

Urban Morphology Schools of Thoughts; A Holistic Overview

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Abstract

Urban morphology is considered the key factor for understanding, analyzing, and evaluating the urban fabric of a particular urban form. Several scholars and literature tackled the term and the philosophy of urban morphology. Three main schools of thoughts – British, Italian, and French - described urban morphology from diverse perspectives discussing different case studies worldwide through history. This article is a review article aims at mentioning and discussing the theoretical backgrounds of urban morphology and the three main schools of thoughts of it. It is a comparative analytical-oriented method of research article discuss the urban morphology schools of thoughts. The main outcome of this research highlighted the significance of understanding the urban morphology schools of thoughts and tackled the Egyptian context model of Greater Cairo Region expansion and its relation to the ideas of the schools of thoughts.

Keywords: Urban morphology, School of thought, British, Italian, French, Conzen, Muratori, Panerai, Egyptian Model

1. Introduction: What is Urban Morphology?

Urban morphology is the study of city as human habitat [1]. The study of the physical shape of towns is known as urban morphology as well. It is, more exactly, the study of the creation of urban fabric components and their relationships, which characterize their compositions and configurations across time. These complex phenomena may be

studied at many spatial scales and across disciplines. Many different scientific disciplines are interested in urban morphology. Its theoretical components are concerned with urban geography, history, architecture, and spatial economics. It is an important component of urban design in its applied forms, but it is also of concern to development, urban planning, and urbanization. [2].

Additionally, urban morphology examines the urban context of a city and its different typologies in current conditions and compares it through time and expansion of urban fabric. In another perspective, Urban morphology refers to the study of urban form that focuses on the formation and transformation of urban forms of cities, towns, and villages over time; their spatial patterns at different scales; and physical characteristics to inform appropriate urban interventions to promote sustainable urban development [3]. Nevertheless, urban morphology studies the agents and various processes that shape the transformation of urban fabrics and forms including all the elements that shape the city such as streets, public spaces, squares, blocks, land plots and buildings [4].

The word “morphology” is derived from the two parts “morphe” form and “logie” logic, so it is understanding the logic of form and to highlight the structure, characteristics, alternations and proportions of materials and their contained elements [5]. It was firstly appeared and proposed by the German writer and thinker Johan Wolfgang von Goethe who devoted part of his work to the biology science. He integrated this word into urban design field. Although the word “morphology” is originally part of biology, the nature of it enabled the application in many fields till the end of the 19th century, it started to be used the study of cities.

In her studies of urban form and morphology, Anne Vernez Moudon the American urban designer educator in Washington university classifies urban morphology study as three main schools of thoughts of British, Italian, and French schools and analyzes them individually in order to distinguish the differences and comprehend the benefits [1]. She stated that there are three principles for urban morphological analysis that are uses and present in all geographical and architectural studies of a particular urban form. The three principles are as follows:

Form: Urban form is defined by three fundamental physical elements buildings, open spaces plots or lots and streets

Resolution: Urban form can be understood on several levels of resolution. Four levels are corresponding to building/lot, street/block, the city, and the region.

Time: Urban form of a city can be understood historically as it is changed through continuous transformation and replacement [1]

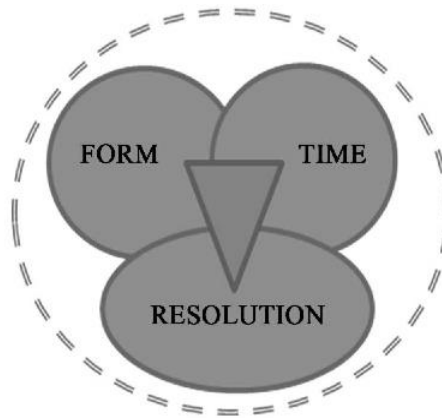


Figure 1. Main elements of morphological studies

Source: [6]

Moreover, there are many approaches towards the understanding of the term of urban morphology from different scholars' perspectives (Figure 2) such as:

- **Urban morphology is the study that focuses the most on the socio-economic tensions in cities.** so it evaluates the assumptions that creation of cities and its' forms are based on. Consequently, buildings, parks, streets, sculptures, and gardens are considered elements of urban morphology matrix of analysis however it faces continuous change through time [1]
- **Urban morphology is a systematic study of shape,** form, maps, structure and functions of different city elements, fabric and evolution of its' components through time [7]
- **Urban morphology is defined as** “outlines, fabrics, buildings, functions, streets, and urban perspectives [7]
- **Urban morphology is a term stands for different types of research** which all focus on physical form of any urban area [8]
- **Urban morphology studies the idea of form and urban space combination** that assist urban designers to distinguish different local patterns of urban tissue and its procedures [9]

	<i>Definition</i>	<i>Source</i>
General	'The study of urban form.'	(Cowan, 2005)
	'The science of form, or of various factors that govern and influence form.'	(Lozano, 1990, p. 209)
	'The study of the physical (or built) fabric of urban form, and the people and processes shaping it.'	(Urban Morphology Research Group, 1990)
	'Morphology literally means 'form-lore', or knowledge of the form ... what is the essence of that form; does certain logic in spatial composition apply, certain structuring principles?'	(Meyer, 2005, p. 125)
Focus on the object of study (urban form)	'... an approach to conceptualising the complexity of physical form. Understanding the physical complexities of various scales, from individual buildings, plots, street-blocks, and the street patterns that make up the structure of towns helps us to understand the ways in which towns have grown and developed.'	(Larkham, 2005)
	'Urban morphology ... is not merely two dimensional in scope. On the contrary, it is through the special importance which the third dimension assumes in the urban scene that much of its distinctiveness and variety arise.'	(Smailes, 1955, p. 101; cited in Chapman, 2006, p. 24)
Focus on the manner and purpose of study	'A method of analysis which is basic to find[ing] out principles or rules of urban design.'	(Gebauer and Samuels, 1981; cited in Larkham, 1998)
	'... the study of the city as human habitat... Urban morphologists ... analyse a city's evolution from its formative years to its subsequent transformations, identifying and dissecting its various components.'	(Moudon, 1997)
	'First, there are studies that are aimed at providing explanations or developing explanatory frameworks or both (i.e. cognitive contributions); and secondly, there are studies aimed at determining the modalities according to which the city should be planned or built in the future (i.e. normative contributions).'	(Gauthier and Gilliland, 2006, p. 42)

Figure 2 Different Urban Morphology Definitions According to Different Criteria

Source: [10]

From previous various range of definitions, it is clearly noticeable that urban morphology is cross cutting several sciences and branches of knowledge. It can be understood from architectural perspective, pure geography sector, scientific and mathematical scope as well as philosophy. In 2009, Sima and Zhang in their study about urban morphology, they categorized the understanding and definitions of the term into a genealogy matrix with pioneer scholars in each field in addition to the process of analysis in each [11]. In this paper, and from the perspective of urban planners and designers, geography and architecture fields and scholars are having the most focus in presenting and understanding, however, the scientific and philosophical parts are significant to be mentioned and highlighted (Figure 3)

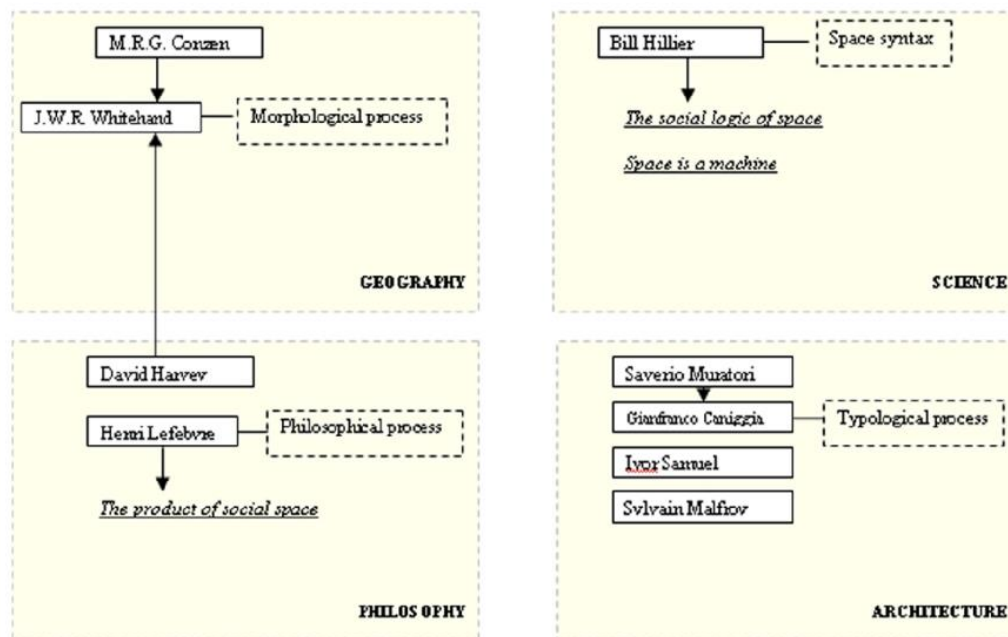


Figure 3 Genealogy of Study in Urban Morphology

Source: [11]

2. Urban morphology schools of thought

To understand and analyze different urban morphology manners such as geography, urban design, and architecture, the main three schools of thoughts for urban morphology should be explained [1]. The purpose of studying these schools of thoughts is to achieve a proper pattern of study for any urban morphology analysis.

2.1. The British school of thought



Figure 4 M.R.G Conzen

Source: Google Images, accessed on June, 2023

The British school of thought is considered the most flourish school of thought for geographic urban morphology [6]. As per Moudon, the major researcher of this school is M. R. G. Conzen (b. 1907) a German geographer who migrated to England before the Second World War to study urban design and planning first and then to teach geography,

during the WWII, he taught geography in university of Manchester and later on in the university of Durham and Newcastle and died in 2000 in the same city. Conzen focused his research on studying English cities [1]. However, Larkham argues that this school could be named as German according to Conzen's beliefs yet, it can be related to the willingness of English urban morphologists in classifying and studying different procedures conceptualization [12]. At the beginning, in the thirties, Conzen focused his studies on English cities especially the city of "Alenwick" and he named it "Townscapes" merging the analysis of city's maps and buildings forms and their functions as city map includes streets relation to city network system and components and their relations to blocks and outline of blocks [13]. In addition to that, he established two unique concepts of urban morphology: "**Fringe Belt**" and "**Burgage Cycle**".

Fringe Belt concept depends on the understanding of the city as a physical entity that has been formed through a series of growth pulses or alternating periods of rapid and slow growth. Consequently, some distinctive regions could be observed originally at the edges of an urban area yet, embedded within it [14]. Conzen defined the "Fringe Belt" as *"a belt-like zone originating from the temporarily stationary or very slowly advancing fringe of a town and composed of a characteristic mixture of land-use units initially seeking a peripheral location"* [15].

Fringe belts which are embedded within the urban area remain for a long period of time as residential zones. Chen explained Fringe Belt as *"formation of restriction at the urban fringe throughout a period when the built-up region was not either developing or growing gradually"* [3].

Burgage Cycle concept indicates the periodic and progressive buildings filling-in in back land burgages and the terminating in the clearing of buildings and urban follow period before a redevelopment cycle starts [12]

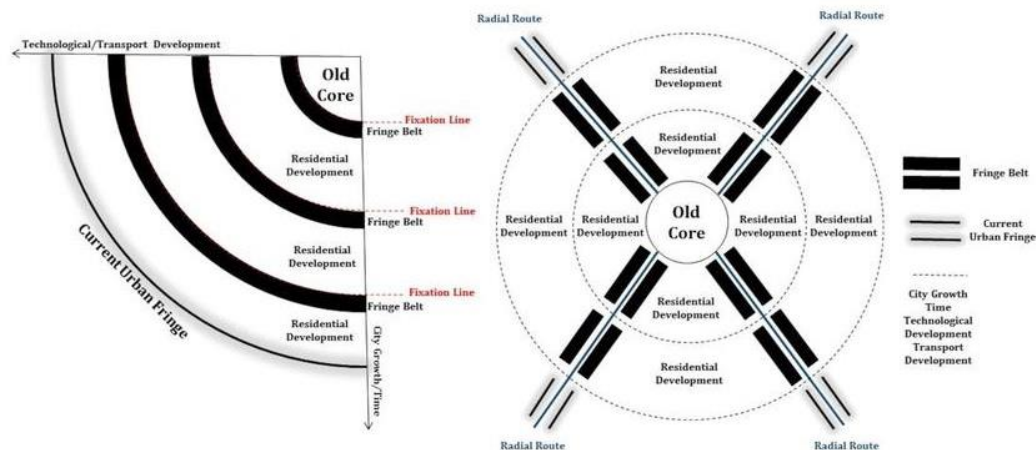


Figure 5 Conzen's Fringe Belt Model as Concentric Belts (left, adapted from Whitehand, 1994) and as radial belts (right)

Source: [15]

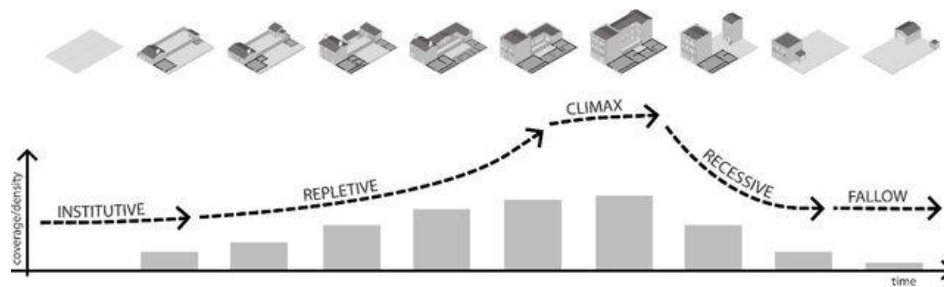


Figure 6 Different Phases of The Burgage Cycle by Conzen (1960), Expressed as Variation in Building Coverage Over Time

Source: [15]

As a result, some significant effects are highlighted from Conzen's concepts on urban morphology such as:

- a) **Consideration of the characteristics and alternations of any urban form – urban landscape.**
- b) **Studying the establishments and constructions that are involved with alternation and changing process.**
- c) **Management of alternation [12]**

JWR Whiteland continued on Conzen's school of thought and started to merge and develop it from the scope of urban geography to the scope of urban economy. He established in 1974 Birmingham research center to study medieval cities, furthermore, scholars such as Larkham and T.R. who were educated in this center continued this school of thought [1]. The British school of thought claims that current urban changes are not new incidents as they are continuation of previous various alternation process [13]. As a result, this school analyses the studies of urban morphologies with considerations of specific fields and a well specified procedure considering the alternation processes and current situation [3]

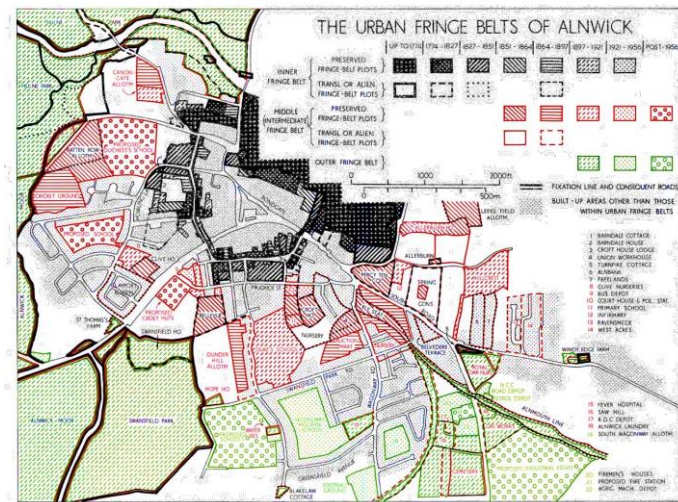


Figure 7 The Urban Fringes of Alnwick by M.R.G. Conzen 1960

Source: [8]

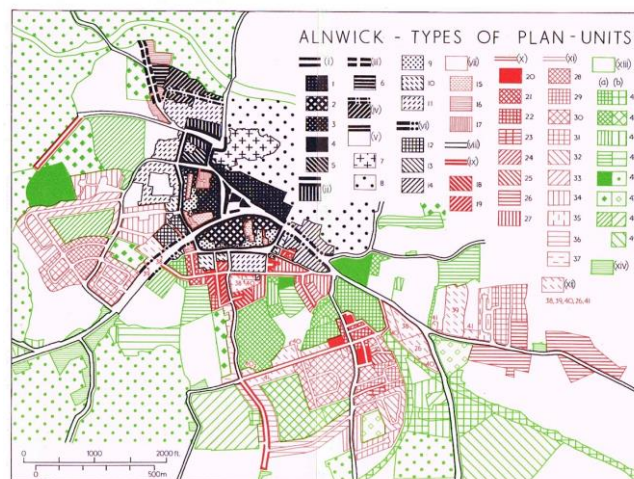


Figure 8 Alnwick Morphological Regions Analysis by M.R.G. Conzen

Source: [8]

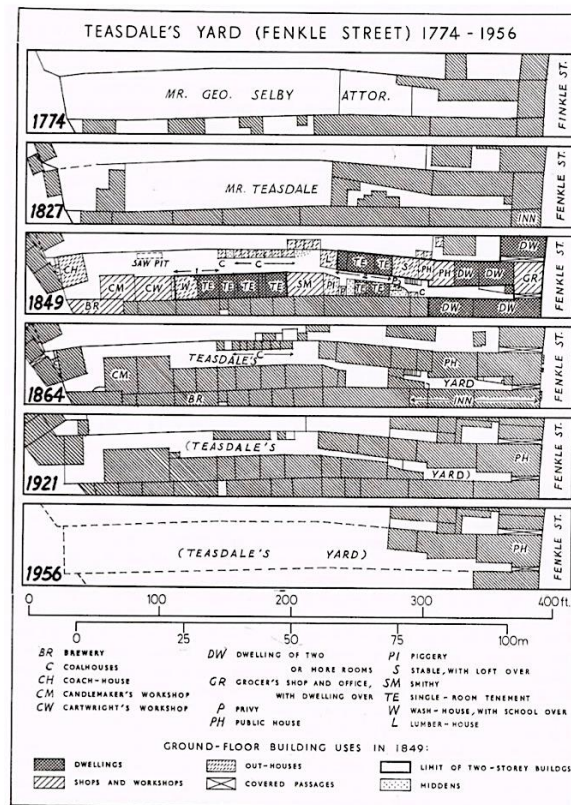


Figure 9 Burgage cycle analysis by M.R.G Conzen

Source: [8]

2.2. The Italian school of thought



Figure 10 Saverio Muratori on the Left and Glanfranco Caniggia on the Right

Source: Google images, accessed on June, 2023

The Italian school of thought was the first one among others to study, analyse and conceptualize urban morphology. In 1950s, the Italian architect Saverio Muratori developed a **“operational history”** for the cities he studied especially Venice and Rome which afterwards supported in providing the basics of integrating any new architectural

works within the existing syntax of any urban tissue. He integrated the notion that the city is contextual expression of cultural development within his studies and analyses of active history of cities [16]. Muratori created concepts for design based on traditional procedures of construction [1]. The Italians were the first to study typologies of urban morphology as the studies of other specialists such as Cervelatti and Scannavini on Caniggia and writings and studies of Italian architects such as Rossi and Aymonino were significant [13].

Muratori was in charge of the Roman territory in the institute of Assicurazioni which is called INA the short form of “Istituto Nazionale delle Assicurazioni” where the Italian school of thought was firstly initiated and afterwards by years many Italian universities worked on the same school as the academic basement of it such as university of Rome [17]. This school is considered a **respond of standardization and homogenization of modernism** as most of the work was on types of buildings which are considered the foundation on any urban tissue for a whole city.

On the other hand, there were some criticism and weak points for this school claiming that the school **only focused on the existing and current situations regardless reviewing the historical evolution process of urban morphology** [3] [13]. Nevertheless, Caniggia’s method of analysis made it easier and more sufficient as he focused on analysing the historical procedure of form creation as well as distinguishing the special and time correlations of the fabric resulting at the end a creation of hierarchy [16]. From Caniggia’s point of view who believed in organic methodology, the form typology is a connection between buildings and urban fabrics that start with “elementary cell”. As a result, this leads to two types of fabric “basic fabric” and “particular fabric” [18]. Thus, the Italian school of thought is considered a school of thought that analyses the current situation by urban tissue typology.



Figure 11 Iconic Morphological Analysis Study for Venice by Muratori 1559

Source: [10]

In 2020, Al-Saaidy conducted a comparison between the two lines of thoughts between Muratori and Caniggia and he pointed that Muratori focused more on theory of morphology, organic fabric, and the scale of territory and that Caniggia focused on the method itself, serial urban fabric, and on the scale of town (Figure 12)

Muratori	Caniggia
Theory	Method
Organism	Structure
Organic	Serial
Architectural organism	Building type
Architecture	Building
Territory	Town

Figure 12 Comparison between the Two Italian Architects' Thoughts about Urban Morphology

Source: [19]

2.3. The French school of thought



Figure 13 Philippe Panerai (left) and Jean Castex (right)

Source: Google images accessed on June 2023

The French school of thought was the last one to be appeared in France in late 1960s. Philippe Panerai and Jean Castex were architects, and they founded the Versailles National School of Landscape Architecture in France with collaboration with Charles de Paule who was a French sociologist. Similar to the Italian school of thought, the French school of thought was responding to modernism as well associating with strong critical ideas of sociologists such as Henry Lefebvre and architecture historians such as Boudon and Chastel [1]. Accordingly, the French school of thought is considered a contribution of the Italian school of thought and the ideas of Lefebvre and Boudon and it is worth to mention that the contribution of Rosso and Aymonino focused on the French school of thought more than other scholars from the Italian school of thought such as Caniggia [13]. Scholars argue and believe that French school of thought is weak as method to study urban morphology as they consider the studies made from this school are scattered and their researchers were not aware of each other, therefore no one claim the existence of the French school [20]. In their book “Urban Forms. The Death and Life of The Urban Block”, Panerai and Castex mentioned that: *“In the 1970’s in France, architects were busy with methodological-morphological games. Urban planners still used to believe that the magic of planning was based on large scales and also several groups who were engaged in politics were under influenced of sociologists who were*

looking for city's citizens and were criticizing bulldozer renovation. They consider the consequences of this type of renovation equal to dismissal" [21].

There are some differences between the French and the Italian schools of thoughts. First, contrary to the Italian school, the French school of thought does not distinct between before and after in the study because of the examination of too many theories and models. Second, and opposite as well to the Italian school of thought, French school of thought **focuses on urban pattern or urban tissue** [13] so the most significant characteristic of the French school is the consideration of the creation of urban form. Some cases were analyzed such as the impact of the Garden City on London and the effect of Haussmann's urban planning on Paris and the Radial City idea of Le Corbusier's [21]. As a result, the French school of thought's main concentration is on applied modifications of modernism. Paerai and Costex created the **"Island"** concept which is needed as basic element to understand and analyze the 21st century city. The **"Vertical Island"** concept is a response of modernism and an alternative solution to fill in the gap of morphological studies in the third-dimension manners, the thing that led the French school of thought to have its own framework to add observational and perceptive studies [13]. Consequently, it can be claimed that *"that the goal of morphological studies in France is in fact, the evaluation of amount of realism in different theories, which is based on the evaluation of their impacts on urban forms and patterns and also definition of significant components that are needed to redefining the developments of new interventions"* [3].

3. Reflective comparison of the three schools

School of Thought	British School	Italian School	French School
Origin	German Morphology	Typology Study	Italian school of thought, ideas of Boudon and Lefebvre
Unit of Analysis	Map Unit	Element or Basic cell	Island
Aspect	Current situation with emphasizing of alteration procedures	Current situation with consideration of the past's, without considering the process and procedures of alteration	Development of a type of critical design in order to reach the effects of urban design theories
Research Layers	City map (Streets and their system, land sites and their assembly in blocks and their design), buildings' form and function	Elements (buildings), Creation of elements (urban tissue), constructions system and organism of systems (urban and rural regions)	Adding visual elements (3D study of townscape) and perceptive elements (perception of occupants and benefiter) to Italian school of thought
Purpose of Study	Descriptive-explanative aims	Prescriptive aims	Analysing the design theories of construction of cities in the past.
Founders and Scholars	Larkham, Conzen, Whitehand	Muratori, Caniggia	Panerai, Castex
Academic Institutes	Birmingham	(INA) Istituto Nazionale delle Assicurazioni, University of Rome and The Florentine group	National architecture school of Versailles

Figure 14 Summary and Comparative Analysis between the Three Main Schools of Thoughts

Source: (Mudon, 1997; Larkham, 1998; Bekkering, 2006; Levy, 1999; Darin, 1998; Panerai et al., 2004).

In the above (Figure 14), a compilation of the three schools of thoughts is conducted to summarize and compare between them regarding the basic elements related to urban morphology. It is conducted by [6] based on the understanding of Conzen, Muratori and Panerai's lines of thought and analysis. It is noticeable in the comparison that **aspects are different, layers of research are variable from single city 2D map analysis to adding 3D studies as well as the purposes of study** as in the British school is pure descriptive-explanative aims and in the Italian school is prescriptive aims and in the French school, the latest one, is analysing the design theories of construction in the past. To consider the city and its entities, one platform for morphological research from the three various directions must be developed. This contributes to the creation of a comprehensive picture of the city's evolution and urban changes throughout time. When analysing and classifying the city's shape, three schools used a particular theoretical foundation and produced a practical method by applying these concepts and principles. Because each school is unique and has its own conceptual framework, the consequences are likely to be diverse. Nonetheless, in terms of source materials, the three techniques are not that diverse. The plot, building, block, and street are the original elements that collectively form the city's urban structure in various spatial arrangement patterns. Moudon emphasises major critical aspects among the three schools, noting the fundamental tendency for each on how to understand the city's urban form. According to Moudon, the Italian School embraces typomorphology and design theory, as well as their interrelation, whereas the French focus on the history of design theory. In addition, French researchers identify a variety of historic but non-modernist city patterns that are subject to a new set of design standards. The Versailles School believes that *"the present is not a complete break from the past, and the past offers several different models for the future."* [1]. In the Italian School, there are two types: posteriori and a priori, where the former relates to the traditional process of building the city and the latter to a group of designers who formulate the future. Thus, the French regard extant types to be posteriori, whereas the original is a priori. The idea of examining the history of design theory or urban design is based on two approaches, according to [1]. The Italian School interprets history as ideas; thus, the building might be analysed alongside the history of design thinking. The second examines the history of design theory as it is applied, where history may be an operational and critical process for reading and designing the city [19]. According to (Moudon, 1994), the Italian School developed a theoretical foundation for planning and design, particularly for historic and traditional structures in the city. The British School argued for a closer look at how the built environment is created. Meanwhile, the French School established a new discipline that combined the study of the built environment with a critical appraisal of design philosophy. Those tripartite approaches relate to the three programmes that integrate research, planning, and design in the same setting. These encapsulate the connection between location, time, habitat, and culture [1]. In this sense, the three schools, British, Italian, and French, provide the groundwork for a massive database of forms and form-making methods. Furthermore, understanding the beginnings of these three morphological schools may assist to establish the trend of this study in terms of how to treat city entities and urban structure aspects [19]

According to Sima & Zhang, there are four steps of urbanization, 1)recognition from existing urban fabric to the abstract forms and patterns of urban fabric, 2)design after understanding the urban fabric to reach the projected forms and patterns of the design and there is a control process cuts this stage, 3)construction of the design to reach the future urban fabric and, 4)making process of the exiting urban fabric to the future targeted urban fabric [11]. They distributed the pioneer experts, scholars, architects, and planners among these four steps in one chart. The pioneers of the three mentioned schools of thoughts, Conzen, Muratori and Panerai are detected in that chart all in recognition phase which emphasizes on their deep contribution in this field.

Nevertheless, Oliveira in 2020 mapped the contribution of the scholars in four approaches, internalist-cognitive, internalist-normative, externalist-cognitive, and externalist-normative approaches and the three schools' pioneers are in the internalist-cognitive and normative approaches [4]

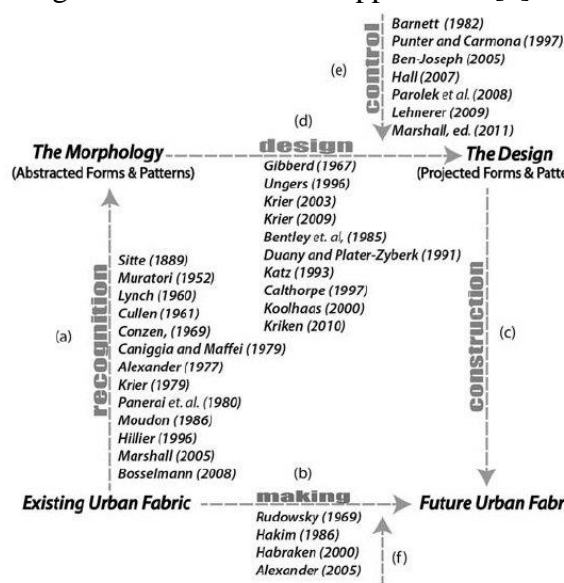


Figure 15 The Scholars' Distribution Among Four Steps of Urbanization

Source: [11]

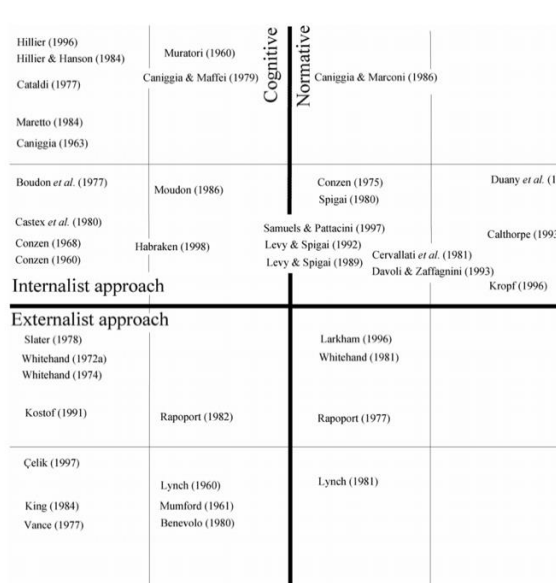


Figure 16 Mapping Contribution to the Study of Urban Form

Source: [4]

4. Urban morphology in recent times: an emerging theoretical framework

New analysis perspectives and techniques have been noticed later after the dominance of the three schools of thoughts of the previously mentioned pioneers. As the city, its elements and their interrelationships have formed a platform for scientists. and researchers in various fields. One difference, however, is the method used. Some people tend to call the city as one physical form apart from other aspects such as human behavior, social considerations, etc. Others deal with intangible values, the importance of the built environment and its impact on design. Additionally, a key challenge is the inclusion of multiple city factors, then create a link between different variables and

extract the value of that link, understanding the relationships between the form of the city and its relevance to other aspects such as people and their needs. (Moudon et al., 1997) summarizes morphological analysis considering three principles: **that is, firstly on micro scale, buildings relationship with roads and land. The second, on meso scale, is the form of the city that should be realized, it can be understood at different levels depending on the scope of the analysis. depending on site/building, street/block, city/region. Third, on a macro scale, it is an urban form that must be understood historically, and its elements must be subject to ongoing consideration deformation and replacement through time** [1].

Figure 15 outlines the essential aspects of the urban fabric and the mutual relations between them as summarized by Levy (1999). He interfaced four aspects of analysis. Morphological analysis investigates a **plot (P), street (S), constructed space (CS), and open space (OS)** in real time, whereas an urban form/fabric is made up of the reciprocal interactions between these four primary parts. The theoretical frame in morphological analysis provides an active stage in analyzing the urban form. This stage establishes the scope and size (**micro, meso, and macro**) of a morphological investigation, as well as the urban form aspects to be examined. Morphological analysis incorporates variables such as **social, ecological, and economic issues in addition to the physical shape and its components**. Furthermore, it might examine the relationships between these components. However, it is critical to understand that morphological studies seek to investigate and explain the mechanisms of bilateral form, **space (plot, street, open space), and form (structured space, buildings)** synchronically (at the same time) and/or diachronically (over different times). Consideration of historical processes while researching urban morphology is another critical step in understanding the transforming operations of the urban form that occur across time [22] [19].

In the field of research of urban morphology in recent times in the past twenty years, the Journal of Urban Morphology conducted a statistical chart about the different categories and fields studied in urban morphology. Current case studies research from the last 18 years of the Journal of Urban Morphology as well as other scientific works in the field have been scrutinized according to 5 dichotomies: a) single or multiple places, in that one or multiple locations are considered for analysis; b) single or multiple aspect, in that one or multiple objects of study are utilized for conclusions; c) synchronic or diachronic, if they focus on a single time period or multiple time periods; d) quantitative or qualitative, if the conclusions are based on numerical data or descriptive data; e) systematic or non-systematic, on whether their overall approach reflects a consistent and replicable method. The systematic and quantitative qualities of the research are most relevant in establishing a science of urban morphometrics. However, of all the scientific works overviewed in the field, less than 20% can claim to exhibit, at any level, both such qualities at the same time [23]

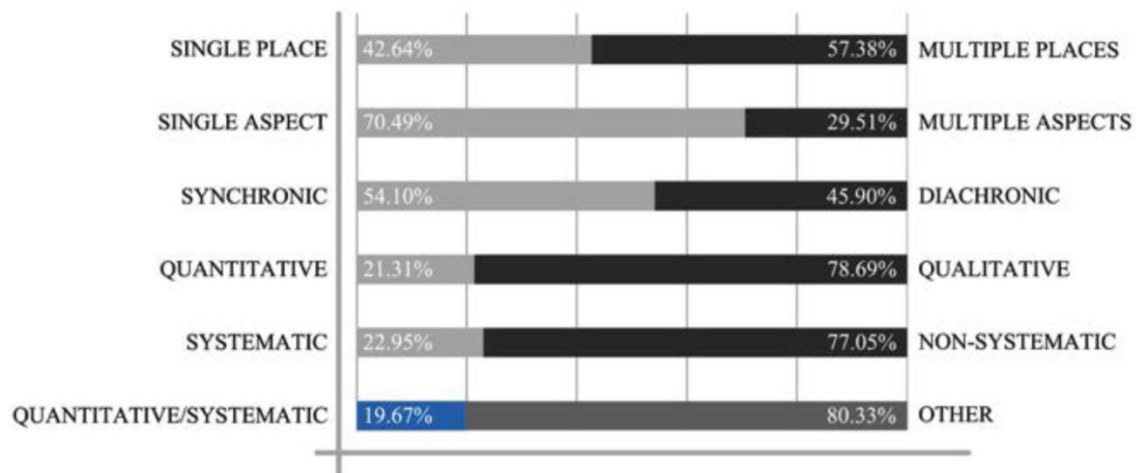


Figure 17 Recent Urban Morphology Fields and Trends of Research Work

Source [23]

5. Research reflection on Egyptian context

It is essential to tackle and project the scope of the research on the Egyptian model of cities development and city planning history, especially the capital of Cairo and its suburban zones and following cities which called Greater Cairo Region GCR. Over a century, Cairo has witnessed several expansions and urban development steps crosscutting several political, economic, social, and physical aspects starting from the very old city of Fustat 969 (the nuclei of Cairo) reaching the modern expansions in 2000s and the attachment of surrounding new cities in both eastern and western directions as Cairo and Giza are twin cities with natural barrier which is the Nile River. The ideas and thoughts of Conzen especially the Fringe Belt concept could be related to the early expansions of Cairo from 50s till late 80s before the appearance of the holistic master planning and the existence of New Cairo attached city to Cairo as it developed in belts and arcs towards East with the direction of expanding the city to absorb more inhabitants and with the expansion of industries. However, the Burgage Cycle concept is not clear in the case of Cairo.

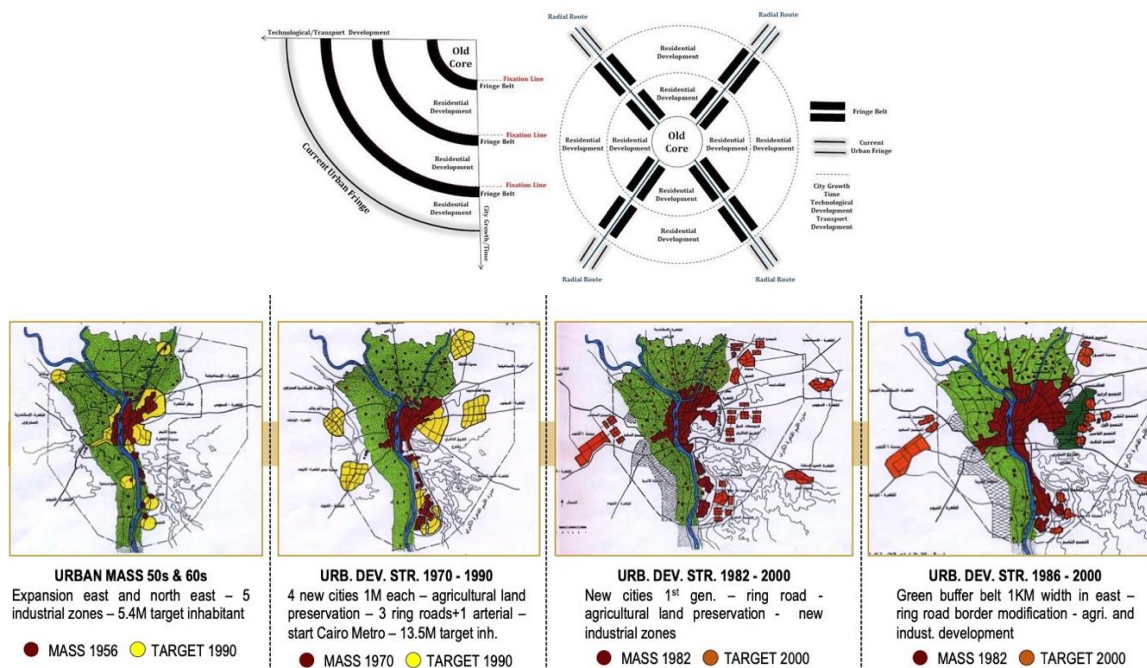


Figure 18 The Expansion of Cairo from 50s till late 80s till 2000s Showing the Concept of Repetitive Fringe Belts towards East Assuring the Ideas of Conzen

Source: Author after GOPP

The French school of thought of Panerai and Castex which focused on the analysis of the physical form of the urban fabric and the extension of it as well as the idea of the island and vertical island could be noticed in the extension of two significant districts of Cairo which are Heliopolis 1912 and Nasr City 1950s-1960s as satellite and remote neighborhoods far from downtown Cairo and Islamic Cairo. They considered newly vertical buildings (French school) higher than previous buildings in former and older zones as well as focused on rapid construction (Nasr city case) and complexity of uses.

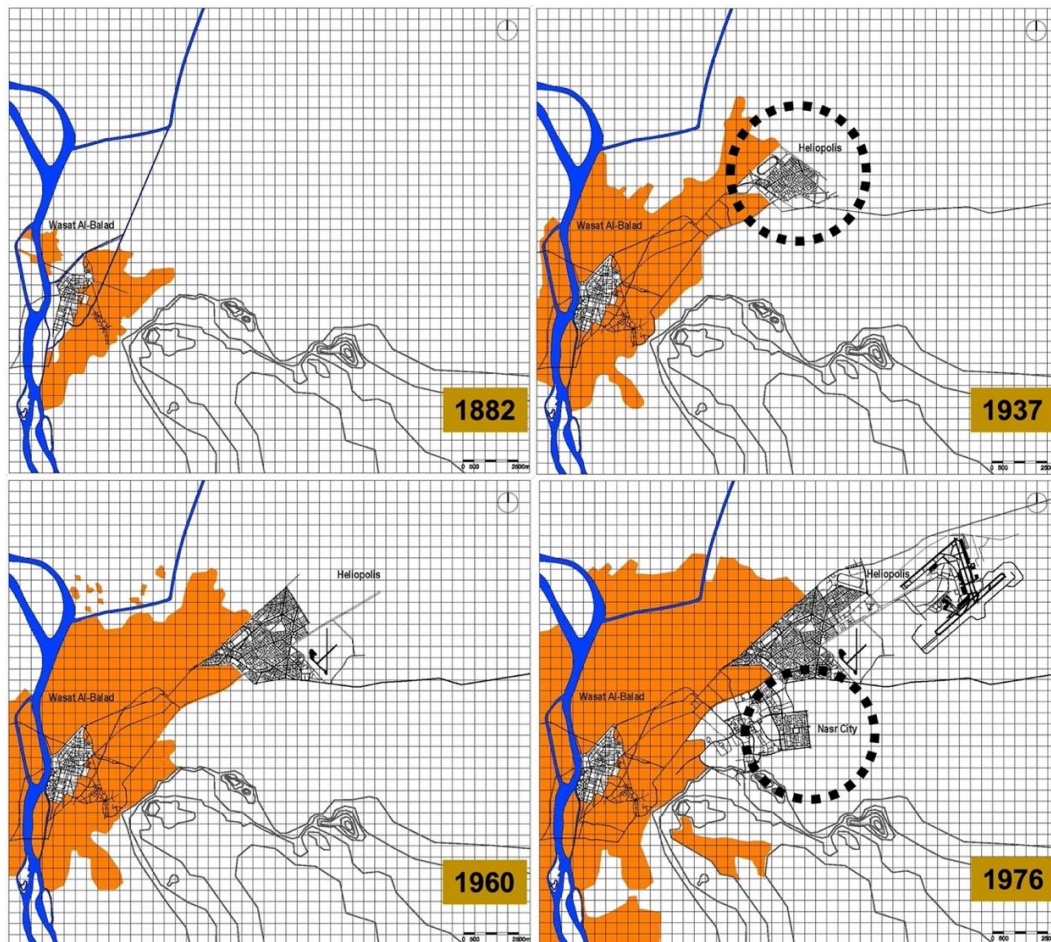


Figure 19 the expansion of Cairo and the existing of Heliopolis and Nasr City

Source: okoplan, 2020

6. Conclusion

As a conclusion, urban morphology is considered the study of urban context and its different types of urban conditions. The study of urban morphology in different eras and areas conducted three schools of thought: British, Italian, and French schools of thoughts led to various and diverse methodological frameworks and studies of urban morphology. This classification is significant for urban designers, geographers, students, or decision makers as it is not easy to discuss or write about geography, urban planning and design, architecture, or related sciences without referring to those schools of thoughts. The British school advantage is referring to historical review and has more accurate analysis of urban forms however the weakness point is focusing only on descriptive and explanative aims. The French school advantage is examining the architectural, social, economic, and political dimensions at the same time with prescriptive framework, however its weakness point that it only analyses the current formal conditions and the historical background that created it only. The Italian school

of thought advantage is the “operational history” model; however, it acts like the French school of thought in not considering the past and the different fabric dimensions.

In a nutshell, a comprehensive critique can be related to all the three schools of thoughts that all of them do not pay noticeable attention to social, economic, and political dimensions and their development process throughout time.

In the Egyptian context, it is highly noticeable that the expansion of Cairo city over thousands of years faced different external and internal aspects that affected the way of expansion and the plans of development since the first city of Al Fustat reaching the existing situation of Cairo as one of the mega metropolitan areas worldwide with more than 20M inhabitants. Understanding the schools of thoughts and reflecting them on city such as Cairo assist in understanding the fabric and analyzing it. As being a resident of Cairo and as an Architect and Urban Designer, the understanding of the three morphological schools of thoughts especially Conzen’s helped in identifying the urban fabric expansion history of parts of Cairo.

For further research and analysis, it is highly recommended to focus on a specific school of thought deeply to understand it and to merge the philosophy of it within a particular urban fabric of a city or town from present history to apply the analysis technique and method on an existing situation. Additionally, it is recommended to compare the three schools of thoughts with a recent new trends and paradigms to have a clearer understanding of the term and the methodology itself. Although there is a need to have new urban morphological schools of thoughts to understand and analyze our urban fabrics such as space syntax and alternatives, nevertheless, applying the schools of thoughts on different worldwide zones, cities, or neighborhoods shall highlight the significance of them.

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