values. Despite its involvement in fields associated with urban crises, the French school made no significant progress in the years following World War II in France. It adopts a distinct approach to studying the city, considering the views of the literary and social sciences and providing the basis for a systematic evaluation and design approach.

6. ISSUE AND CHALLENGES OF URBAN MORPHOLOGY

Experts and practitioners familiar with morphology and typology studies have criticized urban morphology studies in various ways. Some planners find them to be bland and soulless [22]. They are also dissatisfied with the fact that this research is predominantly focused on historic cores and small towns, neglecting contemporary urban areas. Geographers argue that the non-quantitative basis of urban morphology undermines its applicability for forecasting [23]. However, it should be noted that nowadays there is more research being conducted on new cities, and the scope is not solely limited to historical settlements.

Italian city-planners also believe that morphological analysis is only applicable to the preservation of historical parts. They argue that it is inadequate for contemporary design and building because examining the modern urban fabric requires a different approach to the city-making process. Critics of urban typology and morphology have labeled this as a typological crisis. They acknowledge that the relationship between distinct blocks of urban fabric and the dependent elements of the city as a whole has become fragmented and autonomous.

Critics suggest that morphological research in contemporary cities is complex and not enlightening. Maps, images, and other land use studies provide descriptive data that does not effectively inform city planning and design processes [7]. However, it is important to note that while these criticisms exist, they may not apply to all morphological studies and should be considered in the context of specific research being evaluated.

Only a few scholars have explored the city in historical terms. According to Larkham, a desirable and appropriate approach could combine detailed morphological studies on the history, development, and form of physical texture with systematic assessments of the qualities associated with these forms and an understanding of user group expectations prior to the design phase. Typo morphology could then become a valuable component of the urban design process [6].

Some argue that urban morphology excessively seeks definitive refined theories, concepts, and themes related to medieval European cities while neglecting contemporary urban development issues. They believe that other theories should emphasize the importance of certain concepts, such as the cycle of change in land fragments. These issues have been a subject of interest for urban morphologists for some time. However, it is now necessary to incorporate these concepts into the mainstream literature accessible to those who shape and monitor our cities [24].

Another challenge in the field of morphological studies is the semantic inconsistency of words and technical terms. The multidisciplinary nature of this field may contribute to misunderstandings of terminology. Each word has been borrowed from a separate specialty field, leading to different interpretations or loss of meaning. Therefore, one of the problems in typology and morphology studies is the promotion and distribution of technical and specialized vocabulary across various disciplines. While this broader scope is useful, it can sometimes lead to misunderstanding and loss of meaning [6] [7].

In conclusion, the field of urban morphology and typology studies has faced criticism from various experts and practitioners. While some believe it is too limited and lacks applicability in contemporary design, others see it as a valuable component of the urban design process when combined with other studies. However, the field faces challenges such as the semantic inconsistency of technical terms and a lack of clarity in its application to contemporary cities. Despite these criticisms, understanding the history and form of cities remains crucial for informed city planning and design.

7. AN OVERVIEW AND COMPARISON

The framework of the present study can now be expressed by understanding the urban morphology schools, their similarities, differences, and the methods they used for different research.

There are three urban morphology schools that provide a challenging scientific framework for studying the urban landscape in a historical context. The Italian School offers a theoretical foundation for planning and design based on classical urban traditions. The English School takes a scientific approach to studying the creation of a city or town plan. The French School introduces a new approach that combines the examination of the city with a critical exploration of design theory.

When comparing these three main schools, the British school stands out for its focus on historical processes. However, its formal method of examining the city appears more accurate. One could argue that the greatest weakness of this school lies in its descriptive and explanatory purposes. On the other hand, the French school benefits from the opportunity to study architecture, society, economics, and politics simultaneously, which enhances its effectiveness. Nevertheless, the French School's emphasis on critical design may not be essential for achieving the effects of design theories on city-making [8].

Scholars of the Italian school have discussed the relationship between morphology and design theory, while the French have critically examined the history of design theory and strongly opposed the modernism movement. Regardless of whether Italian architects follow the tradition of Muratori or not, they commonly hold controversial views and often juxtapose traditional and modern cities. The three schools offer extensive research, planning, and design program that addresses the relationships between space, time, residence, and culture. These schools claim that the urban landscape must be understood in three main respects: time, form, and resolution.

The urban landscape is constantly evolving and is subject to the influence of socio-cultural factors involved in its formation. As such, all morphological studies must take into consideration the factor of time. The interplay between constructed spaces and empty spaces creates form and shapes the artificial environment. However, usage and performance are subject to change in response to varying social conditions and periodic needs. It is important to note that the urban landscape is created at different scales, ranging from a single room to an entire city, with scales in between, such as blocks and neighborhoods [15].

In general, researchers from diverse linguistic and disciplinary backgrounds have reached a consensus that the physical form of a city or town plays a crucial role in understanding and analyzing it, as observed by Moudon (1977). This agreement holds true across various disciplines and language areas. Moudon further emphasizes that morphological analysis rests upon three fundamental principles, namely time, resolution, and form. Time involves understanding the historical changes and adaptations of urban spaces. Resolution pertains to analyzing the physical form at different scales, capturing diverse levels of detail. Form focuses on the attributes and spatial arrangements of urban elements, revealing patterns and functional aspects. These principles are integral to studies conducted by both geographers and architects[2], making them universally applicable.

8. CONCLUSION

In this review, the principles of selected urban morphology schools serve as the foundation for the analysis, ensuring that the results align with established methodologies and theories in the field. This structured approach benefits not only academic researchers but also facilitates clarity for a broader audience, ultimately achieving the research goals in a more meaningful and impactful manner.

For researchers, it is crucial to adopt a nuanced and interdisciplinary approach, avoiding the limitations of adhering to a single school of thought. Instead, the focus should be on three general principles and essential issues central to the study of urban morphology.

While modern methods and techniques exist for analyzing the morphological characteristics of urban settlements, this study argues that the classic schools and their fundamental elements continue to provide a comprehensive and rigorous framework for exploration through various case studies. Consequently, it is recommended to refrain from being confined to specific school boundaries and instead evaluate the merits of each school in relation to the specific case study at hand.

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