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The Dialectics of Urban and Architectural Boundaries in the Middle East and the Mediterranean

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Editors
Suzan Girginkaya Akdağ
Faculty of Architecture and Design
Bahçeşehir University
Istanbul, Turkey

Mine Dinçer
Faculty of Architecture and Design
Bahçeşehir University
Istanbul, Turkey

Meltem Vatan
Faculty of Architecture and Design
Bahçeşehir University
Istanbul, Turkey

Ümran Topçu
Faculty of Architecture and Design
Bahçeşehir University
Istanbul, Turkey

İrem Maro Kırış
Faculty of Architecture and Design
Bahçeşehir University
Istanbul, Turkey

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Preface

This book provides a variety of perspectives on the concept of borders, all from the discipline of architecture, from different parts of the Middle East and the Mediterranean. The focus is predominantly on the place and its many manifestations. The need for research on this topic is high and interest continues to accelerate. This volume brings together multiple diverse perspectives on the concept.

We all sense and live with several "borders" which exist between the body and the soul, the person and the city, the building and the environment. May these borders be visible or not, they restrict the inner world of our consciousness together with the outer world with which we interact. Sensed from both sides, borders define either the finite or the infinite, the separation or the interface, the door or the bridge, the diverse or the equal, the life or the death.

In the search for new forms and meanings, designers need to understand the "idea" of borders and underlying geopolitical, ecological, urban and moral scenarios that shape these borders. Borders, boundaries, barriers, limits, or edges, whatever they are termed (whatever they are called), then may become inputs for designing new interfaces and intersections in the production of form and space.

Borders in the form of walls have been built and destroyed throughout history. In every construction or demolition, the walls have become a symbol of important political, social, cultural and economic changes and the "wall" has always emerged with a new "identity." Today, the presence and identity of such borders have widely become questionable in the globalized world. Ongoing political and military conflicts (fights), economic crisis, migration and mobility of masses, environmental disasters and threats all demand new territories and border solutions. The rise of digital technologies and informatics and the emergence of network societies have transformed the concept of borders. In the twenty-first century, borders have transformed into different meanings, realities and virtualities. They require new urban and architectural solutions. Hence, it is vital to discuss the current and future scenarios in the context of emerging borders.

This book essentiates a dialectical approach to disentangle the plurality of borders into their simple ideas and relations. Each chapter includes a critical discussion on the essence of borders in the context of architectural and urban design such as given: What are the social, cultural, philosophical, political, economic and aesthetic

reasons for spatial segregation within contemporary territories and cities? In the world of globalization and networks, what are the new limitations of space? What are alienating differences between interior and exterior, private and public, urban and rural, local and global, real and virtual? Are spatial definitions and divisions more likely to weaken (if not erased totally) by the effects of globalization and mobility, similar to the dissolution of borders between countries? Or, are local practices and measures likely to become more apparent with emerging trends such as sustainability, identity and global threats and crises?

We hope that this volume will be both inspiring and informative to students, academics and those interested in learning more about the borders and its regional applications. There is more work to be done in this varied context of borders and we encourage the reader to explore how to foster the elimination of borders in different contexts.

Istanbul, Turkey

Suzan Girginkaya Akdağ
Mine Dinçer
Meltem Vatan
Ümran Topçu
İrem Maro Kırış

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Part I
Transdisciplinary Thinking for Conceptualising Borders and Boundaries

Ashraf Salama

The chapters included in this section invite reflections and pave the road for discussing various notions of borders and boundaries as they manifest in architecture, urbanism and the overall built environment of contemporary societies. In essence, they address key issues present themselves as manifestations of borders and boundaries as debated in the five chapters. They range from separation and conflict to formal and informal built environments and from continuity and fragmentation to evolution and transformations. The complexity of the issues raised in the chapters requires framing through transdisciplinary frameworks that aim to cross the boundaries of disciplines while blurring the physical and conceptual borders of these issues. Such a framing can be captured through two frameworks (Salama 2019). The first deals with the conception and production of space and the second aims to understand housing patterns, typologies and choices from the perspective of contemporary lifestyles.

The Conception and Production of Space

Henri Lefebvre's argument on cities and space production was seen as groundbreaking theory: he postulates that in order to better understand the dynamics of cities their space production should be viewed more holistically, beyond the particular contexts and constraints of a specific time period (Merrifield 2006; Shields 1999). By focusing on abstract theories and models as well as new empirical methods to comprehend cities, the claim of the theory is that space actually a product that has been created through its own individual spatial practice (Lefebvre 1991, 2003). The oft-quoted triad of "conceived, perceived and lived space" (Fig. 1), also known as the first ontological transformation of space, is important to refer to in this context.

Lefebvre defined "*conceived space*" as the space, which is conceptually created, in the form of representations, by scientists, planners, architects and other experts. These representations are abstract as they are rooted in the principles, beliefs and visions held by such practitioners, decision-makers and others who are in a position to impose their personal notion of "*order*" on the concrete world and so create a practical impact on space within social norms and political practices. Conceived space is thus based on expert knowledge in combination with ideology, with various experts identifying space through their own understanding of how it is planned and how it can influence

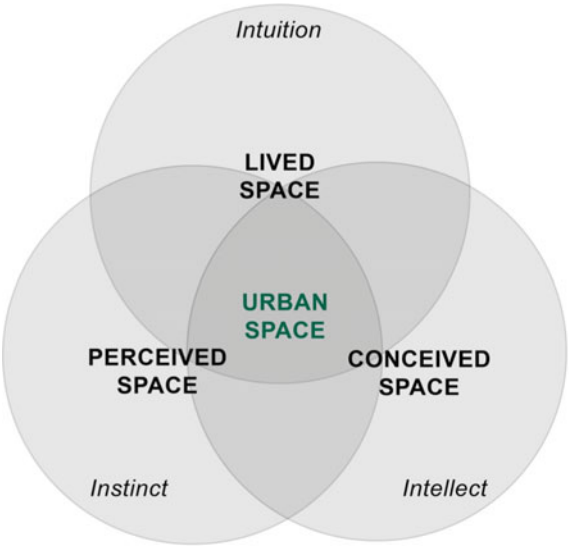

Fig. 1 The Lefebvrian conception of space (Salama and Wiedmann 2013)

and be influenced in the future. Whether or not the thoughts and beliefs of these experts about space are actually valid and true remains an unanswered question, but what is more pertinent is that from a subjective viewpoint, these conceptions of space are usually held to be true by those who apply them in their work, hence they are in actuality "*representations*" of space. Due to the central role of governance and decision-making in this process, conceived space is the dominant factor producing space in contemporary societies.

The second is the "*perceived space*" understood as the space of "*spatial practice*" where movement and interaction within various segments of society take place, the space where networks develop and materialise. This space includes both daily routines on an individual level and urban realities such as the networks that link places designated for work, leisure and "*private*" life. Lefebvre maintains that the specific spatial practice of a society can only be assessed empirically by analysing and studying the structure of its networks. Because spatial practice is empirically measurable, it is also referred to as the readable or visible space that can be seen, described and analysed on many levels and scales such as the specific sectors of architecture, city planning and urbanism, as well as the general organisation of life and the urban reality inhabited and experienced by people.

The third space, "*lived space*" can be comprehended as the direct unconscious, non-verbal relationship of humans to space; also known as "representational space", it is directly lived through associated images and symbols. The lived space is essentially subjective—a passive experience wherein the outer physical space echoes with the inner imagination and makes symbolic use of outer objects, either retaining or rejecting them according to an arbitrary and subjective system of priorities and preferences. Specific locations within given vicinity can, for example, become focal points

because of their position and status within the representational space of the particular community of people who use that vicinity, for instance, a religious building, a graveyard, or a square. Products of representational space are often symbolic works such as art, poetry and aesthetic trends.

Beyond the three "*spaces*", the production of social space as a whole has a direct impact on the environment and in cases of multicultural and diverse cities, it materialises into the built reality. The "*conceived, perceived and lived space*" triad can be directly utilised within the process of understanding spatial developments and the associated borders and boundaries. The three "*spaces*" and the relationships that ensue between them are significantly relevant to the development of a holistic analytical framework for examining space production in cities, particularly in the context of the investigation of urban qualities. Undoubtedly, this is not as an abstract model reduced to comparative studies of ideologies relevant to the three "*spaces"* but a comprehensive framework that enables the development of comprehensive knowledge within the rapid transformations of urban, social and economic environments and the borders and boundaries that stem from them.

Lifestyles and Housing Patterns and Choices

In recent years, lifestyle research has played an increasingly important role in understanding housing patterns and consequently urban development dynamics. This is based on the notion that lifestyles lead to certain housing choices; therefore, new housing developments can be studied as a reflection of these new lifestyles. Rightly, contemporary literature emphasises that housing is more than the pure need for shelter. The home environment can be seen as both a form of self-expression and an important spatial factor defining human perceptions (Marcus 1997). Where and how a human was raised will always affect future choices and his or her acceptance of certain residential quality. Additionally, the age, income level and household size often impact the preference of certain housing types. To study the relationship between housing and lifestyles, basic needs must first be identified (Freeman 1998). While the need for shelter can be seen as the lowest level of needs based on the simple premise of human survival, the social needs to establish a sense of belonging are followed by the individual needs of self-expression (Newmark and Thompson 1977). In principle, lifestyle theories are based on a complex framework that acknowledges the reality of human beings driven by dynamic interactive factors rather than static personal and situational factors (Salama 2006, 2011; Salama et al. 2017).

The French philosopher and sociologist Pierre Bourdieu introduced the concept of habitus as the result of both the hexis (a more or less stable disposition of knowledge or character) and more complex mental and subjective schemes of perception (Bourdieu 1987; Benedikter 2012). Habitus refers to past experiences resulting in different skills, personalities and habits, which lead to certain socio-behavioural practices. According to Bourdieu, each social class shares a certain general habitus due to similar environments, backgrounds and thus experiences. This habitus has a direct impact on each individual leading to dynamics between given constructs, which have developed over generations and new individual perceptions introducing certain restructuring processes. The habitus can thus be identified as a holistic approach

towards understanding the origin of lifestyles and the result of a long-term historic evolution, which is continuously changing. Bourdieu maintains that individuals need their habitus to find new solutions based on their intuition, which in his view is directly linked to societal norms. The resulting lifestyles have a significant impact on how social structures and spatial development patterns evolve because they influence the ideas that define a good society.

The British anthropologist Mary Douglas introduced the "*group and grid*" model in her book "*Natural Symbols*" (Douglas 1970). A group implies a general boundary around a community, which is based on choice and a grid includes the outer forces and regulations. Douglas distinguishes between four main group-grid types: the "*isolate*", the "*positional*", the "*individualist*" and the "enclave". While the "*isolate*" only includes social groups that have been isolated by the system, such as prisoners and therefore hardly has any impact on developments, the "*individualist*" is primarily concerned with private benefits and is, therefore, a product of an increasingly commercial society. Therefore, social status and its expression can play an important role in housing dynamics. The "*positional*" is rooted in a distinct group following a clear grid-given structure and thus often supports tradition and order (Douglas 2006). Finally, the "*enclave*" includes all groups that refuse to participate in any given framework and follow their own structures. These four fundamental types offer an enhanced understanding of key lifestyle dynamics. The diversity of lifestyles is thus highly dependent on the general social structure.

In addition to the holistic approach of understanding lifestyles as the result of the habitus as defined by Bourdieu and following the clear positions within Douglas's "*group and grid*" model, other scholars have introduced pragmatic models on how to distinguish certain life modes that shape lifestyle trends today. Thomas Hojrup introduced three pragmatic life modes: self-employed life mode, wage earner life mode and career-oriented life mode (Hojrup 2003). The preceding classification shows that house needs and preferences usually vary based on the income level, work sector and work style of an individual (Salama 2011; Graham and Sabater 2015). While life modes can be distinguished according to the varying ways in which people work, other factors such as the demographic increase and decrease of families and the associated life modes have been researched by scholars to investigate the dynamics of housing markets.

Coupled with how people work and their family status, the role of leisure- and consumption-oriented life modes can be identified as the third determining factor for housing choice. While some social groups are significantly restricted in their spending, others consciously choose to save their earnings or at least a portion of them. Other groups alternatively opt for a predominantly if not solely consumer-driven lifestyle, as analysed and described by Thorsten Veblen in the late nineteenth century (Veblen 2009; Walters 2006). Nevertheless, among the three types of social groups, work and family status, as well as consumption patterns, determine housing preferences within the constraints of supply and demand and as part of urban development processes.

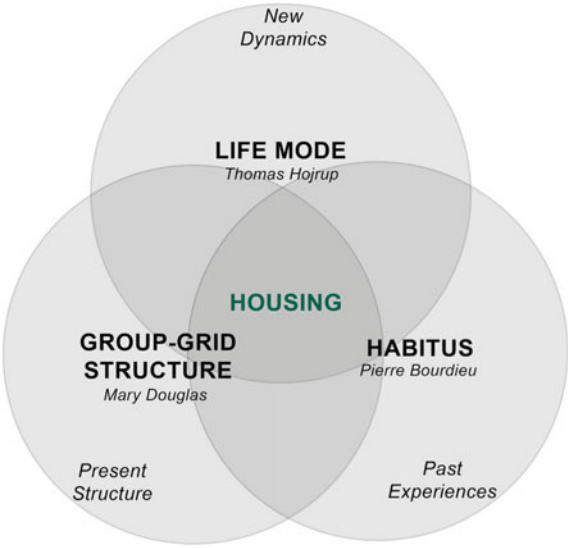

Fig. 2 The triadic perspective of lifestyles theories for understanding housing developments, typologies and choices (Salama 2019)

The preceding theories as they relate to housing preferences and choices, establish a framework, which posits that lifestyles are important drivers for housing developments and transformations, while the existing housing conditions have a reciprocal impact on lifestyles. Lifestyles are a product of individual and collective processes within societies and, therefore, their characteristics are highly complex. Thus, the framework can be developed to integrate the various parameters that shape the lifestyles of different social groups (Fig. 2). According to Bourdieu's theory, society is the product of a historic process and the organisation of a society is directly linked to past experiences. This is manifested in the individual's habitus, which is rooted in cultural customs as well as basic survival needs and social status. This abstract conception of the foundation of lifestyles in addition to the understanding of the present group-grid structure of society provides an overview of basic social groups and their roles. The abstract conception of how societies are structured needs to be incorporated into an understanding of predominant life modes as drivers of new restructuring processes. These life modes can be defined by being family-related, or work-based, or leisure-oriented.

Beyond the Frameworks—Transdisciplinary Knowledge Production

The two frameworks discussed in this foreword present various characteristics for conceiving borders and boundaries from two angles: the conception and production of space and housing patterns, typologies and choices as they related to lifestyles. Both frameworks aim to cross the boundaries of various issues at a physical level as well as at a disciplinary level and thus reflecting in trans-disciplinarity is necessary.

Trans-disciplinarity can be explained as a new form of learning through action involving co-operation among different parts of society, professionals and academia in order to meet the complex challenges of society. Trans-disciplinary research

starts with tangible, real-world problems. Solutions are devised in collaboration with multiple stakeholders, including academics and professionals from different disciplinary backgrounds (Pohl and Hirsch Hadorn 2008). Thus, Trans-disciplinarity is about blurring then transcending the boundaries of the various disciplines. As a mode of knowledge production, it can concurrently encounter complexity while challenging the fragmentation of knowledge. Its hybrid nature and non-linearity easily enable it to transcend and indeed incorporate any academic disciplinary structure (Dunnin-Woyseth and Nielsen 2004; Lawrence and Depres 2004; Doucet and Janssens 2011).

The first trans-disciplinary framework can enable a type of knowledge about urban research that aims at the public sector and its urban planning authorities. It can offer insights into how certain economic developments determine and reconfigure urban structures as well as how the existing urban environment is playing an important role in establishing or inhibiting conceptual and physical borders and boundaries. Similarly, the trans-disciplinary framework for examining housing development, provision, choices and preferences demonstrates that emerging multicultural societies are rooted in extensive international migration and are particularly important cases whereby new housing dynamics and lifestyle trends can be observed.

Trans-disciplinary thinking is evident in the first agenda that captures three types of spaces that enable an integrationist approach to city research "conceived-perceived-lived," each of which requires specific disciplinary expertise. Likewise, trans-disciplinary thinking is the crux of the second framework that establishes parameters for trans-disciplinary knowledge on housing and typological transformations. This is reflected through the utilisation of three lifestyle theories stemming from three different disciplines: sociology, anthropology and ethnography.

The various chapters of this section address issues of the porosity of borders in formal and informal urban and housing patterns in the content of Istanbul, the definition of the borders of urban enclaves, or the evolutionary nature of borders in Galata and Edirne. Within these contexts and areas of focus and the two transdisciplinary frameworks presented, two sets of imperatives emerge with respect to urban space and housing patterns and choices. The first set maintains that urban space is a product of conscious decision making within the public sector (conceived space), a product of the collective spatial practice of all users (perceived space) and a product of accumulated subjective attachment and identification (lived space). The second set contends that housing perception is a result of past experience and current needs and wants and housing preference is a result of attitudes towards integration (or isolation) from the wider community and changing needs and spatial preferences. I invite the reader to explore the chapters presented in this section of the book while relating to the frameworks presented here. It is evident that the plurality and diversity of the issues discussed in various contexts require comprehensive frameworks that materialise the growing interest in transdisciplinary thinking and action.

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Ashraf Salama is a Professor of architecture and is currently director of the research cluster of architecture and urbanism in the global south, head of the department of architecture (2014-2020), University of Strathclyde, Glasgow, UK. He is a licensed architect in Egypt and the Middle East and was the Director of Research and Consulting at Adams Group Architects, Charlotte, North Carolina and has led three schools of architecture over the past 25 years in Egypt, Qatar and the United Kingdom. Having authored and co-edited 14 books and published over 170 articles and chapters in the international refereed press, Prof. Salama is the Chief Editor of ArchNet-IJAR and co-Chief Editor of Open House International. Professor Salama is the recipient of the 2017 UIA Jean Tschumi Prize for Excellence in Architectural Education and Criticism. For further information on his work, please visit https://www.ashrafsalamanet.net/.

Chapter 1
Assessments of Edirne's Past, Present and Future as a Border City

Ayse Sirel and Osman Umit Sirel

Abstract For examining Edirne, a border city of strategically geographical and political importance, this three-part study takes up the city's historical past and evaluates its future vision. The first part provides a historical perspective on the definition and function of the 'border' and 'border city' concepts according to different measures. The second part covers Edirne, which is located at the junction of the Western world and Eastern cultures and how its position as a border city from the decline of the Ottoman Empire to the present has impacted the city's development. The third part encompasses Edirne's 'development vision and potential' as a border city. From the 1980s onward, Edirne has begun to stand out with many positive features. The advantage of being a border city with European Union member countries has created the need to create new economic and socio-cultural strategies for the development of cross-border relations and cooperation. In the conclusion part, a general evaluation was made. It has been revealed that Edirne's existing resources can be utilized in more effective and innovative ways and development opportunities can be created for the city's future vision. In this context, the importance of the cross-border cooperation program was specified together with the neighboring country border city municipalities and suggestions for the future have been put forward.

Keywords Borders · Border city · Edirne

A. Sirel (✉)
Faculty of Architecture and Design, Istanbul Aydin University, Istanbul, Turkey
e-mail: aysesirel@aydin.edu.tr

O. U. Sirel
Faculty of Architecture and Design, Bahçeşehir University, Istanbul, Turkey
e-mail: umit.sirel@arc.bahcesehir.edu.tr

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1.1 The Border and 'Border Town' Concept

1.1.1 'Border' Concept as a Physical, Socio-Cultural and Political Fact

The word 'border' is a commonly used concept with different connotations in nature, philosophy, politics and architecture. In the most general sense, it defines the final line or edge where something can spread or expand. It is also expressed as the threshold or restrictive element of something. In regard to property, the 'border' is described as a physical or social line that separates the territory of two or more states or territories from each other and is defined as land or a boundary line near this line (Oxford Learner's Dictionaries, 'border'; Guardia and Bensús 2017). Borders that constitute the spatial texture of cities are defined as a multi-layered system consisting of different physical, social, cultural, economic and political factors. The American urban theorist Lynch (1960) described the images of urban space as physical elements such as boundaries, edges, districts, paths, nodes and reference points (landmarks). Borders are not a concept unique to our day. However, the characteristics of borders have changed considerably over time. Having existed since the early ages, the border concept has had an important function in terms of its meaning, although it was not in the form of a precise line as it is today. For states, the 'border' is an important concept for separating territory they possess from other states and protecting their sovereignty. During the Early and Middle Ages, which lasted a long time and even into the beginning of modern times, the 'border,' which consisted of a large swath of land and was considered as the 'sphere of influence,' continued to be associated with this character. Contemporary meaning of the border concept emerged in the last 200 years, along with the French Revolution. With the formation of new states, conflicts, wars and peace treaties in the modern world, the concept of borders became different from the scope used in the early periods. For this reason, the border concept was defined according to different measures from the past to the present.

Due to lack of conceptual consensus, there has been some confusion regarding the terminology used to express the 'border' phenomenon in academic studies conducted on borders. According to many authors, there are differences in meaning between the terms 'border,' 'boundary' and 'frontier' (Baud and Schendel 1997; Rankin and Schofield 2004). According to Prescott and Triggs (2008), the border is a line that strictly limits the sovereignty area of a political unit (country), the boundary is an area where the authority of the political unit has reached the furthest and the frontier is expressed as the area where a political unit is attempting to establish activity beyond its borders (Aslan 2009). In terms of meaning, it is necessary to look at the ontology of the 'border' concept in a historical perspective in order to clarify the difference between the concepts. In ancient times, the 'border' existed through a meaning that surrounded defensive, religious and belief zones as well as those providing the community's daily needs. Mountain ranges around the settlements and natural regions comprised of rivers, greenery and farming regions were incorporated as borders (Gümüşçü 2010). Rather than state sovereignty principles, borders were

based on protection from external attacks (the Great Wall of China, Roman walls, etc.). Settlements established during the Classical Greek and Roman eras were positioned in a manner that was easy to defend and provide protection against attacks. Thus, the desire to determine boundaries by drawing them out was not considered crucial for these city-states. When city-states were replaced by empires with wider areas during the Medieval Ages, states and empires had to determine their borders in order to preserve their own authority. In drawing out and preserving these boundaries, the concept of 'boundary length,' that is, the boundary that determined the final stop in expansion, began gaining importance (Giddens 2008). In the period leading up to the emergence of the modern state system in Europe, boundaries between feudal regions were often undefined and permeable (with freedom of movement) that surrounded the territory (Diener and Hagen 2010-quoted: Tekin 2012). In other words, the concept of border lengths-boundaries was dominated by the religion, culture, socio-economic life and settlement characteristics of the people living in these places.

With the transition to the modern state, there were significant variations in the border concept in terms of both meaning and function. The foundations of the modern state system are based on the combination of sovereignty and territory. Thus, the most important element needed for the establishment of the modern state was a line that defined its limits in the context of protecting the land where it was dominant. With regard to the legal equality of states, respect for land and sovereignty (i.e., borders), the Treaty of Westphalia (The Avalon Project, n.d.) of 1648 was one of the most crucial turning points in world history. With the agreement which stipulated international law of states, invariable boundaries of most European countries were drawn and the foundations of the modern state system on which the sovereignty of territory was established. However, 'the formation of invariable boundaries has led to the breakaway of border regions from true relationship networks, the restriction of market areas in the economic sense, the underdevelopment of these regions and their becoming excluded regions' (Dursun 2014). Subsequent to Westphalia, new international relations arrangements were made to protect the legitimacy and sovereignty of the great European powers at the Congress of Vienna (1815). The borders of many states were revised with the Treaty of Paris signed in 1856 (Erkan 2010; Özdal and Jane 2014). As a result, it can be said that while the sovereignty of states was determined by international treaties in the period spanning from the Treaty of Westphalia until after World War I, the shape of the modern state was drawn with 'borders.'

The boundaries determining the territory, populations and economies of the states established during the modern era within their jurisdiction (sovereign area) are based on the fact that international politics have taken on a defensive character (Diener and Hagen 2010-quoted: Tekin 2012). In other words, while these state boundaries drawn up to protect the state against the outside world constitute the basic dynamics of its policy, they also express transformation into legal lines which separate different sovereignties (Anderson and O'Dowd 1999). As can be seen, like in pre-modern times, the borders of modern states had gone from being permeable (freedom of movement based on demographic, socio-cultural and economic factors) and natural

appearance (mountain ranges, rivers, etc.) that surrounded territory to become man-made things facilitated through diplomatic negotiations and various treaties. The socio-cultural life of communities living in the border region of modern nation-states was sharply divided into two, left alone to eventually assimilate into the dominant culture. Discourse regarding the other side of the border as the 'enemy' or 'foreign' had formed this new meaning and function of the borders (Tekin 2012). Although the sovereignty of the modern-day states has been limited to boundaries (surrounded-drawn), it is also known that they often attempt to expand the spheres of political, economic and cultural activities beyond their borders. In this regard, borders also serve as bridges as socio-economic and cultural exchange sites for people living on the outskirts or in border areas (Donnan and Wilson 2002). This is where the concept of the frontier (activity area) manifests itself. As a result, borders have been set up in different ways throughout the historical process. The 'boundary' concept in pre-modern period as well as that of 'border' in the modern sovereign states system gained importance. On the other hand, 'frontier' maintains its reality as a flexible concept in both periods as the field of activity of states.

1.1.2 Border Studies and the Interdisciplinary Approach

From the early-twentieth century to the 1980s, when globalization as we know it began, border-related studies have been dealt with in a narrow context as geopolitical matters. Borders drawn on maps as a result of political and ideological decisions were evaluated as historical and geographical matters that went through transformations as a result of wars and armistices, whereas cultural and historical boundaries were neglected. It is seen that the field of border epistemology had begun to expand since the 1980s. 'Border-border regions-border cities' have become an important research topic in both academic and political fields, especially over the past two decades. In this process; the socio-cultural, economic and psychological aspects and interdisciplinary studies (geographers, political scientists, sociologists, anthropologists, psychologists, ethnologists, lawyers, economists, etc.) have been undertaken frequently and the theoretical framework has been renewed. Moreover, 'Border Research Centers' have been established for border research at universities. Having focused on the development stages of borders from the early-twentieth century to the present as well as post-modern approaches that have emerged over the last 25 years, Kolossov has determined that Borders and Border Studies is a rapidly growing interdisciplinary field that is facing new challenges. According to the author, the end of the Cold War brought about the disintegration, division and increased number of borders of the ex-Soviet Union and some other countries, whereas the significant ideological and geo-political obstacles they were once faced with were lifted, allowing their participation into the economy. Moreover, he stated that under the influence of globalization, borders and their functions are changing rapidly which has created a situation requiring careful analysis. In his work, the European Union's eastward expansion, economic barriers to economic interaction,

the removal of artificial barriers, the revival of regional identities and nationalism, international migration and technological advances, such as the loss of distance with the perception and meaning of the border perception and meaning, have changed, whereby the narrow perspectives regarding borders have begun to lose their validity (Kolossov 2005, 2015).

From the 1980s onward, a series of questions began to be posed regarding the function and effects of borders, how and to what extent the border regions were restructured, governed, negotiated or mismanaged and in fact, a world without borders (Anderson and O'Dowd 1999). Attention began to be focused on the fact that borders and border regions are not only symbolic-physical lines determining the sovereignty zones of states, but also that they constitute a social and cultural existence. In sociological studies, it was examined that boundaries and boundary regions were an 'intermediate region,' and how communities in these intermediate regions maintained their different ethnic and cultural characteristics and how they maintained social, economic and cultural ties with communities on the other side of the border in daily life. For instance; Baud and Schendel (1997), a life-cycle metaphor comprised of five stages was used to draw attention as to how boundaries and living conditions in boundary communities changed over time. According to the authors, social and economic ties of the community on both sides of the border are maintained without pause in the initial stage (infant borderland). The border concept is still to be felt in the initial stage, whereas communities (regional residents) have options as to what side of the border they wish to be on. In the second stage (adolescent borderland), where the border concept starts to be really felt, pre-existing social and economic relations on both sides of the border begin to become limited. The existence of the border is clearly felt as a social reality in the third stage (the adult borderland). The kinship ties of the community on both sides of the border start diminishing and becoming complicated. With the fourth 'diminishing' or 'retreating' border stage (declining borderland), the control of borders between states has weakened and cross-border economic networks between border communities have begun to emerge in the peaceful process. As for the last stage, 'invalid-defunct borders' (defunct borderland), physical barriers on both sides of the border have now been lifted and newly created border networks have begun to replace old networks. In Ackleson's border studies, he states that the boundaries are not fixed lines, but are multi-actor processes and relations (depending on political developments) that are constant and reproduced by the material, sociological and discursive practices of the state, other actors and the international system. (Ackleson 2001). Some concepts such as 'bridge,' 'wall,' 'tunnel,' 'opportunity,' 'threat,' 'unlimited,' 'restriction' and 'transboundary' as well as matters such as border dynamics, activities, opportunities and threats were mentioned in the studies of Topaloglou and his team (Topaloglou et al. 2005).

Consequently, in research conducted on borders over the past two decades, the need has been put forward to understand borders and border regions, not only from geographical, legislative-legal and political aspects, but from the socio-cultural, ethnic, linguistic, ideological and economic dynamics and certain historical transformations they have experienced as well (Baud and Schendel 1997). Border studies

carried out with this perspective generated a new revival as a multi-disciplinary field of study that concerns geographers, political scientists, urban planners, sociologists, anthropologists, historians, writers and legal experts (Kolossov 2005; Newman 2006). It has been stated that borders and border areas have gone beyond just being physical line-boundary areas that separate states from each other, but are also interconnection areas where human activities of different scales are articulated. In addition to the political decisions taken at local, national and international scale (global scale), it is stated that borders are regions affected by the dynamics of official and illegal markets (smuggling, etc.) and have their own dynamics (Guardia and Bensús 2017).

1.1.3 The Opportunities and Risks of Border Towns

Many studies state that borders have contradictory structures featuring both hindering (divider-separator) and transitory (connecting) elements. While state borders were re-organized as a result of wars and subsequent agreements during the twentieth century, communities in many countries having the same language and culture were divided into two. Due to ideological differences (Western capitalism and Eastern communism) that emerged in the era between the 1950s and the late-1980s, states established a very strict control mechanism at their border zones in order to protect sovereign areas, to protect the rights of its citizens and to ensure security. During this process, border zone cities ended up as places where states did not give priority to development and where political and ideological pressure was applied. In other words, border zone cities were broken away from real relationship networks and transformed into reduced and excluded places. With this aspect, borders bore a hindrance that 'separated' and divided the communications of communities living in these parts. Nevertheless, the globalization and liberalization of economies since the 1990s, the development of new technologies and communications and increased prosperity encouraged the evolution of state boundaries to integrate rather than to alienate (Kolossov 2015). Despite some objections that became current issues with reasons such as significant economic imbalances between two neighboring countries, it was even thought that this evolutionary process would create a world without borders (Fukuyama 1992). The life of communities on both sides of border cities was already intertwined due to historical, social, cultural, linguistic and geographical factors linking these communities (Baud and Schendel 1997; Lara-Valencia 2013). This particular situation manifests itself in many fields of daily life, from smuggling and cross-border trade to kinship and cultural exchanges. Through globalization, state borders have become more permeable, paving the way for 'cross-border cooperation' which creates new socio-economic opportunities and development possibilities for border residents. Although cross-border cooperation is perceived as a sign of weakness (from a nationalist perspective), it has been a very important undertaking to overcome prejudices and hostilities between countries and to contribute to tolerance and understanding among people in this field (Ministry of Economic

Affairs and Energy 2007). The creation of economic opportunities based on cross-border cooperation has become a feature that 'unites' borders in many regions of the world, especially those of European countries, a situation which is symbolized by the 'barrier-to-bridge' metaphor. With the Maastricht and Schengen Treaties signed in 1992, the borders of many European countries lost their importance and the mobility of goods, capital, services and people increased. Since these years, the negative conditions of the border regions and border cities had been transformed as a result of the alliances established between the states and the European Union (EU) Free Trade Agreement, New Free Trade Agreement-USMCA (with the cancellation of the North American Free Trade Agreement-NAFTA). Each of these special situations of such places is considered internal resources, creating opportunities for their development. Considered within this scope, cross-border cooperation (CBC) has become a concept that increasingly emphasizes cities, states and international structures in the border regions (Sezgin and Erkut 2014). Senior officials and public and private sector leaders of the neighboring countries, in many regions of the world, have started to work together by identifying the main areas of cooperation where resources can be used more effectively and in innovative ways in order to realize opportunities. Said opportunities and areas of cooperation can be expressed as follows (Lara-Valencia 2013):

- Economic: Ensuring the ability to create and maintain jobs with high economic performance and stability,
- Culture and education: Providing individuals with the knowledge, skills and experience needed to successfully participate in social and economic life,
- Healthy lifestyle: Providing treatment services and acquiring preventive care and general health information for individuals to live healthy lifestyles,
- Social life and social interaction: Quality of life is directly linked to the ability of a community to make money with its members' social interaction, common sense of identity and sense of belonging and opportunities. It is ensuring that parks or other common areas where local people can meet are safe enough for social interaction.

The main areas of cooperation in cross-border collaboration are as follows:

- Joint management of production and product chains, energy resources,
- Use of infrastructure, international airports, maintaining water transportation conditions, joint water management, merging water resources,
- Cooperation in environmental problems, protection of cleanliness of border rivers, protection against air pollution,
- Cultural and educational cooperation.

1.2 Edirne City Location and the Changes that Occurred Throughout History

1.2.1 Location of the City of Edirne

Edirne is situated in Turkey's European continent, in the Thracian quadrant of the Marmara region, between 41°40'15" North latitude and 26°33'50" East longitude. With the Aegean Sea to the south and neighbors with Bulgaria to the north and Greece to the west, the city is Turkey's gateway to Europe. While the land border with Bulgaria continues along a line of about 90 km, the Meriç River constitutes the border with Greece (in antiquity/Hebros, Greek/Evros, Bulgarian/Maritsa) (Encyclopedia Britannica, Maritsa River) (Fig. 1.1).

Edirne was established over the fertile soil of Thrace, which comprises the southeastern portion of the Balkan Peninsula, to the north of the Meriç River, at the convergence spot of the Tunca tributary. Situated at the crossroads of trade routes between Anatolia, the Balkans, Europe and the Mediterranean, it constitutes an important geographical and strategic position (Encyclopedia of the Ottoman Empire 2009). With this important location, it has hosted a wide variety of civilizations throughout history.

In examining the topography of the Balkan Peninsula, it is seen that the most suitable overland connection between Europe and Anatolia is via the Meriç River Valley. While this made a positive contribution to the city in regard to establishing cultural and commercial relations during times of peace, the same location also caused invasions and occupations in times of chaos and war. Merging with the Meriç River (main branch) in Edirne, the Tunca and Arda Rivers contribute to the strategic position of the city by creating an important junction point at this point (Darkot 1993; Mansel 1993). As the shortest route linking the Black Sea to the Aegean Sea, the Meriç has been used for shipping since ancient times (Islamic Encyclopedia 2004). Goods shipped from Bulgaria were transported via the Meriç to Edirne and then transferred

Fig. 1.1 Location of Edirne in its region (Nations Online, n.d.) and Near Border Gates (Sirel 2020, reproduced from Google Earth)

to Enez and Istanbul via the Meriç again. River transportation continued to be important until the railway was completed in the late-nineteenth century. Railway passing through Edirne constituted the fastest means of transportation between Istanbul and Europe.

After the defeat suffered by the Ottoman Empire during World War I, Edirne was occupied by Greece in 1920. The city finally came under Turkish sovereignty in 1922 at the end of the Turkish War of Liberation. As a result of the Lausanne Treaty of 1923, the Republic of Turkey gained full independence, taking over Karaağaç, which comprises Edirne's present borders, from Greece as war compensation on 15 September 1923. With the Lausanne Treaty, some of the railway lines from the Ottoman era remained on Greek territory. For this reason, a new railway line was inaugurated between Pehlivanköy, Edirne and Kapıkule in 1971 (Korkut 1972). The city features five border gates linked to Europe, two of which are railway and the other three are highway (İ.A.V.-2003, p. 13). The overland distance between Edirne and Istanbul (European Motorway/TEM) is 237 km. Beyond the border, it is 105 km to Haskoy, Bulgaria, 177 km to Plovdiv and 311 km to Sofia. It is 26 km to Orestiada, Greece, 46 km to Dimetoka, 139 km to Alexandroupolis and 443 km to Salonica. The distance by rail to Istanbul is 318 km. This distance will be shortened with the high-speed train line currently under construction and travel time between Edirne and Istanbul will drop significantly.

While state borders were re-organized as a result of wars and subsequent agreements during the twentieth century, communities in many countries having the same language and culture were divided into two. This situation was also valid with Turkey's new borders; socio-economic, cultural, language-related problems existed in the community living in Edirne. As one of the farthest points in the country and as it is considered to be one of the first regions lost in a possible war, there was no significant investment in Edirne until the 1970s (Sirel 1996).

1.2.2 Edirne's History and Development

1.2.2.1 Prehistory and Early Ages

Edirne's history goes back to the early ages. The oldest historical remnants around the city are cromlechs and stone monuments dating back to ca. twentieth century BC. Xix cromlechs lie to the north of the village of Büyünlü, which is linked to the provincial district of Lalapaşa. The Achaeans began spreading eastward from Greece between the fourteenth century BC and the twelfth century BC. Thracian tribes known as the Bettegeri and Odris settled in the coastal part of Thrace (Yurt Encyclopedia 1982). Although no architectural remains emerged from excavations conducted at the Çardakaltı site situated 5 km northeast of Edirne, artifacts uncovered here date back to twelfth century BC when the Thracian tribes came to the region (Kansu 1993).

'Thrace' came under Persian domination after the Scythian Campaign of Persian Emperor Darius the Great in 513 BC. After the collapse of Persian hegemony, Thrace remained in a state founded by the Odryians, who occasionally extended its borders to Odessa-Varna. It is possible that the city, which was established in the area where modern-day Edirne is situated, was named Odrisia. In this context, the oldest known people of Edirne are the Odryians, who descended from the Thracians. In wanting to establish a large Balkan state during the mid-fourth century, Macedonian King Philip II added the Odryian lands to Macedonia and named the city 'Orestia/Orestas.' Exposed to the temporary invasion of the Celts in 280–279 BC, Thrace came under the Roman influence after the Macedonian Kingdom was eliminated by the Romans in 168 BC (Kansu 1993; Yurt Encyclopedia 1982).

1.2.2.2 The Roman Era

Roman Emperor Claudius (43–46 AD) occupied Thrace, turning it into a Roman province (Thracian Province) and administering Ereğli (Perinthus) as a provincial center. Roman Emperor Hadrianus (117–138) liked the town of Orestia for its strategic location so much during a trip to Thrace in 123–124 AD that he introduced 'City Law.' Since then, the city began to be known as Adrianople. The Roman Empire lived its days of glory during the second and third centuries, whereas the cities in Thrace also developed. Adrianople experienced a rapid development with its military and commercially favorable location during this era. With an administrative arrangement made in 297, Adrianople became the capital of Haeminonius, one of six provinces of the Roman province of Thracia. However, with the exception of a few wall foundations, there are almost no traces of structures from that time still extant (Yurt Encyclopedia 1982). Located in the northeast corner of today's Kaleiçi, the structure is known as Macedonia Tower was built by the Byzantines in the tenth century over a Roman-era foundation (Yıldırım 2004).

In 324 AD, Roman Emperor Constantine moved the imperial capital from Rome to Byzantium and named it 'Constantinople.' With Byzantium the capital, Hadrianopolis gained great importance as it was situated on the way linking Byzantium to Europe. The Huns and Ostrogoths occupied Thrace during the second half of the fourth century. Though the Ostrogoths besieged Adrianople after defeating the Byzantine Army in 377, they were unable to take the city. Later on, the Goths occupied all of Thrace, including Perinthos (Ereğli) (Yurt Encyclopedia 1982; Mansel 1993). Roman Emperor Theodosius arrived in Adrianople to suppress the turmoil in the Balkans and spent the winter of 381 here (Eyice 1993) (Fig. 1.2).

Fig. 1.2 Hadrianapolis as the capital of Haemimontus in Dioecesis Thracia (Evangelical Focus, n.d.)

1.2.2.3 The Byzantine Era

In 395 AD, Theodosius I decided to have the territories of the empire ruled by two separate emperors. He appointed his elder son Archadius to head Eastern Rome (Byzantine) and his younger son Horius to head Western Rome. Having remained within the borders of the Byzantine Empire, Adrianople preserved its importance as an economic and administrative center during the strong periods of the empire but was relegated as a frontier outpost after the empire lost its power. It was forced to resist tribes such as the Huns, the Avars, the Goths, the Bulgarians and the Pechenegs (Darkot 1993). Although the Huns had captured and destroyed many cities in Thrace, Adrianople is not mentioned among these cities. This is because Adrianople possessed strong walls that surrounded it (Eyice 1993).

Byzantine was attacked by the Avars between 582 and 602. The Avars took several border fortresses, but Adrianople remained in the hands of Byzantium (Yurt Encyclopedia 1982). Subsequent to the Avars, the Bulgarians began organizing raids on Byzantium. Byzantine Emperor Nicephorus I attacked the Bulgarians in 811, but was defeated and took refuge in Adrianople with the rest of his army. In 914, the Bulgarian Czar Simeon captured Adrianople, but the Byzantine Army took the city back later on. Simeon reconquered Adrianople in 923 but relinquished it back to the Byzantines once the Bulgarians retreated the following year. In 1003, Bulgarian Czar Samuel took Adrianople and razed the city to the ground. In 1004, the city was brought back into the Byzantine fold by Emperor Basileus (Eyice 1993) (Fig. 1.3).

The city began to be threatened by the Peçenek, Uz and Kumans, who replaced the Bulgarians starting from 1018. Although the city was seized during a raid in

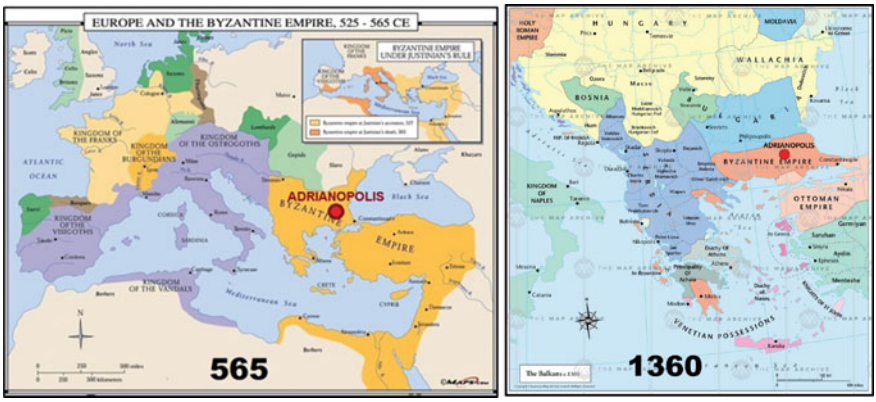

Fig. 1.3 Adrianople in various periods of Byzantine Empire (left: [Wayfair 2019]; right: [The Map Archive, n.d.])

1050, it was soon retaken by the Byzantines. During the 2nd Crusade (1145–1149), German forces marched on Edirne, but they backed off from entering the city due to measures taken by the Byzantine Army and instead proceeded to Anatolia. During the 3rd Crusade of 1189, German Emperor Friedrich Barbarossa plundered Plovdiv and took Edirne after it was evacuated by its people. In 1190, Barbarossa made a treaty with Byzantium in Edirne then passed over into Anatolia.

In 1204, Istanbul was besieged by the 4th Crusade, which founded the Latin Empire here, whereupon Edirne was given to the Venetians. Revolts against Latin hegemony occurred in Thrace the same year, leading to the collapse of the empire. Subsequent to the fall of the Latin Empire, Edirne passed back into the hands of the Byzantines again during the reign of Michael VIII (1261–1282) (Ivanov 2011). The Bulgarian King Alexander marched toward Edirne during the time Ioannes (1341–1391) ascended to the throne (vizier Kantakuzenos was his proxy as he was underage) and occupied the outskirts. Having declared himself emperor in 1341, Kantakuzenos Didymoteikhos removed the Bulgarians from this region with the aid of Aydınoğlu Umur Bey. Later, with the help of Orhan Bey, he took Edirne in 1346, was crowned here and went to Istanbul where he ascended to the throne (Kazancıgil 1999). In 1354, the Ottomans took Gallipoli and captured the Marmara shores as far as Tekirdağ. Orhan Bey's eldest son, Süleyman Pasha, endeavored to conquer Rumelia (Yurt Encyclopedia 1982).

1.2.2.4 The Ottoman Era

The Founding Era of the Ottoman Empire and Edirne

The period from Süleyman Pasha's death in 1357 until 1359 was one of reticence from the aspect of the Ottoman Empire spreading into Rumelia. One of Orhan Bey's sons,

Murad, took command of the forces in Rumelia and started a systematic conquest. First, he took precautionary measures against possible aid that would be from Istanbul by taking Çorlu and then dispatched Lala Şahin Pasha in Babaeski to march on Edirne. The Byzantines were defeated in a battle held on the outskirts of town and retreated to Edirne Fortress. Consequently, Murad mustered forces under the command of Hadji İlbey and Evrenos Bey in the Keşan region and Meriç Valley. The Byzantines, who could endure no longer, handed over the city of Edirne without a fight. Although differing theses on the history of the conquest of Edirne were put forward by the Ottoman Empire, 1361 is generally noted in this regard (Encyclopedia of the Ottoman Empire 2009). Murad I ascended to the throne upon Orhan Bey's death in 1362. In 1364, an army led by the King of Hungary, Louis I, with the participation of Serbs, Bulgarians, Wallachians and Bosnians, marched on Edirne to expel the Ottomans from the Balkans. Haci Ilbey routed this army with a midnight raid he led during the Battle of Sırpsındığı (Yurt Encyclopedia 1982; İnalcık 1993).

Edirne as the Capital of the Ottoman Empire

After the Battle of Sırpsındığı, the Ottomans undertook many more conquests in the Balkans and began giving more importance to the region against possible dangers. Consequently, Murad I moved the center of the Ottoman Empire from Bursa to Edirne in 1365. As the capital was switched to Edirne, public works movements started in the city and the construction of the first Ottoman palace in this city was underway (Kazancıgil 1999). Yıldırım Bayezid ascended to the Ottoman throne after the death of Murad I during the Battle of Kosovo of 1389. After reinforcing the borders of Rumelia, Bayezid passed over to Anatolia. Benefiting from this, Mircea the Elder of Wallachia attacked Ottoman territory. Passing back in Rumelia, Bayezid mustered a large army in Edirne and routed Mircea's army (1391) (Oğuzoğlu 2012).

The Ottoman Army besieged Istanbul in 1395. However, as the Crusader Army entered Ottoman territory, Bayezid lifted the siege of Istanbul and mustered his troops in Edirne. Bayezid besieged Istanbul for a second time in 1396, lifting it after signing a treaty with the Byzantine emperor. Bayezid was defeated by Tamerland during the Battle of Ankara (1402), whereas the state entered a period of turmoil when fighting between Bayezid's sons over the throne ensued. Nevertheless, no action was taken against the Ottoman Empire in Rumelia during this period.

The eldest son of Yıldırım Bayezid, Süleyman Çelebi was brought to Edirne by the vizier Çandarlı Ali Pasha and was appointed successor to the throne. While the struggle over the throne ensued, Musa Çelebi collaborated with the Rumeli lords and raider Mihaloğlu Mehmed to defeat Süleyman Çelebi near Sofia. Having killed Süleyman Çelebi, Musa Çelebi then entered Edirne and declared his rule in 1410. As a result of misguided politics followed by Musa Çelebi, his other brother Çelebi Mehmed (Mehmed I) passed over to Rumeli, took over Edirne and killed Musa Çelebi in 1413 (Kazancıgil 1999). The infighting over the throne commenced again after Mehmed I died in Edirne in 1421. Crown Prince Mehmed II succeeded his father, Murad II, who passed away in 1451 (Yurt Encyclopedia 1982). After ascending to the

Fig. 1.4 Edirne, during the city was Ottoman's Capital (Wattpad 2016)

throne, Mehmed II first marched on the Karamanoğlu state and then returned to Edirne to initiate preparations for the conquest of Istanbul. Mehmed II (The Conqueror) led his forces from Edirne on 23 March 1453 taking Istanbul on 29 May. He then moved the state center from Edirne to Istanbul (Fig. 1.4).

Edirne as the Second Capital During the Expansion Period of the Ottoman Empire

Edirne's importance was maintained even though the capital was moved to Istanbul. Besides serving as a mobilization base for the Ottoman Army's campaigns in the Balkans and Europe, it served as a second capital and continued its commercial and cultural vitality (Encyclopedia of the Ottoman Empire 2009). As new settlement areas formed beyond the city walls, the city's population increased and the city walls lost their importance (Darkot 1993). Bayezid II succeeded his father to the throne after Mehmed II's death in 1481 while embarking on the Kili and Akkerman Campaigns of 1484, Bayezid II came to Edirne and laid the foundation of his complex. After the death of Bayezid II in the year 1512, his successor Sultan Selim the Grim visited Edirne on several occasions. Succeeding Selim upon his death in 1520, Sultan Süleyman the Lawgiver (1520–1566) frequently passed through Edirne, particularly before expeditions he led against the West during his long-lasting reign. After the death of the Lawgiver, Selim II (1566–1574) ascended to the throne and commissioned the most important of the Ottoman mosques, the Selimiye to be built in Edirne (UNESCO World Heritage List). The sultans who succeeded Selim II also

Fig. 1.5 Expansion of the Ottoman Empire (Engul, n.d.)

spent time in Edirne, utilizing this city especially for military objectives. However, it was Mehmed IV 'The Hunter' who spent practically his entire reign (1648–1687) in Edirne.

European states were disturbed by the conquest policies of the Ottoman Empire, which had reached its zenith during the sixteenth century. However, the turmoil, economic collapse and disorder that occurred in the Balkan provinces weakened the Ottoman Empire from the seventeenth century onward. Taking advantage of this situation, European states (Poland, Austria, Venice and Russia) formed the 'Holy Alliance' after the Siege of Vienna in 1683. With Holy Alliance Wars lasting sixteen years, the economic problems of the Ottoman Empire deepened further and internal turmoil occurred. Mehmed IV was dethroned in 1687 and replaced by Süleyman II (Kurtaran 2014). After being deposed, he was kept under surveillance in Edirne where he died (Kazancıgil 1999). Belgrade fell into the hands of the Austrians during the reign of Süleyman II (1687–1691). Mustering the army in Edirne, Süleyman II embarked on a campaign but returned unsuccessfully and passed away in Edirne. His successor Ahmed II (1691–1695) lived in Edirne periodically and like many previous sultans, he passed away here as well. Like his father before him, Mustafa II, whose reign lasted from 1695 to 1703, enjoyed Edirne and remained here continuously. In fact, he signed the Treaty of Karlowitz, which marked the first defeat of the Ottoman Empire following the Holy Alliance Wars in Istanbul, and then returned to Edirne. As was seen, the city of Edirne always maintained its position as an important city in the expansion and even contraction eras of the Ottoman Empire (Fig. 1.5).

1.2.2.5 The Contraction Era of the Ottoman Empire (1699–1792) Edirne

The Ottoman Empire experienced ruptures in its classical order as it was plagued by a number of external and internal problems during the eighteenth century. Signed in 1699 as a result of the Holy Alliance Wars, the Treaty of Karlowitz marked the first treaty that the Ottoman Empire lost territory and prestige. For this reason, this treaty is accepted as the start of the decline of the empire (Kurtaran 2014). As a result of the Janissary uprising subsequently referred to as the 'Edirne Case,' Mustafa II was deposed and replaced by his brother Ahmed III (1703–1730). Although Istanbul was considered the capital of the Ottoman Empire, sultans spent most of their time in Edirne, ruling the state from here. This indicates that Edirne's character as a trade center continued during the seventeenth century. Stagnation prevailed in Edirne's commercial life soon after Sultan Ahmed III abandoned the city in 1717 and began to conduct state affairs from Istanbul (Yurt Encyclopedia 1982). Of the sultans who followed Ahmed III, only Mustafa III (1757–1774) used Edirne Palace, for a short time in 1768, and the palace was no longer used for primary purposes (Kazancıgil 1999).

1.2.2.6 The Ottoman Empire's Era of Decline (1792–1922) Edirne

The Ottoman Empire's foreign policy changed significantly after the Treaty of Karlowitz. Unable to preserve their aggressive war policy, the Ottomans ushered in a new era of a defensive war policy that would last for many years (Kurtaran 2014). During this period of reform and renovation endeavors, the Ottoman Empire attempted to execute military and administrative reforms (reform movements) to regain its former power and compete with Europe. For instance, the Nizam-ı Cedid Army was founded during the reign of Mahmud II (1808–1839), leading to the disbandment of the Janissary Corps, triggering reactions and confusion in Edirne in 1806 (2nd Edirne Case) (Yurt Encyclopedia 1982). Despite the reform movements, the Ottoman Empire could not avoid defeat and loss of territory to Austria-Russia. At the end of the Russo-Turkish War (1828–1829), Edirne fell into the hands of the Russians, and with the Treaty of Adrianople signed in Edirne in 1829, the Ottoman Empire was forced to give up territory and pay compensation. This treaty granted Greece her independence, the Prut and Danube Rivers were accepted as borders, while Edirne was to remain with the Ottomans and Russian troops were to leave the city (Baykal 1993; Encyclopedia of the Ottoman Empire 2009). This war impacted Edirne unfavorably. The Muslim community began to migrate elsewhere and the population of the city fell from 140,000 (before the occupation) to 100,000. In 1831, Mahmud II came to the city to boost the morale of its citizens and issue a decree to eliminate the destruction. He ordered a bridge to be erected over the Meriç River and coins stamped 'Edirne' were minted to commemorate this trip. In the subsequent period, Sultan Abdülmecit also visited Edirne during his sultanate (1839–1861). During this period, the unfinished Meriç Bridge was completed and the city's

telegraph office became operational. The reign of Abdülaziz (1861–1876) saw the railway linking Istanbul to Europe via Edirne completed in 1872 as well as the city's first municipal organization (Darkot 1993; Kazancıgil 1999).

Sultan Abdülhamid II's reign (1876–1909), was marked by a second Russian occupation of Edirne during the Russo-Turkish War of 1877–1878. Edirne was left to the Ottoman Empire with the Treaty of San Stefano, signed on 3 March 1878. However, the Kingdom of Bulgaria was established with this agreement and Edirne had become a border town (Edirne, Yurt Encyclopedia 1982; Baykal 1993). The border town of Edirne was turned into a powerful defense center. This time, it was not the walls bearing the defensive duty, but rather the bastions and fortifications erected at suitable locations around the city (Darkot 1993). In this era, the city's population was 160,000, 53,000 of which were military personnel.

Edirne was subsequently attacked by Bulgaria in 1912 and captured by the same country in 1913. At the end of the war known as the First Balkan War, the Treaty of London was signed with the Kingdom of Bulgaria on 30 May 1913. With this treaty, Edirne remained in Bulgaria and the Mussel-Enez line was determined as the Ottoman-Bulgarian border. At the end of this war, the Ottoman Empire only had a border with Bulgaria. All Balkan states expressed their displeasure with the borders drawn up after the First Balkan War. These states believed the land division was biased and unfair and that Bulgaria got more than what it deserved. In the 2nd Balkan War, Bulgaria was forced to fight the five countries displeased with the land division. Taking advantage of this situation, the Ottoman Army crossed the Midye-Enez line to capture Edirne on 21 July 1913. Edirne came back under the Ottoman rule with the Treaty of Bucharest, signed on 10 August 1913 (Kurtcephe and Beden 2015; Baykal 1993) (Fig. 1.6).

World War I ensued after Archduke Ferdinand, heir presumptive to the Austro-Hungarian throne, was assassinated on 28 July 1914 and the Austro-Hungarian

Fig. 1.6 Edirne in the decline period of Ottoman Empire (left: [Near East University Database, n.d.]; right: [Antlasmalar, n.d.])

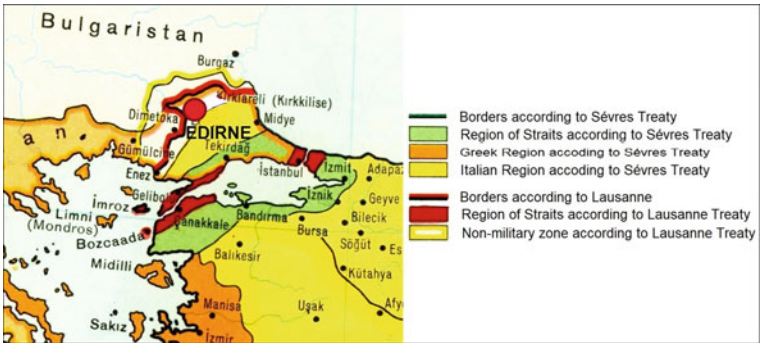

Fig. 1.7 Edirne and its environs according to Treaties of Sevres and Lausanne (Near East University Database, n.d.)

Empire invaded Serbia. The war spread quickly, pitting Britain, France and Russia against the German and Austro-Hungarian bloc. On 2 November 1914, the Ottoman Empire sided with Germany in this war, which lasted four years and ended with the defeat of Germany and its allies. The Ottoman Empire also retreated from the conflict when it demanded a ceasefire. Signed on 30 October 1918, the Mudros Armistice (Erim 1953) heralded the end of the Ottoman Empire with articles that imposed serious political, military and economic restrictions. With this treaty, the Ottoman Empire was literally ignored as the occupation of Anatolia began (Kemal 2010; Ertan 2016). However, the Mudros Armistice bore importance as it was the first international document that drafted the framework of the Turkish state to be founded after the demise of the Ottoman Empire (Fig. 1.7).

In the days following the Mudros Armistice, the Greeks invaded Thrace and captured Edirne on 25 July 1920 without any significant resistance (Yurt Encyclopedia 1982). The Sevres Treaty was signed between the victorious Allied powers and Germany, Austria-Hungary, Bulgaria and the Ottoman Government on 10 August 1920. As the last treaty signed by the Ottoman Empire, it went down in history as the document that ended the political existence of the Ottoman Empire. However, the Entente States, which could not agree on how to divide the Ottoman Empire, subsequently decided to sign another treaty with the Ottoman Empire (Ertan 2016). After the Armistice, the Turkish War of Liberation commenced under the leadership of Mustafa Kemal within the two years that passed and a new Turkish Government was established in Ankara. At the end of the fight for independence, the Armistice of Mudanya was signed on 11 October 1922. Following the Armistice, the Greeks retreated to western Thrace, with the Meriç River marking the border with Turkey (Yurt Encyclopedia 1982; Encyclopedia of the Ottoman Empire 2009). With the Armistice of Mudanya, Thrace became Turkish sovereignty in accordance with the decisions of the National Pact, which defined the political goal of the War of Liberation. In other words, Turkey's western border matched the 'National Pact' decisions passed by the Ottoman Parliament, which convened for the last time on 28 January 1920 (Islam Encyclopedia 2005). Effective from 25 November 1922,

Edirne was handed over to the officials of the new Turkish Government. The village of Karaağaç on the other side of the Meriç River was delivered to the Turks, whereas today's borders were established in Thrace, as per the Lausanne Treaty signed on 23 July 1922.

1.2.2.7 The Republic of Turkey Era

The Early Republic Era

Not only was Edirne a border city in accordance with the country's borders stipulated in the Lausanne Treaty, it also became the young Turkish Republic's gateway to Europe. However, the population had declined and economic vitality had diminished due to the negative situations that had occurred up until this period (successive occupations, destruction, migration, etc.). Once estimated as high as 200,000 in the late-seventeenth century, the city's population had dropped to 34,528 when the first census was held in the Republic of Turkey (Darkot 1993; Yaşar 2009). The city began to be supplied with electricity when a power station went online in 1931. In 1934, the city was assigned the status as the region's cultural center with a scholastic and cultural drive implemented by determining the 'General Inspectorate' of the Thracian region (Yurt Encyclopedia 1982; Kazancıgil 1999). Having increased to 45,680 by the 1940 census, the population decreased significantly due to worries stemming from the Germans' occupation of the Balkans during World War II, followed by the withdrawal of military units after the war ended. This process caused a further recession in Edirne's economic life (Apak 2003). These were the years when Edirne experienced the gravest problems of being a border city even though the country had not taken part in the war. As tractors became more commonplace in the 1950s, Edirne's agricultural sector underwent a structural change and the local economy began to revive. The E-5 Highway became the lifeblood of Edirne as overland transportation gained importance after the 1960s.

Edirne in the 1970s and Later

As a border city, Edirne was included within the "priority regions slated for development" framework of a state decree of 1969, in order to encourage investments that could not be realized in the past as well as to develop Edirne economically (Ministry of Development, n.d.; Edirne Chamber of Commerce and Industry, n.d.) (Gökçen 1987). In addition to the subsidies provided within this scope, large industrial groups were attracted to the region's low land prices, close proximity to a large industrial and commercial metropolitan area such as Istanbul, as well as vast domestic and international transportation opportunities afforded by its location. Having emerged in the 1970s, these factors also provided important opportunities to develop Edirne's industrial sector (Apak 2003). The situation ended with a second decree in 1973 (Ministry of Development, n.d.) and the investments dried up. The Edirne State

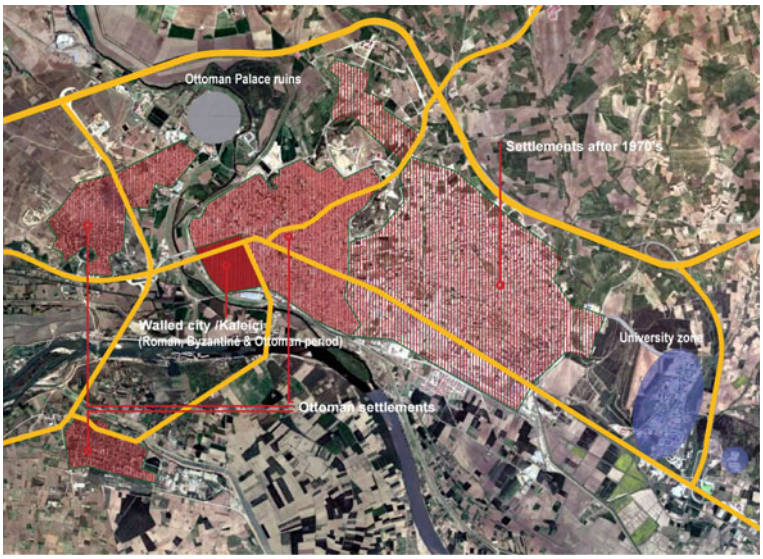

Fig. 1.8 Edirne today (Sirel 2020, reproduced from Google Earth)

Engineering and Architecture Academy was inaugurated with a decision taken in 1976 and the University of Thrace was founded in 1982 (Trakya University, n.d.). The University and particularly its Faculty of Medicine contributed significantly to Edirne's economic and cultural development.

As Turkey's gateway to Europe, the opening of the Trans European Motorway (TEM) in the late-1990s contributed positively to the city's accessibility both domestically and abroad. However, this high-speed motorway had a negative impact on the city's commercial and tourism activity as it skirted around Edirne. In the past, the E-5 Highway cut through the center of town loaded with foreign-plated vehicles en route to Istanbul were passing through Edirne, thus generating significant commercial activity in the city. With the establishment of the Organized Industrial Zone in 1994, a large number of industrial establishments initiated operations, boosting Edirne's economy in the process (Edirne Organized Industrial Zone, n.d.).

Turkey's acceptance of its status as a candidate EU member at the European Council summit meeting held on 11–12 December 1999 marked a new beginning for Turkey's EU application process that began in 1959. On 17 December 2004, the European Council convened at the summit meeting in Brussels to declare that Turkey had met the European Union's political criteria and announced the decision to commence accession negotiations. Edirne's neighbors Greece and Bulgaria became members of the European Union in 1981 and 2007, respectively. The perspective of being a city at the intersection of three European Union members boosted the positive expectations for the future of Edirne (Fig. 1.8).

1.3 Assessments of Edirne's Present and Future as a Border City

In the early years of the Republic of Turkey, Edirne was relegated to border guard status due to political tensions occurring in Europe after World War II. Because of the country's international border policies, Edirne was essentially a backwater city, deprived of prioritized development and economic investment.

With the impact of today's positive change in the border city concept, Edirne has become a lively city where cultural, commercial, educational, religious, etc., relationships are established. The following features of the city have played a role in the development of this revival which has been described in the previous section:

- The opening of Trakya University, the main campus of which is located in downtown Edirne: Currently, en route to becoming a regional university, Trakya has contributed to the city in a cultural and economic sense and increased commercial activity. It has become an important factor in the city's physical and population growth. There are around 42,000 university students and university staff residing in Edirne, representing about a quarter of the city's population,
- The optimism geared at the future pertaining to Turkey's European Union membership process, the establishment of warmer relations with neighboring countries, as well as the implementation of cross-border joint studies with neighboring countries within the EU framework,
- Accelerated domestic and international access to the city with the opening of the TEM Motorway,
- The reflection onto the city of the increasing domestic and international tourism activity: The increase in transportation and communications possibilities has made it easier for people to get better acquainted and see their country and the world in general.

For this positive development in Edirne to become more viable and sustainable in various fields, the following assessments and recommendations are provided:

Trade Due to its favorable geographical location, Edirne was one of the most vibrant political, social and economic cities throughout the history of the Ottoman Empire. One of the several reasons for bestowing this title upon the city is its very fertile soil. It has become an important commercial center due to the existence of its fertile land (Darkot 1993; Engin 2003). Since the city's trade is still based on farming, preparing an 'Agricultural Master Plan' should be among Edirne's economic development priorities in order to develop this agricultural sector, increase its product variety and quality and market it.

'Border trade' is a right entitled by law to the communities living in border cities. This right should be evaluated in a manner that contributes positively to the economy of the region specific to Edirne (Gencan 2003). Interest in Edirne's bazaars and markets from cross-border cities near Edirne's borders has increased particularly since the start of the twenty-first century. This situation indicates the potential of becoming a trade center of the Western Thrace region. Transforming this potential

into an organized, mutual shopping environment and ensuring its sustainability will undoubtedly provide economic benefits to both Edirne and cross-border settlements. The greatest obstacle hindering this is the uncertainty surrounding Turkey's European Union membership bid (Varnatopu 2003).

Industry Edirne's industrial zone and facilities have the potential to serve both neighboring countries and other Balkan countries without borders, as well domestically, the Marmara region and particularly Istanbul. Industrial capacity, which operated at low levels in the first years of their establishments, has recently increased, whereas 40 enterprises of different sizes have become productive (Ministry of Economic Affairs and Energy 2007). More economic input can be provided by increasing the chances of marketing the products in question to places needed both domestically and neighboring countries as well. Meanwhile, Trakya University has opened its accumulated academic knowledge and research infrastructure to the use of Teknopark companies, i.e., industry (Trakya Development Agency 2015). Through this resourceful link, contributions can be made to Edirne's economy by means of working with foreign companies that operate in the cross-border environment.

Tourism Although Edirne is the first city in Turkey that is entered from Europe, it failed to show significant progress as a tourism town during the early Turkish Republic era. Up until the 1980s, Edirne's tourism sector increased with only two periodical activities. The first such activity was a sports tradition inherited from the Ottoman Empire known as 'Kırkpınar Oil Wrestling.' The limited number of accommodation facilities proved inadequate during this event. The other activity was the month of Ramadan, which bears religious importance. These activities were generally of the daily excursion type and did not include accommodations as they attracted mainly domestic tourists. The number of visitors from Edirne's neighbors, Greece and Bulgaria, has increased in parallel with the revival of global tourism after the turn of the twenty-first century. Touristic investments triggering this increase have increased the number and quality of beds and accommodations (Ministry of Culture and Tourism 2019).

Other factors causing a demand for accommodations in Edirne are academic meetings and national-international congresses organized by or in conjunction with the city's university. Another factor is the foody visitors who come to see the natural and cultural heritage of the city and sample the exquisite gastronomic treats such as 'Marzipan,' 'Tava Lungeri,' 'Hardaliye' and 'Thracian Cheese'. Despite the increase in visitors, organized tours with Edirne as the destination are still mostly of the daily excursion variety and do not create much of a demand for accommodations. In other words, it cannot make the expected contribution to Edirne's economy. In facing the city's increased tourism potential, the 'Edirne Tourism Master Plan,' preparations of which began after 2010, must be concluded and implemented (Trakya Development Agency 2013). The Master Plan should include the following topics:

- Increasing the number of domestic and foreign tourists that come to Edirne,
- Extending visitor overnight periods,
- Positioning and branding as a cultural destination,

- Increasing the quality of tourism service, enriching and diversifying the tourism experience,
- Ensuring the participation of local stakeholders in the tourism planning and implementation process.

Urban Identity and Architectural Heritage. Although Edirne has a history dating back to the early ages, the rich architectural heritage comprised of its urban identity is largely Ottoman works. Edirne formed its urban identity with many monuments and civil architectural works, especially Mimar Sinan's masterpiece, Selimiye Mosque. Nonetheless, many religious, commercial and civil architecture examples were destroyed and lost in the building process. Architectural works and urban texture that were extant for centuries have not been adequately preserved. Some of the many reasons for this are listed below:

- Due to political changes, people from different cultures created the architecture of their own times by cannibalizing previous relics,
- They were destroyed during invasions and occupations the city suffered due to its strategic location. For example, while the Edirne Palace was fully intact until the mid-nineteenth century, it was razed to the ground during the occupation of 1877–1878 (Kazancıgil 1999),
- Buildings were irreparably damaged in natural disasters like earthquakes, river floods and fires (Sirel 2005),
- Turkey was too late to come up with effective conservation policies in general. Later, legislation regarding this issue has not been sufficiently enforced.

Despite these stated problems, the city's abstract and tangible architectural heritage needs to be dealt with within the scope of the Edirne Tourism Master Plan which is being prepared and a preservation/utilization balance needs to be ensured. Historical heritage remains, especially those belonging to the Roman and Byzantine eras that need to be unearthed through archaeological excavations and environmental arrangements should be made. In this regard, excavation work conducted on the Macedonia Tower in the northeast corner of the Edirne fortress and its immediate vicinity is one of the first and crucial initiatives (Yıldırım 2004). The city of Plovdiv/Philippopolis in Bulgaria constitutes a fine example in this regard. The 'Edirne New Palace' excavation and arrangements that have been started are a significant step in this field (Sirel and Sirel 2018). It is clear that preserving and utilizing cultural heritage works will contribute to the city's economy as well as its tourism.

Transportation. Edirne's international and domestic overland transportation hubs are the TEM (E80), D100 and the E87. Public transportation from the highway is provided by intercity bus services. Ensuring equal competition conditions in this field will provide an environment for a more qualified transportation service. Although the train runs between Halkalı and Kapıkule, it is not preferred due to its infrequent schedule and slowness. Completion of the high-speed rail, which has been tendered and is slated to be laid, will link into European rail networks and ensure a fast, safe transportation alternative to Edirne. With the high-speed rail link, the 4-hour trip to Istanbul will drop to 95 min.

Fig. 1.9 Some views from Edirne (Sirel 2020)

Cross-Border Cooperation. Life in communities on both sides of the borders is already intertwined due to historical, social, cultural, linguistic and geographical factors connecting these communities. As is the case with the status quo for border cities around the world, Edirne's cross-border cooperation with cities on the other side of the border is important in terms of creating new socio-economic opportunities and development possibilities. Turkey being an EU candidate is an important factor that leads to establishing cross-border relations with its border region neighbors. In this context, cross-border cooperation, which began with Bulgaria in 2007, should be developed with its other neighbor, Greece, as well. The transformation of the Thracian region into a 'Free Zone' through negotiations between border countries will be beneficial to all countries in the region.

New cross-border cooperation requires the creation of new economic and socio-cultural strategies. For Edirne to develop an equal, balanced and sustainable cooperation program with its border city neighbors, the following objectives should be realized first (Dursun 2014);

- Administrative reform must be realized to establish and institutionalize the legal framework of cross-border cooperation through mutual agreements,
- New coordinating and decision-making institutions and institutional organizations must be created,
- New short- and long-term cross-border projects must be developed,

- Arrangements to ensure cross-border incentives within the framework of a model to be created must be made,
- A shared information platform must be created (Fig. 1.9).

1.4 Conclusion

In this study, it was necessary to elaborate on the concepts of 'border' and 'border city' in order to comprehend the strategic and political position of Edirne as a border city and assess its future vision. The fact it is at the junction of trade routes between Anatolia and the Balkans-Europe and the Mediterranean and has hosted various civilizations for centuries with this position deems this necessary.

When used with different meanings in nature, philosophy, politics and architecture from the aspect of states, the 'border' concept was regarded as a phenomenon that has been fictionalized differently throughout history. In the pre-modern period, it is seen that the boundary concept was prevalent when features such as religion, culture, socio-economic life and settlement of communities living along the borders are taken into consideration. With the transition to the modern state order, the border concept appears to differ significantly in terms of both meaning and function. From the early-twentieth century until the 1980s, when globalization as we know it began, borders were defined as lines drawn on maps that separated the territory of two or more states or regions from each other to indicate the limits of sovereignty stemming from political and ideological decisions. In this case, it is clear that while they were redrawn by wars and subsequent treaties, borders constituted obstacles in many countries that divided (separator) communities having the same language and culture. In this context, border regions and cities were regarded as backwater places where states did not prioritize development and political and ideological pressures were applied.

With the expansion of the field of border epistemology since the 1980s, 'border-border regions-border cities' matters have become important research topics in both academic and political arenas. In this process, with its socio-cultural, economic and psychological aspects, the boundary phenomenon has frequently been included in interdisciplinary studies whereas its theoretical framework has begun to be revamped. With the end of the Cold War, border functions have changed due to the breakup of the Soviet Union and other countries, their division and the resulting increase in the number of borders, as well as the lifting of significant ideological and geopolitical obstacles that once hindered participation in the economy. In this process, the perception and meaning of borders have changed due to reasons such as the European Union's eastward expansion, the lifting of artificial obstacles and borders that blocked economic interaction, the revival of regional identities and nationalism and international migration and technological advances that shorten distances, whereby the outmoded narrow outlooks regarding borders have begun losing validity. Not only is it necessary to understand the geographical, legislative and political aspects of borders and border regions, but also the socio-economic, cultural, ethnic, linguistic and ideological dynamics and certain historical transformations as well. Thus, in

going beyond mere physical boundary lines that separate states from each other, borders have now begun to be regarded as interconnection spaces (connectors) where human activities of different scales are articulated. In addition to political decisions taken at local, national and international levels, border zones and cities that have become affected by the dynamics of official and illegal markets (smuggling, etc.) have their own dynamics and are permeable places (the mobility of border inhabitants). With globalization that has manifested since the 1980s, state borders have gradually become more permeable (free movement, etc.), thus paving the way for 'cross-border cooperation' which, in turn, has created new socio-economic opportunities and development opportunities for border inhabitants. With interstate alliances signed since the 1990s, like the EU Free Trade Agreement and the New Free Trade Agreement-(USMCA), negative conditions once prevalent in the border zones and cities began to turn more positive.

As a border city since the decline of the Ottoman Empire and as the Republic of Turkey's gateway to Europe, Edirne's history dates back as far as the second millennium BC. Due to its location at the junction of trade routes between Anatolia, the Balkans, Europe and the Mediterranean, Edirne holds an important geographical and strategic position. It has hosted a wide variety of civilizations with its important location and particular historical transformations. While this strategic position has contributed positively to the city in establishing cultural and commercial relations in times of peace, it also caused its occupation and destruction in times of chaos and war.

Having passed from the Byzantines to the Ottoman domination in 1361, Edirne had embarked on a new historical journey which took it under the sovereignty of different invading and occupying countries. Edirne served as the capital of the Ottoman Empire for 90 years when its administrative center was moved from Bursa in 1365. Even though the Ottoman capital was shifted to Istanbul that was captured from the Byzantines in 1453, Edirne did not lose its importance. It was during this period that the city became prosperous and many architectural works were erected. Besides being a mobilization base for Ottoman Army campaigns into the Balkans and Europe, it served as the second capital of the empire as it continued to thrive commercially and culturally. Nevertheless, Edirne was occupied by the Russians, Bulgarians and Greeks and was dominated by different countries on several occasions during the decline of the Ottoman Empire (1792–1922). In this process, just as the city's historical texture and architectural works were damaged, those living in the city and surrounding communities were affected negatively.

Along with its allies, the Ottoman Empire was defeated in World War I, which began in 1914. While the subsequent Mudros Armistice brought about the collapse of the Ottoman Empire, it was also the initiator of the Turkish resistance movement and thus, the founding of the Republic of Turkey. Subsequent to the Sevres Treaty (1920), which spelled out the division of Ottoman Empire territory, the new Turkish Government established in Ankara initiated the War of Liberation against the occupation forces. With the Turks emerging victorious in this war, the Armistice of Mudanya (1922) was signed, whereby Eastern Thrace and Edirne came under Turkish rule. As with border developments in around the world, those of the Republic of Turkey were

drawn up as per the Lausanne Agreement in 1923, whereas communities in Thrace and Edirne which shared the same language and culture were divided, inevitably creating problems on a social, economic, cultural and linguistic level. Until the start of globalization in the 1980s, Edirne was relegated to backwater town status, deprived of prioritized development and economic investment.

Nevertheless, since the 1980s, with new transportation opportunities (TEM) at home and abroad, low-level industrial investments, abstract and tangible cultural assets (architectural works, folklore, handicrafts, etc.) and a progressive regional university, Edirne has been transformed into a border city of culture, education and tourism. As Turkey's western border, Edirne has begun to stand out with many positive features, such as its ability to be open to different cultures, observing different life and management styles and experiencing cross-border economic cooperation. Edirne's neighbors Greece and Bulgaria became members of the European Union in 1981 and 2007, respectively. Being a border city of two EU members requires the creation of new economic and socio-cultural strategies for the development of cross-border relations and cooperation. Goals regarding the use of existing resources as well as what sorts of development opportunities can be created need to be effectively and innovatively established and realized for Edirne's future vision. In this context, targets should be set and tools to reach these goals need to be set in place in order to develop an equal, balanced and sustainable cooperation program with neighboring border city municipalities.

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Ayşe Sirel completed her undergraduate education in the Architecture Department of Mimar Sinan University in 1980. She received her master's degree from Yıldız Technical University, Department of City and Planning in 1982. In 1993, she completed her doctorate in Mimar Sinan University City and Regional Planning Department. She worked as an assistant at the same university between 1983 and 1993 and worked as Assistant Professor at Trakya University Faculty of Architecture between 1994 and 2008. Continuing her academic studies at Istanbul Aydın University since 2009, Sirel received the degree of Associate Professor in 2017. She has various articles, symposium papers and book chapter authors in Turkey and abroad on architectural design and urban design. She is currently the editor of the IAU Architecture and Design Faculty magazine "A + Arch Design."

Osman Ümit Sirel graduated from the State Academy of Fine Arts, Department of Architecture, in 1974. He worked as an assistant at the Academy between 1976 and 1988. He worked as a Lecturer at Trakya University Faculty of Architecture between 1994 and 2006 and at Istanbul Aydın University Faculty of Architecture and Engineering between 2007 and 2009. Since 2009, he has been working at Istanbul Bahçeşehir University Faculty of Architecture and Design. He has various articles and symposium papers on architectural design and urban design both in Turkey and abroad. He won a total of 30 awards, three of which were first prizes, in the architectural and urban design project competitions.

Chapter 2
The Porosity of Borders: Between Formal and Informal Urban Patterns

Gözde İrem Cebir Meral and Ahsen Özsoy

Abstract Urban spaces developed with formal and informal settlements that have varied permeability features are the places where any social, cultural and ethnic communities cohabit in a heterogeneous arrangement. Both formal/regular and informal/spontaneous modes of spatial production lead to changes in socio-economic and spatial relationships within the city. Planned and unplanned housing patterns intersect and are juxtaposed in time. The seam lines between the various parts of the patchwork-like settlements show different qualities in terms of transition characteristics, creating different patterns for the use of public and private space and spatial discontinuity. Therefore, fragmentation and disconnection are encountered between different social groups at the intersection of formal and informal residential settlements. The differences make the borders meaningful, however, to eliminate discontinuities in terms of creating quality urban environments; the boundaries should be more blurred, ambiguous and even seamless. Porosity/permeability characteristics of the borders as indicators of ambiguity strengthen the potentials of in-between space to increase communication and interaction providing urban fluidity. In the scope of the research, to analyze the connection/intersection of various formal/informal housing patterns in Istanbul in terms of their spatial and social dimensions, a comparative and mutual assessment is conducted. Creative approaches and bottom-up models of different countries related to the porosity characteristics of in-between zones are concluded along with the findings of the field study related to the theoretical framework.

Keywords Porosity · Discontinuity · Interaction of formal and informal patterns · In-between space

G. İ. Cebir Meral (✉)
Graduate School of Science, Engineering and Technology, Istanbul Technical University, Istanbul, Turkey
e-mail: cebir@itu.edu.tr

A. Özsoy
Faculty of Architecture and Design, Işık University, Istanbul, Turkey
e-mail: ahsen.ozsoy@isikun.edu.tr

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2.1 Introduction

Rapid change and transformation are among the most significant qualities of metropolitan cities in the globalizing world. The economic crash of cities and globalization have influenced the production process of urban space and entailed the emergence of varying housing styles and actors. Engels (1997) attributes the transformation in cities under urbanization to the class differences stemming from income differences, while defending that this is also reflected in living spaces, thus in the creation of diverse and unique urban patterns. Occurring due to the accumulation, clustering and overlapping in chaotic and becoming gradually complex cities, the borders we meet attach importance to the (re)discussion of terms such as "in-between space."

Having emerged as a result of the rural-to-urban migration that has gained momentum with industrialization, squatter settlements, which are one of the housing production styles, have shown a faster spread compared to planned areas. These settlements, which were built on the empty areas of city centers in the beginning, started to expand toward the outskirts of cities in time for various reasons such as the lack of sufficient space in city centers and proximity to industrial zones promising labor. Similar squatter concepts are present in many developing countries. Although the properties of squatter settlements such as housing quality, access to fundamental services and infrastructure systems may vary for each country, the experienced process is very similar (Davis 2006). In Turkey, the squatter settlements, reinforced with fellow-townsmenship, were recognized due to political reasons and amnesties and over time, became urban housing areas where the middle class also dwelt. Although migrating people were expected to adapt to the lifestyle and cultural texture of a city, they could not integrate with their cities and incurred "an in-between identity neither urbanized nor villager" (Erder 2011). Increasing in numbers day by day, squatter areas became the new vicious knots of urban peripheries (Keyder 2000). Maintaining their popularity on the agenda due to today's urban transformation projects, these unplanned housing settlements persist in their existence in the urban space as a significant potential.[1]

During the 1980s, the consideration of urban settlement plans and the changing meaning of the "house" due to the changing consumption habits brought gated communities, as a new style of housing production, onto the agenda along with the economic and social developments. In the United States, having produced the first examples in the 1980s, these gated communities appeared as a new form of housing with similar processes and aesthetic forms in many parts of the world such as Europe, Asia and many countries with varying economic development levels and urbanization experiences. In time, gated communities have tended to spread toward urban peripheries for reasons including factors affecting urban living conditions negatively, lack of space in central areas, prominence of the concept of security, demand for green spaces, vistas and social possibilities (Yalçıntan et al. 2014; Öncü 2005). Preference for higher quality areas due to the insufficiency of life quality reinforced

[1] Erman (2016), Yeğin and Tanok (2014), Hatipoğlu Eren (2017).

new transportation projects[2] and increased the number of gated communities on the urban periphery, especially in Istanbul.

In that way, luxury housing settlements are now spreading toward the squatter settlements that surround the cities. Urban peripheries become planned settlements that are preferred by people who avoid the central areas. Today, entry-controlled gated communities and residences occupy the same places with squatter areas that resist urban transformation. The resultant dual structure of the society dissociates in time due to the growing distance between lifestyles and consumption patterns (Keyder 2000).

Due to various dynamics changing in time, urban space appears as a gradually discontinuing and disintegrating structure. Contrary to the evaluation of urban life as the process of adapting to the heterogeneous structure of a city, different social classes live in discontinuity without interacting. The relationship between such planned and unplanned urban textures is a global phenomenon, and this process is experienced not only in Turkey but in other developing countries due to similar reasons (Calderia 2000; Angelil and Hehl 2012).

Together with the encircled empty areas, the borders of spaces offer surfaces that determine the relationship between residents and their environment. Due to the meeting of planned and unplanned housing patterns, these two different patterns lead to the emergence of borders and their potentials for determining the interaction and communication at the intersection. The elements at the intersection are observed in various forms, such as physical, socio-cultural, economic, ethnic and political borders. Furthermore, failure to provide alternative solutions for the design and planning of these intersections/interfaces results in these areas function as "non-space" (Augé 2017). It is expected that the re-functioning of in-between spaces that are used as transit areas may reveal not only physical but also various socio-cultural and social potentials.

The discontinuities in an urban pattern and the gradually increasing ambiguity of overlapping identities suggest new borders due to the quest for identity and belonging. It also necessitates the re-evaluation of the ways of developing a sense of belonging toward the city and establishing a meaningful relationship between the city and its people. Understanding the living spaces and activities of individuals within the city is beneficial since it shows the ways of ensuring the continuity of urban life. In this regard, it is believed that a significant potential will be realized if corridors/gateways are created to cross the borders at intersections that are the consequences of urban discontinuity. These areas with mobility and activity opportunities feature porosity and permeability and allow spatial practices/dynamics for approaching differences.

Although Istanbul is one of the richest and most diverse cities in cultural terms, it is also among the most disintegrated metropolitan cities. The change of unplanned patterns, the destruction of historical areas, urban transformation and regeneration projects result in various borders in the city. This decreases the spatial and social porosity while bringing the frame of socially and culturally varying identities. It

[2]Blakely and Synder (1999), Blandy et al. (2003), Grant and Mittelsteadt (2004), Le Goix (2006).

is considered that the emergent strict borders reduce urban diversity while permeable and porous borders aid the engagement of people who live together but differently in socio-cultural and spatial terms. This chapter inquires about the evaluation of the social distinction between different groups due to spatial discontinuity on porosity and permeability concepts and its effect on the interaction of two separate identities. The purpose is to reveal how porosity and permeability determine the interaction in the environment. Despite physical, socio-cultural, economic, ethnic and political borders at the intersection, it aims to suggest physical and socio-cultural porosity/permeability methods for ensuring togetherness for lower and upper socio-economic groups. Despite the limited opportunities for the interaction among different groups, there may be a potential for discontinuity if the society achieves establishing communication/interaction with the help of porosity and permeability. This is regarded as significant for the satisfaction of spatial, social and psychological needs and expectations for achieving high-quality urban life and healthy cities.

2.2 Theoretical Framework: Discontinuity and/or Porosity

No matter if we speak of architectural or urban space, the definition of space naturally accompanies the discussion of the border concept. Many circumstances such as urban dynamics, rapidly changing spatial characteristics, complex life practices and time-independent spatial uses necessitate the (re)discussion of many terms used regarding this phenomenon. In this study, the discontinuity concept is critically discussed since it leads to interruptions against integration and engagement in the urban space. The study also addresses the ways/solutions of continuity as the potentials of permeability.

2.2.1 Problem of Discontinuity

Today, urban space develops, changes and becomes ambiguous in a disorganized way due to globalization/metropolization. It appears as a gradually discontinuing and disintegrating structure. Instead of modern cities that are homogeneous structures and can be divided into urban-rural, center-outskirt or living, working and transportation zones, these defined borders lose their validity with regard to globalization. Here, the city in question is a multi-centered and heterogeneous structure shaped by the overlapping of many urban layers, uses and identities without interacting with each other. Bauman (2017) defines the age we live in as “the liquid modernity.” With the development of transportation and communication technologies, long-termness and continuity are replaced by instantaneousness and discontinuity while strictness is substituted by fluidity (Bauman 2017). This transformation alters the perception and use of space and spatial borders that change dimension and lose their local, cultural and natural difference values with the contribution of consumption.

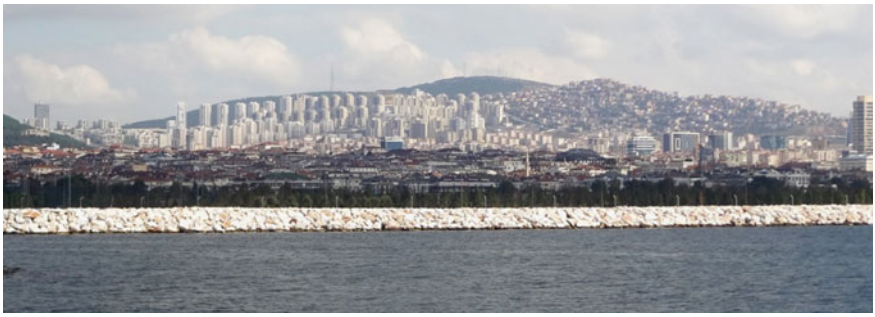

Fig. 2.1 Discontinuity, Maltepe, Istanbul (Cebir 2017)

Fig. 2.2 Border walls at the intersection, Maltepe (Cebir 2017)

In consequence of the dissociation of space from the place and context (Auge, 2017), new spatial organizations appear. In cities that develop rapidly with excessive consumption, the squatters that are alienated by gentrified neighborhoods, controlled spaces, secured and confined settlements arise as the new forms of discontinuities and borders. That is how today's metropolitan cities bring along new borders and discontinuities (Fig. 2.1).

As a result, discontinuing cities gradually resemble a cluster of small islands (Stavrides 2016). The settlements that are no longer public due to their strict borders exhibit a homogeneous structure with certain urban identities. This distinction, withdrawal and homogeneity are frequently observed in secured settlement areas and excluded squatter neighborhoods. In the end, the identities of inhabitants might be defined according to spatial borders as they are disintegrated in terms of various qualities such as socio-economic structure, cultural properties, race and ethnic origin. Therefore, these areas serve as spaces that cannot establish any bonds with their surroundings and do not allow otherness and differences.

As Marcuse (1995) states, the postmodern condition revives the new, segmented city while transforming it into a complex cluster of various small islands. It has become a popular perception that life in these disintegrated and confined islands is a necessity of modern urban life. In some cases, these islands are separated from the rest of a city by walls (Fig. 2.2). Walls can also be the consequence of invisible

Fig. 2.3 Borders and gates at the intersection, Maltepe (Cebir 2017)

borders, sovereignty status and prejudice (Cebir 2017).

According to Bauman (2017), the emanation of the attempt to establish a border for differentiating us from others by sticking to identities is the most natural response in an environment where "others" constitute the majority or chaos reigns. The borders that aim to create a defined area find a place in urban space with various qualities such as the determination of living space, construction and confinement due to privacy, closing and opening, separation, the definition of relationships, establishment of communication, marking, the separation of activities and the guidance of movement (Uçar and Özsoy 2006). Such borders offer an "interior" and an "exterior." Spaces can interact with the outer world in two variations as "closed" or "open" due to the borders they have. However, the clarification of the separation between the interior and the exterior as a result of discontinuity causes separation in urban space. This is visible at the intersection of planned and unplanned housing patterns. Borderlines indicate cultural, social and political discrimination and conflict and create a limitation that does not allow the transition. The exclusion of outsiders/others increases also social distance.

Borders are physically represented by walls, barriers and control points.[3] These elements are observed more and more with the progressive spread of gated/secured communities. Although they were originally built for protection from offenses and dangerous circumstances, they have started to represent disintegration and exclusion. On the other hand, the entries that create a fraction among physical borders by ensuring mobility and orientation (Meiss 1990) render the strict borders of walls permeable. Despite the control mechanism established for entries and exits, these doors represent inaccessibility and distance in confined settlements (Alver 2007). The doors between different groups lead to a perception that tells people to "stay out because these doors set the difference between our wealth" (Blakely 2011). Besides, the elements such as membership systems, gate passwords, surveillance systems and security guards show a tendency to exclude the other (Yardımcı 2016) (Fig. 2.3).

[3]In this regard, the border concept is a frequently discussed subject. Studies have attempted to comprehend the border concept within certain systems. However, this study offers a new interpretation of the concept to re-interpret borders on urban dynamics and discuss the potentials of border.

The accessibility of different groups of people to various islands is a significant indicator of their identities. When settlement areas homogenize their residents by producing distinctive characteristics, distinguishable urban identities start to emerge and identities are framed as spatial and conceptual. A framework is identified by the clear definition of the borders of a confined area against the outer world (Stavrides 2016). This demonstrates that the physical borders that restrict and identify a space transform to social and psychological borders among societies in time.

It is known that forming a group due to the desire to be together with similar people in the social life arises out of the need for protection (Lang 1987; Sanoff 1971; Güvenç 2011). Nevertheless, this has the results that the relationships among people who share the same social environment but have different socio-cultural levels and live separately in planned and unplanned housing areas are limited and defined as part of certain patterns. In a heterogeneous social environment where various groups coexist, individuals struggle to communicate with certain groups, and in consequence, this results in separation. Besides, especially those who live in confined estates perceive the other settlements around them as "rural areas" while defining their inhabitants as "villagers" (Erder 2000).

In urban space, interaction is also limited due to ethnic and political reasons and religious and ethnic differences hinder the representation of people as individuals by outmatching individual qualities. The emphasis on ethnic, religious and racial identities unites people under a certain identity while separating other identities and effacing common spaces (Marx 1997). After the 1990s, the ethnic and political characteristics of the residents of the various neighborhoods of Istanbul such as Gazi, Okmeydanı, 1 Mayıs and Gülsuyu led to the distinction of separating them from their environment. Their perception as impenetrable neighborhoods consequentially reduced the interaction with their surroundings.

The fact that the opportunity of individuals to benefit from urban services is proportionate to their socio-economic conditions shows that the social interaction of different income groups of intersections is also limited due to economic borders. Such distinction between the people of two adjacent streets in terms of urban opportunities leads to the homogeneity of poor neighborhoods and their non-coalescence with high-income groups (Social Exclusion Unit 2001).

Boundaries that display spatial and social differentiation have a more radical condition at the intersection. According to Sennett (2020), in discordance with borders, boundaries refer to a non-neutral border and the establishment, preservation and control of borders. Although boundaries are not discriminating as much as the case with intersections in daily life, they represent a certain culture or identity. It is possible to claim that neighborhoods or subcultures maintain their existence with these boundaries. Boundaries can be defined as social control points or physical marks in cases when communication and interaction with the environment are strong. However, the actual problem is that they can serve as insurmountable borderlines or barriers depending on various circumstances, such as increased external threats or conflict among different identities.

Sennett (2018) refers to the important work of geneticist Steven Gould and points to boundaries and borders as the two edges of natural ecologies and makes a distinction between them: borders provide porosity while boundaries do not. A boundary is a line that defines the private space of a group that means to say "this area belongs to me and you must stay out" as is the case with animals who mark their habitats with the smell they leave. Boundary refers to an edge with low intensity. Border serves as an edge that allows the interaction of different groups. For example, a seashore that meets water and soil is a place of interaction for organisms for they feed on each other. Again, it also functions as a borderline where we witness the harshest natural selection. Here, we can give an example by analyzing cells with regard to clarification of the difference between border and boundary. In this regard, cells have an outer layer that helps them to interact with life beyond their walls and membranes. In other words, cells sustain themselves by letting in or sending out matters through their walls otherwise which they would not be able to survive. They receive the nourishment they need and reject what is unnecessary (Sennett, 2018).

Similarly, there are closed boundaries that we see in modern cities. The urban life is divided into distinct areas with the impermeability of various elements such as work, family, trade and public spheres. New Delhi, Sao Paulo, Mexico City, Caracas and Istanbul can be given as examples of such cities that use closed boundaries to separate the rich and the poor. New residential developments, gated communities, have become the most popular settlements worldwide and their low-intensity edges cause isolated individuals who are not affected or do not interact with the conditions of the outer world porosity.

2.2.2 Potential of Porosity

As we have previously mentioned, many philosophers consider drawing borders as a natural response between settlements to identify their zones. Nevertheless, according to Simmel (1997), these borders are set to be exceeded. It contains the opportunity to take a step toward freedom by violating these boundaries at any moment. Therefore, we should read these borders not only as a defense against the others but also as a door opening to otherness.

The identity limits in a city should be distinguishing in a way that both allows differentiation to an extent and be clear to enable interaction with the environment. According to Stavrides (2016), a stable and definite identity is secluded with strict borders. On the other hand, an open identity is not without borders but surrounded by flexible borders offering meeting points with otherness. Here, it is important to accept borders not as fixed physical lines that separate differences but as multi-dimensional and spatial-temporal structures or thresholds that are determined by social practices. Borders bear several functions such as distinction-connection, continuity and differentiation-transition. Some new circumstances and forms are shaped while identifying what is to be included or excluded with these distinction and transition practices (Stavrides 2016).

Alexander et al. (1977) suggest the model of cultural mosaics against the heterogeneous city and the city of ghettos: "*A metropolis should host many subcultures which are categorically defined with their respective values and each of which can be efficiently distinguished among others. However, these subcultures should not be secluded even though they may necessarily be strong, distinct and separated; they should be easily accessible to each other which enables that a person may easily move from one to the other and may settle in the most appropriate one for him or her.*"

In this sense, the borders that we can portray as permeable and soft also permit transitions and interactions between the inner and outer spheres and with which differences do not only disintegrate but also congregate. Therefore, they are not rigid like strict borders but, on the contrary, represent dynamic and interactive regions. Contrary to the strict borders that people only pass by, soft borders encourage people to stop and interact with the environment. Gehl (2010) attaches importance to the interfaces between the city and the buildings and highlights the functions of the ground floors on urban life. A building meets urban life via ground floors since these are the areas that allow entry and exit and the interaction of inner and outer lives (Gehl 2010).

The porosity concept that shall be featured in this regard is a term with several connotations. Wolfrum (2018, p. 17) lists the connotations of porosity as follows:

- *interpenetration, superimposition and multi-layering of spaces,*
- *integration, overlapping and communication of spatial elements,*
- *an ambiguous zone, in-between space and threshold,*
- *permeability, spaciousness and ambiguity of borders,*
- *coexistence, polyvalence and sharing,*
- *blurring, ambivalence and even weakness,*
- *provisional, incomplete and even kaput,*
- *the openness of processes concerning coincidence, rhythm and time,*
- *the flaneur's perspective and a performative approach to urban architecture.*

For understanding the porosity concept, it is necessary to consider its various aspects and the theoretical discussions about it. In the past, porosity was a term that was not used frequently in urban studies. Walter Benjamin, a German philosopher, mentioned the porosity concept in 1924 as a metaphor for the spatial experience of Naples. Nevertheless, he did not employ porosity to point out open or empty spaces but meant the encounters that characterize the possibility, the spatial labyrinthine configuration and the complex and incomprehensible spatial configuration (Wolfrum et al. 2018). Additionally, the porosity used by Benjamin (1978) indicated repercussions beyond the narrow concept of space and was discussed in cultural and social terms. The concept also goes beyond spatial experience and inquires about the properties that can be denominated "local Neapolitan lifestyle."

Contemporary writers refer to the porosity concept of Benjamin: "Porosity is a transversal and transcalar concept that is ecological (pertaining to the ground, the water problem, of exchange and connectivity), concerning mobility and social issues (democratic accessibility in general) and epistemological (the city as a sponge;

models of isotropy versus hierarchy). At the same time, it is a precise mathematical concept translated into metaphorical and evocative possibilities for movements" (Viganò 2013, p. 424). The categorization of porosity by Viganò (2013) into four groups (ecological, mobility/social, epistemological and mathematical) provides a clear picture regarding the nature of the porosity concept in question. In this context, the concept discussed in this study refers to social issues that arise out of spatial discontinuities.

Porosity can also be examined under urban morphology as another perspective. Adolphe (2001) accepted open and built spaces of a city as variables to offer a porosity coefficient. This coefficient can be effective in the evaluation of the environmental performance of urban areas (e.g., airflow patterns). Similar to sponges, buildings, too, are porous when there are transitions between the inner and outer sides while maintaining their qualities and structures (Sennett 2018).

Stavrides (2007) mentions Benjamin and discusses porosity as a metaphor of fuzzy boundaries between the public and private spaces of Naples. According to Stavrides (2007), the underlying reason is that porosity enhances the degradation of the categorical perception of spatial and social order. He states that porous areas "*…both symbolize and concretize the socially meaningful act of connecting while separating and separating while connecting*" (Stavrides 2007, p. 176). He, therefore, emphasizes the metaphoric binarism in porosity that we aim to define here.

Upon the occurrence of the porosity concept in the urban agenda, the term has been used in conjunction with several other terms such as intertwining, overlapping, stratification, integration, blurring, indefinite area, void, threshold, permeability, indefinite border and temporariness. For Stavrides (2018), urban porosity can be defined as a network of thresholds. Here, each threshold realizing the other via mutual recognition of the city and collaboration acts as a potential mediator among different urban cultures. The potential characteristics of urban porosity could also be treated as urban applications that constitute both spatial arrangements and life experiences in common areas.

According to Benjamin (1986), porosity means a continuous spatial and temporal change between public and private spheres. If we want applications and forms that produce spatial relations, then we have to reflect the effect of porosity onto the texture of today. Apart from the relationship between public and private areas, porosity also regulates the relationship between inner and outer spaces and softens strict borders. Due to openness, connection and intertwining qualities, porosity may help to remove privileges, link changes and create communication opportunities.

If we consider space and action as points of reference, we should focus on porosity not only as a physical quality but also as a process. Urban pores that emerge as a mode of experience remove priorities and provide meeting areas for people by offering opportunities for change and communication (Stavrides 2018). Within this scope, porosity coexists with resistance. This coexistence should be encouraged by individuals since porosity alone may not always ensure interaction. In this sense, in contrast to Venice without access at nights, the map of Rome drawn by Nolli identifies the relationship between porosity and resistance as permeable but not overt (Sennett 2018).

Creating porosity between strict borders could also be interpreted as forming voids/transition spaces in areas where different textures come together and creating areas where different identities can meet. These areas are defined as thresholds in some cases and support the spatial experiences that present a mutual chance for recognition (Stavrides 2018).

An intersection with reciprocal awareness also includes several spatial experiences. In this case, public space does not function as a cluster of irrelevant islands anymore. Yet it is forced to go under a transformation as an intercommunicating area. As a result of the permeable membrane in such an area that is in contrast to dissociating walls and control points, transitions will ensure the spatial and temporal interrelationship between different identities.

Today, a city planner aims to offer membranes. In this sense, "*percemen*t" is one of the most efficient methods for creating membranes from walls. Jan Gehl, who is a Danish architect and an urban design consultant, attempted to open apertures that serve as doors and windows on buildings and calculated their positions on walls to present the life inside to the surroundings (Gehl 2010; Sennett 2018).

2.3 Re-Design in-Between Space

Porosity defines a space that does not make a distinction among the differences of planned and unplanned patterns but, on the contrary, wherein differences approach each other and the distinction between the inner and outer becomes ambiguous. In these ambiguous spaces where borders are cracked open, various types of identities and uses come together and allow unexpected encounters, spontaneous activities, creative daily uses, unusual informal activities, alternative publicity and therefore varying time-space experiences.

It is significant to create porous and ambiguous spaces instead of borders that arise due to discontinuities so that the potential of a place can be revealed. Moreover, the sense of belonging can be enhanced by people as they realize and make use of the opportunities around them. Similarly, the approaches formed with the discoveries of people at intersections will bear spaces where users are organized. These spaces will be transformed by their actions and methods instead of spaces that are planned with a top-down touch.

In general, porosity means the ambiguity and permeability of a border. In this sense, the most efficient way to create porosity is to give weight to the interruption of borders. Since porosity is associated with engagement and integration, the diversity concept is also significant. The use of land that causes many people to move in and around an area will naturally increase encounters and improve spatial capacity for engagement. Wide areas that include many functions such as playgrounds, parks and commercial units present dense interaction and communication opportunities and offer porous conditions (Yang and Sun 2018). Different textures that coexist in a heterogeneous city intersect in public areas while these spaces arise as the only places with relationship/interaction potential. Besides, pores are structures, habits of

people, streets and daily encounters. Pores are stairs that are present everywhere at any time and relationships at outdoor marketplaces (Stavrides 2016).

Porosity can be increased with micro-scale decisions/solutions. Nighttime is of crucial importance for it tests the design of public spaces. In this regard, the suggestion for a lighting system in a park would be a prescribed face-level lighting instead of overhead lamps. These lamps would switch on due to sensors when there was any activity in the park. A café would also be placed on an edge with kids' pool activities that would serve for both night and day times. The purpose would be to create the image of the space as not isolating but rather encouraging people to visit the park (Sennett 2020).

As a result of the distinction between lower and higher-income groups due to economic borders, many countries aim to adopt mixed-income housing policies due to the regeneration of collective housing. The approach underlying these policies attempts to produce more social diversity in urban space and improve the positive effect on social interaction. The suggestion of high-income groups as role models for core values intends to ensure the accessibility of information and resources via the development of social networks. With new settlements that are established with this approach, it is aimed to improve the interaction among different social groups and to trigger economic mobility (Lelevrier 2013). In the United States and Europe, distinctive regeneration programs have been discussed to bring the poorer population together with middle-class residents as a result of the demolition of social estates. In the United States, the HOPE IV (Housing Opportunities for People Everywhere) program is currently being implemented. The approach of this program is to develop projects for mixed-income groups in place of the physically worn-out housing patterns.

With regard to socially-oriented housing construction, architects such as Balkrishna Doshi and Seung Hchioh-Sang offer examples of good design. These architects do not intend to remove the squatters or settlements on the outskirts with solutions that come from nowhere but to create communities that are in harmony with the smooth architecture.

As is the case with Vienna, the social status of a resident should not be identified with his or her address. Some of the urban development projects that have been recently implemented incorporate small-scale housing and legal forms that address diverse social groups. These projects also provide housing for the homeless with the support of public services and non-governmental organizations. Also, the housing subsidy law helps the social mixture to ascend with open-ended rentals that prescribe that an income increase does not lead to the loss of a subsidized residence. The favorable aspect of this situation is that there is no re-establishment of squatters or ghettos where only the poor dwell. Although all new housing projects and public facilities require accessibility and additional assisted-living communities that are suggested for many circumstances, comparably, these housing establishments also include communities for youth and single mothers (Förster and Manking 2018).

While intersections reflect the encounters among different areas in daily life, they should also regulate transition and ensure in-between space. The new spatial and

social networks that are created to this end will inevitably entail new cooperation bonds and life forms.

An in-between is a meeting area of contrasts and a point of meeting that is encountering and transitioning between two places (Bourdieu 1977). To be able to approach otherness by awareness, a person should carefully stand at the threshold. Then, the person standing in the transition area, that belongs to no one, can comprehend that it is essential to feel the distance to lay a bridge. In such a case, the encounter is realized with both the preservation and the covering of the necessary distance. Here, an appropriate distance of encounter is important for the comprehension and negotiation of differences (Stavrides 2016).

Liminality, that is, the experience of temporarily being in an intermediate zone, may present the image of an alternative liberation spatiality. Therefore, the creation of intermediate spaces does not mean to create spaces that correspond to certain identities. It means to create spaces where inter-identity meetings take place. Triggering comparisons, negotiations, creative transformations and the opportunities to encounter otherness is indispensable for any attempt to go beyond the current social classifications and values.

Designed by Boldarini Architecture and Urbanismo, the Grotinho Pass Project enables the recreational use of a region that was previously a flood plain. The project on the south-western entry of Paraisopolis was carried out between 2008 and 2012 on an area that emerged as a result of the demolition of the favelas of 182 families due to flood risk. With the pass that was previously a flood plain, the project intended to offer interaction between society and nature. The project included stairs, a park and an outdoor movie theater and tried to ensure social and spatial integration by endowing social content (Günay 2013). Besides, the location of the design below the favelas ensured strong communication among newly established favelas and direct integration with the spaces that were necessary to carry out collective activities (Fig. 2.4).

The Grotao region of Sao Paolo is described as one of the high-risk areas that cannot be accessed due to the weakness of circulation system connections, erosion risk and dangerous mudslides. In this sense, the area was created upon the destruction of estates damaged by landslides. For this reason, the project attempted to

Fig. 2.4 Grotinho Pass Project, Paraisopolis (Url-1)

improve social interaction by transforming it into a productive and public area (França and Barda 2010). Designed by Urban-Think Tank team in 2009 and implemented in 2014, the project was created with the idea that "well-designed social infrastructure can offer significant services and potentially create opportunities for poor neighbourhoods as well as acting as a catalyser" (Url-2).

2.4 Conclusion

Due to the borders that emerge as a result of the discontinuities of the globalizing urban space, it is possible to claim that it has become difficult to develop a sense of belonging toward cities. This revives the quest for ways of establishing sustainability in urban life.

Cities are places where different identities and social classes live together. This coexistence and heterogeneity are reflected in the housing patterns, causing various residential patterns to come together in the same neighborhood. The factors that restrict spatial and social interaction reveal a distinction between "inside" and "outside." The elements created to provide security in the surroundings of gated communities, such as supervised entrances, arouse curiosity about the life inside, cause an isolated life from the street and the neighborhood thus alienate people.

Interaction is restricted due to the borders encountered in the intersections. Although different communities continue to live together in the same urban space without interacting with each other, the distance between them remains. As a result, the people living in the same neighborhood are strangers who share the same street. The separation of people with invisible borders causes physical borders to turn into social borders and urban tensions.

Increasing the quality of unplanned settlements and improving the conditions over time can positively affect the interaction in the intersection. Approaches in which spatial improvement is achieved with successful urban transformation studies and quality living spaces are considered important in this regard. It should be ensured that people exist and live together in urban space without alienating each other. There will always be differences and a homogeneous society on a city scale can never be considered. In open societies, where communication is strong among their differences, the interaction in the intersections will create a healthy urban living environment. Porosity offers certain strategic potentials with regard to the improvement of spatial and social connections. Pores open borders and present a common ground for different people. In this context, it is asserted that porosity can increase border situations at intersections where planned and unplanned housing textures meet. This includes both social and spatial dimensions.

A city is a place where diverse encounters and interactions take place. A multilayered familiarity is experienced in cities where individuality and subjectivity reign and various values/behaviors are acquired. The quality of such experience is made possible with a fluid urban space that commutes between urban spaces. In a porous city in which transitions among differences are fluidly realized, strict borders are

cracked due to the consequence of individual roles and identities. Thus, porous and permeable intermediate spaces act as places where individuals express themselves and interact with differences, and interior-exterior and public-private borders become ambiguous.

An in-between space between interior and exterior is necessary to be able to establish a substantive relationship with a city that promises a temporal distance determined by the gateway, diversity of people, encounters and unexpected circumstances. In today's cities, people are alienated from their environment due to discontinuities and borders. Indeed, they can achieve continuity and meaning in such interaction areas where new time-spaces are fractured. In this context, in-between space can re-define and improve communication with a city. Urban spaces can enable gateways between interior and exterior and offer complex experiences. Interactions can develop in a way to allow multi-layered spatiality. These in-between spaces can be places that enable us to interact, express ourselves freely and move between private and urban spaces without obstacles.

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Gözde İrem Cebir Meral received a bachelor's degree from the Department of Architecture of Maltepe University in 2012. In 2017, she completed her master's degree at the Architectural Design Graduate Program, Graduate School of Science Engineering and Technology, Istanbul Technical University, with her thesis titled "Investigation of Spatial and Social Interactions in the Interface of Planned and Unplanned Residential Patterns: The Case of Maltepe Neighborhood." She continues her education at Architectural Design Ph.D. Program in the same university focusing on housing quality, man-environment studies, urban transformation and urban design.

Ahsen Özsoy studied architecture at Istanbul Technical University, completed her Ph.D. at ITU Faculty of Architecture, continued academic career until 2020 at the same university and is still teaching in Işık University. She has taught architectural design, housing research methodologies, psychology and architecture, housing phenomenon. She has research studies and publications on topics of housing quality; urban transformation and housing design; earthquake, housing and woman's role; man-environment studies and architectural education; creativity and university; post-occupancy evaluation; design participation. She has been responsible for the design and interior design of educational and residential projects and has received national architectural awards. Administratively, she has served as Director of the Institute of Social Sciences and Vice-Rector of ITU.

Chapter 3
Borders Defining Urban Enclaves: Case Studies from Istanbul

Neslinur Hızlı Erkılıç and Ayşen Ciravoğlu

Abstract Mixed-use projects which are gaining momentum in Istanbul due to urban developments, specifically in the 2000s, may cause various disconnections and undefined spaces within the urban continuity with the borders they create. The study aims at reading the relationship between mixed usages and urban patterns through the concepts of boundary and threshold. Phenomena that are selected for the case study are two large-scale mixed-use projects designed in different typology and architectural forms in neighboring districts of Istanbul. Adopting the conceptual framework specific to urban enclaves, the analysis is carried out through three main characteristics of the projects: namely form, ownership, scale, which are prominent as mixed-use strategies. In this way, the methods of how these boundaries are formed according to these characteristics corresponding to mixed-use strategies were investigated. While the study examines how the projects in question join the city and their relationships with their close surroundings, it also provides an opportunity to evaluate the impact of different strategic approaches, different physical environments and architectural attitudes they present on the creation of the urban enclave form. In conclusion, the findings related to the enclave characteristics of mixed uses were interpreted through their effects on the publicness in the city.

Keywords Urban enclaves · Mixed-use projects · Thresholds · Boundaries

3.1 Introduction

Along with globalization, mixed-use projects have become a part of architecture and urban life. These projects, implemented in various forms in many cities of the world, play an important role in the transformation of urban structure. A mixed-use project can be defined as a project in which two or more different types of projects (office, commerce, housing, tourism, entertainment, etc.) are included in a single structure or campus. It is a fact that daily life practices and public life quality have changed

N. Hızlı Erkılıç (✉) · A. Ciravoğlu
Faculty of Architecture, Yildiz Technical University, Istanbul, Turkey

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in many cities of the world with the spread of this current trend, which has started to occur in different functions and forms, primarily in residential settlements. It is a fact that daily life practices and public life quality have changed in many cities of the world with the spread of this current trend that has started to occur in different functions and forms, primarily in residential settlements.

With their isolated and inward-oriented structure, mixed-use projects that respond to different needs of many users with their distinctive qualities such as being secure, privileged and self-contained are important in terms of their relationships with the environment. For this reason, this new urban structure model is particularly characterized by spatial fragmentation and social segregation. Certain terms used in the literature regarding these structures include 'fortified enclaves'[1] (Caldeira 1996), 'archipelago enclaves' (Hajer and Reijndrop 2001) and 'enclave urbanism' (Douglass et al. 2012; Angotti 2013; He and Wang 2019). One of the current debates regarding such formations that develop as a spatial dispersion model is about the fragmentation of centers and environments in urban texture as a result of their clustering (Caldeira 1996; Marcuse 2001; Angotti 2013; Aceska and Heer 2019). Besides, in many academic studies, these structures were mentioned as having become a cluster of restricted spaces where public encounters occur only within homogeneous groups as the increase of such settlements leads to a decrease in everyday interactions since they pose a threat to public spaces to be extinct within privatized urban areas (Sorkin 1992; Zukin 1998; Crawford 1999). These settlements make themselves distinct within the urban pattern through physical, functional and socially visible or invisible boundaries, effectively providing their way of existence through borders. In a sense, although mixed-use projects have autonomous systems that do not need urban context, they demonstrate the 'urban enclave' characteristics in the relationship they establish with the architectural boundaries where they define themselves as well as their relationship with the urban texture. These formations, which change the meaning of the concept of the boundary in urban space and move it into a socially and spatially multilayered place, may cause various disconnections and undefined in-between spaces within the urban continuity with the borders they create. In this context, they are of significance for investigating the attitudes of mixed-use structures toward their urban environment, to understand the dialectic between their design and urban life and to read the ambiguous relationships that arise within their inured spatial layout in terms of everyday life and publicness issues. The main purpose of the study is to read the relationship of mixed-use buildings with public life in the urban pattern of which they are a part, through the variables that define the qualities of urban enclaves.

For this purpose, the context created by the mixed-use buildings discussed in the case study was analyzed through the factors compiled under three basic characteristics of the urban enclaves identified in the literature, in terms of physical, socio-cultural and functional aspects.

The study investigated two mixed-use projects in the adjacent districts of Gaziosmanpaşa and Eyüp located in the periphery and underwent the urbanization process

[1]The word 'enclave' is derived from the Latin word 'inclavatus' which means shut in, lock up originated from the word 'clavis' which means key in Latin.

in Istanbul, Turkey, after the 1980s. The projects with different mixed uses had the same size of total construction area within the lands they were settled; however, the first one developed into multi-story towers while the second one followed a horizontal construction. Although both projects were surrounded by high-density residential areas, they have led to an increase in new demands in their environment as they became a center of attraction in the region after their implementation. Despite the similarity regarding their social and spatial disconnection from the environmental context, the projects were selected as they demonstrated different enclave characteristics in their relationship with the urban fabric that could offer different inferences.

In the study, firstly, a literature review on urban enclaves and mixed-use buildings was presented and then the mixed-use theme in Istanbul was introduced. Afterward, the environmental context created by the two mixed-use project samples of different qualities that use boundaries as a tool to create their own positions was investigated and analyses were made regarding the public life and environmental context in which they are located. These analyses were developed by examining the borders of projects that define them and strengthen physical as well as social segregation in urban texture and the threshold spaces that can be formed as potential socio-cultural encounter spaces. In this way, the concept of boundary, with its characteristic that defines urban enclave models, is brought into question through their endeavor to render urban space undefined. As a result of the study, the findings related to the enclave characteristics of mixed uses were interpreted through their effects on the publicness in the city.

3.2 Mixed-Used Projects as Urban Enclaves

Urban enclaves, a phenomenon of new settlements that have been part of the globalization process since the 1980s is the product of a radical change in terms of planning and management under the influence of social, political and economic developments. Once used to describe 'regions that are disconnected from their environment,' the word enclave is used in the sense of an enclosed urban space defined as 'an isolated islet with distinctive qualities' (Alpay and Gökgür 2015) in the discipline of urbanism and architecture.

The re-production and transformation of social relations along with the capitalist system have changed spatial practices. As one of the social practices that have caused the emergence of urban enclaves, the ecology of fear (Davis 1998) has manifested itself with approaches that monitor and discipline the space, such as security and control in spatial practice (Soja 2005). In her study comparing the cities of Los Angeles and São Paulo, Caldeira (1996) addressed this issue with a similar approach and stated that fear of violence was the main reason for the emergence of privatized, enclosed, monitored settlements serving the functions of residence, business, commerce and recreation, which she defined as 'fortified enclaves.'

Today, closed urban settlements, developing as a form of large-scale urban projects along with neoliberal urbanization, have begun to be adapted to suit the needs of

consumers who demand a safe, controlled and isolated environment. First, residential enclaves such as gated communities that have become a production form of urban space in many countries have gradually started to include different types of functions to meet the various needs of their residents. The logic of these enclave-type settlements is to separate a spatial arrangement from the rest of the city and include certain urban functions that clearly separated the settlements. These formations— residential settlements, workplaces, customized shopping malls, etc.—which initially became widespread in the peripheries show how living, working, shopping and entertainment in the periphery are made attractive through homogenization, customization and thematization (Hajer and Reijndrop 2001). According to Soja, these social and spatial arrangements constitute the city of 'insular cells and walls' obsessed with maintaining the boundaries between we/they, the insider/the other, the familiar/the stranger, the resident/the alien with a post-metropolitan approach. As Stavrides (2016) puts it, these settlements are territories defined by the application and enforcement of certain rules of use and behavior. As 'new urban objects' (Ciccolella and Mignaqui 2002) that form the basis of spatial fragmentation, urban enclaves represent a new form of organizing social differences and creating discrimination in many cities around the world (Caldeira 1996; Davis 2006; Angotti 2013).

Caldeira (1996) stated that the characteristics of enclaves that make their segregationist intentions viable may be summarized in four points: 'First, they use two instruments in order to create explicit separation: on the one hand, physical dividers such as fences and walls; on the other, large empty spaces creating distance and discouraging pedestrian circulation. Second, as if walls and distances were not enough, separation is guaranteed by private security systems: control and surveillance are conditions for internal social homogeneity and isolation. Third, the enclaves are private universes turned inwards with designs and organizations making no gestures towards the street. Fourth, the enclaves aim at being independent worlds which interdict an exterior life, evaluated in negative terms.' Thus, these autonomous systems, with their size and various functions, describe a new lifestyle that presents high status in the city as an alternative for the urban life of the middle and upper classes.

Drawing on all these attributes, it is seen that urban enclaves, with their visible or invisible physical, spatial and social boundaries, previously distinguishing themselves from 'others,' are large-scale formations where architectural application, infrastructure and public space are designed as an integrated form. Although urban enclaves possess different characteristics of typology, density and usage, they share some basic characteristics. As a result of the literature review, the main factors related to urban enclaves and the variables defining them are compiled in Table 3.1. The main factors related to the qualities that define the urban enclaves listed under subtitles in terms of their physical, socio-cultural and functional qualities have been identified as visibility, size, location, neighboring facilities, site boundaries, accessibility, property, security, user profile, user diversity, self-sufficiency, limited activities and defined uses/activities. Urban enclaves are places that are defined within the framework of certain rules and use due to their size within the city, their generally self-enclosed architectural attitudes and the land on which they are located is privately

Table 3.1 Distinctive characteristics of urban enclaves

Distinctive characteristics of urban enclaves		Factors	
Physical	...'physical dividers such as fences and walls' and 'large empty spaces creating distance and discouraging pedestrian circulation' (Caldeira 1996)	Visibility	Form
	...independent of the surroundings with their size, occupying one city block or designed vertically in a tower/towers	Size	
	...developed on major road connections and around roads integrated into public transport systems	Location	
	...have been placed in the old periphery (generally) and have as their neighbors slums	Neighboring facilities	
	...'are not subordinate either to public streets or to surrounding buildings and institutions' (Caldeira 1996)	Site boundaries	
	...'turned inwards with designs and organization making no gestures towards the street' (Caldeira 1996)	Accessibility	Size/scale
Socio-cultural	...are isolated and private property for collective uses	Property	
	...Gates and gating practices are attached to particular socio-cultural meanings and symbolic function	Security	
	...are controlled by armed guards and private high-tech security systems		
	...'are utilized as privileged groups' instrument to push away marginalized groups to residual spaces' (Angotti 2013)	User profile	
	...'marked by specific cultural, functional and economic groups or activities' (Douglass et al. 2012)		Ownership
	...creating an inner world that becomes a meeting place for different groups of people	User diversity	
	...an autonomous space, excluding even public service procurement	Self-sufficiency	
Functional	...development in conformance with a coherent plan which frequently stipulates the type and scale of uses, permitted densities	Limited activities	
	...physical and functional integration of project components including uninterrupted pedestrian connections	Defined uses/activities	

owned. In this context, the main factors compiled in Table 3.1 are grouped under three main headings: form, ownership and size/scale.

When the literature is analyzed, it is revealed that mixed-use buildings cause a great loss of public space by reducing the areas that can be experienced by everyone in the cities, although it offers life styles and spaces that attract the attention of a certain segment and meet their demands (Sorkin 1992; Caldeira 1996; Zukin 1998; Crawford 1999). Mixed-use buildings have become a part of the daily life of the city dweller by creating 'pseudo-public' spaces belonging to institutions or individuals, such as entrance areas and inner courtyards, as a result of the new social living spaces they create. The fact that privately-owned public spaces (Kayden 2000) created in/around the mixed-use projects are private property and that access to them and their use is controlled by their owners restricts urban life due to the constant observation of individual behaviors and actions. Consumption areas that are privately owned and managed have become a public space in the mind of people, though not in a managerial way (Zukin 1998). Regarding this condition as a gentrification-oriented practice, Flusty (1994) named the business centers of such elevated-like fortresses and safe residential areas as interdictory spaces while Loukaitou-Sideris (1996) used the expression 'cracks in the city' to describe the enclosed settlements isolated from the environmental context since they cause a discontinuity in the physical and social context of cities. Besides, Caldeira (1996) stated that with the increase of these projects, the quality of public space and the participation of the citizens in public life had changed and that it was difficult to maintain the principles of openness and free circulation that had been among the most significant organizing values of modern cities. Apart from all these problematic publicness outcomes, isolated closed settlements that highlight the segregation in the urban texture turn cities into hybrid holistic environments where encounters, interactions and many overlapping networks of relationships are established. Another side of public life in the city, which is increasingly turning into privately controlled indoor spaces in this hybrid pattern, is the new spatial possibilities and intermediate situations that arise with the relationships and uses defined by daily encounters. In this context, in the relationship established by mixed-use projects with their environment, besides the multi-faceted nature of visible or invisible borders, threshold spaces redefined by boundaries come to the fore. These are places that can offer micro-public spaces between public/private, open/closed binary situations as 'temporary types of public space' in cities (Hızlı Erkılıç 2019). Although these settlements are designed as completely isolated enclaves, they cause new relationships between inside and outside. In addition, they cause new and unexpected urban dynamics even if they are marketed as ready and unchanging urban environments (Esen and Rieniets 2008).

Within the framework of everyday life and publicness related to urban dynamics, it is seen that information about the problems and potentials of mixed-use buildings that simulate public space experiences in a sense are frequently included in the literature. However, while evaluating the publicness and spatial dynamics organized in mixed-use buildings, the relationships that the buildings establish/cannot establish with their environment and their reasons can be overlooked. At this point, the main research question that guides the study is: Which enclave characteristics related to mixed-use

buildings affect the public life organization of the city? In the study developed on this basic research question, the articulation of mixed-use projects into the city through the variables defining urban enclaves was opened for discussion on form, ownership and size.

3.3 An Examination of Mixed-Use Projects in Istanbul Through Borders Defining Urban Enclaves

3.3.1 A City Made of Fragmentations: Development of Mixed-Use Projects in Istanbul

After the 1950s, Istanbul entered a rapid urbanization process with its growth toward the surrounding city. One of the important breaking points experienced in the growth of the city of Istanbul is the population increase and its associated problems like illegal housing, abandonment and transportation of industrial areas, the creation of gated communities, the construction of large-scale luxury buildings and increased infrastructure work, which are the developments that greatly change the urban environment.

The informal housing market created by migration to the city and the residential areas opened to development has created urban patterns intertwined at unexpected points with land under private property, foundation land with uncertain ownership, old agricultural lands and most importantly different types of public lands. This situation has brought social fragmentation as well as spatial in urban texture; the slums had started to occur next to villas and luxury apartments in the richest districts of the city (Keyder 2000). As Sudjic put it (2009), Istanbul, over time, has transformed into a city surrounded by districts with their own borders; one of them has mega shopping malls and the same smart Chinese restaurants as London, yet in another district, there are migrants from the rural areas of Anatolia grazing their flocks of lambs.

After the 1980s, as the effects of globalization in the city, the spaces produced by the contractor who directed the housing needs of the middle class followed new spatial developments. The projects which were primarily implemented in the city surroundings started to show themselves in the city center, especially under the concept of urban transformation. Mixed-use projects with big investments are the new form of spatial production accelerating especially in the 2000s, and they completely changed the setup of the urban landscape by offering safe, secure and controlled urban spaces that are disconnected from the surrounding milieu. The main reason for the emergence of these closed settlements was the need for security. Another reason, as an attitude that paves the way for class separation, is to arise from the need to express changing cultural capital for certain classes through lifestyle (Kurtuluş 2016).

Mixed-use buildings are designed through commercial, tourism, culture, recreation and residence project types with different layouts. These formations are not

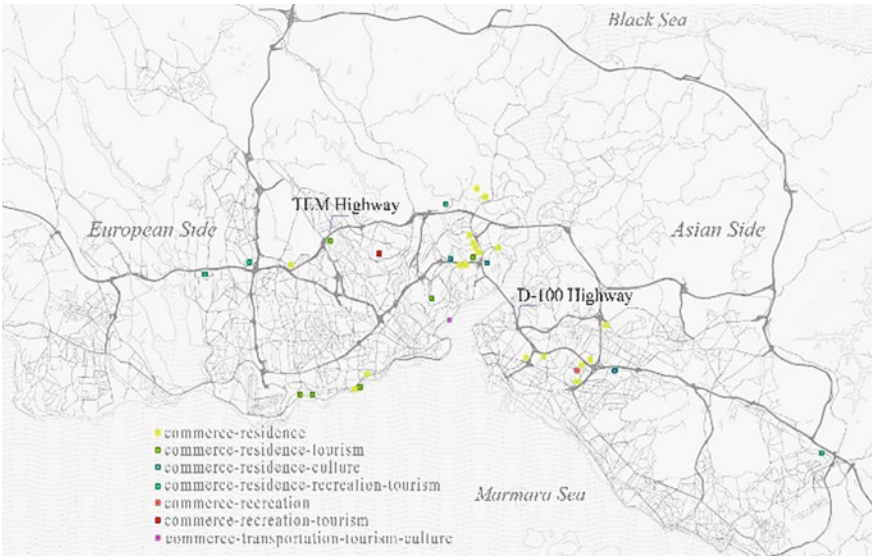


Fig. 3.1 Mixed-use projects in Istanbul, classified by project types

only important in their size, but also for their urban identity and effects on urban memory.[2] Mixed-use projects have increased rapidly in the city center as well as in the city surroundings, following the Northern Marmara Highway and the new urban practices announced in 2011. New urban transformation projects and housing developments all bring a cultural approach to urban life. This is used by property developers as a tool to promote new lifestyles. In the words of Bilgin (2006), this situation causes the city to be divided into self-contained enclaves equipped with swimming pools, walking tracks, cinemas and shopping centers built side by side but not in communication with each other.

Mixed-use projects in Istanbul are shaped as large-scale applications where at least two or three different functions are combined on a single land (Fig. 3.1). These projects, which create their own space with their borders, isolate themselves from their surroundings with security, organize urban life and turn urban spaces into consumption areas by promising to produce open public spaces. Mixed-use projects that are large investment subjects in Istanbul are often developed on major road connections and around roads integrated into public transport systems so that the main transport arteries become the network of large building groups. The major transportation arteries of Istanbul, such as the TEM Highway and the D-100 Highway, create new environmental contexts with large structures located in their environment and along their axes, which serve urban traffic in an east-west direction.

[2]The megaprojects affecting Istanbul are shared as an information source through their types, photographs with release dates and tags on the website of MegaIstanbul, which is supported by Istanbul SMD. Also see: https://en.megaprojeleristanbul.com/.

Fig. 3.2 Location of the study areas in Istanbul (left); aerial view of the study areas (right), (1) project located in Gaziosmanpaşa District, (2) Project located in Eyüp District

3.3.2 General Information About Projects Selected for Case Study

The examples analyzed within the scope of this study are two different mixed-use projects located in the Gaziosmanpaşa and Eyüp districts in Istanbul. The location of the projects in Istanbul is shared in Fig. 3.2.

Project Number 1 is a large-scale project with mixed-use in commercial, tourism and recreation, opened in 2015. The project, located on the Old Edirne Asphalt Road right next to the TEM highway, can be accessed via the Habipler-Topkapı tram line. While Metris Prison[3] is located to the south and opposite the main entrance of the building group, Küçükköy Cemetery, Black Sea Sports Club and its facility and a closed market area is located to the east. The project, which has an approximate plot area of 82,000 sqm and a total construction area of 634,000 sqm, consists of five towers with residences, a four-star hotel, an open-air shopping center and a modern office with an area of 50,000 sqm. There is also a private kindergarten on the ground floor of the building. As the architectural concept was inspired by Venice, the project, named after this city, has an open-air shopping environment surrounded by canals with a themed approach. This effect was given by carried out by reproducing styles resembling the original San Marco Square and tower.

Project Number 2, which is the first theme park in Istanbul, was created by placing commerce in the center of recreation and tourism as a type of mixed-use model, and was opened in 2013 in the Eyüp district. This campus, which has the project type that offers the concept of amusement park and shopping center together, was established on a 650,000 sqm old Alibeyköy quarry area where the mud that was discharged during the cleaning of the Golden Horn created a constructible area. The project, which is located within the borders of the Yeşilpınar District, has TEM Highway to the north and E-5 Highway connections to the south. There are residential settlements inhabited by low and average-low income groups around the project adjacent to the neighborhoods bordering Gaziosmanpaşa. Accessibility of the region, deficiencies

[3] In the process of the project, with the prediction that 'prison thought will come distanced to people,' news about the moving of Metris prison out of the city was published in the news sources (Kuruca 2012).

Fig. 3.3 Images related to Project No. 1 (*Sources of the images* Left: aerial view coordinates: 41°4'49.82", 28°52'35.33"; right: authors' archive, December 2019)

in infrastructure solutions and unplanned developments around the land have started to be transformed with the implementation of the project. As a mixed-use building group for commercial, tourism and entertainment/recreation, this project has a theme park that has pretty much entertainment units, an exhibition area, a shopping mall consisting of three-floors of open and closed shopping routes, leasable areas and a large car park. It is known that there is a biological pond with public areas, green areas and walking paths in the design of the project, although they have been replaced by a parking lot. Also, a few years after the building was opened, the hotel function was added to the lower level of the shopping center.

3.3.3 Reading the Effects of Borders Defining Urban Enclaves on Selected Cases

3.3.3.1 Method

The two mixed-use projects examined in the case study were designed in different typologies and forms within the framework of their architectural programs and physical conditions on their lands. Project No. 1, located on the land of Kiptaş's[4] former headquarters building, and Project No. 2, located on the vast lands of the former Alibeyköy quarry, have approximately the same total construction area. However, Project No. 1 embraces the vertical construction areas, including the residence towers, shops and open-space platforms and private areas, such as a pool and garden, while Project No. 2 provides a covered construction area that includes a shopping center, hotel, theme park and exhibition area, by spreading over the land in a relatively low-rise form, horizontally and with wide-open areas (Figs. 3.3 and 3.4). In this context,

[4]It is an Istanbul Metropolitan Municipality organization restructured after 1994 local elections by assuming the title of the Istanbul Residence Development Plan Industry and Trade Inc; see also: http://www.kiptas.istanbul/en.

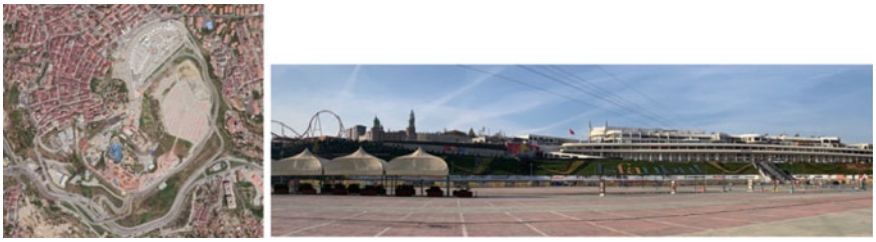


Fig. 3.4 Images related to Project No. 2 (*Source of the images* Left: aerial view coordinates: 41° 4'19.17", 28°55'23.92"; right: authors' archive, December 2019)

the study aims to evaluate the effects of the different strategic approaches, diverse physical environments and architectural attitudes offered by the buildings on the creation of an urban enclave form, while examining the articulation of the projects to the city and their relations with their nearby surroundings.

In the case study, the theoretical framework based on the physical, socio-cultural and functional qualities of urban enclaves was adopted and the qualities affecting the public relations in the urban pattern in which the projects were included were examined through the factors of form, ownership and size. Thus, how, in what form and with which tools the borders provided by these characteristics coincide with the architectural strategies of mixed-use projects are examined. In the following sections of the text, observation notes and images for each title are shared in separate titles for both projects. A qualitative research approach has been adopted to question the borders created by the projects within the environmental order in which they are located and the threshold areas that arise in their relations with their immediate environment. As a data collection tool, historical and current information, photographs and maps related to the projects within the scope of the study were examined. The observations, based on a completely unstructured case study, were carried out in November and December 2019 by the authors. In this framework, spatial relations in the accessible areas around the buildings and daily life practices within the borders of the buildings were observed. While the obstacles encountered in the relations of the buildings with their surroundings according to physical and visual access are read as the concept of border/boundary, liminal spaces with temporary spatiality are handled through the concept of the threshold. In this context, how mixed-use projects can and cannot be integrated into public life has been analyzed through urban enclaves and presented with photographs and schematic drawings. Important data such as plan information, functions, land use, date of affirmation about the past and current status of the areas identified in the projects and its immediate surroundings were obtained through the 'İBB İmarSor'[5] application of the Istanbul Metropolitan Municipality. These data are supported by the attribute information for each urban open area obtained from the 'Parcel Inquiry Application'[6] on the website of the General Directorate of Land

[5]With this application, which is a mobile resource developed by the Geographic Information System Directorate, the current examination of the zoning plans can be made.

[6]For more information about the application, see also: https://parselsorgu.tkgm.gov.tr/.

Registry and Cadaster. With this application, general information about whether the areas belong to public/private property is provided.

3.3.3.2 Analyses of Case I

The qualities affecting the public interactions of Project No. 1 in the urban pattern in which it is located were analyzed under the titles of *form, ownership and size/scale*. The boundaries that define the urban enclaves evaluated under these factors and their effects on publicness are presented with maps and images in Table 3.2.

- *Evaluation of the analyses related to Project No. 1 and its immediate surroundings on the **form** criterion.*

The project is a typical example of mixed-use structures developing in Istanbul with its almost completely enclosed architectural attitude and all recreation areas created inside. Although the project looks like a single large block from the outside, it consists of a crescent-shaped block containing residential and hotel units. It is positioned parallel to the TEM highway and an inward-oriented designed angular block with a platform of towers with residential and office units (map on the top, Table 3.2).

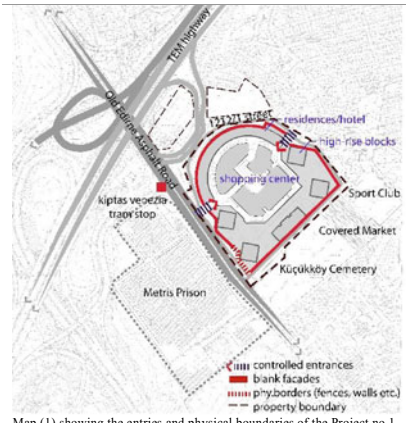
Shopping units designed as the spatial units of this platform are located under the platform and in the structures in the middle of the building without any spatial relation with the outside. They are designed in an open-air concept organized with canals, pedestrian paths and bridges (Fig. 3.5). With a themed approach, some elements of Venetian architecture are included in the architectural concept of the building. In addition to canals and bridges in the open area, non-structural columns and facade decorations are designed with this approach.

This mixed-use project, despite its architectural approach that invites the citizen into the interior with its concave-shaped blocks, was isolated from the city context. It adopted an architectural attitude that turns its back on the city. While the high walls used on the boundaries of the building provide spaces isolated from the street on the ground floor, they cause physical and visual obstacles.

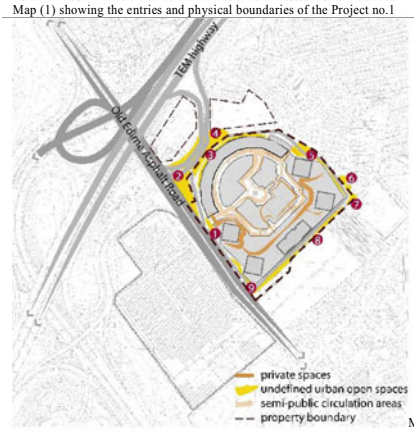
The walled character applied to the entire facade of the building and physical borders (blank walls, fences) caused by public interaction in the relationship with the streets around the building is minimized. Since the project, which adopts this as an architectural strategy, cannot integrate the shopping and recreation environment into the public life outside, many undefined urban open spaces have been created on the architectural boundaries of the building.

Apart from the service entrances and the security entrances of the residential units, the building has two main entrances. The fact is that large open spaces are created in front of both entrances, providing undesignated spaces for various social encounters and interactions both on the avenue and on the street (Images 1 and 5 in Table 3.2). However, the density of taxi and service vehicles in the entrance areas interrupts the walking of pedestrians and causes narrow passage areas. Besides, the fact that the building is located just across the Metris Prison with high-security measures

Table 3.2 Analyses including Project No. 1 and its immediate surroundings



Map (1) showing the entries and physical boundaries of the Project no.1



Map (2) showing public/private spaces and undefined open spaces

As a gathering area, the entrance area of the building is occupied by taxis and service vehicles, thus narrow passage areas are created that interrupt pedestrian paths.

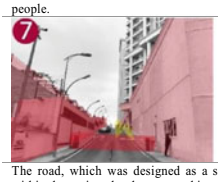
The land use of this urban space, which has the function of "building restriction, area to be protected" has been defined as the railway protection zone. This undefined area creates a topographic boundary between the building and the highway.

The commercial units that cannot be operated due to high rental costs cause pedestrians to walk long distances along the blank walls facing the street.

The walled character of the facade of the building facing the parking lot continues until the receiving area. Thus, the street and sidewalks here have become deserted areas that have no place for people.

Although another entrance area of the building has become a social interaction area for people, it is under vehicle occupation due to pedestrian and vehicle traffic in the surrounding area.

The empty spaces facing the facade where the service entries are located are defined as 'park' in the zoning plans but temporarily turned into neglected open spaces for administrative reasons.



The road, which was designed as a service road within the project, has been turned into a transition space that provides pedestrian access to the street by citizens who visited the closed market and cemetery.

The block with controlled entrances of the residential units does not give any clue about the life inside. By using blank walls, it is seen that the building isolates itself from public life here.

By taking the platform body of the building inward at this point, it has contributed to the quality of the space in terms of the scale in the relationship it has established with the close environment and citizens.

Fig. 3.5 Images related to the spatial organization on the ground floor of Project No. 1 (*Source* Authors' archive, November 2019)

makes the pedestrian roads along the Old Edirne Asphalt Road and the entrance area between the high walls uncomfortable for pedestrians.

- *Evaluation of the analyses related to Project No. 1 and its immediate surroundings on the* ***ownership*** *criterion.*

The spatial organization of the towers as offices, hotels and residences and the fact that only residents using these areas have access to upper elevations brings about spatial privatization throughout the project. While this affects the separation of public and private spaces within the project with sharp boundaries, the buildings are allowed to be used only in the order determined within the project with an approach that limits and segregates citizens. For this reason, along with the public spaces and pedestrian ways on the platform are the private spaces that only the residence users can access.

Around the shopping units, the semi-private square and pedestrian ways that cannot be seen from the streets of the city have turned into pseudo-public spaces surrounded by building blocks.

Commercial units designed at road elevation along the facade of the building facing the TEM Highway cannot be operated due to the high rental costs. This arched sidewalk, where these closed units are located, extends to the goods-receiving area of the building. Therefore, pedestrians pass long distances along the blank walls of these closed units along the narrow and uncomfortable streets occupied by the vehicles.

Many neglected open areas have been detected around the building. These are specified with defined uses in the zoning plans, but which temporarily serve different uses for administrative reasons (Images 2, 4, 6 in Table 3.2). From another entrance area of the building to the point where the closed market area is located, open spaces, which are defined as parks in zoning plans, are used as playgrounds by the children in the neighborhood and often turned into places where marketers store their benches and park their vehicles. Although the parking lot located in the north of the building is designed as a parking area in the zoning plans, it is used as the service area of the building since it is subject to private ownership. This land use, which can be

considered as an expropriation problem, depends on administrative reasons related to property. Apart from these, private spaces around the building that were appropriated by citizens and used for different purposes were also observed (Image 7 in Table 3.2).

- *Evaluation of the analyses related to project no. 1 and its immediate surroundings on the **size/scale** criterion:*

The project, which is designed as self-enclosed with a tower typology, has an urban enclave effect with its open spaces and the spatial organization under the platform, without being included in the open-space system of the city. The area where the platform and tower typology of the building can be perceived most clearly from the immediate surroundings of the building is the point where the Old Edirne Asphalt Road and the service road meet.

It has been observed that the spatial arrangements here contribute to the quality of the space in terms of scale, the close environment of the building and the relationship it establishes with people (Image 9 in Table 3.2).

The self-sufficiency quality of the project, which aims to exclude even public service procurement, has brought functional differentiation with it. This situation has caused the building to minimize its spatial relations with the exterior and the general facade character of the building to have an appearance consisting of service entrance doors and blank walls (Image 8 in Table 3.2).

3.3.3.3 Analyses of Case II

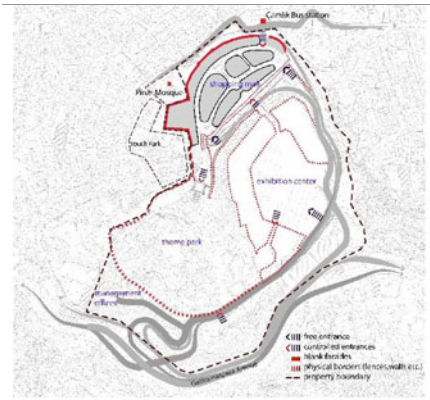
The qualities affecting the public interactions of Project No. 2 in the urban pattern in which it is located were analyzed under the titles of *form, ownership and size/scale*. The boundaries that define the urban enclaves evaluated under these factors and their effects on publicness are presented with maps and images in Table 3.3.

- *Evaluation of the analyses related to Project No. 2 and its immediate surroundings on the **form** criterion:*

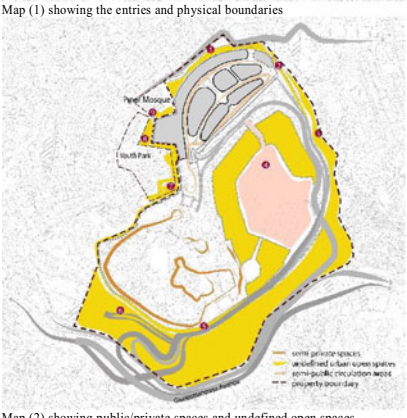
The land where Project No. 2 is constructed is a considerable urban void in terms of its physical qualities due to its being an old quarry, its rare size in the urban scale and its high slope topographic structure. The shopping blocks in the north, theme parks and management offices in the west, a demonstration area and an open car park under the ground level were designed by using the elevation differences in the land.

It is possible to reach the project by public transportation as road transport. Besides, there are long-distance vehicle connection roads due to its distance from the main transportation arteries. The shopping blocks, which are designed in a concave form, turn their back to the residential district surrounding it. People walk along the blank walls and open parking lot, where only the receiving area is located, without being directed to the entrance area. In this context, problems related to public interaction can be observed in the relations with the streets and the buildings in the immediate surroundings of the building (Images 1 and 5 in Table 3.3). Nevertheless, some of the physical boundaries of the project are semi-permeable, providing hints about the

Table 3.3 Analyses including Project No. 2 and its immediate surroundings



Map (1) showing the entries and physical boundaries



Map (2) showing public/private spaces and undefined open spaces

Blank facades and open parking lot of shopping blocks force the pedestrian to walk for long distances.

The transit road closed to traffic provides pedestrian access between the elevations without entering the building.

The high slope land is separated from high-density residential areas through undefined open spaces

The demonstration area isolates the building group from its surroundings as a large undefined urban space outside the schedule of events.

The theme park, separated by walls and fences, does not have any relation with the public life outside. This makes the roads uncomfortable for pedestrians.

The dead-end street, long vehicle roads and narrow sidewalks between the medians cause physical and visual obstacles for pedestrians.

internal organization of the building from the outside and creating in-between spaces that turn into encounter spaces through stairs, entrances and gaps.

The service roads designed within the project start from the ground level of the shopping blocks to the management offices located at the lowest level of the land. The access ends with the dead-end street here. Especially on the narrow pavements between the long vehicle roads and the medians from Gaziosmanpaşa Avenue to the entrance points to the south of the building, pedestrians encounter many physical and visual obstacles related to the building. As shown in Image 6 in Table 3.3, even though there are security units along this road, the desolation of the streets, the low variety of usage in the environment, the low number of in-between spaces and the protection walls have caused many unlikely places.

This project has secured and controlled entrance areas at many points including the shopping center, hotel and theme park as a building group spread over a wide area.

One of the uncontrolled entrances of the project area is the large and empty space, which is defined as the demonstration area, providing access to the theme park and shopping blocks. This area becomes an undefined space that does not have pedestrian comfort due to vehicle occupation and does not attract people due to lack of equipment and safety, especially when the theme park is not in an active season. Although it has different qualities, the theme park area also has turned into a spatial tool that isolates the building group from its surroundings (Image 4 in Table 3.3). Because of the entrances of the theme park not being related to their surroundings and the theme park surrounded by walls and fences, controlled and with an entry fee, the continuity of the pedestrian roads is interrupted. This area has been designed by creating themed spaces in search of different designs of usage such as recreation and entertainment. However, the theme park has been turned into a non-place that cannot be included in the public life since different architectural references were brought side by side and the separation of this place from the reality of the city with the chaotic relationships established between time and history. It is possible to see a similar approach to the design of the shops. The open-air shopping environment, despite its architectural expressions inspired by the nineteenth-century arcades, creates physical and functional boundaries with its street design, which has pedestrian pathways that are restricted within the building and not associated with public life outside the building.

- *Evaluation of the analyses related to Project No. 1 and its immediate surroundings on the **ownership** criterion:*

While the service roads designed within the project travel around the project, in a sense, they draw the boundaries of the building group in the east and south. These roads, designed publicly around the site, have become the areas accessed by personal vehicles for privileged individuals, while they have become areas accessed on foot or by public transportation for other individuals. The events, which are privileged for residents living in residential units or hotels, cause cultural isolation within the building group and in the city context. The hotel area designed at the lower level of the shopping blocks in the project is isolated from the shops by benches and high

walls as physical borders. Likewise, the terraces of the hotels on the road level are surrounded by iron wires.

It has been observed that the settlements in the west of the theme park are left to the organization of underdeveloped functions and services. Some of these areas, which are declared as a 'slum prevention zone' but have not been reclaimed yet, have created spaces temporarily appropriated. In this area where there are large service and parking areas, slum-type settlements and storage areas are observed. The theme park is isolated from the environment by high walls. The immediate surroundings of this physical border have turned into undefined spaces where pedestrian access is not comfortable nor secure (Images 7, 8, 9 in Table 3.3).

- *Evaluation of the analysis related to Project No. 1 and its immediate surroundings on the **scale** criterion.*

The size of the land and the high sloping topographic structure on which the project was built brought along the completion of the vehicle roads with long connecting roads and the project area is separated from Gaziosmanpaşa Avenue by large unidentified median areas (map on the top and Image 3 in Table 3.3). The shuttle vehicles circulating around the building group at certain times within the project facilitate the transportation of the citizens to different functions in the project by the transit road (Image 2 in Table 3.3). Otherwise, the access of a citizen who wants to reach the area on foot through Gaziosmanpaşa Avenue is very difficult due to the size and topographic nature of the land.

While the structure is spread over the entire area with low-rise construction and the design of building groups using the elevation difference is considered positive, disconnections among functions, undefined urban spaces and comfort and safety problems encountered in pedestrian access can be counted as negative features.

3.4 Results

In the case study, outcomes were obtained showing that the spatial and social separations along the visible and invisible boundaries of the buildings are not just a spatial problem, they directly affect the city's quality of life. When two projects with different enclave qualities and different architectural approaches in their relations with the environment are examined, similar problems related to publicness are observed. Although the enclave qualities of mixed-use projects differ, their impact on publicness is related to the character of the physical, socio-cultural and functional boundaries they create in the urban fabric.

To summarize, the qualities that strengthen the enclave characteristics of the projects are as follows: In Project No. 1, the visibility under the form criterion, self-sufficiency under the scale criterion, as well as the limited activities and user profile defined under the scale criterion, strengthen the enclave structure. In Project

No. 2, under the form criterion, the topography factor comes to the fore as an intermediate title. In addition, the size of the land under the scale and the security under the ownership strengthen the urban enclave characteristics of the building.

The first project is a typical mixed-use project that adopts an urban enclave approach. The spatial attitude of this structure that comes to the forefront with a strategic approach in the context of the city is to have a self-enclosed form and a self-contained autonomous system. Within the framework of this strategy and architectural approach, despite the project isolating itself in the context of the city, the location and spatial attitude created in the second project are different. In this project, the promise of producing open public spaces on the ground was realized by including the recreation areas, entertainment units to the architectural program under the title of 'entertainment and living center' of the city. However, the project, which developed an approach that transforms urban life into consumer areas, brought a different dimension to the public space problems determined in the first project. It is seen that undefined areas that are to be seen more around the areas where vertical construction is used in mixed-use projects can occur in relatively large areas in Project No. 2 and environs. As a result, it was observed that the structural or horizontal construction of the project is not the only factor in such projects and the factors related to the building boundaries should be given importance in relation to the environment.

3.5 Conclusion

Today, as a current trend of urban developments, mixed-use structures are large investment projects that offer living spaces equipped with qualities such as security, exclusivity and self-sufficiency demanded by middle- and high-income groups in Istanbul. While examining mixed-use structures in Istanbul, it is necessary to consider the strategic approaches as well as architectural designs and programs. Due to the demands and needs of the large-scale projects, which are an economical investment tool, the concerns and priorities addressed in the spatial approaches of the projects can change. Therefore, the spatial attitude developed by the projects can be multidimensional. Architectural approaches of the articulation of the projects into the city may differ.

This research analyzed the selected projects in Istanbul by placing the criteria of form, ownership and scale in the mixed-use concept as three main topics that are effective in creating urban enclaves. Thus, the urban and architectural principles of the mixed-use theme in Istanbul have been read and redefined over the concept of urban enclaves in line with the architectural programs and the decisions they make on their boundaries of the projects examined. In Turkey, especially increasingly widespread in Istanbul, the mixed-use concept was created based on the urban enclaves' approach, despite offering alternative areas of interaction; due to privatization and homogenization, they prevent the integration of public relations with the city.

When the analyses of the buildings are evaluated on the form criterion, physical boundaries (walls, fences), themed approaches, encounter spaces as interaction areas and spatial organization of entrances come to the fore. When the analyses are evaluated on the scale criterion, it has been observed that the size of the land on which the projects are located, the height of the floors differing in the building, the relationships established with the street and the avenue, the architectural approaches to organize figure/ground relations on settled land, topographic factors and the human-building-city scale relations significantly affect the spatial quality. When the analyses are evaluated on the property criterion, the dialectical relationships that the projects provide between public and private spaces, privatizations and restrictions, the boundaries of the parcel and the relations established/not established with neighboring parcels and significant revenue-producing uses come to the fore. The privileged activities for residents staying in residential units or hotels within the autonomous systems of the projects cause cultural isolation within the building group and in the city context. Also, the expropriation problems detected in the land uses in the immediate surroundings of the projects.

Undefined urban open spaces are left behind by the proliferation of mixed-use projects and can be interpreted as an urban-specific model of urban open spaces as urban parts that cannot be complemented by the continuous transformation and temporary changes in Istanbul. It is possible to talk about an environment where today's conditions and urban problems necessitate the re-evaluation of urban open spaces, especially in our cities. Managerial processes have an important role in interventions on how undefined open spaces, which are one of the complicated urban problems in the urban fabric, can participate in urban life and how they will take a role in such a rapidly changing city. The boundaries defined in the environment of mixed-use buildings and the potential of the undefined areas subsequently to be transformed should be kept within the possibilities of the city strategies to be developed. Therefore, in order to determine the policies and strategies that favor the public interest in the production of mixed-use projects, which are expected to continue in similar capacities in the future, it is essential to analyze the mixed-use production realized today through different disciplines.

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Neslinur Hızlı Erkılıç is Res. Asst. Dr at Yildiz Technical University, Department of Architecture, Istanbul, Turkey. She received her M.Sc. degree (2013) from Mimar Sinan Fine Arts University. She received her Ph.D. degree (2019) with the thesis 'An Approach for Reading and Evaluating Undefined Urban Open Spaces' in Building Research and Programming from Yildiz Technical University. Her main areas of interest include leftover spaces, urban open spaces, temporary interventions.

Ayşen Ciravoğlu is a full-time Professor enrolled in research and educational activities in both graduate and undergraduate levels in the fields of architectural education, sustainable architecture, architectural design, environmental issues and critics on architecture in Yıldız Technical University Faculty of Architecture. Ciravoğlu was born in Istanbul in 1977. She has completed her bachelor's degree at Yıldız Technical University in 1998; her master's degree in 2001 at Istanbul Technical University. In 2006, she has received her Ph.D. degree with her research on 'An Alternative Approach Towards the Idea of Sustainability and Architecture Interaction: Impact of "Place" on Environmental Awareness' from Yıldız Technical University. Ciravoğlu is the editor of MEGARON, an e-journal of Yıldız Technical University Faculty of Architecture and is in the editorial board of both Mimarlık and mimar.ist journals issued by the Chamber of Architects of Turkey. She has been a member of executive boards of MİMED (Association for Architectural Education), MİV (Foundation for Architecture), Istanbul Branch of the Chamber of Architects of Turkey and ICUS (International Centre for Urban Studies). Ciravoğlu has won EAAE (European Association for Architectural Education) Prize in 2002 with her article entitled 'On Formal and Informal Studies in Architectural Design Education.'

Chapter 4
From Galata to Pera: Shifting Borders in Ottoman Society (1453–1923)

Luca Orlandi and Velika Ivkovska

Abstract The Genoese walled town of Galata was positioned on the Golden Horn opposite Byzantium. Beyond the furthest northern point of its walls and the tower fields and rural areas lied. Later on this site that lied beyond the Genoese settlement the most cosmopolitan part of Ottoman Istanbul will develop. Life in Galata was condensed due to maritime trade and harbor's activities. The settlement couldn't absorb the influx of incoming population due to increased trades. As a result, its borders were pushed and extended outside its walls toward the rural area of the hill and its ridge above, later known as Beyoğlu and Pera. These rural, agricultural areas with cemeteries and groves on the north side of Galata will transform into an area marked with diplomatic representative's residences and palaces. Here the new cosmopolitan city following Western European models will be established. The rural fields of the past will be replaced with new structures that will later change the entire area into a new cosmopolitan core of modern Istanbul baring the name of Pera. Galata and its walled frontier will slowly disappear and will transition from Galata toward Pera known as Beyoğlu, center of new emerging cosmopolitan bourgeoisie of the late nineteenth and early twentieth centuries.

Keywords Pera-Galata · Cosmopolitan Istanbul · Ottoman heritage · Late-Ottoman urban development

L. Orlandi (✉)
Faculty of Architecture and Design Nişantepe, Özyeğin University, Orman Sk. No:13 Çekmeköy 34794, Istanbul, Turkey
e-mail: luca.orlandi@ozyegin.edu.tr

V. Ivkovska
Faculty of Architecture and Design, Bahçeşehir University, Istanbul, Turkey
e-mail: velika.ivkovska@arch.bau.edu.tr

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4.1 Galata in an Historical Perspective: From a Genoese Colony to a Cosmopolitan Town

Since Byzantine era, the hilly district of Galata, located on the northern shore opposite Constantinople beyond the strait of the Golden Horn maintained its distinct character in the city's physiognomy, due to its almost natural predisposition for maritime trade and harbor's activities as well as the cultural contribution of its inhabitants and people who lived and formed the urban environment throughout the centuries. In the thirteenth century with the establishment of the Genoese colony of Pera—renamed this way by the Latins—the district of Galata grows up as an 'Italian' and Western Catholic town within the oriental and Orthodox Constantinople, the core of Byzantine Empire (Marmara 2011).

Building up an urban texture adapted to the morphology and the orology of the territory, the walled town of Galata developed indeed in a different and independent manner from the rest of the bigger centers of Byzantium/Constantinople. Even considering the architectural cityscape of Galata, the building types and the varieties of styles reflected an unparalleled example of this multicultural and multiethnical milieu. This 'foreign' and multifaced aspect of the Genoese colony was preserved in the following centuries, when Galata started getting populated by more and more foreigners. Such were the so-called 'Frenks' or Levantines, who settled in this area mostly for commercial benefits, bringing their own cultural aspects, customs, traditions as well as religion (Lock 1995: 8–9).

After the Ottoman conquest of Constantinople in 1453, Galata continued to maintain its own atypical independence bringing even more colorful and fresh culture, enriched by the new Muslim rules. According to Zarinebaf, who in a recent publication analyzed the pluralism in early modern Galata: 'Istanbul did not completely fit the so-called model of Islamic cities due to its Greco-Roman as well as Italian heritage in the port of Galata prior to the Ottoman takeover' (Zarinebaf 2018: 3).

The foreign community of Galata was enriched by the Jewish and Muslim Arab populations, mostly coming from the Hispanic peninsula, as well as by the new Turkish settlers, who added new institutions and new regulations conformed to their customs. Meanwhile other religious minorities such as Rums and Armenians settled among the other Christian minorities in Galata. As referred by Kafescioğlu, according to the census Ottoman documents in the years following the conquest, only 35 percent of Galata's population consisted of Muslim, while the Orthodox Rums and the other non-Muslim populations composed the prevalence of the town's inhabitants (Kafescioğlu 2009: 178–179).

The port city became an essential part in the commercial life of the city of Istanbul, with its harbor and its almost natural predisposition for trade among East and West, Asia and Europe, the Black Sea and the Aegean coasts and the whole Mediterranean basin, defining a new 'Levantine' center in the Easter Mediterranean, like Dubrovnik, Thessaloniki, Izmir or Alexandria in Egypt (Fleet 1999).

Due to the consolidation of the Empire and the 'Ottomanization' of the capital city, the multiple cultural characteristics were slowly absorbed presenting more of a

rigid system. The urban and architectural transformations in the following centuries were carrying the overlaid traces of the new rules, but the town of Galata was able to keep both physically and culturally a distance from Constantinopolis/Istanbul and sort of an autonomy inside its walled structures. This was visible in the architectural contributions of this melting pot community as well as in the character but was more than perceivable through the customs of its inhabitants. As stated by Kafescioğlu:

> While the city proper, where the non-Muslim constituted more than 40 percent of the population, was far from being a monolithic Muslim entity socially, spatially or institutionally, the presence of the largely Greek and Italian Galata at its edge rendered such opposition possible and meaningful. The following centuries were to see a growing Muslim presence in Galata, but the otherness of the former colony prevailed as a long-term attribute, changing (and preserving) its meaning into modern era. (Kafescioğlu 2009: 176)

Significantly, considering the Latin Catholic presence in Galata, the Italian community managed to preserve its territorial autonomy and that network of sacred buildings—built and bloomed in Genoese era (1267–1453) that was enclosed within the colonial walls—largely unspoiled under Ottoman domination. Moreover, after the conquest, ratification of commercial and diplomatic treaties and free trade capitulations—called *adnames*—were granted to foreign communities, especially to the Genoese *Magnifica Comunità di Pera* and allowed more European-Ottoman encounters in the following centuries. The Ottoman and Muslim presence in Galata increased notably and the urban settlement got more and more 'Ottomanized' and effected by the architectural layout brought by the new rulers.

In an Ottoman map of Istanbul drawn by the miniaturist Matrakçi Nasuh, from the book on the conquests made for the Sultan Suleiman the Magnificent (*Beyan-i Menazil-i Sefer-i Irakeyn*), the town of Galata is illustrated after the Ottoman conquest, approximately between 1533 and 1536 (Fig. 4.1).

The miniature presents the whole Istanbul. On the northern side of the Golden Horn the town of Galata is accurately depicted with its inner partition in main walled sections, dominated by the famous Genoese tower on the top of the hill; the harbor with all its activities and the green areas outside the walls with cultivated fields, small farms, rural environment and sporadic groves. Moreover, the architectural environment in Matrakçi Nasuh miniature shows how the Ottomans, through the symbols of the Islamic faith, represented by mosques with the characteristic slender minarets and through other specific buildings like caravanserais, fountains, baths and a gun foundry, were slowly transforming Galata into a more Ottoman cityscape.

The introduction of Muslim cultural and material elements due to the new settlements developed by Turks or Arabs inevitably changed the aspect of the town of Galata, at least in the period between the sixteenth and mid nineteenth century, giving the district a charming 'oriental' atmosphere. According to the data from some tax registers dated from the fifteenth and sixteenth centuries collected by İnalcık, by the end of the sixteenth century, the non-Muslim population of Galata was almost reduced to more than two-thirds, compared to the Muslims. (İnalcık 1998: 362–364). The Turkish-Ottoman community established new important foundations that improved the areas outside the old Genoese walls. Some architecture built under the reign of Beyazit the Second after 1481 is mentioned, like the convent, or *tekke* for the

Fig. 4.1 Detail of Galata in the sixteenth century (from Matrakçi Nasuh, *Beyan-i Menazil-i Sefer-i Irakeyn,* 1533. Istanbul Library)

Dervishes built by Iskender Pasha, or the Galatasaray Palace and its baths positioned in a large garden area overlooking the Bosphorus Strait and the Marmara Sea. This palace was an important institution known as the Galata Palace Royal School (*Galata Sarayı Humayun Mektebi*). The educational complex included a library and the treasury was used primarily to provide highly educated superior officials, knowledgeable in different areas, to take service in the court of the sultans.

Many other important structures started reshaping the borders of the district of Galata. Such were the urban inn, or *kervanserai*, built for Rüstem Pasha around 1550 and the *bedesten* (covered market), built by the will of Mehmet the Conqueror. Both of them were positioned close to the sea walls in the core of Galata. The Gun Foundry (*tophane)* that later gave the name of the surrounding neighborhood on the Bosphorus shores and the massive structures of the shipyards in the neighborhood of Kasımpaşa, stretching along the Golden Horn pushed the borders of this town beyond the previous, already existing physical borders of the enwalled Galata. Muslim cemeteries as well as fountains and Turkish baths were spread in empty areas outside the city walls toward the top of the hill.

During the reign of Suleiman, the town of Galata started to considerably extend outside the medieval Genoese walls, since after the conquest they completely lost their defensive purpose, in both directions along the shores of the Golden Horn and the suburb of Kasımpaşa as well as toward the Bosphorus Strait, in direction of

Fig. 4.2 The mosque of Sokollu Mehmet Pasha at Azapkapı (Photo ©Luca Orlandi)

Kabataş and Besiktaş, but also embracing the summit of the hill of Galata and its surrounding natural environment.

In the apogee of the Ottoman Empire, throughout the sixteenth century, Master Sinan built important religious buildings around Galata like the mosques in Azapkapı for the Grand Vizier Sokollu Mehmet Pasha, built in 1577–1578 on the Golden Horn side (Fig. 4.2) and the one erected just outside the gates of Galata toward Tophane for the Great Admiral Kılıç Ali Pasha between 1580 and 1587 as well as the small mosque on the slope of the hill facing the Bosphorus, dedicated to one of the sons of Suleiman the Magnificent, the prince Cihangir, which later gave the name to the surrounding neighborhood.

Description of the urban environment of the former Genoese colony and many of the above-mentioned buildings can be found in a narration from the seventeenth century written by the famous Ottoman traveler Evilya Çelebi (1610–1684). In his account, the 'Book of Travels' (*Seyahatnâme*), he described the experiences of his life's travels and offered to the reader the experience of the polyhedric center of Ottoman Galata in this way:

> The shops altogether are three thousand and eighty. The marketplaces (*charshi*) are those of the cobblers (*khaffif-khánah*), the sugar-market, the oil-market and that of the grocers, besides a bezestán, with twelve cupolas and four iron-gates, built by Mohammed II. There are two hundred taverns and wine houses, where these infidels divert themselves with music and drinking. Fish, fruits and milk are excellent, as is also the sherbet (*mubtejií*) prepared here for the Sofis. From the seashore up to the tower of Galata are the houses of the Genoese, all built of stone and the streets regularly cut. Altogether there are eleven hundred and sixty streets; the most frequented are, the great road along the seashore, the street of the Voivode,

> that of the mosque of the Arabs and that of the tower. The Caravanseraí of Rostem Pasha is the work of Sinan. (Hammer 1968: 49–54)

Beside these observations done by Evliya Çelebi, other travelers, especially coming from Western lands, described the harbor, the streets, the trades, the chaotic traffic and the daily life in the town of Galata and in the new completions on the top of the hill, always pointing out the original and extravagant district with all the colorful mess and dense urban structure, generated by such heterogeneity of different people, religions as well as architecture and urban texture (Yerasimos 1993: 117–130).

When the town of Galata became too crowded and congested to contain all these people within its boundaries, it was enlarged toward north and built emerged outside the walls, mostly in the countryside and on the empty highest plots of Pera, the name to the whole area. Not only Italians but mostly Western and Greek merchants started moving their residence in this new neighborhood (Darnault 2004, 28; Girardelli 2017: 104–105).

Cosimo Comidas de Carbognano, a Catholic Armenian interpreter and minister sent by the Kingdom of the Two Sicilies, traveled to Istanbul toward the end of the eighteenth century and in his travel accounts, beside many descriptions and drawings of the city's most significant buildings, he explained the name(s) of the area, showing the confusion circulating at that time, even trying to define the correct toponymy:

> Pera or as its residents say, Beyoğlu, is a suburb of Galata placed in a beautiful position overlooking the countryside of Scutari, the great Seraglio and the city of Constantinople. This denomination of Pera, which means in the Greek language "beyond", is commonly given by the Constantinopolitan Greeks to the whole coast of Galata which is beyond the Golden Horn, but the Europeans on the contrary attribute it only to this Borgo, which before it was populated, was nothing but a cultivated land organized in vineyards and therefore was called the "Vigne di Pera", that is the vineyards located beyond the port of Constantinople. (Cosimo Comidas de Carbognano 1794: 62)

The area of Pera was subsequently named Beyoğlu, literary meaning 'the son of the seigneur', as tribute to the illegitimate son of the Venetian Bailo Alvise Gritti (1480–1534), who converted to Islam and lived an ostentatious life in a magnificent palace surrounded by gardens. (Otman 2012: 127–144) During the sixteenth and seventeenth century, the Venetians gained more importance in the Eastern Mediterranean, especially in keeping diplomatic and commercial relations between la Serenissima and La Sublime Porta. Even today, the diplomatic headquarter of the Italian Consulate and the residence of the Italian ambassadors—built on the slope of Pera toward Tophane—bears the name 'Palazzo Venezia', a historical and enduring connection to all the Venetian *bailos*—ambassadors, who were hosted for several centuries in the premises of this building.

Due to inner problems related to the Republic of Genoa and the administration of its colonies in the Levant the Genoese colony of Galata began to decline. More Franks settled in Galata and Pera, where almost half of the inhabitants were already foreigners. In fact thanks to the Ottoman policy to give privileges for commercial purposes and immunity from the Ottoman laws, many European foreigners, being under the protections of their respective embassies, tried to take advantages of the possibilities to build more connections between their countries and the Ottomans.

European legations one after another established their own headquarters. The embassies and residences were built on the top of the hill of Pera, along the main axis built on the ridge in a dominant position, after some time named as Rue de Péra. This street was connecting Tünel with Taskim toward north, occupied at that time by the Grands Champs-des-Morts, a cemetery shared by all the non-Muslim minorities. Rue de Péra was flanked by magnificent palaces placed in superb positions in order to enjoy the panoramic view of the Bosphorus or, on the other side, the Golden Horn, defining new architectural landmarks visible by the travelers who were approaching the city from the sea. They were surrounded by large gardens and orchards built upon terraces following the slopes of the terrain. The settlers could benefit of the fresh breezes coming from the sea, far away from both the chaotic life of Constantinople and from the overcrowded areas inside the Galata walls and its polluted port (Fig. 4.3).

Beside Venetians, many European states were largely represented by their own authorities in the new district of Pera: France, England, Ragusa, Prussia, Russia, Poland, Sweden, Naples and Holland. Their increasing population directly linked with the commerce and trades between the Ottoman power and their respective countries. As Batur states:

> While the vacant areas had begun to be redeveloped by splendid structures led by the embassy buildings which lined around the main axis called Rue de Pera (today's İstiklal Avenue), Galata had transformed into an area where increasingly the French, the English and the Italian Industrialists and merchants begun to settle and all types of merchandise from these countries were unloaded, stored and sold. (Batur 2000: 3)

Fig. 4.3 Detailed map of Galata and Pera, from: Plan general de Galata, Pera et Pancaldı. 6mo cercle de Constantinople, G. D'Ostoya, Ingenieur du Conseil Municipal (1858–1860)

The *Islahat* Edict related to the *Tanzimat* issued in 1856 confirmed the freedom of religion for all the non-Muslims subjects, now considered as separated entities, or millets, with their internal rules and laws. These communities were granted rights to own property, build public and religious schools and hospitals, new buildings for their cult, cemeteries and they also had permission to repair the existing ones (Marmara 2012).

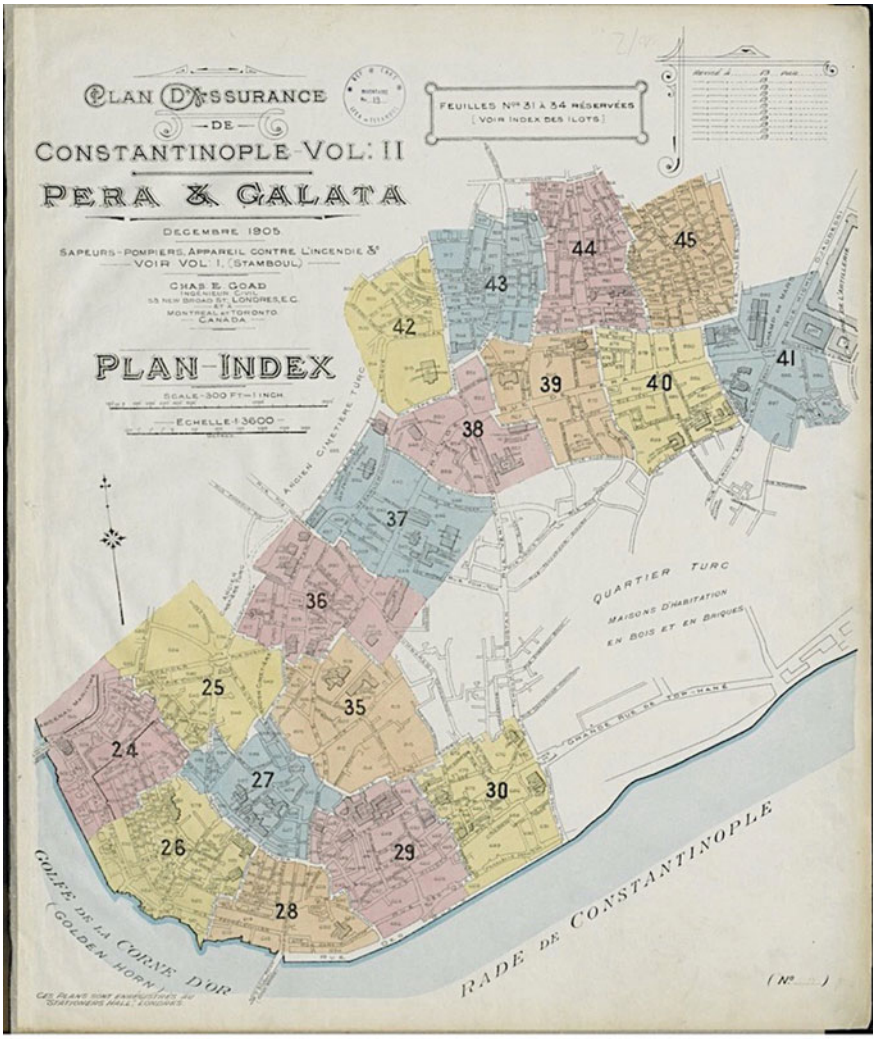
The Catholic missions and religious foundations therefore saw an opportunity to spread all over the newly formed district of Pera seeking protection from the European crowns. Many new churches were built close to the embassies and just to mention the Catholic presence, both the church of Santa Maria Draperis (under the protectorate of the Austrian Ambassadors) and the San Antonio complex (under the protectorate of the French Ambassadors) were built on Rue de Péra. (Girardelli 2017: 106–108). Even in the old Galata district, the reconstruction of the church of Saint Peter in 1843 was also seen as a successful operation to consolidate this process of 'increasing visibility and self-confidence' of the Roman Catholic Church toward the Ottoman authorities (Girardelli 2019: 39).

4.2 Urban Transformation and Architecture in Galata and Pera in the Late Ottoman Period

Throughout the centuries the establishment of the cosmopolitan milieu of Galata and Pera, especially in the nineteenth century, became possible thanks to many factors. These factors contributed to the modern urban development and to a consequent architectural transformation process. Sometimes catastrophic disasters like the big fires that spread all over Galata and Pera, as it happened in 1831 and in 1870, were an opportunity to redefine new modern urban plans and to place strict building regulations in order to prevent such events. In other case top-down intervention and formation of a new public entities like the new municipality system, decided the rules for the entire city. The Sixth Municipality in Beyoğlu (*VI. Daire-i Belediye*) represents one of the institutions that was shaped on Western models and contributed to the modernization process of the entire district. Founded in 1857, it maintained its privileged status until the promulgation of municipalities law in 1876 (Akın 2002).

The redevelopment plans for Galata and Pera conducted by the new municipality remarkably effected the urban fabric and the whole area. By promoting a new vision to 'clean' the congested areas, the radical demolition of the walls surrounding Galata in 1863–1864 represented in their vision a successful example of urban renovation, perfectly aligned with similar urban interventions in Europe, like the contemporary cases of Paris and Vienna. The demolition of the old city walls was also an opportunity to open new roads and widen the existing one (Çelik 1993). New regulations were not only applied to urban scale but extended to the layouts of the new buildings typologies. For example, civic buildings and apartment blocks were now being built in masonry avoiding the use of timber structures so they became more and more

close to the architectural models directly referred to the modern Western cities. The fire insurance maps of Istanbul prepared between 1904 and the successive year by Ch. E. Goad consist of 18 plates for Galata and Pera. They show very clear from an urban plan perspective the dynamics of the modernization process of the district (Fig. 4.4).



Source gallica.bnf.fr / Institut français d'études anatoliennes

Fig. 4.4 Details of Galata and Pera district, from: *Plan d'assurance de Constantinople: Vol. II Pera et Galata*: Plan index / Chas. E. Goad, (Institut Français d'Etudes Anatoliennes (IFEA) in Istanbul archive)

These inevitable upheaval processes affected the consolidated urban fabric produced in the previous centuries and it was not only seen in Galata—Pera in Istanbul, but all over the Levantine Ottoman world, during the nineteenth century. Especially in the port cities where the cultural exchanges and the commercial activities had boosted transformations, these changes modified irreversibly many areas of the traditional Ottoman city. As stated by Cerasi in a publication about the multicultural city in the Levant:

> Multicultural processes gained dynamism after the mid-Nineteenth century and intense commercial and cultural exchanges became particularly complex. The density of urban functions in many large port cities attracted variety in all its aspects. Many ways of life were often stratified in the same urban fabric and consequent stylistic and architectural types referable to the various cultures of the Mediterranean and the West, in particular in the commercial and port districts in all cities. The urban fabrics remain in the balance between 'modernity' and 'tradition'. (Cerasi 2005: 28)

At the same time, the local and foreign architects and builders, working for the emerging cosmopolitan bourgeoisie, were able to build modern architecture in the newly planned areas without completely losing the local influences instead adapting stylistic elements and architectural language as well as plans and volumes sought directly from the traditional and vernacular Ottoman house. As stated by Girardelli in one of his essays about the importance of the contribution of the Levantine-Italian community to the architectural environment within the Ottoman culture:

> The architecture of its cosmopolitan habitat, which developed especially in the 'Frank' districts but also characterized other areas, was not simply the faithful reflection of foreign identities, divorced from their context. The late nineteenth century cosmopolitan city retained certain traces of the fabric that preceded it. The Ottoman wooden house gradually gave way to denser, more compact structures: terraced houses, street-front buildings with one or two apartments per floor, although these were often a transposition into the new idiom of the volumes, dimensions and interior layout of the Ottoman model. (Girardelli 2007: 124)

Although in the nineteenth century many architects, engineers and contractors from different countries were involved in the plural 'modernization' of Galata and Pera, greater role was played by the Italian ones, who were able to interact with the local culture and to include in their projects typical features of the Ottoman /Muslim heritage entwined with the most contemporary European stylistic tendencies. The strong influence in the architectural field was carried on by Italians. This was possible thanks to two events that happened in the Ottoman Empire. One was the *Tanzimat* reforms (1839–1876) and second was the Crimean War (1853–1856). The *Tanzimat* reforms, promulgated during the reigns of Mahmud's sons Abdülmecid I, were focused on the improvement of the political processes, new legislation, reform of the military system, education, redefining the role of government relations among different communities and minorities, (Findley 2008) and allowed more and more foreigners to benefit from their professional and work positions within the Ottoman authority. After the Crimean War, in which the Kingdom of Piedmont established durable relation with the Ottoman counterpart and later in 1861 created the Kingdom of Italy under the sovereign of the Savoia family, many Italians saw the Ottoman capital as a land of opportunities to open new businesses so, many professionals

moved there with already pre-established connections with the local community of Galata through ancestral and mutual origins.

At the beginning of the twentieth century a publication made for the Italian readers 'at home' presented the history and the existing conditions of the Italian presence and their 'colony' in the capital of the Ottoman Empire, showing how the Italians were active in all possible undertakings, from industrial and commerce to artistic and architectural works. Just as a remind of the richness of the Italian community we remember that several public institutions related to the Kingdom of Italy mostly of which were concentrated in Pera were perfectly functioning in those years. Such were the Italian hospital, the several public schools, the *Società Operaia Italiana di Mutuo Soccorso* (Italian Workers' Aid Union), the Pious Foundation *l'Artigiana* and several others building designed to accommodate all the facilities they needed (Mori 1906).

Many were the protagonists of this 'architectural Renaissance' on the shores of the Bosphorus: starting from the middle of the nineteenth century until the republican time, we can briefly remember the names of Gaspare Fossati and his young brother Giuseppe; Pietro Montani; Giovan Battista Barborini; Giorgio Domenico and Ercole Stampa brothers; Guglielmo Semprini; Delfo Seminati; Alessandro Vallauri (later Alexandre Vallaury); Antonio Perpignani; Giulio Mongeri; Edoardo De Nari and Raimondo D'Aronco (Boriani 2013; Girardelli 2012; Çelik 1990).

The contribution of these architects, some of Levantine origins while others coming directly from Italy, is evident in all Galata and Pera districts. Even today, strolling through the narrow streets of Galata or along the İstiklal Avenue (as Rue de Péra was renamed in republican times) many of their names are still imprinted on the façades of important banks, palaces, hotels, churches, department stores and apartments that were part of such cosmopolitan environment (Figs. 4.5 and 4.6).

Neo-Byzantine, Neo-Ottoman, Art Nouveau, Neoclassical, Gothic Revival, Eclectic and even some attempts for modernist styles are mixed together in a kaleidoscopic manner throughout Beyoğlu, making us wonder how life in those years at the borders of the Mediterranean world, between Asia and Europe could have been so prolific, rich and peculiar with architectural production. Considering the architecture of several public and private buildings and its stylistic features, Girardelli states that:

> […] In between these two extremes, the Levantine production of minor protagonist like Barborini or Semprini, as well as the highly redefined synthesis of D'Aronco, stood as significant contribution of an Ottoman architectural modernity, not yet inscribed into clear-cut national scheme. (Girardelli 2012: 121)

Throughout the nineteenth century and the beginnings of the twentieth century Galata and Pera assumed two different but interrelated identities. Pera became de facto the 'European' center of Istanbul, following the fashion of metropolis like Paris or London, with famous department stores, finest patisseries, modern arcades, art and exhibition galleries, theaters, public parks and hotels that host the growing number of tourists visiting the capital of the Ottoman Empire.

Fig. 4.5 The church and convent of Santa Maria Draperis in Beyoğlu (Photo ©Luca Orlandi)

Hotelier business in Istanbul flourished and very well represented the new city trends. The inauguration of the famous 'Orient Express' train in 1871 allowed more and more visitors to reach the capital of the Ottoman Empire through a more comfortable journey. Constantinople Oteli, Pera Palas, Hotel des Londres, Hotel d'Angleterre, Tokatlıyan Oteli and many other tourist amenities in Beyoğlu, mostly of which located along Rue de Péra, in the second half of the nineteenth century initiated the fashion of the tours visits in the 'exotic' Empire (Akıncı 2018: 122–157) (Fig. 4.7).

In the meanwhile, the harbor down the hill of Galata and the suburbs of Karaköy, the name of the waterfront, became even more a core of trades for maritime commercial routes and insurance companies headquarters, financial and bank activities that at the time expanded incredibly in these already dense areas. All of the commercial

Fig. 4.6 Detail of the façade of Botter House in Beyoğlu (Photo ©Luca Orlandi)

activities were gathered here and traders were so powerful that many foreign companies and banks were in a position to lend money to the state. Such trades were ruled by Levantines. Italian, French, but also English and Germans and among them other minorities like the Rum community, or Greeks, were very successful in the stock exchange and managed most of the shops on the Voyvoda Street (today's Street of the Banks). Armenians worked as stockbrokers too, but they mostly had specific positions inside the Ottoman administration. Jewish stockbrokers also had reputation in this sector and among them the most famous one was Avram Kamondo, or Camondo (first Austrian and then Italian citizen) who largely financed the Ottoman Empire during and after the Crimean War (Orlandi and Ivkovska 2018: 118).

Amusing and colorful depictions of the frenetic life in Galata and Pera in the second half of the nineteenth century can be found in the written pages of travelers, like the Italian journalist and writer Edmondo de Amicis (1846–1908), who visited Istanbul in 1874 and compared Galata and Pera to the 'city' of London. Another one was the French navy officer Pierre Loti (1850–1923) who traveled throughout many countries, especially in the Middle and in the Far East and visited the oriental and exotic 'Stamboul' several times. From the latter, through his travelogues' notes, it is possible to appreciate many interesting aspects and facts related to the 'modern' and cosmopolitan district:

Fig. 4.7 The Hidivyal Palas, former Hotel d'Angleterre, on İstiklal Avenue (Photo ©Luca Orlandi)

> Galata is the Babel of the East. Till the morning, along the Bosphorus, this infernal clamor grows up from this district… In this crossroad arrives also Yeni Çarşı Caddesi, the biggest street that lead up to Pera, to the Christian city, above over our heads. On both the sides of this street, under grape arbors and in front rows of Turkish coffeehouse, door by door, there are hundreds of porters, encumbering the passage with their tables and stools. These porters had work hard all day long, carrying up goods and boxes from ships, piers, customs, traveler's luggage. […] Above our heads, on these dominant hills, the cosmopolitan city of Pera starts to light its big European shops, copied from London or Paris and under the lights, will continue its coming and going of coaches, like the Western style. (Loti 2002: 13–14)

4.3 Conclusion

The system Galata-Pera became an important center of cultural and political interactions where most of the population was living like in any other European capital city, until the fall of the Ottoman Empire in the twenties of the twentieth century. After the relocation of the capital to Ankara, the new administrative center of Republican Turkey, Istanbul overall and Beyoğlu in particular, somehow started losing this incredible energy that characterized the city for centuries. From a multicultural perspective, the population's profile also changed and the cosmopolitan atmosphere that characterized Galata and Pera for almost seven centuries vanished, especially after the 1950's when the inner immigration from Anatolia replaced the minorities who slowly left the area. Today local inhabitants are almost exclusively Turkish and only little has survived of the ancient local communities (Orlandi and Ivkovska 2018: 118).

Present-day Galata and Pera are basically the result of nineteenth and twentieth century urban planning transformations and despite all the inevitable and rapid changes that occurred in the last 150 years due to natural causes like fires and earthquakes and human interventions, like demolitions, abandonments or wrong reconstructions, a sort of genius loci is still perceivable. Considering all the upheavals over the centuries that have altered its appearance, making the neighborhood almost unrecognizable in today's urban layout and chaos, the district of Beyoğlu still shows—through some of its architectural remains—the multilayered and cosmopolitan character of the old town.

The development of the new settlement beyond the Genoese walls of the Galata district at its northern stretch presented an interesting case of pushing the borders of these nuclei. These borders besides being physical, since the walls were the borders that distinguished the areas, were also cultural. The creation of the new district of Pera outside the wall border of Galata formed a new center that shifted the cultural and social aspects of the whole area. By entwining the living models of those within the walls and those outside them, the newcomers, in particular Europeans, managed to put under the same umbrella the both entities, those of the ancient and Genoese Galata and contemporary and European Pera under the wider area of Beyoğlu.

The Municipality of Beyoğlu became an example of how physical borders even though existing can be overbridged by cultural and social influences and interactions. The exclusive status that Galata had after the Ottoman conquest influenced the unique appearance, aesthetics, architecture and life of its neighboring district of Pera that later at the point of the so-called Tünel location and the square that was fashioned there showed the shift, the push and the transformation of the borders between these two physical entities into one all developing along the newly formed 'border' of Rue de Péra or todays' İstiklal Avenue.

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Luca Orlandi is an architect and an architectural historian. He graduated in History of Architecture from the Faculty of Architecture at University ofGenoa (Italy); he obtained a PhD in 2005 from the Polytechnics of Turin (Italy), within the program: History and Critics of the Architectural and Environmental Heritage, discussing a thesis on Architect Sinan and the transformation of the territories in Thrace during the apogee of the Ottoman Empire.

He lives in Istanbul where he teaches History of Architecture and Architectural Design Studio, as Assistant Professor in the Faculty of Architecture and Design at Özyeğin University (OZU). He often participates in lectures, seminars and workshops in other Turkish universities and abroad, mainly in Italy. His fields of interests cover several topics like Ottoman Architecture and Master Sinan, Contemporary Italian and Turkish Architecture as well as Travelogue and Narratives about the Levant and the Genoese in the Eastern Mediterranean.

Velika Ivkovska is an engineer architect and architectural historian. She is an Assistant Professor at Bahçeşehir University (BAU) in Istanbul where she teaches History and Theory of Art and Architecture, Ottoman Architecture and Design Studies as well. She was born in Skopje, Republic of Macedonia where she received her bachelor's degree in Engineering and Architecture at the University of "Ss. Cyril and Methodius" in 2004. She received her Master of Science degree in June 2013 at the University American College Skopje in the Department of Architecture and Design with focus on the Building Heritage. In 2018 she completed her PhD thesis at Istanbul Technical University. She actively participates in conferences and seminars related to the History of Architecture. Her fields of interests cover the area of the Ottoman and Vernacular architecture as well as the field of the Byzantine Architecture, Modern architecture and History of Garden Design.

Part II
Ceci N'est Pas Un Citron: Habitat Vs Architecture

Hossein Sadri

A Lemon-tree provides a number of benefits and probably many of them are still unknown to us. The most important of them is the ability to store solar energy as carbon through photosynthesis. In addition to this, lemon trees purify the air, store water, feed the soil, prevent erosion and host a variety of different species. Among these benefits, the least important is the sour taste the fruit produces—and this is exactly what most people reduce their relationship with lemon trees to. I took the photo below in a New York City supermarket (Fig. 1). This lemon shaped bottle contains a chemically processed liquid that artificially tastes like lemon juice (the plastic bottle itself is mass-produced and has a massive carbon footprint). That the capitalist production of this good exploits labourers and nature in order to offer a 'cheap' alternative for lemon is ironic.

Fig. 1 Capitalist production of the lemon

Like architectural designs, this pretend lemon is a bizarre invention detached from the natural environment and filled with artificial contents, produced in a process dependent on nonrenewable resources and powered by fossil fuels that pollute the environment.

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Human beings have a culture of shaping their surroundings and creating habitats according to their own needs, a practice similar to but more complex and advanced than observed in other species. This practice of habitat creation consists of long-term and permanent solutions and responses to a variety of environmental and social conditions such as climate, topography, sunlight, wind, duration of day and night, moon cycles, as well as their connection to vital resources such as soil, water and other organisms.

Therefore, understanding nature's cycles and patterns in order to respond to it appropriately constitutes the core of such practice. This includes strategies for rehabilitation and nourishing of human habitats in the long term. However, the modern perception of architecture—even vernacular practices—reduces the whole culture of human habitat creation simply to construction techniques and building types, just as the production of artificial lemon juice in lemon-shaped plastic bottles reduces the whole lemon tree simply to a sour taste.

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The natural habitat is the lemon tree and its holistic relations and architecture is the plastic bottled lemon juice. The sour taste of lemon can be locally produced or globally transported, but a habitat is Earthian, it belongs to this planet. Habitats cannot be categorised as 'local' or 'global', they belong to Earth just as the plants that grow from the soil are interconnected with all the beings around them in present time and in the future by reducing the carbon from the atmosphere, storing the sun energy and feeding microorganisms, insects, birds and other animals.

Similarly to plants, habitats have their roots in the Earth. To prevent massive extinctions and tackle global climate crisis, our task is to rediscover and redefine Earth as the scale of life by understanding how our lives are interconnected to each other and to our planet as a whole. This will lead us to rethink and rebuild our habitats to shelter and regenerate life and heal our planet.

The chapters in this part critically investigate a variety of scales in current built environment production, their transitional boundaries from global to local, from urban to architectural and from macro to micro. This investigation will hopefully shed light on the current understanding of architecture and how it affects our planet. This short foreword on the types and scales of human habitats aims not only to set the tone for this part, but also be read independently and serve as a guideline for debates.

Hossein Sadri, Ph.D. is a Professor of Architecture and Urban Design, at Girne American University and a Lecturer in Architecture at Coventry University. He is the Coordinator of Urban Design Master Program at Girne American University where he worked as the Dean of the Faculty of Architecture and Head of Architecture between 2011 and 2016. He studied and held academic positions in various countries including Cyprus, Turkey, Iran, Hungary, Azerbaijan, the UK and the USA. He is the co-principal of "De-Urban Design Studio", a think tank laboratory which re-imagines human settlements as ethical, equitable, ecological and ecocentric living habitats.

Chapter 5
On the "Borderline" of Postmodern and Global: Forms, Images, Metaphors in Architecture

İrem Maro Kırış

Abstract Modernist understanding of architecture established a certain language relating the physical form with the function, technologies and materials, whereas postmodernism brought engagement with more complex factors. Continuing development of architectonics, design tools and methods enabled the production of more complex architecture. Multidisciplinary thinking approaches, social theory integration influenced architecture to enhance its representational value, to be perceived with multiple meanings, images and symbols. Economic, political, environmental issues accompanied. Globalization, through transnational processes, transmitting symbols, transplanting forms from one part of the world to another, had an impact on design and the built environment. As modernism has been superseded or come to an end, a new phase has started. How and when the transformation occurred and even the title 'postmodernism' is subject to be questioned according to theorists. One of the many definitions of 'borderline' refers to a debatable condition, an indeterminate state between two different phases that is hardly classifiable. The text focuses on the Modern-Postmodern transitional phase in architecture—'borderline architecture'—where the time frame, as well as defined paradigms, is quite vague and in need of clarification. A reading is aimed here by exploring forms, images and metaphors utilized in randomly selected examples considered to represent the period.

Keywords Modern · Postmodern · Borderline · Architecture · Globalization

5.1 Modern and Postmodern as General Conceptions

The debate about Modernity and Postmodernity has become a prime topic of the social sciences beginning with the mid-twentieth century. Arguments, narratives, perceptions have been formed around these conceptions, numerous, multifaceted definitions have been made. Variants of Modernity and Postmodernity, the evolution

İ. M. Kırış (✉)
Faculty of Architecture and Design, Bahçeşehir University, Abbasağa Mah. Ihlamur Yildiz Cad. No: 10-B 8th Floor, Beşiktaş, Istanbul 34353, Turkey
e-mail: irem.kiris@arc.bau.edu.tr

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and dissolution of the Modern, the emergence of the Postmodern have been discussed in theoretical production; in social theory, in theories of art and architecture by scholars.

In Taylor's definition, Modernity is explained to be a unique mixture, of novel institutional forms in fields of science, technology, industry, urbanism, new modes of life; secularism, individualism, rationalism and new depressions, feelings of alienation, insanity, social dissolution, that has never been experienced earlier in history (Taylor 2006). Marshall Berman's brief explanation states that Modernism is a medium where "everything that is solid melts into the air" as in Marx's celebrated statement. Berman considers Modernism as an unfinished project and Postmodernism as a continuation of Modernism. Giddens defines Modernity in terms of four basic institutions: capitalism characterized by commodity production, private ownership of capital, property less wage labor and a class system derived from these characteristics. Modernism was supported by the capital that once belonged to national middle-upper classes, as one of the specific characterizations of the late twentieth century, national had turned into multi-national, inter-national and global and the transformation found expression in architecture and art disciplines (Giddens 1990). As Jameson put it, aesthetic production and commodity production are a whole, they are integrated into the contemporary world. Control of the capital over the production of space has grown and become more effective in the context of globalization.

Modern-Postmodern duality, the transformation from one to the other and/or their coexistence in terms of content, context, periodization, display ambiguity, vague borders and overlaps. In the introductory chapter of David Harvey's 'Condition of Postmodernity', he refers to Jonathan Raban's book 'Soft City' (1974), presenting the reader a quite literary depiction of the transformation of culture, of urban life and the emergence of Postmodernity in the 1970s. Similarly, Lyotard denotes that the ending of Modernity, its transforming into Postmodernity could be expressed not in terms of time, but as a condition. He emphasizes the difficulty of defining periods and borders and expresses that there are varying borders between the Modern and the Postmodern. For instance, according to an interpretation about the end of Modernity, Modernist ideals had openly been destroyed by the transformation of war technologies and mass-killings of the civilians, marking the early 1940s as a border (Batur 2019).

Harvey dates the beginning of Postmodernism to 1972: "There has been a sea change in cultural as well as in political-economic practices since around 1972. This sea change is bound up with the emergence of new dominant ways in which we experience space and time." He notes the "rise of postmodernist cultural forms" and underlines his concession that there are no strict borders.

Ihab Hassan, as a literary and cultural critic, defines the project of Postmodernity as follows: "…simply in political terms, as an open dialogue between local and global, margin and center, minority and majority, concrete and universal—and not only between those but also between local and local, margin and margin, minority and minority and further still, between universals of different kinds. But there is never surety that a political dialogue, even the most open, will not erupt into violence" (Hassan 2000). Hassan's renowned list in which schematic differences of Modern and Postmodern are formulated as opposing phrases, which in this text, is used as

a medium of discussing architecture. Anthony King, however, does not emphasize the universal essence in Modernity and/or Postmodernity. In his opinion, Modernity does not correspond to a realm that is universal: "It is this geographically limited use of Modern which is the parent of the so-called Postmodern which I shall make a digression to address." King thinks Modernity is conceptualized in relevance to Europe and America and that it does not include the whole globe. He notes that Postmodernity works within the same borders of geography (King 1995). He also suggests that multiple modernisms exist.

David Harvey, while being critical toward Postmodernism, sees the concern for complexity, diversity, otherness and plurality as positive aspects that were neglected in Modern practices. While Modernist cultural ideology is known to cover and conceal local, regional, ethnic differences, diversity, in the Postmodern perspective, is appreciated and powerfully expressed.

1980s' setting driven by changes in the global economy had also provided a medium for the development of theoretical production that motivated approaches such as Structuralism, Deconstruction, Phenomenology, etc., known as integral parts of the Postmodern knowledge.

Despite the fact that there are different opinions on conceptions of Modern and Postmodern, almost in all, the Postmodern defines/marks a new society, a new condition—that Harvey defines as the "Postmodern condition"—in which "a unitary world view as embodied in what are called master narratives" (Ghirardo 1996) no longer exists. Yet another consequence is that Modernism and Postmodernism had an impact and reflection on architecture. Debate on the Postmodern found the best grounds in architecture.

5.2 Architecture

Among all fields of cultural production, architecture quite powerfully reflects the facts, realities, forms and modes of life of human societies, particularly in urban settings. Cultural traces of the evolution of Modernism, Postmodernity and globalization are physically expressed in the built environment, through the architecture produced in the twentieth and twenty-first centuries. The architecture of the late twentieth century marked a transitional stage; the transition from the world of Modernism to the Postmodern and globalizing world, from Modernist ideals toward a new awareness, to criticism, search for plurality, complexity and so on. Architectural practice and theory related to the second half of the twentieth century, therefore, seem to provide a convenient medium for observing the gradual transition from one condition to the other. The intention and motivation of creating a specific architectural language had been a major issue in both conditions and stages of production. What about the intermediate stage/scope, hereby entitled as 'borderline architecture' of the Postmodern, globalization era?

An exploration of major conceptions and design parameters utilized in the architectures of the Modern and Postmodern times underlines works of certain prominent theorists.

The evolution of the architectural language of Modernism takes us back as early as the late eighteenth century. Even the Renaissance is considered as the start. However, the theory and practice of the twentieth century brought this language to its most mature state.

Modern architecture emphasized function, rationality, simplicity and created a new aesthetic and new expression means, related the physical form with the function and the innovative technologies and materials, specifically the use of glass, steel and reinforced concrete. One of its basics was that form should follow the function (Ghirardo 1996). Apart from functionalism, rationalism, minimalism, indifference to history, rejection of the tradition and the ornament, are among typical expressions of the Modernist trends. Modernist understanding had its limitations and riches. Modernism on the one hand, "has been instrumental in the rationalization of both building types and methods, (…) both the material finish and the plan form have been reduced to their lowest common denominator, in order to make production cheaper and to optimize use" (Frampton 1996), on the other, favored technological determinism, explored the potential of materials and technologies, retained connections with the arts and respected individuality and role of the architect.

Looking at the "world picture of Modernity"—borrowing the expression from Heidegger (1977)—a crucial reading about the architecture of the era would be that Modernist ideology holds architecture socially responsible for the salvation of humanity. Architects, through design, supposedly had the power to transform the world.

A strong advocate of Postmodernism, Jencks in his definition of Modernism goes as follows: "universal, international style stemming from the facts of new constructional means, adequate to a new industrial society and having as its goal the transformation of society both in its taste and social make-up" (Mallgrave and Goodman 2011). Jencks in his 'Modern Movements in Architecture' which was first published in 1973, states that "Postmodernism includes a variety of approaches which depart from the paternalism and utopianism of its predecessor, but they all have a double-coded language—one part Modern and part something else. The reasons for this double-coding are technological and semiotic: the architects seek to use current technology, but also communicate with a particular public. They accept industrial society, but they give it an imagery which surpasses that of machinery—the Modernist image" (Jencks 1985). His definition of 1984 might be even more explanatory; "double coding: the combination of Modern techniques with something else (usually traditional building) in order for architecture to communicate with the public and a concerned minority, usually other architects" (Mallgrave and Goodman 2011).

Questioning Modernism started in the late 1960s and its recognition and maturation in Europe, found in 1980, according to Doordan (2001). Postmodern in general found roots in opposition to the Modern, emerged as a critical reaction against formality, simplicity and lack of variety of Modern architecture. The move from Modern to Postmodern in architecture initially has been acknowledged in the

United States and followingly in the industrialized, urbanized settlements in the world (Ghirardo 1996).

The influential books questioning the Modernist movement; Complexity and Contradiction in Architecture (1963) by Robert Venturi, The Architecture of the City (L'architetura della Citta) (1966) by Aldo Rossi, La Costruzione Logica dell'architettura (1967) by Giorgio Grassi, Learning from Las Vegas: The Forgotten Symbolism of Architectural Form (1972) by R. Venturi, D.S. Brown, S. Izenour and The Language of Postmodern Architecture (1977) by Charles Jencks, all were published in the years of late 1960s and 1970s, the years of the rise of Postmodernism. In his Modern Movements in Architecture of 1973, Jencks dedicated an extensive chapter to Postmodernism.

Jencks is among theorists who connect Postmodernism to its Modernist origins, calling this a 'golden thread of continuity'. He agrees that Postmodernism is not a reactionary movement away from Modernism, on the contrary, it is closely linked to it, growing out of it. He even addresses 'Late-modernism' and 'Postmodernism' as Modernism's phases that are dialectically, historically and logically related to one another (Jencks 1985).

Postmodern architecture as Venturi describes it is an architecture of "complexity and contradiction," embracing various levels of meaning, having diverse focuses and it is much more inclusive and rich than the Modern. He compares Mies and Kahn on the subject of order vs. disorder: "Mies refers to a need to 'create order out of the desperate confusion of our times'. But Kahn has said 'by order, I do not mean orderliness' and he goes on to accentuate the two justifications for "Breaking the order" would be recognition of variety and confusion and the ultimate limitation of all orders composed by man. He also states that "… anomalies and uncertainties give validity to architecture" (Frampton 1996). Venturi, along with others, suggested a revival of the "presence of the past"—title of the exhibition held in Venice in 1980—in design, an awareness, a concern for the environment.

In the late 70s, Leon Krier as a critique of both approaches Modern and Postmodern, proposed a return to the principles of classicism. He published his book 'Rational Architecture' (1978) in which he discussed the rational foundations of architecture and the city. Krier is known with his conceptualizing 'New urbanism' and the 'architecture of the community'.

Venice Biennale of 1980 is considered as the emergence of Postmodern sensibility in Europe (Doordan 2001). The 1980s not only motivated a return to Historicism but also created novel approaches such as Deconstruction in architecture, that had roots mainly in philosophy and literary critics. Correspondence between architecture and language, metaphor use, meaning transfer and employment in other contexts combined with the extensive possibilities of computer-aided design technologies, evolved into the creation of chaotic, unusual, unpredictable architectural expressions.

5.3 A Reading of Selected Architecture Based on Modern Vs. Postmodern Paradigms

The attempt to make a reading of the architecture of this transitional stage requires focusing on a defined time frame, making a selection among produced designs and determining the evaluation criteria. Randomly selected public buildings on an institutional scale, from different locations, by various designers, produced within the duration that starts with the 1970s and ends in the late 80s, provide the examples for the study. They are each, specific designs that have been highlighted and acknowledged through mainstream architectural media and been subject to worldwide public attention.

As evaluation criteria, Ihab Hassan's Table of "Schematic Differences between Modernism and Postmodernism" will be referred to, in this study. Harvey, in his text 'The Condition of Postmodernity', refers to Ihab Hassan's Table (5.1) for supportive information representing 'modern versus postmodern' and somehow confirms the terms' validity. While making an analysis of the architecture of the selected buildings, on the basis of Modern and Postmodern paradigms and practices, opposite concepts are taken from IH Table such as "form/anti-form," purpose/play," "design/chance," "hierarchy/anarchy," "centring/dispersal," "metaphor/metonymy," "type/mutant," are intended to be utilized in the discussion.

A review of the period in between the years 1970s–1990s reveals a variety, a diversity of architectural expressions, some of which can be considered as an individual, subjective preferences of the designers. The buildings selected and presented in this study are produced by a heterogeneous group of designers, most of whom belong to the same generation. The analysis of the spatial and formal qualities of the architecture subject to this study is expected to reflect the common attitudes of the period and shed light on the route of gradual change of the world architecture from Modern to what we call "Postmodern" and "global." Examples to be studied include: Pompidou Cultural Center (Paris, 1972–1977) by Richard Rogers and Renzo Piano, Gunma Prefectural Museum of Modern Art MOMA (Takasaki, Japan, 1974) by Arata Isozaki, Hans Hollein's City Museum in Mönchengladbach, Germany (1972–1982), Aldo Rossi's Teatro del Mondo designed for the 1980 Venice Biennale, Wexner Center for the Arts (1983–1989) by Peter Eisenman, Jean Nouvel's Institute of the Arab World, Paris (1981–1987), Jawahar Kala Kendra, Jaipur, India (1986–1990) by Charles Correa and Milli Reasurans Complex, Istanbul, Turkey (1985–1992) by Sandor, Sevinc Hadi.

Table 5.1 Schematic differences between modernism and post-modernism (Taken from David Harvey's Article "The Condition of Postmodernity" In The Post-Modern Reader pp. 199–219. Original Source: Ihab Hassan, Paracriticisms: Seven Speculations of the Times, Urbana IL, 1985, pp. 123–4)

Modernism	Post-modernism
Romanticism/Symbolism	paraphysics/Dadaism
form (conjunctive, closed)	anti-form (disjunctive, open)
purpose	play
design	chance
hierarchy	anarchy
mastery/logos	exhaustion/silence
art object/finished work	process/performance/happening
distance	participation
creation/totalisation/synthesis	decreation/deconstruction/antithesis
presence	absence
centring	dispersal
genre/boundary	text/intertext
semantics	rhetoric
paradigm	syntagm
hypotaxis	parataxis
metaphor	metonymy
selection	combination
root/depth	rhizome/surface
interpretation/reading	against interpretation/misreading
signified	signifier
lisible (readerly)	scriptable (writable)
narrative/grande histoire	anti-narrative/petite histoire
master code	idiolect
symptom	desire
type	mutant
genital/phallic	polymorphous/androgynous
paranoia	schizophrenia
origin/cause	difference-difference/trace
God the Father	The Holy Ghost
metaphysics	irony
determinacy	indeterminacy
transcendence	immanence

5.3.1 Pompidou Centre, Paris, France, 1972–1977

Pompidou Culture Center/Beaubourg in architectural terms can probably be best described as an exoskeleton composed of elements of structure, circulation and services, leaving the interior space totally free and flexible. Construction technology used combines the reinforced concrete underground levels with the steel beam structured upper levels. Pompidou is a prismal box of pure geometry, as well as being a "cultural machine"—as anonymously mentioned—with its exposed colorful, metallic, giant-sized tubular façade elements, functional and reflective of an understanding of machine aesthetics. It is, as Frampton states, a strong expression of the movement launched by Buckminster Fuller and an obvious "… realization of the technological and infrastructural rhetoric of Archigram" (Frampton 1996). Mallgrave and Goodman relate the design not only with Archigram—which surely is an open reference—but also with the Constructivists' fantasies of the 1920s and the futurist ideas of Cedric Price (Mallgrave and Goodman 2011). On its colorful façade where blue was used for the mechanical, red for circulation and white for distillation equipment, a pop version of "the French tricoleur" was created (Jencks, 1987). Provision of free, flexible interior space depends upon the open plan, the universal gridded space of Modernism and Mies's 'skin and bones' conception (Jencks, 1987). Large-scale urban plazas—a sloped main entrance plaza and a backyard—are provided at entrance levels for public use. The center is not only visited for its cultural facilities. The circulation tube and viewpoints offering spectacular views of the city and the open urban spaces used for activities providing access from different directions contribute to its popularity.

5.3.2 Gunma Prefectural Museum, Takasaki, Japan, 1974

Gunma Museum Building is an expression of a geometric approach based on a system of cubes—12 m cube is designed as a key element—forming a rectangular structure with two projecting wings. Cubes are extended to form exterior spaces such as the reflecting pool, as well as the entrance hall and the art galleries. Its setting is Gunma-no-mori Park. At the main entrance, stairs lead the visitor through a stairway space cladded in white marble, to the gallery and the auditorium at the second level. The intention is to isolate spaces of art from the outside world. Later extensions of a restaurant in 1994 and an art gallery in 1997 were added to the complex. Isozaki in his own words explains his design basics as follows: "The design is based on the interaction of two architectural systems: the skeletal part of forty-foot cubes (the basic structure) and the exhibition spaces, stairways, administrative offices, lighting and so on (the supplemental structure). The series of cubes, laid out on an expansive loan in a parklike setting, takes the form of one large rectangular block, which houses the main exhibition space and two shorter, projecting wings. The first of these is perpendicular to the central block and contains the entrance hall. The second, angled

off the building's primary axis, holds a gallery for traditional Japanese art. This wing is elevated above a square reflecting pool, with an open terrace at the first-floor level" (Isozaki 1991). Transparency at the ground level is provided with the use of aluminum and glazed façade panels.

In the design of the Gunma Museum according to Frampton, Isozaki pursued a gridded high-tech architecture that reached its summit; "beginning with early 1970s Isozaki's work has oscillated constantly between gridded atectonic assemblies controlled by the superimposition of cubic forms, as in the Gunma Museum …" (Frampton 1996). Gunma is Isozaki's first museum design realized. A member of the Japanese New Wave, Postmodernism throughout his career, the architect is known to be influenced by New Brutalism and Metabolism as well.

5.3.3 City Museum in Mönchengladbach, Germany, 1972–82

Hans Hollein's City Museum in Mönchengladbach or Museum Abteiberg is a cultural complex for twentieth-century art exhibitions, within a traditional context. Seven towers that house the main museum spaces, located on an independent, detached site surrounded by significant buildings. The setting is related to a Benedictines Abbey, nearby are two church buildings, a monastery, a school and houses. A sharp slope with a garden and fountain at the low level and the town square at the top seem to have added to the complexity of the site specifics and the design. Museum blocks set on a grid layout, the administration tower and entrance pavilion relate to Abteistrasse and are aligned with the buildings close by, however, the temporary exhibition block relates to the Münster. Curvilinear lines and forms as landscape elements are introduced to the otherwise gridal organization. Hollein has integrated the building into a set of pedestrian routes and offered the visitor the opportunity to experience the town square, the apse façade of a church building, a bridge and a stone-paved patio. He has designed valley-like spaces, circulation routes and stairs with undulated retaining walls, forming plant terraces and patios in relation with the existent context. Museum volumes and open spaces within a range of designed elements are connected to the lowest level of the site, to the gardens. The building is related to the environment not only in volumetric means but also through the use of textures and materials.

Interior space organization somehow reflects a similar attitude, integration of different levels, varying ways the accesses and the stairways meet, flexibility, play and complexity and the contradictory feeling of experiencing all in a single building (Rykwert 1982).

The building with its large volumes, smooth cubes, organic forms, architectural settings creates an artificial landscape that is deeply influential and effectively coincides with the 'art' on display (Lampugnani 1989).

5.3.4 Teatro Del Mondo, Venice, Italy, 1980

Rossi's Teatro del Mondo, a small-scale structure floating within a range of city silhouettes, designed for the 1980 Venice Biennale's "Theater and Architecture" section, is a highly symbolic design. It was built as a temporary structure floating on water over the canale, anchored close to the old customs building, 'Punta del la Dogana'. The main body of the theater was in the form of a prism. An octagonal prism tower with a pyramidal gray colored roof that ended with a sphere and a flag was built upon the main body. (Braghieri 1991). The base, the tower and the sphere and the flag above imitated Punta del la Dogana and other nearby buildings. Building height that was approximately 25 ms was arranged not to exceed the height of Punta del la Dogana.

The Italian architect and theorist Aldo Rossi, a well-known critique of modern architecture, had taken the Formalism and Rationalism path mainly in his career. References to history, memory, typology, tradition, different scales and simple geometries dominance guided his designs as sources of inspiration. Rossi described his building Teatro del Mondo within its context as "a place where architecture was ended and the world of imagination began" (Rossi 1981), probably mentioning the memory factor, as well as the juxtaposition of two worlds; architecture and theater. Venetian timber theater tradition of the sixteenth and seventeenth centuries and wooden gondolas of Venice had been references for the design.

5.3.5 Wexner Center for the Arts, Ohio State University Campus, Columbus, Ohio, United States, 1983–89

Wexner Center was built upon Peter Eisenman's competition-winning design of 1983, a major design problem focusing on the existing campus fabric and the new building integration. The building program includes exhibition, performance spaces, a lecture hall, a library all supporting visual and performing arts programs of the institution.

Different layers of grids and angular axes are formed through which the context and the order are questioned by the designer. There is the grid of the university campus and there is the grid of the Columbus municipality, the dominant axis in Eisenman's design is aligned with the municipal grid creating an impression of colliding geometries through the architecture of Wexner Center. The existing surroundings are not respected but responded.

History of the location involved a nineteenth-century armory that used to be a part of the site and had been destroyed by fire in 1958. Eisenman in his design responded to this memory, by constructing brick towers at that location, to evoke the memory of the earlier structure.

5.3.6 *Arab World Institute, Paris, France, 1981–87*

A highly symbolic, competition and awards winning design was produced by Jean Nouvel and Architecture-Studio for celebrating the relationship of the Arab culture with France. Cultural facilities housed in prismatic volumes, one of which is distorted and converted to a curvilinear, irregular form, include a library, auditorium, museum and exhibition spaces. Located in the Latin Quarter, near the border of historical districts of Paris and River Seine, the building responds to its context. The lay-out—the irregular volume—follows the curvature of the river and the road. Two main volumes of nine and eleven stories, facing north and south directions, create an inner courtyard and a plaza (Winstanley 2011). Façade detailing, a characteristic of Nouvel designs, becomes a major, innovative element in Arab World Institute. The southern façade is composed of aluminum and glass panels and adjustable diaphragms that diffuse the amount of sunlight penetrating the interior space. The gridal pattern of the panels and diaphragms, both on the façade and its reflection as light and shade in the inside, refers to the 'masharabia', a favored design feature of traditional architecture in Arab countries. Nouvel recreates the traditional element/form with the use of modern technology, points to the dialogue potential between the "industrialized and vernacular approaches to building" (Doordan 2001), as well as the modern and traditional languages of architectural culture.

5.3.7 *Jawahar Kala Kendra, Jaipur, India, 1986–90*

Charles Correa's Jawahar Kala Kendra is a cultural center including a craft museum, composed of a sequence of pavilions, outdoor spaces and a central interior courtyard. The design is based on pavilions set on a nine-square 'mandala' called 'Navagraha' and/or 'Vastupurusha' according to two different sources, in which each square form is related with a planet and with the symbol of that planet. Each square formed space has a different function. For instance, the administrative offices are housed in the square related with Mars, a symbol of power, whereas the library is in the square dedicated to Jupiter, a symbol of knowledge. Colors, textures, decorative elements used in the spaces, in relation with the corresponding planet, follow the depictions from ancient Vedic literature. Jawahar Kala Kendra is "a contemporary interpretation of an ancient cosmic model," as Doordan phrases (2001). There is still another strong reference. The city of Jaipur also is based on a 'Navagraha' plan, following the eighteenth-century original design by Jai Singh. The designer had to break the regularity of the mandala and shift one of the planetary squares out of the grid to adapt to the topography conditions. Correa made the same thing in his design for Jawahara Kala Kendra, as a reminiscence of Jaipur city history, that attributed further meanings, created a new level of reference. The main entrance is designed where the square not aligned with the rest, is. The corner pavilion of the theater halls/space for performances of local music, dance, is shifted away and placed at

an angular position to the regular grid, providing open space for free approach and access to the building and to the halls.

Actually, the division of spaces was not only about separate functions but also about the public projects' finance system in India. Pavilions could be used by different artisans as workshops and display areas for jewelry, costumes, textile, weapons and manuscripts. Library, cafeteria, offices. Pavilions constructed of concrete walls clad in local sandstone, each had its unique interior design. Library with its reflecting pool had free forms whereas the offices' pavilion with its dome, rooms and gateways of limited size had a more rigid interior atmosphere compared to others (Ghirardo 1996).

5.3.8 Milli Reasurans Building Complex, Istanbul, Turkey, 1985–92

Located at a dense urban district, Nisantasi, on a site that lies in between two important axes where the building planning rule follows an attached order, the Milli Reasurans Building holds a unique volumetric presence both in contrast and in harmony with its surroundings. Designed by Sandor & Sevinc Hadi, it is a multifunctional complex comprising an art gallery, cultural, shopping, recreation facilities and headquarters for an insurance institute. The building with a great retreat on its main entrance façade creates a plaza and a mega-sized void—about 45 ms wide and as high as the neighboring massive buildings—an interpretation of an 'iwan' as stated by the designers. It offers the user and passer-by alternative routes and spatial experiences, such as pedestrian passages aligned with cafes and shops linking two streets and courtyards that provide extensions to the urban context.

5.4 Discussion and Interpretation—'The Borderline Architecture'

The attempt to make an interpretation of the randomly selected public buildings designed by various architects, from different locations, that belong to a duration starting with the 1970s and ending in the late 80s, involve recognition of these buildings and their designers in reference to the architectural realm in which they exist. Their references and relations with the context, with the precedent, the inspiration source, etc., provide meaningful information when combined and read in parallel with certain themes, hereby marked by the terms listed in the IH Table. Opposite concepts representing 'modern versus postmodern' such as "form/anti-form," purpose /play," "design /chance," "hierarchy /anarchy," "centring /dispersal," "metaphor /metonymy," "type /mutant" are utilized as criteria for analysis of architecture.

Pompidou is often associated with the Hitech approach. With its basics of design, bearing a variety of architectural features, it can be labeled not only as Hitech but also as Bowelist, Expressionist, Modern and Postmodern, the inclusions bearing overlaps. The contrasts, playful use of colors, symbols and images, are supportive of a Postmodern language, while its spatial qualities and the conception of architecture as a machine are modernist. The most dominant aspect in Pompidou architecture is the exposure of technology and the distinction of functions/building components, ending up in a machine image that is a powerful modernist expression.

Using Ihab Hassan's terms, an interpretation of the architecture of the Pompidou would be that Pompidou with its prismal form, flexible open space and functionality, is related with a genre, a type, rather than a mutant. However, within its physical context, the building deserves to be evaluated as being a mutant, a deviant, an abnormal being, in terms of its contradictory appearance and its scale relative to its surroundings. The architectural form implies homogeneity, conjunctivity and openness at the same time. Although it is a closed box, its transparency as a structure and the ground levels' spatial arrangement together with the circulation tube and view stand on the facade provide interconnectivity with the environment. As per 'Purpose – play' and 'Determinacy—indeterminacy' dualities are concerned, the emphasis seems to be on purpose/functionality and determinacy, however the play of exaggerated items and scale, use of meaning-attributed, bright colors are also facts of the building. In Frampton's opinion—and as quoted above—Pompidou's design represents an extreme understanding of indeterminacy—opposite to determinacy—and flexibility—opposite to purpose-orientedness: Pompidou "… represents the design approach of indeterminacy and optimum flexibility taken to extremes" (Frampton 1996).

Alan Colquhoun, one of the critics who disliked the Pompidou, called it a "supermarket of culture" that had "no further task other than to perfect its own technology" (Mallgrave and Goodman 2011), giving us an interpretation that further strengthens the Postmodernist impression the building bears and marks the introduction of a new kind of cultural space to the repertoire. Questioning the notion of culture has been a major concern of the architects Renzo Piano and Richard Rogers since they had won the commission as a result of a design competition at a very young age. The design in a way reflected their concern and their attempt of questioning what culture is.

Pompidou Center seems to create its own context although the scale of the building, just like its appearance, is indifferent to its surroundings. Due to its overall appearance and contextual presence Pompidou deserves the expressions 'play', 'anarchy' and 'mutant' that are all on the Postmodern side on Hassan's List. The rectangular prism box form, display of the functions, of the technology, functional flexibility, open plan, grid plan scheme, however, emphasize the modernist themes and the terms 'form', 'purpose', 'design', machine 'metaphor' come forth.

According to Jencks, Pompidou Center and Gunma Museum are "monuments of Late-modernism," he goes on to say that in these designs among some others, "the logics of Modernism are exaggerated, distorted, made beautifully extreme or witty in an understated way" (Jencks, 1978). Gunma Museum's module-based design/grid plan use, its spatial qualities, seem sufficient to perceive its architecture as Modern.

Cuboid geometry follows modernist form language. On the other hand, Japanese traditional interior space images utilized and the conception of the "art gallery as void" puts the design in a more ambiguous category.

Another design of Isozaki's, dated to the same years, his Tsukuba Civic Center (1980–83), clearly reflects a different approach than the Gunma building. The designer creates an eclectic collection of forms, employing elements derived from history, from the works of different designers. Exhibits "a strongly inventive re-use of classical forms in a new technology (…) we can recognize it as a compound of Ledoux's quoins, Michelangelo's Campidoglio, Aldo Rossi's square windows and Hans Hollein's eroded figures" (Jencks, 1978). This mixture of styles, elements and forms requires to be defined as 'post-modern language'.

Gunma seems to be one of the few designs to define a border in Isozaki's transformation in architectural language, observing his works of the 2000s that reveal experimental, "anti-form," blobi images. It is a coincidence that Gunma design stands for both the transformation of its designer's career line and the 'borderline' architecture in between Modern and Postmodern.

Hollein, the designer of Mönchengladbach City Museum, is considered as an early postmodernist by some sources, however his work displays ambiguity in many ways since his architecture has grounded on the aesthetic sense of the 1950s–60s, he has experienced design realms of America and Europe both and been active in various fields of design (Mallgrave and Goodman 2011). In the 1970s his shop designs labeled Hollein a Postmodernist, however, looks can sometimes be deceiving, as his major work of this same period—the City Museum at Mönchengladbach—demonstrates a complex design in many levels. It presents itself as "a monumental temple to art" composed of intriguing elements; "a fractured administrative tower, a stone-clad auditorium, a white marble entrance pavilion, seven zinc-coated galleries turned toward northern light, an urban plaza running atop most of the complex and a series of curved cascading garden walls, reminiscent of Park Güell, leading down to lawns and gardens." Mallgrave and Goodman go on to emphasize the "scenographic phantasmagoria" of interior spaces, cite Achleitner and Frampton and use their expressions to explain the aesthetic created by the designer, that would be related to 'Vienna's tradition of the aesthetic heightening of reality' and "a mode of theatricality." In their interpretation, Mallgrave and Goodman note that Hollein is "an oblique storyteller with a fondness for metaphor," who "openly practices a symbolism at times willfully heterogeneous and whimsical" but in the end, they conclude that Museum of Mönchengladbach cannot be regarded as postmodern and the design stands at a point that was "actually quite alien to the popular conception of postmodernism at that time" (Mallgrave and Goodman 2011).

Both 'form' and 'anti-form', 'dispersal' in parallel with the physical setting, the surroundings and the dominant slope of the site, 'complexity' and 'play' seem to characterize the design and the architectural language.

Aldo Rossi's Teatro del Mondo with its symbolic, literally meaningful existence and form language deserve the Ihab Hassan expressions, 'form', 'purpose', 'centring', 'genre', 'type', 'metonymy'. The design represents the Venice Biennale, represents theater, Venetian timber theater tradition; refers to wooden gondolas of

Venice, to temporariness, to memory; imitates the old customs building, 'Punta del la Dogana', all at once. Floating within a range of city silhouettes, it reflects the designer's context-sensitivity, as well as his Formalism and Rationalism, references to history, memory, typology, tradition, different scales and simple geometries.

Wexner Center for the Arts, in a way, confronts the spectator's perception, visitor's expectation, "concerning the relationship between visual order and spatial experience." Superimposing layers, grids of varying degrees, sequence of the layers, link the building to two different realities/positions, therefore create "multiple levels of reality" (Frampton 1996). Through Eisenman's strong grid systems dominating the form language, axial rotation, geometric plays, the building creates its own context, its own architectural vocabulary and visual language. Grids are known as Eisenman's "devices that he consistently used to control his designs." The sources of the grids are various. Through the design of Wexner, a new architectural style is celebrated according to Ghirardo and conception of the "Museum as spectacle" was supported, in which the architecture is more important than the art exhibited in it (Ghirardo 1996). While the grid is one of the strongest expressions of the Modernist language, Eisenman's version is a unique one. 'Dispersal'/decentring, 'play' and 'anarchy' are the dominant Ihab Hassan expressions that also reveal the language of Deconstruction, for the Wexner, regarding the spatial experience the design offers the spectator. 'Form' and 'anti-form', 'type' and 'mutant', 'determinacy' and 'indeterminacy' antonyms seem to coexist, supporting the perception of ambiguity.

Nouvel's recreation of the traditional element 'masharabia' with a technological novelty for his Arab World Institute becomes a dominant design feature and relates the design with the Modern and the Postmodern. The volumetric approach, use of grid pattern, modules, modern technology, recalls Modernism however dialogue with the tradition, historical and local reference, identity concern, symbolism, the dominance of façade design connects the architecture to Postmodernism.

Nouvel's approach of using elements from Non-western building cultures here is close to Correa's and the designer explores "… the possibility of a design dialogue between European and Arab cultures" (Doordan 2001). According to Doordan, Nouvel's design reflects European Modernism.

Among Ihab Hassan's expressions, 'form', 'purpose' of building a relationship between different cultures and traditions, 'metonymy' and 'determinacy' seem to define the design features.

The design of Jawahar Kala Kendra implies a strong connection with the city in terms of plan layout and history. Vernacular design elements, such as arch and dome, open-air spaces that dominate the circulation characteristics, as well as the ventilation system, are integrated into contemporary space design understanding. In Correa's design Modernist homogenization is challenged (Doordan 2001), distinctive features of the local culture are effectively used.

Kala Kendra is dedicated to the memory of Jawaharlal Nehru, ancient Vedic literature, Jaipur plan and urban history. These references, theme/narrative of cosmic symbolism/the 'mandala', the planet symbols, recall the Postmodern, while the planning principles, use of the grid, repetitions belong to the Modernist tradition. Correa, born in India and educated in the United States, is known as a designer

who uses local and global references harmoniously together. Kala Kendra's design is a powerful expression of Correa's design approach. 'Form', 'purpose', 'type', 'play', 'metonymy' draw the design to a state of balance between the Modern and the Postmodern.

In the example of Milli Reasurans, although the building does not resemble any of the surrounding volumes that are nineteenth and early twentieth century residential buildings converted to offices and shops at ground levels or carry traces of the historical background, employment of an interpreted monumental version of the iwan implies quite a strong connection with the cultural past. The use of a traditional building element derived from Seldjuk and Ottoman monumental architecture is a historical reference. Another is the use of courtyards as primary spaces. Spatial hierarchy, functionalism, clarity and geometry of forms, a defined solid and void balance, wall use and light introduction to the building, new technology and material use, all support the modernist attitude, while historicist imagery use in a playful sense and scale, the dominance of façade design and indifference to the existent architecture pull the design toward the postmodern. In reference to Ihab Hassan Table, 'form', 'purpose', 'play', 'hierarchy', play role in the case of Milli Reasurans.

5.5 Conclusion

Examining the architectural qualities of the examples presented, using the IH Table (6.1), multiple possible interpretations can be made. Selected examples from the two decades 1970s and 1980s, a period of 'border-line architecture' as defined in the text that marks a critical transitional stage, display diversity, resemblances and idiosyncrasies in certain aspects.

Among the vocabulary of Modern and Postmodern terms, mostly 'form', 'purpose', 'play', 'design', 'anarchy', 'centring', 'dispersal'/decentring, 'metaphor', 'type', 'mutant' found expression in the qualification of the studied architecture. Purpose and play, centring and dispersal/decentring, type and mutant/hybrid, hierarchy and anarchy play opposite roles and act as antonyms in IH Table, however, the qualities all these terms expressed, can be observed in the architecture of the presented buildings. They existed in unison and/or in contrast. A spectrum of trends, forms and motifs, spatial organizations, scale and proportions, surface textures inspired/derived from various sources/orders of architecture, can be traced/observed. Conventional placement of architectural elements, modules, grid compositions can coexist with decentring axes and layers. Context consciousness and indifference to the surrounding environment can confirm and/or contrast with one another in the same design and result in the formation of a new context of its own, as in the examples of Wexner and Jawahar centers and the Milli Reasurans Building. Motifs that possess local, historical, traditional and universal attributes such as 'mandala', 'eiwan' have been utilized in these designs. Common features of these examples from far locations and cultures can be interpreted as sharing the language of the period.

Analyzing architectural buildings, using the IH Table as a tool, embraces an experimental essence in which social theory and architecture are brought together. The opportunity to concentrate on the ambiguity of this specific architectural production phase supported the observation of the footsteps/emergence of transformation and the traces of the surviving rooted modernist language that exist in a unique mixture. Architectural properties of this stage confirm the existence of an unstable, indeterminate category, bearing traces of continuity of the Modern as well as diversity and hybridity of the Postmodern.

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İrem Maro Kırış is a graduate of Istanbul Technical University, School of Architecture holds a Ph.D. in Architectural History and Theory from Yıldız Technical University. Her teaching and research interests include Contemporary Architecture, Travel Writing, Urban History, Turkish Modernity, Cinema, Cultural Studies and Design Education. She worked as an architect in local and overseas projects in the design and construction fields and as a writer/editor in architectural publishing in Istanbul. Following her experience in practice, she started teaching in 2000. A professor at Bahçeşehir University, School of Architecture and Design, she teaches History of Architecture and Design Studies since 2004. She is the author of 'Uzak Yakin Mimarlik' published in 2012 and she writes regularly on current issues of architectural culture.

Chapter 6
Culture and Identity in the Global Context: Transformation of Locality

Meltem Vatan

> *"Properly speaking, a man has as many social selves as there are individuals who recognize him and carry an image of him around in their mind. To wound any one of those images is to wound him. But as the individuals who carry the images fall naturally into classes, we may practically say that he has as many different social selves as there are distinct groups of persons about whose opinions he cares".*
> —James 1890

Abstract There is a mutual dependence between culture and identity which brings together tangible and intangible values such as traditions, the social structure of communities, rituals and the like. In the past centuries when the term globalization did not exist, identity was shaped by community culture and dominated by local traditions and lifestyles. On the contrary, the last century has brought globalization which strengthens the interactions and interrelations among different communities, cultures, etc., worldwide. Therefore, sharp lines of the borders between cultures and identities have become more invisible. In the present; international education, travel opportunities, migration and immigration due to various motives/reasons have led to globalization where distinguishing between the local and global has become harder. On the other hand 2020 experiences the fact of COVID-19 which started to change the idea of globalization, however, that topic is not within the scope of this study. This study aims to explore emerging social and cultural forms and the impacts of globalization and multiculturalism on culture and identity as a social process. A discussion of cultural identities and their influence on the space generation will be made within the frame of their historic formation and transformation that has been brought by globalization.

Keywords Culture · Identity · Local · Global · Spatial organization

M. Vatan (✉)
Faculty of Architecture and Design, Bahçeşehir University, Abbasaga Mah. Ihlamur Yildiz Cad. No: 10-B 8th Floor, Istanbul 34353, Turkey
e-mail: meltem.vatan@arc.bau.edu.tr

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6.1 Introduction

Although identity and culture are related to the historical memory of societies, the interaction of people in the global world has brought their transformation, even locally. Particularly, socialization, education in a multicultural environment and global networks influence this transformation. The impact of globalization on culture and identity in the study field is mostly related to the global economy and politics. Morande (2001) states that, without a doubt, within the concept and context of economy and politics cultural aspect is included; however, this only touches on the surface in terms of cultural dimensions. The perspective of sociology and the definition of the process of globalization within this perspective are vital in understanding local culture and identity in the global context.

Although cultures include their own tangible and intangible values, beyond their origins, they have met the common share of daily routines of the world as a result of globalization, such as food, games, entertainment, technology use and clothing and fashion styles and so on. Therefore, the dramatic effect of globalization on culture and identity is the loss of uniqueness and values and particularly cultural distinctions. Doku and Asante (2011) state that there is a bicultural identity developed as a result of globalization in which one part of identity is rooted in local culture and the other part is in relation to the global culture. The bicultural identities concept has been discussed mostly within the scope of immigrants and ethnic minority groups (Tomlinson 1999); however, it could be easily thought in the frame of globalization. In the last decades, particularly the young population developed a global culture and global identity which allows communicating worldwide (Doku and Asante 2011). Without a doubt, media and Internet access provide information from all over the world and are the drivers of bicultural development.

As a response to globalization global identity evolves as well as local identity. Local identity is related to the place where people grow up and it is dependent on traditions, local environment, interactions with the family and friends, etc. As a result of media, communication, access to the Internet, worldwide travel options and the like, it is obvious that globalization penetrates the local identities. Hermans and Kempen (1998) argued that this penetration can create a hybrid identity rather than a bicultural identity, which is a mixture of local and global cultures. Therefore, adaptation to global change and living in the local culture might be stated as the way of preserving cultural identity in the contemporary world. However, there is a threat of identity confusion rather than being able to balance adaptation to globalization and the preservation of local identity. Particularly, cultures that are distinctive and far distant from the global context and maybe it can be said as far from "the modern lifestyle" suffer more from this confusion (Doku and Asante 2011).

6.2 Identities

Although identity is explored by the broad spectrum of disciplines such as anthropology, sociology, history, human studies, and economics, the scope of this study is limited in its social aspect. Anheier (2020) defines identity as "a person's learned notion of self, combined with a sense of belonging expressed and experienced through values, ethnicity, language, nationality, locale and the like". Identity, within the social aspect, refers to the characteristics of the social structure and the distinctive features/attributes that a person feels proud of. These attributes are mostly related to national, communal, religious and the like identities which are used together with culture. Here, in this definition, culture can be explained as common shares, believes, traditions, history and so on of a certain social group and within this context, identity is the feeling of belonging to the culture of this social group. Therefore, it is possible to state that culture is the way of life and identity is who we are. Since people are born, besides the scientific facts, they are taught according to the traditions and believes of the society they belong to. Accordingly, social life and spatial organization are shaped by the culture which is the main umbrella of identity and it is hard to distinguish features such as ethnicity, religion, language, cultural characteristics and life routines, even geographical and political characteristics. It needs to be considered together with all of its attributes.

The term identity is associated with the studies of Erik Erikson dated back to the 1950s where it is argued as phases of human life (Fearon 1999). Within social and human studies, it is used together with self and in general, it refers to the perception of one individual by the society (Hammell 2006). So, it is possible to say that identity is an answer to "Who I am? To where I belong? How I make a social interaction?" In this sense, identity can be discussed in two ways, mainly personal (self) and social.

In this study, identity is argued by dividing its formation into local and global influence and its contribution to the spatial organization (within the scope of culture) is taken into account. Identity is discussed by its formation based on culture and local characteristics and how globalization has been influenced by the features of the local identity.

6.2.1 Identity Based on Locality

Identity is a socially constructed phenomenon that develops and transforms over time as a result of human thought and changes in daily life. Here, in this statement, identity is defined as a self-changing phenomenon, but this expression can be advocated by the change of social categories over time. The idea of an identity based on locality might be associated with the culture of communities, ethnic groups or nations where the common history and heritage values are shared.

Local identity is related to the territory in terms of geography or it is independent of the geography, which can be associated with the ideological and cultural discourse of

any social group. Therefore, the formation of identity—based on locality—includes a common basis of traditions, history and lifestyle, tangible and intangible values that create collective memory for a particular social group. Each member of this particular social group belongs to this identity and can distinguish his/herself from other cultures. The characteristics of local identities vary depending on their location and reflect certain conditions of the social group to which they belong. On the other hand, identity based on locality might be associated with the shared/common history, memories, ideology and political aspect that is a reminiscence of the past or the dream of a collectively imagined future. It is an integral part of the imagined local and regional features and serves to define local characteristics.

Local identity is mostly associated with religious believes, nationalism and patriotism and traditions such as clothes, festive events, ceremonies, space generation, daily life and the like. Therefore, local identity is formed based on the culture and/or beliefs of the population or community. Mostly, the reflection of the local identity is visible on the dresses of locals as well as on the architectural characteristics and festive or religious events. Figure 6.1 shows the traditional dress of a Japanese bride and groom and Fig. 6.2 shows the traditional clothing of a Japanese woman. The dressing style is part of Japanese culture. Figure 6.3 shows a man from Bhutan with his local clothes (daily style) who is doing routine pray activity while visiting a dzong.

Religion is a strong feature of the formation of identity based on locality. Since it mostly defines the way of life itself and the basis of traditions of its believers, a large part of cultural characteristics which are the main features of identity are shaped by

Fig. 6.1 Traditional Japanese wedding clothing (Photo courtesy: Meltem Vatan)

Fig. 6.2 Traditional Japanese woman clothing (Photo courtesy: Meltem Vatan)

religion. Almond (2016) supports this idea by referring to communities that have different languages, often live in indistinguishable places and may have the option to grow their families separate from mainstream groups.

Bhutan can be stated as one of the best examples of the formation of local identity which is still preserved in this century. Religious places (sanctuaries) and dzongs (temples) keep their existence and their original functions as the main cores of Buddhism. Traditional clothing of locals (Fig. 6.3) in their daily life reflects their cultural identity. Figure 6.4 shows the Tiger Nest, which is a monastery in Paro—Bhutan, 3000 m above the valley of Paro. The legend about the Tiger Nest tells that Indian Buddhist master Guru Rinpoche was carried up the mountain on the back of a disciple who had transformed herself into a tigress. Then the guru meditated himself (for a certain period) and when it ended, the disciple became a holy place which is called Tiger Nest. So, the Buddhist religion is very important in the formation of identity in Bhutan.

Identity based on locality also addresses the constitutional identity of nations where the citizens are anchored and have a social bond which includes a concept of justice, public culture, ethnicity, the feeling of belonging to a nation and the like. Globalization weakens the social bond of identity based on locality and a nation. Therefore, a discussion of identity in a global era is an interdisciplinary topic mainly including social studies, human studies, economy, history and different aspects of the design and the like.

Fig. 6.3 Daily clothes of a man from Bhutan (Photo courtesy: Meltem Vatan)

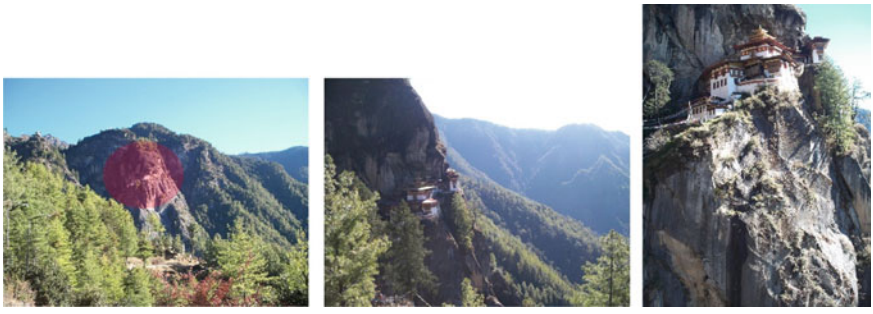

Fig. 6.4 Tiger Nest—Bhutan (Photo courtesy: Meltem Vatan)

6.2.2 Global/Transcultural Identity

Globalization is a phenomenon that evolves over time. While globalization was driven by the Industrial Revolution decades ago, with the fall of the Soviet Union (Baldwin 2019; Anheier 2020), it transformed in a new way dominated by information technologies and social media. On the other hand, the global economy and finance started to include China and other Asian countries (Anheier 2020). So, the dominance of the Western World started to be shared with the East. This change has brought more interaction at a global level and undoubtedly it has an impact on all types of identities.

The traditional way of understanding identity includes concern with heritage and memory and being part of a community and belonging anywhere; however, globalization has made a dramatic change in this understanding (Isar et al. 2011). Huyssen (1995) states that this approach, supported by the heritage industry (Winter 2011), is outdated. Globalization creates opportunities for groups or individuals at the international level, where the "us versus them" attitude (Appadurai 1996) takes the stage. Here, the identity is independent of its original location/starting position, it is more about survival and feeling stronger in a strange/foreign place. Therefore, it is about togetherness somewhere else than the motherland where mostly identity is structured. This is one point of view about the change of structuring identity which is a result of globalization. On the other hand, local identities are also influenced by globalization and changes are observed at the local level. Hence, local cultures as living expressions adapt their selves to the new world as a response to globalization. This response contains many aspects such as urban transformation, architectural styles, space generation, the use of public and private areas, daily routines, the way of life, psychological effect and the like.

On the contrary, globalization has also led to the spread of traditional characteristics of different cultures around the world. Thus, it brings sharing of common interests worldwide as a result of international communication, although the differences in cultural origins exist in a very distinctive manner. The perception of traditional and local values and practices is affected by globalization and contrast between local and global identity has become a serious problem among generations. Erikson (1968) explained the theory of identity formation by arguing identity versus identity confusion. He stated that in some cases the young generation develops self-selected cultures by doing things in their own way. There are studies about the change of the world based on globalization where it is argued that a large part of the population in the world grows up with a global perspective and recognition. Robertson (1992) defined "the intensification of consciousness of the world as a whole"; Tomlinson (1999) argued the increase of existence as a cultural horizon within which the existence itself is framed; Baldwin (2019) states that globalization has increased the contact of societies with each other in many ways such as trade, colonization, proselytizing religions, the use of social media, the share of Internet-based information and so on. Therefore, it is obvious that most cultures and communities are increasing in contact over time, which results in changes and challenges to identities.

To understand the impact of globalization on identities and their transformation, a historical perspective of the interaction of cultures is needed. The traditional way of understanding identity includes concern with heritage and memory and being part of a community and belonging anywhere, however, globalization has made a dramatic change in this understanding (Isar et al. 2011). Huyssen (1995) states that this approach, supported by the heritage industry (Winter 2011), is outdated. Globalization creates opportunities for groups or individuals at the international level, where the "us versus them" attitude (Appadurai 2006) takes the stage. Here, the identity is independent of its original location/starting position, it is more about survival and feeling stronger in a strange/foreign location. Globalization makes more obvious the reality of multiplicity in identities. It is not possible to define the identity of a person, nation, group, community, etc., only with one characteristic. Identity includes a notion of ethnicity, nationality, gender, religion and the like.

6.3 Culture and Identity Aspects in Spatial Organization

Spatial organization in architecture is related to the local availability of materials and the cultural characteristics of the population who is the target of the design. It was particularly closely related to locality and cultural identity in the past, however, in the present it has started to become more independent from cultural and environmental features with the speed of globalization. In the past; the keywords of spatial organization in architecture were local, regional and national and geographical borders as well. The traditional design approach and spatial organization also were considering climate response, cultural requirements, local material use and traditional craftsmanship and so on. Therefore, this approach is based on a geo-cultural basis and is linked to the traditions of the society to which it belongs (Laven and Baycroft 2008). By the era of globalization spatial organization can be divided into two approaches such as the historic approach of spatial formation and its contemporary transformation.

6.3.1 Traditional Approach in the Formation of Spaces

The traditional approach of the spatial organization was inevitably based on local availability such as local materials, craftsmanship, daily life, religious needs, cultural features, climate features and the like, as well as security and safety. For instance, in the case of China and Japan where human energy is the only way of movement, communities are compact and undifferentiated and on the contrary Europe and America have much wider zones because of horse and vehicle transport (McKenzie 1927). The formation of courtyards is distinctive architectural characteristics in dry and humid climate regions such as Anatolia and the Middle East. This formation is not only because of the climate but also because of the cultural identity where

Fig. 6.5 The courtyard and the external wall of a traditional house in Gaziantep (Photo courtesy: Feyza Kuyucu)

the introverted lifestyle and privacy are the main. While walls facing the courtyard include many openings, the external walls are solid (Fig. 6.5).

Figure 6.6 shows a Buddhist prayer wheel in Bhutan. Turning a prayer wheel is part of meditation practice in Buddhism for purifying the negative part of karma and turn toward the path to enlightenment. Therefore, the spatial organization of dzongs and religious places is made in accordance with the praying activities.

Figure 6.7 shows a sleeping area in a traditional Japanese house. Most of the activities in daily routine in Japan, such as listening to a lecture in a temple or shrine, praying, sleeping, and meditating, are done on the floor.

As it was mentioned in the above paragraphs the religion is a strong feature of identity and it has a strong impact on the formation of spaces. Churches, basilicas, chapels, mosques, temples, shrines, etc., have distinctive characteristics according to their requirements and beliefs. For instance, baptism and choir places, sitting area for praying, confession place are the spaces in Christian religious buildings (Fig. 6.8). Separation of men and women praying areas, the place for the imam and the entrance to take off the shoes, the requirement of head scarf for women are distinctions of mosques.

Figure 6.9 shows Hagia Sophia in Istanbul which is an old Byzantine church from East Rome—Byzantine Empire and then converted to a mosque after the conquest

Fig. 6.6 Buddhist prayer wheel (Photo courtesy: Meltem Vatan)

of Istanbul by the Ottoman Empire. Due to the change of cultural identity of its users and religious requirements, spatial formation is re-organized and minarets are added.

All the examples shown in the above paragraphs demonstrate the strong relationship between identity (in particular cultural identity) and spatial organization in the traditional approach. The distinctive characteristics are based on culture and identity. However, in the contemporary approach, the boundaries of cultural differences in the spatial organization are more and more blurry or invisible.

Fig. 6.7 Sleeping area in a traditional Japanese house

6.3.2 Contemporary Transformation of Spatial Organization

Development of technology, material availability on a global scale, changes in social, physical and technical features, the fact of social media use, etc., have brought constant changes in design and spatial organization. Particularly, independence from the location and moving away from the local distinctions are remarkable changes in the contemporary transformation of the design approaches. All these facts are results of the globalization of culture and transformations of identities. Adams (2008) discusses the need of asking the increase of similarities across the globe and the possibility of reproduction of cultural meanings and opportunities for diversifying and localizing culture because of this homogenization. Considering building design,

Fig. 6.8 Cologne Cathedral (Photo courtesy: Meltem Vatan)

this homogenization can be associated with technological development such as smart building design, the material used in building envelopes, HVAC systems, construction of high rise buildings, where the location is none of importance.

The separation of spaces from content and context is one of the striking pieces of evidence of the transformation in the spatial design approach in contemporary designs. Globalization transforms the content of local identity into a global identity where the uniqueness of design becomes more invisible. So, local culture starts to be reproduced. Modern societies in the global world include social interaction without physical presence.

Fig. 6.9 Hagia Sophia—Istanbul (Photo courtesy: Meltem Vatan)

6.4 Conclusion and Final Remarks

Identity research with a scientific approach dates back to the 1950s with the studies of Erik Erikson. By the 1970s, identity began to be widely researched in many social science disciplines and the impact of postmodernism in the late 1980s and early 1990s sparked multiculturalism debates (Fearon 1999). Language, daily life, technological developments, intercultural dialogs influence each other and have a strong connection. Hence, the cultural identity of the nations or communities does not only have local basis anymore. Although globalization is related to the economy and politics in many studies, it is clear that it has a serious impact on cultural identities and their transformation in the modern world. The prosperity of globalization brings a strong impact on the cultural distinctions which costs the uniqueness of identities.

This study explores identity in two dimensions; the formation of identity itself and the relationship between the formation of space and identity. Particular attention is drawn to the impact of globalization on identity in terms of its changing characteristics, its independence from the origin place/starting location, the blurring of the boundaries of so-called modern identities and so on.

The transformation of spatial design which is the so-called modern design approach has brought ignorance of local conditions. As a result of this approach, not only the boundaries of cultural and local characteristics and identities have become

unclear, but also the increase in energy consumption and the decrease of natural resources have become remarkable. The uniqueness of traditional design features is replaced with the uniformity of so-called modern design and its similar content everywhere, such as the material used, techniques, design language and disengagement of the context. This uniformity of the design approach brings the ignorance of climate-responsive architecture as well.

This study argued the effect of globalization on the spatial organization and has brought back the discussion of the local-based design approach and the importance of the locality on the formation of culture and identity. Globalization is a challenging and complicated phenomenon for spatial design with its facilities of modern life and difficulties of wiping uniqueness of cultural characteristics out.

Adams (2008) argued that the globalization of culture has the tendency of thinking about the consumption of cultural goods produced in the West and their effect on the values and practices (culture) of the non-Western world. This approach supports the idea of the uniformity of modern design and its break from identity and the blurring of boundaries of different cultures.

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Meltem Vatan was born in Bulgaria, 1978 and immigrated to Turkey in 1989. She has graduated from Yıldız Technical University Department of Architecture in 2002 and received her Master's degree in 2005 and Ph.D. degree in 2010 in the same institution. She started to work on conservation of historical buildings at the Galatasaray University restoration project (1999–2001). By 2002 she moved to the academy at Yıldız Technical University at the Department of Structures and worked there until 2011. She still works as a lecturer (Assoc. Prof.) at Bahçeşehir University.

In 2010, she completed Risk Management training in Cultural Heritage Structures in Japan Ritsumeiken University within the scope of the UNESCO Chair Program. She was a member of the consultancy team of BC1 Railway Bosporus Tube Crossing, Tunnels and Stations project (Marmaray Project) where she worked on the safety evaluation of historic buildings within the potential influence zone of the Yedikule/Yenikapı Tunnel construction location.

She is an expert member of ICOMOS Turkey and ICOMOS structure (ISCARSAH) and risk (ICORP) Scientific Committees and a founding member of ICORP Turkey and ISCARSAH Turkey as well as the president of ISCARSAH Turkey. She was a member of the team who has developed the "Earthquake Risk Management Guide for Historical Buildings" in Turkey published in 2019 by Istanbul Governorship—Istanbul Project Coordination Unit.

She has given seminars, organized workshops and participated in project teams at national and international level on earthquake risk, structural behavior, damage assessment and preservation of cultural heritage as an invited lecturer. She has many international and national publications in this field.

Chapter 7
Small Icons with Wide Borders: The Semiotics of Micro-Mobility in Urban Space

Suzan Girginkaya Akdağ

Planning the city means making room for the bicycle. Today, bicycle gives people happiness, means health, means freedom. I don't want to go anywhere in Istanbul right now. Because everywhere there is a traffic problem. Honestly, I find biking very dangerous today. But if Istanbul were a city suitable for cycling, if the bicycle paths were sufficient for cycling, maybe no one would find me here now because I would go to my bicycle. I find it very dangerous today. For example, a bicycle path was built in Kozyatağı. It's a short track. It is so false that it starts suddenly somewhere and ends suddenly somewhere. Why does it start there? Why does it end there? These questions have no answers. Unfortunately, I take it as a showpiece.
—Sunay Akın

Abstract Today installed on our digital screens are several icons that converge the physical and virtual realities of cities. As new interfaces for smart city experiences, a great variety of mobile city apps provide location-based information and imagery on various categories, such as management and urban infrastructure, heritage and tourism, marketing and recreation. Smart icons that employ location-awareness, VR, AR and/or QR technologies, have become tools for augmenting urban space with 'smarter' (perceived through spatial practice), 'experimental' (lived through representational spaces) and 'poetical' (conceived through representations of space) boundaries. This chapter focuses on the recent smart micro-mobility trends emerging in the cities and aims to explore the material dimension of the physical circumstances and the social dimension of mobility culture from the new city media. It represents a relational model linking former semiotic theories and the author's interpretation of the semiotic power of micro-mobility in urban space. The semiotic analysis regarding the two most popular smart sharing systems for e-scooters (Martı) and e-bikes (Isbike) in

S. Girginkaya Akdağ (✉)
Faculty of Architecture and Design, Bahçeşehir University, Abbasağa Mah. Ihlamur Yildiz Cad. No: 10-B 8th Floor, Beşiktaş, Istanbul 34353, Turkey
e-mail: suzan.girginkayaakdag@arc.bau.edu.tr

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Istanbul reveals their technological, sociocultural and political implications in urban space.

Keywords Urban semiotics · Smart City · Micro-mobility apps · Sustainable Transportation

7.1 Introduction: Urban Semiotics

New Media or the Medium (McLuhan 1964) is an important tool for providing 'users' with a set of 'instructions' in urban space. As semio-linguistic environments, cities have always been inscribed with texts of different genres, ranging from governmental and institutional communication to political and ideological discourse, from marketing advertisements to public art representations, etc. The influx of digital tools has reshaped the city media and widened its physical borders to the virtual space. Replacing the conventional text, today urban space communicates itself increasingly with mobile apps (applications). A variety of services in the city such as mapping and navigation, travel, tourism, city life, retail, real estate, gaming and more are accessible through small markers on individual's smart screens. Once downloading and installing a city app, the users may visualize and explore information about services, places and points of interest (POI'S) on base city maps that could later be modified and saved as thematic maps. Advances in mobile technology such as location-awareness, virtual reality (VR), augmented reality (AR) and Quick Response (QR) codes enhance the experience of the city. Location-aware applications can deliver online content to users based on their physical locations and thus serve as 'mobile guides which can be defined as portable, location-sensitive and information-rich digital guides to the user's surroundings' (Raper et al. 2007). VR technology, which can create immersive experiences for exploring the cities and their attractions, has transformed travel, hospitality and marketing practices. AR technology that can display digital information and virtual objects in the physical space increases users' awareness of the context and interaction with the environment (Grubert et al. 2017). QR codes can deliver augmented reality experience and facilitate quick and simple payments for purchased services. Thus, emerging in different technologies and forms, icons of mobile apps are to be considered within the realm of urban semiotics (semiology), which is the study of signs in the city. Urban semiotics inspects the authenticity, user experience and emotional value of cities from its media and texts.

Indeed, every sign engages in a process of meaning-making called semiosis (Eco 1976). Semiotics is the general and universal theory and study of the notions, 'sign' and 'symbol' and how these notions figure prominently into an understanding of the phenomenology of things, artifacts and events and into communicating their meanings. Indeed, the first semioticians were mostly structuralists specialized in the linguistic domain in the early twentieth century. Saussure (1974), Jakobson (1960) and Lévi-Strauss (1963) linguistically considered a direct relationship between the 'signifier' and the 'signified'. They attempted to decode and discover the textual codes. Later in the 1960s, post-structuralist semioticians such as Peirce (1992),

Barthes (1967), Eco (1976) and Derrida (1978) considered the relationship between the signifier and signified as an indirect account of 'signification', 'representation', 'reference' and 'meaning'. They focused on the inner layers of the text and sought to discover the implicit 'signified' hidden in social, logical and aesthetic issues. The post-structuralist movement in the late twentieth century was an opposition to the earlier Structuralism and linked semiotics to any system of signs independent of the content or limits of that system. According to post-structuralists, semiotic meaning could be derived from any image, sound, gesture and objects (Barthes 1974). The system of signification could cover many forms of social and ritual convention. In the world of experience, the particular, global and universal meanings of signs and symbols referred to humans' sense of reality. Semiological concepts in post-structuralist philosophy have influenced all disciplines of design. Today, similar to language, any design representation is considered to be a system of visual signs. The visual works of designers are linked with visual and critical social theories that emphasize the cognitive, cultural, epistemic, literal and societal dimensions of visual communication.

Through semiotics theory, urban design research aims to understand what the meanings connected to the city and its connection mechanisms (Krampen 1979, p. 2). It questions the nature of the city as reality, as an image and as a symbol (Damisch 2001, p. 19). As a symbol system, the city and its images are produced, in Lefebvre's sense, according to a host of interests whereby denotative and connotative levels of signification are entwined and new species of urban mythologies, mythographies and place-images emerge (Stahl 2009). Such representations and signifying practices are to be considered within the experiential, imagined and ideological frameworks of spatial organization which are the 'lived', 'conceived' and 'perceived' in Lefebvre's spatial triad (Lefebvre 1991). Thus, these signifying practices are in the scope of urban semiotics which question how sign systems function in the life of society.

Sign and signification in cities appear in varying forms. According to Stahl (2009, p. 255), we think about the cities anecdotally, in fragments, through polling (quality of life, best bars, etc.), through their myths, skylines, icons, public transit, restaurant service, café culture, etc. They come back to us as characters in mediated forms, in newspapers, films, photographs, television shows and the stories of others. Narratives, advertising texts, translations, place names and street signage have all been the 'agents' of planning and governance, of place promotion and branding, of heritage production and museum exhibitions of politically aware fiction and urban transformation. During the last few decades, city media has initiated the linguistic turn that emphasizes the importance of language in meaning-making. The linguistic turn has become a sociocultural phenomenon and has been accompanied by the spatial turn that highlights all kinds of spatio-temporal distances, flows, territorializations, identities and entanglements.

The recent spread of smartphone and location-aware technologies has introduced new media and digital strategies for cities. Hence, the semiotic power of the city is no more constrained with the architectural language and physical layers of signs attached to it. Global/glocal cities, competing for innovation and smartness, are offering their mobile applications tailored or service delivery and city experience. While cities and their services are becoming smarter through digital services, physical

presence is being augmented. The emerging characteristics of the smart city, which are mobility, interactivity and temporality, are claimed to change 'the nature of bonds between people and place in lived experience'. Thus, it is important to make a review of transdisciplinary theories about the experiential and social implications of new city media and emerging technologies in the urban space.

7.2 Mobile Technology and City Media for a 'Smarter', 'Experimental' and 'Poetical' Urban Space

Technology has always been a sign for the cities, as the 'signifier (the expression)' and 'signified (the mental concept)' feature of innovative practices. The city is an everyday environment constituted through technology and characterized by the continual proliferation of technology. According to Bloomberg Associates' Digital City Tools report (2018), to address urban challenges and to improve services and communications with residents and visitors, city governments around the world are implementing technology. For example city of Paris has been building an open-source foundation for digital services, Seoul has been measuring population fluctuations through smartphone signal data, Tel Aviv is engaging residents through the DigiTel platform, Copenhagen is optimizing city services through robotics and machine learning, Helsinki is creating 3D models of the city for the public, Melbourne is modernizing waste collection, London is building coalitions to improve the city's digital landscape, Houston is leveraging social media in an emergency and more. Although technologies are constantly evolving in city space, relations with technology tend to become quickly normalized, mundane and transparent (Wasiak 2009). Therefore, it is important to examine how technology comes to shape the 'stimulus (products)' and 'stimuli (environment and activities)' that are the experiential contexts of everyday life.

In 'The Practice of Everyday Life', de Certeau (1984) looks at the urban way of living and defines 'space as a practiced place'. He distinguishes the term 'space' from 'place' by explaining that 'a place is an order (of whatever kind) in accord with which elements are distributed in relationships of coexistence'; while 'space is composed of intersections of mobile elements' (de Certeau 1984, p. 117). He gives the example of people walking on the street. Pedestrians transform the street from a place that is 'geometrically defined by urban planning' into a space that is useful or pleasurable for them. According to Uricchio (2019), augmentation can also offer a process of narrative discovery, as the user finds new associations and coherence through newly sequenced encounters with their markers. Similar to the method of loci's transformation of location through the addition of associations, markers help to inscribe familiar places and locations in the map through location-aware technologies. 'Place', once situated, historicized and laden with meaning, emerges as 'space' while the 'map', once interpreted, contextualized and larded with meaning, emerges as the 'tour'. The mechanics and specificities of the 'added value'

that transforms the 'place' to the 'space' and 'map' to the 'tour' constitute the domain of augmentation and in its instantiation, interface (Uricchio 2019).

Thus, location awareness, which is the ability to identify the exact geographical location of a mobile user at any time, is claimed to be the most important achievement among mobile technology trends (Giaglis et al. 2011). Advances in the location-awareness technology enhance the experience of the city such as the Urban Visual Positioning System (Blippar 2017) which employs computer vision to leverage AR experience to city-scale and with higher accuracy than GPS. The locational qualities of the space of information and the way that it is overlaid onto the actual physical space of the city make it different from cyberspace. The difference today is that content is generated 'on the fly'—whilst people are going about their everyday lives (Drakopoulou 2013). Instantaneous, mobile and wireless technologies have been reforming the spatial experience of the urban environment and changing the assumptions of global connectivity. Today, using the smartphone, the once disembodied experience of communicating with others online has transgressed and is now coupled with mobility and location-specific interaction. Mobile access to instantaneous reception and transmission of data has been changing the way urban space is articulated and augmented.

According to Manovich (2006, p. 221) 'Cell space is physical space "filled" with data, which can be retrieved by a user via a personal communication device'. Frith (2012, p. 140) asserts that with location services, 'the experience of the city as representation through the mobile screen' becomes personalized. With smartphone interfaces, the city is transformed 'into a new type of database city' (Frith 2012, p. 132). The emergence of this new space has also been thought conceptually as a hybrid city, where physical and digital spaces merge due to using mobile technologies as social devices (de Souza and Silva 2006, p. 265). Technology is therefore not as instrumental as it is often assumed to be. Technology is rather a way of understanding the world or 'a way of revealing' as Heidegger (1977, p. 12) suggested.

The social theory of Lefebvre (1991) in 'The Production of Space' asserts that space is produced by dynamic interrelationships between 'representations of space', 'representational space' and 'spatial practices'. Technology plays a mediating role in the production of space. As the rhythms of the city change and are intertwined with information and communication technologies (ICT) and smart devices, Lefebvre's method in observing social space, via the study of rhythms and representation practices founded within urban space, needs to be modified to include: representations such as graphics that direct and inform; dynamic surfaces and interactive building facades; and other interactive spaces created by network and communication technologies (Drakopoulou 2013). In other words, non-physical spaces in which conversation takes place, data travel and all sorts of other digital information that are displayed on building facades, LCD screens and billboards and even apps interface designs since the social semiotic and linguistic analysis of the textual content can provide insights for increasing user experience.

Under the influence of ICT, the network society, its culture and spaces are dominated by media and information products with their signs, symbols and meanings (van Dijk 1999). In this respect, 'designing mobilities' (Jensen 2014) are intersecting

with the disciplines of architecture and design, but also the hybrid interface between physical and digital mobilities in the 'transduction' of 'code/space' which is increasingly automated, ubiquitous and pervasive (Dodge and Kitchin 2005). Emerging characteristics of the smart city and its mobilizing media require critical insights from transdisciplinary theories. This chapter will inspect the semiotic power of two mobile micro-mobility apps that are tailored for smart vehicle sharing systems in Istanbul. It will discuss the potentials of their small icons for augmenting urban space with 'smarter' (perceived through spatial practice), 'experimental' (lived through representational spaces) and 'poetical' (conceived through representations of space) boundaries in line with Lefebvre's spatial triad (1991, p. 33).

7.3 Case Study: The Semiotics of Evolving Micro-Mobility Trends in Istanbul

Micro-mobility is seen as the future of urban transportation (Zarif et al. 2019). It took almost 40 years when the idea eventually revolutionized public transport across the world. Nowadays, hundreds of cities have transport-sharing systems including cars, bikes, scooters and even boats and more and the phenomenon is still growing. For many global cities such as Paris, Chicago, Bucharest, London, that seek to enhance their economic efficiency, quality of life and image, cycling has started to play a more important role in the transportation system and urban life. While in traditional bicycle countries like the Netherlands and Denmark people individually own bicycles, in cities like Paris 'Vélib' and in London 'Boris' bikes' rental systems are seen as a solution to traffic congestion and environmental pollution.

However, bicycles, which were once left unlocked around the city, to be used by anyone, are today charged for each minute of use. In current developed and modern economies of service, knowledge and/or flow, ICT networks are used as channels to exchange goods and services. In such networked societies, technology is shaped according to the needs, values and interests of people who use the technology. (Castells 2005, p. 3). In this respect, new micro-mobility apps for smart vehicle sharing offer alternative options for traveling and mobility in car-dominated cities. Micro-mobility is the term for smaller scale, light-weight vehicles that are often shared through digital applications (Tice 2019). E-bicycles, e-scooters and lately e-cars enable users to quit traffic jams and stop time loss.

In the era of 'micro-mobility', policymakers have been searching for ways to increase the use of such smart, shared and electric transportation, as a healthy, sustainable and innovative solution to urban transportation issues. Soon after the coronavirus outbreak, people who do not want to get on public transport started to prefer these vehicles at short distances. E-scooters, as the star of the 'new normal', have become widespread. For expanding environmentally-friendly transportation services safely and equitably policies, legal and spatial arrangements have been made in the cities worldwide.

Under the influence of other global cities, Istanbul's critical change from a car-dominated city toward a sustainable and smart city has initiated revitalizations of its transportation policies and urban space in the last decades. The modernization of the physical infrastructure and the policies for sustainable transportation was initiated by looking at the 'best practices' of countries and through the adoption and nationalization of digital services. The impact of the very first local and national electric scooter sharing initiative 'Martı' on the society was huge. The rapid spread of this transportation service required legal regulations. A directive was prepared in 2020 by the governmental bodies including Ministery of Industry and Technology, Ministery of Environment and Urbanisation and Ministery of Transport and Infrastructure to support the electric skateboard sharing industry as an employment area and to create possibilities for research, development and domestic production (uab 2020). Today in Istanbul, the most popular rental transportation apps are İsbike for smart bike rental system and Martı for electric scooter rental. Both are specifically tailored to the city. Downloading and scanning their AR markers enable users' access to the digital services which aim the share of vehicles. They augment the urban space through various physical and non-physical signs which are addressed below.

According to Pelzer (2010), cycling practices are embedded in space and culture and they can be read from the social and physical environment. To understand the concept of 'bicycle culture' comprehensively the social dimension of mobility culture and the material dimension of the physical circumstances shall be explored. Figure 7.1 represents a relational model linking former semiotic theories including Lefebvre's (1991) spatial triad, Pelzer's (2010) model for cycling practices and the author's interpretation of the semiotic power of micro-mobility in urban space. Based on this model, the new modes of micro-mobility practices and their transforming effects on the material structure of the built environment, the image of users and the codes of

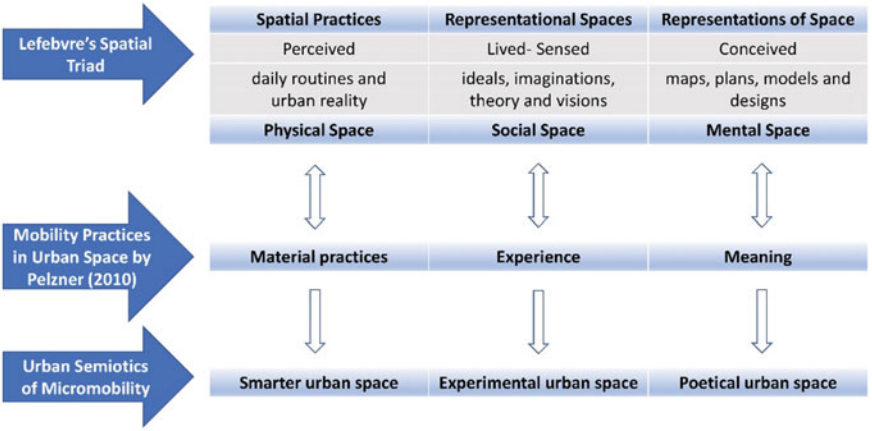

Fig. 7.1 A relational model between Lefebvre's (1991) spatial triad, Pelzer's (2010) model for cycling practices and the author's interpretation of the semiotic power of micro-mobility in urban space

meaning will be presented upon the Istanbul case study. The technological, sociocultural and political implications of Istanbul's most popular smart bike and e-scooter sharing models will be discussed through the city's new media.

7.3.1 A Smarter Urban Space via QR Codes

In the context of smart and inclusive cities, digital services have become essential tools for governments to increase and assess people's satisfaction with cities (Girginkaya Akdağ and Ergen 2020). New development models for sustainable and smart growth have turned cities into service platforms. Today, digital city services provide multiple benefits to citizens and local governments. They embody 'happier for less' by using digital technologies to spend less while simultaneously improving service to citizens. Thus, cities become 'smart' with visions for 'inclusive', 'accessible', 'sustainable', 'resilient' and 'livable' urban environments. Within its smart city vision, Istanbul Metropolitan Municipality has been seeking value-added and wise solutions to the existing problems of the inhabitants (Isttelkom 2019).

Today, a bicycle represents several key factors of resilience for the city such as carbon neutrality, distribution of sizes, photosynthetic-efficiency, eco-efficiency, place-based planning, sustainable transportation and many more approaches (Table 7.1). In the context of smart and clean transport, two-wheel micro-mobility has been proposed as an alternative solution for Istanbul's existing problems including traffic, pollution and economic growth. Until a couple of years, cycling used to be considered as a dangerous and illegal activity in Istanbul due to various topographic and environmental barriers. The pitched topography and the spatial organization of the city with high-density building and narrow roads are not convenient for integrating cycle paths. The heavy traffic of cars and pedestrians creates danger for cyclists and others. Besides, public transport is considered to be crowded for traveling with bikes. Despite all barriers, the global trend of shared e-bikes and e-scooters has become a fast-growing service and a rapidly growing economy in the city. Advances in GPS tracking, connectivity, mobile payments, battery cost and longevity and the growing ubiquity of smartphones have altered the traditional cycling experience and material practices in the physical environment. Emerging social dynamics such as 'distancing' due to the global coronavirus pandemic have forced people to avoid public transit and/or to stay in their homes. Following the short-term economic and financial crisis due to global and local shutdowns, the micro-mobility sector is expected to make a strong post-pandemic recovery (McKinsey 2020). As European cities emerge from quarantines, bicycles have started playing a central role in getting the workforce moving again. During one of Europe's toughest coronavirus lockdowns in May 2020, a small army of street workers in Paris dropped traffic barriers along car lanes and painted yellow bicycle symbols onto the asphalt. By morning, miles of pop-up 'corona cycleways' had been laid, teeming with people heading back to work (Alderman 2020).

Table 7.1 Key factors of resilience a bicycle represents for the city (Newman et al. 2009) and bottom gray rows added by the author

Carbon neutral city (distributed city)	Cities will shift from large centralized power, water and waste systems to small-scale and neighborhood-based systems
Photosynthetic city	The potential to harness renewable energy and provide food and fiber locally will become part of urban green infrastructure
Eco-efficient city	Cities and regions will move from linear to circular or closed-loop systems, where substantial amounts of their energy and material needs are provided from waste streams
Place-based city	Cities and regions will understand renewable energy more generally as a way to build the local economy and nurture a unique and special sense of place
Sustainable transport city	Cities, neighborhoods and regions will be designed to use energy sparing by offering walkable, transit-oriented options for all supplemented by electric vehicles
Healthy and active city	Cities will be developing a comprehensive plan for creating a healthy, active city by enhancing physical activity in the urban environment
Playful and child-friendly city	Cities, neighborhoods and regions will be designed for children to be facilitated and stimulated to play in the public space and to gradually grow into an independent pedestrian and cyclist in their town or city
Sharing city	Cities redefine land-use strategies, minimize their costs, optimize public assets and collaborate with other actors

The efforts to transform Istanbul into a service-friendly city for improving the well-being of citizens, several mobile apps have been introduced by the metropolitan municipality as well as private enterprises. Today, similar to other global cities Istanbul owns a cycle network infrastructure with interconnected, safe and direct cycling routes. The cycling network includes complex infrastructure including cycle paths, parking facilities, integration with public transport and other sharing systems, cycle information and awareness-raising, signage and wayfinding, maintenance, repair facilities and charging facilities which all leave their footprints in the urban space (Fig. 7.2). Such an urban and spatial transformation can be often read as signs, portents some would say, of things to come for the city. They may inspire different scenarios about what kind of future city and which level of technology are to be considered for urban living. Moreover, the material practices in a geographic setting lead to specific experiences (Lynch 1984). Or as Sayer (2000, p. 114) puts it: 'The constitutive property of space can work in two ways, often in conjunction: in terms of material preconditions of actions and their constitutive meanings'. Consequently, to study the role of the physical environment as part of a smart micro-mobility culture it is necessary to inquiry both the actual behavior and the meanings subjects attach

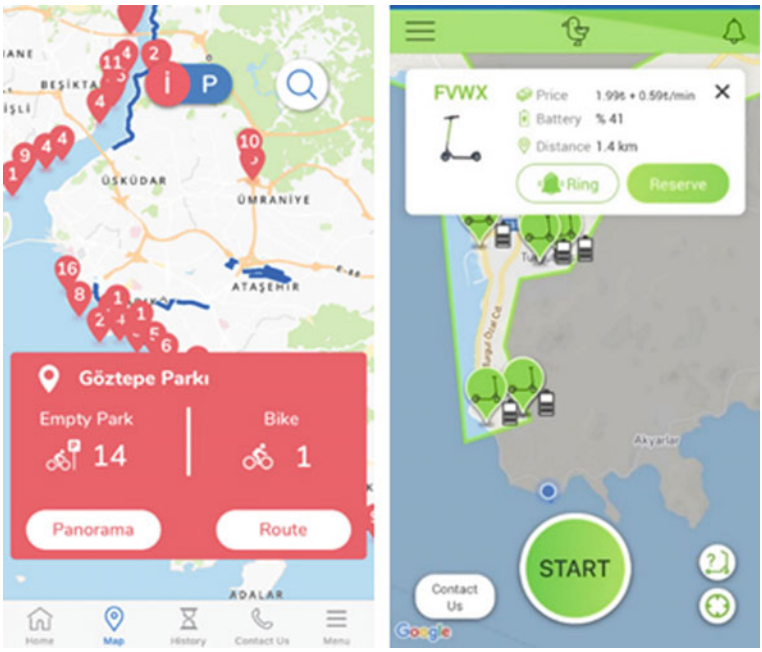

Fig. 7.2 The new cycle network of the city viewed through Isbike and Martı apps

to this. With the increasing ubiquity of the Internet and the adoption of mobile technology, the emerging senses for the users and meanings of the city have become new inputs for spatial studies.

7.3.2 An Experimental Urban Space via QR Codes

The experiential implications of being-in-the-mediated-city have been discussed in former phenomenological texts questioning the technology (Heidegger 1977), the embodiment and perception (Merleau-Ponty 2012), the body and technology (Ihde 2002) and the technological experience (Wasiak 2009), that all contribute to a theoretical framework for a technological ecology. According to Wasiak (2009), an overwhelming amount of what enters the senses within city space is a by-product of technology. In mediated cities, the technology results in new sights to be seen, sounds to be heard, smells to be smelt, flavors to be tasted, textures to be felt, as well as altogether new modes of experiencing every day.

Those who define bicycling as a sensory (Spinney 2006) and a social experience (Urry 2000) argue that more focus should be on what happens during the movement, rather than what precedes it (Spinney 2009). Micro-mobility via technology appears in different forms of urban transport, such as walking, cycling, driving and mass

transit changes bodily relationships to urban space. Downloading micro-mobility apps place the user in a service platform where available vehicles, cycling paths, station buildings and points and relevant media (maps, directions, billboards and signs, etc.) can be viewed. Upon selecting a vehicle and scanning the QR code on the vehicle, allows the user to use it to any location and leave it at any convenient point. This activity changes the cognitive and physical features of spatial orientation in the city. The gap between navigating familiar spaces for everyday routines and navigating unfamiliar spaces for exploration is minimized. Current technologies of smart sharing systems require immersion into the digital world where available facilities, warnings, offers, history (bodily memory) are stored in users' accounts. The bicycle, which was once an extension of the body, has been replaced by the smartphone. Rather than a cyclist, the app user is a consumer in the sharing economy, a member of the cycling society, a volunteer for the green city and a technology-friendly citizen in the smart city and a member of the users' network. In addition to the digital maps, directions and signs viewed via smartphone screens, in-app messages that buzz or beep have become the new hermeneutics of technological culture in the city.

The penetration of ICT to the city and its residents has also been transforming the 'social ecology'. The dystopian views from the 1980s on new media, which was claimed to result in privacy reduction and total control from above, are still valid today. However, the merits of technology on improving the quality of life and level of communication seem to erase such concerns. The small icons on our smartphone screens and QR codes on real objects are the portals to new realities. The signs and symbols of e-services represent the new urban lifestyles and identities offered to the citizens. Besides the futuristic and utopian perspectives on cities, the semiotics of micro-mobility continue to reveal cycling's close ties with the past and its metaphoric value for the city. Nowadays, Martı users may find Mashallah signs, used in the meaning of hiding from the evil eye, attached to e-scooters (Fig. 7.3). Finding a 'God bless you, have a safe riding' message is probably one of the most striking signifiers for the dilemma between the technology and the tradition, the riding and the safety, the future and the past, the material body and the immaterial body, the outer and the inner.

Fig. 7.3 (On the left) A Mashallah sign attached to an e-scooter (on the right) A poster for 'Stop the violence for cyclists' event

User reviews, comments and narratives on the web (eksisozluk.com) may provide data on users' experiences to improve the services further. Counterviews exist such as a user defining the e-scooter 'as a carriage used for entertainment, not for transportation' while another user is considering it as a 'life-facilitation initiative'. Among all, the biggest problem in Istanbul comes out to be the lack of space to use these vehicles. One of the comments about Martı is 'People use this tool on the sidewalk for the pedestrians desperately, very soon they hit someone, a fight starts, they become news for the newspapers'. As alternative modes of transport increase, the cycle paths will no more be dominated by pedestrians. They will learn that the paths belong to these vehicles limited to 25 km/h. Other comments are about payment options to be developed so that renting double and more vehicles with the same credit card would enable a father and his son enjoy a ride together.

7.3.3 A Poetical Urban Space via QR Codes

Besides the physical environment, the culture and its communication among inhabitants have a major influence on the way a city is interpreted. According to the 'new mobilities paradigm (Sheller and Urr 2006)', cycling is a social practice more than a means of transportation, with various meanings that can differ from place to place. For instance, in the Netherlands, the bicycle was conceptualized as a tool of nation-building in the century before the Second World War (Ebert 2004), as a symbolic transportation mode for the environmental movement in the UK (Horton 2006) and as a sign of resistance against capitalism and conservatism in the USA (Furness 2005).

In Istanbul, the meaning of cycling has changed significantly due to technology-driven micro-mobility models. Until recently, cycling had been imprisoned in Turkey according to Turkish poet and author Akın (Cyclist Türkiye 2017) who stated that 'I'm sorry to confess that in Turkey a bicycle is still a child or a youth car. Some people ride bicycles in Istanbul and Anatolia, but this is mostly due to the effort of idealistic people. In France, Germany, Netherlands nobody could mention the use of a bicycle like that. Bikes are not simply vehicles for riding on the coast road'.

The first urban bike-sharing concept in history was launched in Amsterdam in the 1960s (van der Zee 2016). It was called the Witte Fietsenplan (the 'white bicycle plan'). 'Take an old bicycle. Paint it white. Leave it anywhere in the city. Tell people to use it'. Via this statement, Provo, an infamous group of Dutch anarchist activists, wanted to provoke the establishment and change society. 'The white bike symbolized simplicity and hygiene as opposed to the gaudiness and filth of the authoritarian car'. Back in those days, in Istanbul bicycles represented wealth since they were really expensive. According to Akın, 'For me, the cycling period in Istanbul was the rental period in the 1970s. We rented bikes since bikes weren't very easy to purchase in those years. Only, children of wealthy families would have bicycles. This is not the case today (Cyclist Türkiye 2017)'. The current sharing economy has transformed these vehicles into affordable entities with high levels of public transport accessibility and social inclusion of vulnerable groups. Today, micro-mobility models represent

Fig. 7.4 Martı is a metaphor for freedom in Istanbul: Using the Martı app and riding an e-scooter makes you as free as a bird in the city

the democratic culture in Istanbul. With an Isbike bicycle or a Martı e-scooter, users can free themselves from the traffic and ride anywhere they wish. In this regard, Martı, which takes its name and icon from the city's most famous bird, fulfills the metaphor of physical freedom in the city (Fig. 7.4).

There are several other meaningful ways that micro-mobility contributes to users' sense of place. The new technological experience has been reawakening the nostalgia of traditional cycling and childhood memories of old neighborhoods. Cycling activists hope for more car-free cities, safe roads and gender equality in Turkey (Fig. 7.4). Local governments seek to enter EURO Velo Network 13 that would strengthen bonds with the EU (ibb corporate 2020).

7.4 Discussion

Reading the signs of the two most popular micro-mobility services in the urban space with a relational model based on Lefebvre's (1991) spatial triad and Pelzer's (2010) model for cycling practices has revealed how the materiality, experience and meaning of urban borders change with technology-driven city services. For citizens in Istanbul, the small icons of Martı and Isbike apps in their smartphones signify far more than sustainable transportation options. They signify new realities of the present, the nostalgia of the past, and the utopia of the future city. They signify innovative practices and technology in the city.

Today, all global cities are seeking opportunities to implement technology-driven micro-mobility models to their local urban, economic and legal policies and existing infrastructure (Figure 7.5). The global trend and local implementations of micro-mobility have been offering various sustainable practices including the reinvention of

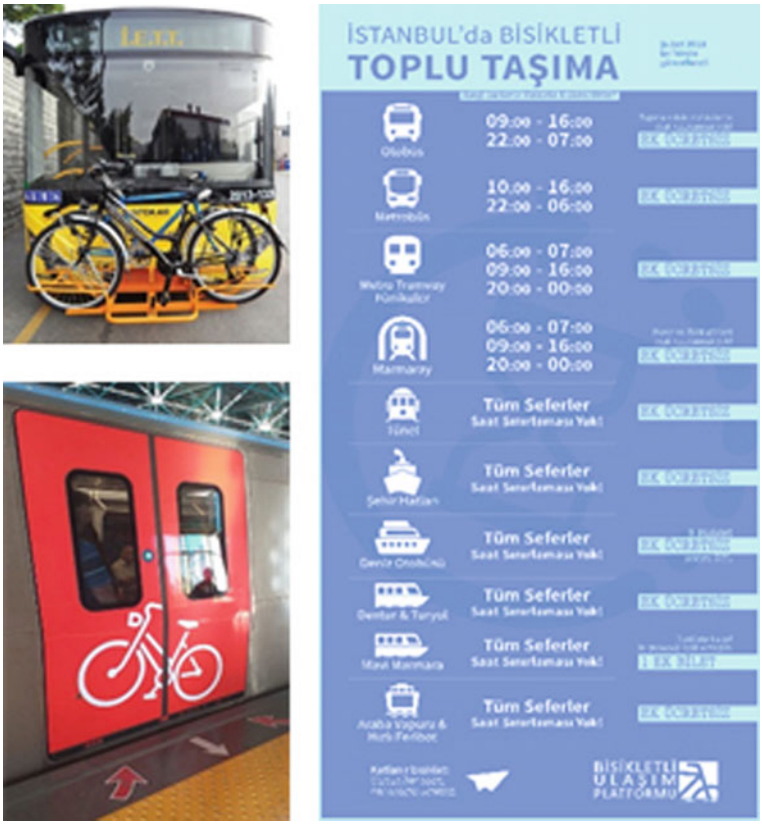

Fig. 7.5 Developing existing infrastructures to manage micro-mobility

cities with multiple modes of transport, the robotization of logistics, the protection of natural ecosystems for climate change, the democratization of society by addressing poverty and the support of healthy urban transportation during COVID era (Fujitsu Future Insights 2019). New micro-mobility services in adjacent industries, such as logistics, entertainment, health care and welfare, are still being developed to create new spatial, socio-cultural and economic models.

Besides all benefits micro-mobility introduces to the city and users, it causes several problems such as sidewalks cluttered with bikes and scooters left abandoned creating a hazard for pedestrians especially vulnerable groups and leave an unsightly stain on any city landscape. There have been several incidents with injuries and deaths due to the lack of formal regulations. According to the founder of Mobike in China, Weiwei Hu, an online bike-sharing service might indeed be defined as 'a social experience that tests public ethics' (Damin 2017). Unlike more established public bike-sharing schemes, there is no need to leave bikes at specific locations since they all have GPS tracking. This means people can leave them in any public place for others to find easily on a map. Hence, legal and safety issues related to

the rights of ownership, consumer protection, taxation, insurance, liability, zoning, permitting and licensing are among the many challenges to be solved for enabling micro-mobility services. Despite barriers to scale any further, all stakeholder views (including the government, service operators, urban planners, designers and users in the city) should be involved in the search for solutions, regulations and policies to achieve sustainable micro-mobility.

While such mobile city services develop, the role of such technology in our relationships to our environment gains more importance. The experiential implications of micro-mobility in the urban space shall be explained by transdisciplinary theories and research focusing on the sensory, political and cultural meaning of transportation modes. Thus, using comprehensive models across different disciplines and fields, such as the relational model linking former semiotic theories in this chapter, might reveal the potentials of micro-mobility for augmenting urban space with 'smarter', 'experimental' and 'poetical' boundaries.

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Suzan Girginkaya Akdağ, Ph.D. is a full-time lecturer at Bahçeşehir University, Faculty of Architecture and Design. She received her undergraduate degree from Middle East Technical University (METU) in 2003. She received her M.Sc. in Architectural Design Computing and her Ph.D. in Architectural Design programs from Istanbul Technical University (ITU). After graduation, she worked in the AEC sector as a full-time and part-time architect. Between 2007 and 2011, she worked at Yeditepe University as a research assistant. Since 2011, she has been lecturing at Bahçeşehir University, as an assistant professor. Her research interests are digital technologies and their influence on the interior, architectural and urban design theories, practice and education

Chapter 8
Rethinking the Paradigm of High-Performance Design: New Borders Between Vernacular and Contemporary Approaches

Yiğit Yılmaz and Burcu Ç. Yılmaz

Abstract Vernacular architecture, as a gain of understanding the human needs within the social and cultural heritage and the environmental context, presents instructive examples of design solutions for the built environment. However, this phenomenon has been replaced by contemporary architecture practices over time. On the other hand, due to the global warming, depletion of sources and many more the paradigm of high-performance design recently address energy efficiency, thermal and visual comfort and usage of local resources, has already originated in the vernacular architecture and has been slightly or fairly dismissed from the contemporary architecture practices. Thus, the target of achieving a high performance built environment in contemporary architecture has started setting new borders where it could interact with vernacular approaches. This chapter aims to present the evolution of borders from vernacular to contemporary architecture or vice versa. Therefore, vernacular approaches are represented through a design hierarchy and discussed as a consequence of setting new borders through rethinking the paradigm of high-performance design. Finally, a literature review, using bibliometrics, is carried out to verify the hypothesis of the paradigm shift and to put forth a future projection for the high-performance paradigm.

Keywords High-performance · Vernacular · Contemporary · Neighbourhood · Bibliometric analysis

Y. Yılmaz (✉)
Faculty of Architecture and Design, Bahçeşehir University, Abbasağa Mah. Ihlamur Yildiz Cad. No: 10-B 8th Floor, Beşiktaş, İstanbul 34353, Turkey
e-mail: yigit.yilmaz@arc.bau.edu.tr

B. Ç. Yılmaz
Faculty of Architecture and Design, Marmara University, Eğitim Mahallesi Fahrettin Kerim Gökay Caddesi, Göztepe Kampüsü, Kadıköy, Istanbul 34722, Turkey

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8.1 Introduction

Built environment and its interactions with humans and nature have a substantial correlation thus it has been frequently in discussion in the last decades where scientists from multiple disciplines are proposing the beginning of a new geological epoch, significant with the human impacts on the Earth resulting with the climate change. Moving from Holocene to the new epoch "Anthropocene", climate change and the effects of the built environment on climate change have been significantly recognized. The identification of the built environment design evolution and the validation and verification of the built environment performance have come into prominence.

The term *performance* has a comprehensive range of use from arts to science. Besides, the paradigm for built environment performance and high-performance design has been changing for centuries and is on the verge of a change in the current decade as well. From climate change and built environment interactions point of view, high-performance design recently focuses on sustainability and energy efficiency. Its dynamic change has a correlation with the change from vernacular to the contemporary and from the local to the global.

Vernacular architecture, based on the social and cultural heritage and the environmental context such as climate and geography, presents instructive examples of design solutions for the built environment where the requirements of human and nature are slightly in balance, so that meets our needs without compromising the ability of future generations to meet their own needs (Rashid and Ara 2015). This natural behaviour of designing the built environment, which we call *"sustainable design*" today, seeks a design hierarchy from the settlement scale to the material scale. This hierarchy, which leads to the success of the vernacular architecture, however, has been slightly or fairly left in contemporary architecture practices. Several studies (Mann 1985; Rashid and Ara 2015; Sayigh 2019) claim it to be a modernist ideology that pulls us into the future by setting new standards. It destroys old icons as tradition is commonly viewed as the antonym of modernity.

Significantly, the development of the construction field by the industrial revolution created a *high-performance building* paradigm that is particularly based on producer and consumer goods. Meanwhile, it has moved away from the gains of the vernacular architecture and especially the hierarchy of built environment design.

In the last decade, similar to the change of the epoch, the high-performance design paradigm has been shifted by the recognition of the importance and impact of buildings and architecture on Earth. Sustainability and sustainable building design have been in discussion for the last decades. However, the concept of sustainable cities, low-carbon neighbourhoods, etc., is recently introduced to the literature, to govern the impact of humanity on the Earth and achieve the environmental targets. The *high-performance building* movement clearly defines the correlation between the vernacular and the contemporary and the local and the global.

This chapter specifically focuses on the vernacular architecture and contemporary approaches by referring to the borders of high-performance design paradigm and its reflections. The basic principles of vernacular architecture will be presented theoretically within its design hierarchy from the settlement scale to the material scale.

Afterwards, the evolution of the borders of high-performance design through contemporary approaches will be discussed by explicating the high-performance paradigm. The introduction of new concepts in the last decade, such as low-carbon neighbourhoods, cities, smart grids and settlements, will be defined. Finally, the authors will examine the literature on the high-performance design of neighbourhoods, settlements and cities, by reviewing the relevant literature published from 2000 to 2019 in Web of Science SCI, SCI-Expanded and AHCI indexed journals. A systematic review and bibliometric analysis will be carried out and the results will be presenting the trends and propositions.

8.2 Vernacular Architecture and the Design Hierarchy

"Vernacular architecture" and the word "vernacular" has been defined in many studies. Vernacular, which comes from the Latin word "vernaculus" etymologically composes from *verna (a homeborn slave)* (Wiktionary-1, n.d.) and *culus (suffix added to a noun to form a diminutive of that noun)* (Wiktionary-2, n.d.), has a meaning of native, domestic or indigenous (Wiktionary-3, n.d.). Commonly, vernacular architecture has been referred to the traditional buildings that represents gradually evolved response to meet environmental and climatic constraints, as well as the socioeconomic and cultural characteristics of societies (Broadbent 1975). In other words, vernacular architecture presents "contextualized" examples of built environments specified by environmental, social and cultural localization.

Vernacular architecture represents a holistic experience of the design in a site, which has been evolved throughout human history. It gives clues about the lifestyle of a strong bonded society regarding retail, religion, entertainment and many more facilities. Therefore, in some regions, even though climatic factors are very similar, they do not have any resemblance in terms of vernacular architecture.

In this part of the study, the vernacular architecture principles that lead to a high-performance built environment design will be illustrated to assess the hierarchical structure of the vernacular approaches in various scales such as settlement, building, envelope and component. Following the discussion of the paradigm shift and the evolution of the borders for the high performance built environment design, vernacular approaches at the settlement scale will be emphasized to highlight the following sections of the chapter.

8.2.1 Settlement Location and Configuration

The selection of an appropriate settlement location is related to some factors' resultant for the sustainability of the settled community such as safety, accessibility of the vital sources, climate and others. From the thermal performance point of view, the determination of a proper location for a settlement can be made through the relevant

Table 8.1 Vernacular architecture and climate responsive design approaches (Berköz et al. 1995; Gut and Ackerknecht 1993; Zeren et al. 1987)

	Hot-Humid climate region	Hot-Dry climate region	Temperate-Humid climate region	Temperate-Dry climate region	Cold/very cold climate region
Settlement	• Hill • Specific location exposed to prevailing wind in microclimates • Sparsely settlement	• Valley exposed to night breeze • Hill high altitude locations (lower mean temperature) • A compact settlement with narrow streets	• Higher middle of the slope (Faced to south) • Detached buildings	• Lower middle of the slope (Faced to the south) • Detached buildings	• The lower part of the slope (Faced to the south) • Rowhouses
Building form and orientation	• Linear form • Elevated from ground • South orientation with 3° to east	• Square form with courtyard • South orientation with 18° to east	• Free combined linear forms • South orientation with 10° to east	• Compact rectangle forms • South orientation with 27° to east	• Compact square forms • South orientation with 22° to east
Envelope and component	• Exterior walls with low solar absorption and thermal capacity • Shaded windows • Elevated roofs	• Exterior walls with a high thermal capacity • Large windows to the courtyard and small windows to the street • Flat roofs	• Thermally insulated exterior walls and windows • Pitched roofs	• Thermally insulated exterior walls and windows • Pitched roofs	• Thermally well-insulated exterior walls with a high thermal capacity • Windows with low thermal transmittance • Pitched roofs with thicker thermal insulation

alternatives occurred by the advantage of the topography such as slopes, hills and valleys (Gut and Ackerknecht 1993), which reveal appropriate microclimate to utilize from environmental factors.

Settlement configuration has great importance on the high performance of vernacular architecture and vernacular built environment. By considering the topography, orientation, wind and other factors, the settlement design should start to be utilized in the site according to building scale. The urban form of a settlement mainly depends on solar gains, shading requirements and air movement necessity related to the climatic conditions. The configuration of the urban form, density of the built environment, the solid and void balance of the buildings and open spaces are the main definitions

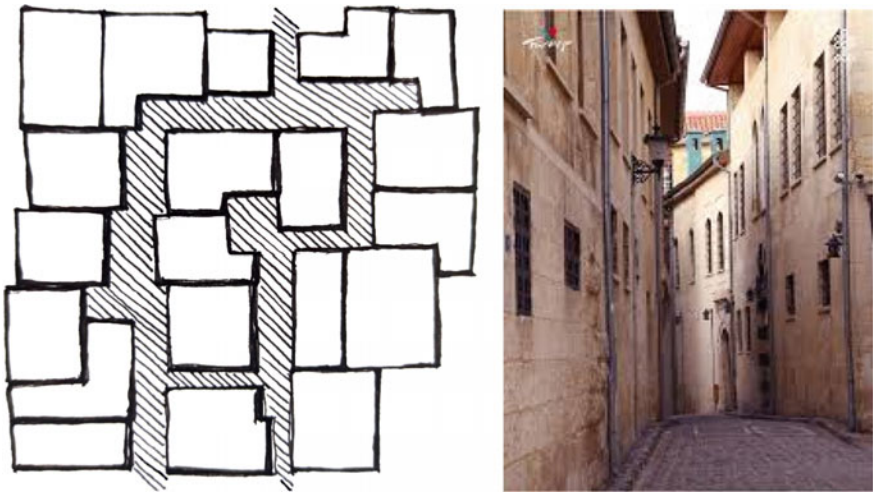

Fig. 8.1 A hot-dry climate region settlement in Gaziantep—Turkey on the left sketch by the authors, photo on the right (Günaydın et al. 2013)

of the passive design of the settlements. Key factors of vernacular settlement configurations in the Mediterranean region are summarized in Table 8.1, relevant to the different climate regions. Moreover, Fig. 8.1 represents the specific characteristics of settlement design in the hot-dry climate of Turkey in the Mediterranean region. The compact settlement of Gaziantep provides shades and prevents undesired wind effects (Fig. 8.1).

8.2.2 Building Design

Building design stands as a key factor in vernacular architecture and climate responsive design. Buildings' interaction with environmental factors via the form has a significant effect on the performance of the built environment. Moreover, the ratio of surface to volume, which defines the compactness of the form, is an essential factor in building design determining the amount of heat gained and lost during the day and night. Besides, the orientation of buildings and the direction of spaces collimate the sun and wind effects on buildings. Figure 8.2 represents an example of vernacular architecture (Günaydın et al. 2013), located in Bey Mahallesi neighbourhood in Gaziantep. The courtyard surrounded with high walls and the compact form with spaces oriented to the south slightly tilted to the east.

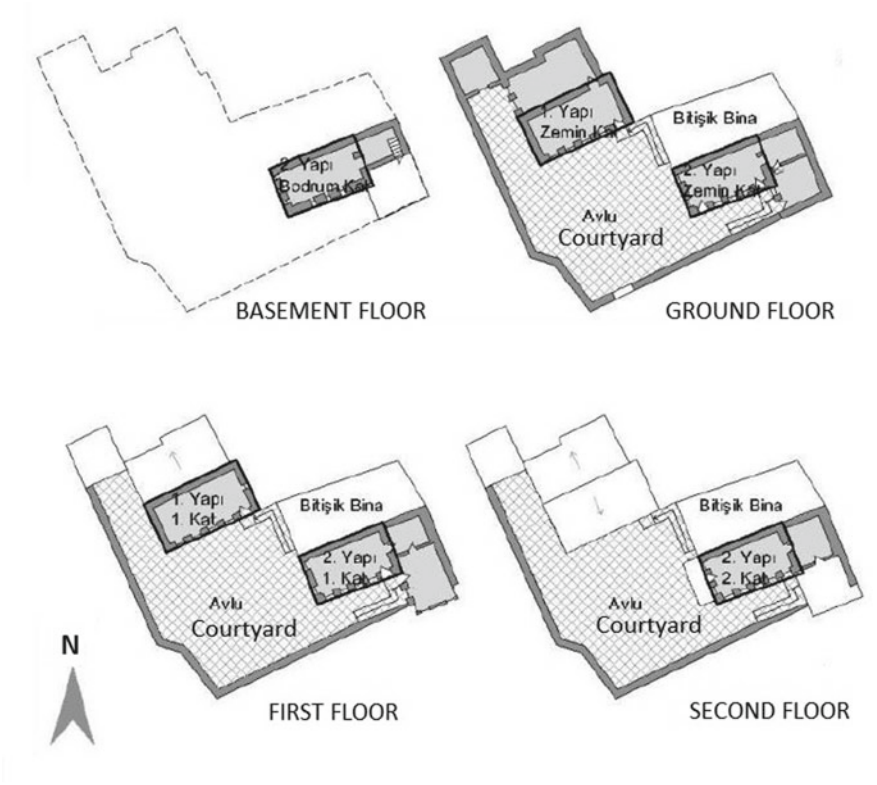

Fig. 8.2 A building in Gaziantep—Turkey in a hot-dry climate region (Günaydın et al. 2013)

8.2.3 Envelope Scale

Building envelope design and its related parameters such as the thermal transmittance, window openings and transparency, solar and visual transmittance values have a major role in the performance of the built environment, regarding the building energy efficiency and indoor environmental quality.

The openings of the envelope, namely windows, provide daylight, fresh air (wind) and solar gain for indoor. On the other hand, the windows' thermal transmittance is quite high compared to the solid part of the envelope. Therefore, the design of fenestration plays a vital role in building envelope across environmental factors to prevent excess heat loss and to utilize from solar and wind.

The performance of exterior walls is also determinative for the thermal behaviour of the envelope in terms of especially thermal transmittance and thermal capacity. The thermal capacity of the exterior wall could be beneficial in the climate region, which has high outdoor temperature differences between day and night, in order to prevent the indoor temperature fluctuations by the time lag. Key factors of the envelope in

the Mediterranean region are summarized in Table 8.1, relevant to different climate regions.

8.2.4 Component and Material Scale

Vernacular architecture, providing a balanced indoor climate through the thermal mass of the envelope, the time lag and decrement factor of the materials, also uses the advantage of the local materials and their thermal performance capabilities. Moreover, the thermal insulation, colour, emissivity and absorption properties of the materials are used accordingly (Gut and Ackerknecht 1993). Key factors of components in the Mediterranean region are summarized in Table 8.1, relevant to different climate regions.

8.3 Contemporary Approaches and the Re-Evolution of the Borders for High Performance

The primary reason for the built environment was to provide protection, shelter and safety for the users by defining the boundaries of the personal living space. Due to civilization, industrialization and technological developments in the construction field, user requirements and design performance expectations have evolved. The term "performance" and the approach for high-performance design have been defined in different periods with different scope and perspectives. Vitruvius distinguished the three main criteria for good architectural design: firmitas (durability), utilitas (usability) and venustas (beauty) which can be considered as the first description of the built environment performance.

Gibson (1982) defines the performance approach as the practice of thinking and working in terms of ends rather than means. The report also highlights the correlation between the change of building techniques, expectation levels of the conditions and the trend towards the performance approach. However, as also mentioned in the report, the rise of the performance approach and the performance specification was mainly covering the materials, products, components, elements or sub-systems of buildings but take no account of a whole building or a group of buildings.

Heerwagen (2004) defined the basic requirements for buildings as;

> bearing evidence of the culture that has created it, showing a link to its historical milieu, controlling its internal environment well enough to satisfy the occupants' physical and physiological needs, supporting the psychological state and social activities of each occupant, resisting the natural forces such as gravity, weather and climate, etc. and providing for these requirements at a reasonable cost and with efficient use of resources.

The climate change, legislative actions for the energy efficiency requirements of built environments, required a considerable amount of effort on the improvement

of the built environment and the high-performance design approaches in terms of energy efficiency, carbon dioxide emissions, etc. Agenda 21, held in 1992 at the Earth Summit in Rio de Janeiro, is a United Nations action concerning sustainable developments (Agenda 21 1992). The aim of Agenda 21, referring to the twenty-first century, was to develop sustainable developments by adopting and implementing policies concerning issues such as recycling, energy efficiency, conservation, etc. Moreover, the Kyoto Protocol (1992) and the Paris Agreement (2016) by the United Nations Framework Convention on Climate Change (UNFCCC) have been dealing with the climate change and keeping the increase in global average temperature below 2 °C by limiting the consumptions and emissions (Wikipedia, n.d.).

Owing to the awareness of climate change and the impact of buildings on environmental problems, whole building performance approaches have come into prominence. Due to its association with local materials, passive technologies and regional character, vernacular architecture is increasingly identified as a repository of traditional knowledge that may be of value in contemporary attempts to develop more sustainable built environments (Vellinga 2013). Nevertheless, the design hierarchy of vernacular architecture has been dismissed by not considering the importance of settlements and the parameters that should be managed/designed/controlled in the design of a group of buildings, neighbourhoods, settlements and even also cities. Even though these efforts have started with the material, component and building scaled approaches, the results showed that a whole approach is mandatory for achieving the targets for a sustainable built environment.

Bourbia and Awbi (2004) studied the impact of urban canyon geometry on the incident solar radiation and temperatures in the street through the measurement of air and surface temperatures in Algeria, North Africa and highlighted the importance of surface temperature variations rather than the air temperature. The development of an urban passive thermal comfort system by Fahmy and Sharples (Fahmy and Stephen 2009) presented design guidance through compactness, solar access, local radiant heat island potential and green structure impacts in Cairo, Egypt. The low-carbon urbanization subject was studied by Kocabaş (2013) to analyse the emergence of urban planning for climate change in Turkey and the importance and requirements of national policies and regulations were highlighted. Moghadam et al. (2017) focused on a spatial decision analysis towards low-carbon cities related to energy strategies and policies. The energy consumption model of building stock and the evaluation criteria were analysed. Vigna et al. (2018) studied the energy system shift from traditional centralized fossil fuel-based to decentralized renewable energy sources through smart buildings.

Even though there are many scientific studies on how to apply the vernacular approaches to the contemporary architecture at the building scale (Kimura 1994), proper integration of vernacular and contemporary, or local and global approaches is not yet a significant subject at larger scales. Moreover, the thought of considering tradition and modernity as opposite concepts, contemporary architecture has been subjected to deprivation from vernacular achievements. Therefore, in the bibliometric analysis part of this study, the evolution of the borders of the high-performance design towards the settlement/city level will be put forth. An archival research method on

the high-performance design of cities, settlements, neighbourhoods and grids will be used.

8.3.1 Setting New Borders: A Bibliometric Analysis

The increase in the interest of the sustainable performance of vernacular architecture was determined by Nguyen et al. (2019). As mentioned above, settlement design and the performance of vernacular approaches has a strong relationship. Thus, at the edge of the change of the epoch and critical breaking point of climate change, the intensions to reduce the environmental effects on the performance of the built environment have been increasing. These intentions have created new borders on the definition of the high-performance design via materials, components and products towards settlements and cities.

This part of the study covers a literature review on the high-performance design of grids, neighbourhoods, settlements and cities and a bibliometric analysis through the collected data. Bibliometric analysis has been subject to several kinds of research in the last decades. Callon et al. (1991) defined the bibliometric analysis as a scientometric method using mathematical and statistical methods to analyse a scientific research field. The review aims to reveal the increasing trend on the relevant topics and the conceptual clusters of the field, define categories and highlight subtitles for future studies.

8.3.2 Method of the Analysis

The literature review covers the Web of Science SCI, SCI-Expanded and AHCI indexed journals and manuscripts between 2000 and 2019 related to the high-performance design of grids, neighbourhoods, settlements and cities. 411 manuscripts have been found through the searched database. Then the dataset is exported to SciMat software (Cobo et al. 2012), which is used to conduct the bibliometric analysis through the database of Web of Science. The review mostly focuses on co-word analysis. Some most influential articles and topics are also highlighted.

8.3.3 Results

The evolution of the research field, regarding the high-performance design at settlement, neighbourhood or city levels, has been measured based on the number of publications during the period from 2000 to 2020. Even there are a few studies before 2000; this research focuses on the last 20 years during which the paradigm shift has occurred. The distribution of the number of publications within the period

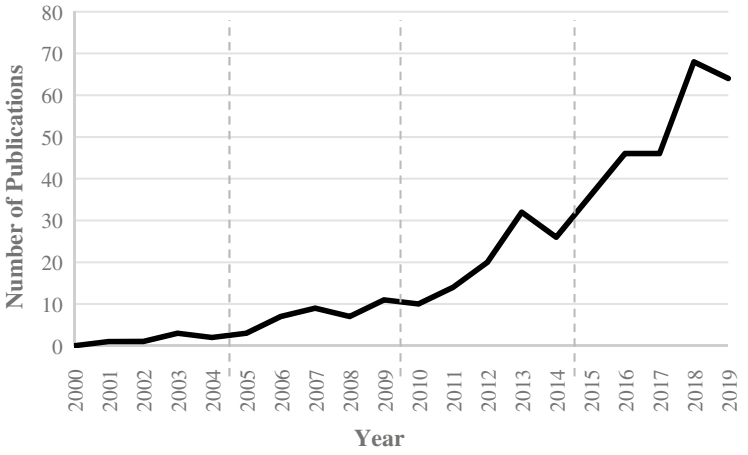

Fig. 8.3 The number of publications per year, based on the analysed dataset

is shown in Fig. 8.3. According to Fig. 8.3, there are only 7 manuscripts between the 2000–2004 periods. During the second period (2005–2009), there are nearly ten manuscripts each year. However, during the third period (2010–2014), there is a significant increase in the annual number of manuscripts. In 2013, the total number of manuscripts is 32. The last period (2015–2019) is certainly the densest period with 260 studies in sum.

At the next step, the database is examined for highlighting the most cited manuscripts as an understanding of the highly mentioned topics. The most cited papers are listed in Table 8.2, with the authors' information and the number of citations. The most cited studies mainly focus on cooling, green-space, household, outdoor thermal comfort, greenhouse-gas emissions, urban area and heat island, neighbourhoods and consumption patterns.

According to the evolution of the clusters given in Fig. 8.4, no significant clusters were defined for the period between 2000 and 2004. ENERGY-EFFICIENCY concept has been treated in all the periods (2005–2009; 2010–2014; 2015–2019). However, IMPACT has disappeared while new clusters such as URBAN-AREA, SUSTAINABLE-NEIGHBOURHOOD have emerged significantly in the last five years period.

Figure 8.5 represents the strategic diagram of the clusters through the period from 2000 to 2019. The strategic diagram also shows the number of documents related to the clusters. According to the analysis, the urban context, sustainability of the neighbourhood, greenhouse-gas emissions are the trend concepts of the field, while also it is observed that households or building users are introduced to the literature significantly.

Table 8.2 List of the ten most cited papers, based on the analysed dataset

Name of the publication	Authors and Year	Number of citations
A study on the cooling effects of greening in a high-density city: An experience from Hong Kong	Ng, E. et al. (2012)	268
Thermal benefits of city parks	Yu, C., Hien, WN (2006)	238
Three challenges for the compact city as a sustainable urban form: Household consumption of energy and transport in eight residential areas in the greater Oslo region	Holden, E., Norland, I.T. (2005)	221
Energy and the city: density, buildings and transport	Steemers, K. (2003)	219
The influence of urban design on outdoor thermal comfort in the hot, humid city of Colombo, Sri Lanka	Johansson, E., Emmanuel, R. (2006)	166
Climate change and the city: Building capacity for urban adaptation.	Carter, J.G. et al. (2015)	143
Quantification of Fossil Fuel CO2 Emissions on the Building/Street Scale for a Large US City	Gurney, KR. et al. (2012)	128
Impacts of city-block-scale countermeasures against urban heat-island phenomena upon a building's energy consumption for air-conditioning	Kikegawa, Y. et al. (2006)	107
An integrated model for characterization of spatiotemporal building energy consumption patterns in neighbourhoods and city districts	Fonseca, J.A., Schlueter, A (2015)	93
Metabolism of neighbourhoods	Codoban, N., Kennedy, C.A. (2008)	88

8.4 Conclusion

This study covers a descriptive framework for the vernacular approaches and discusses the borders between the vernacular and contemporary, the local and the global. Moreover, the study examines the evolution of the contemporary approaches through periodical literature and a bibliometric analysis by creating evolution maps and diagrams of the concepts and clusters.

411 manuscripts were found through the searched database and the dataset was analysed by bibliometric analysis tools. The evolution analysis shows that the "high-performance design" field has a valuable expansion with recently introduced concepts

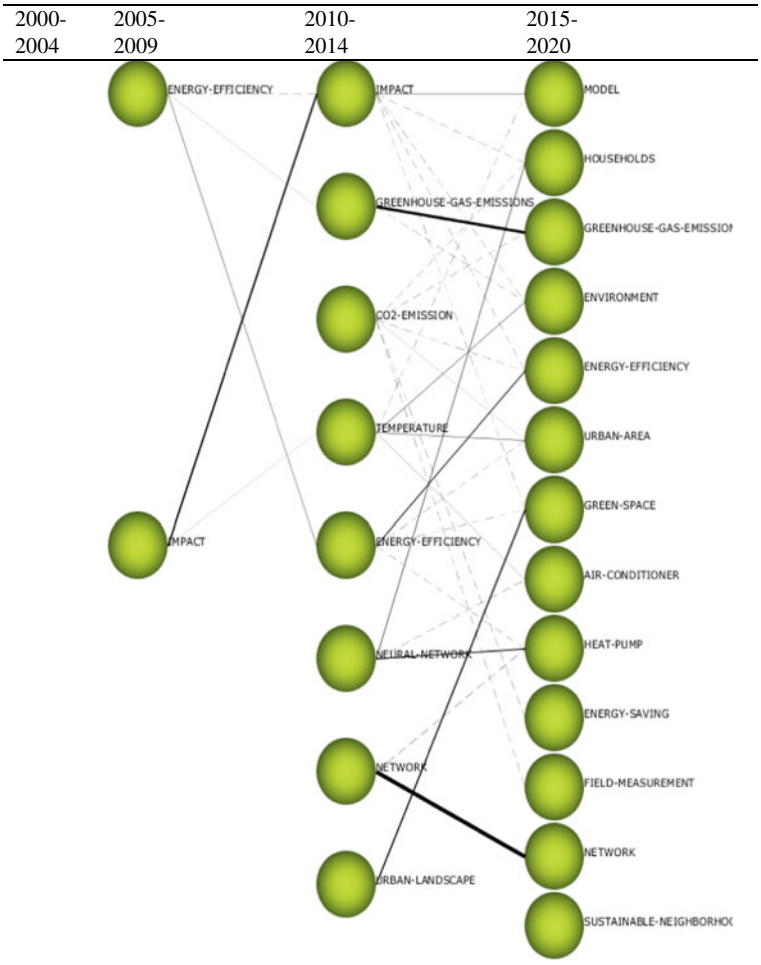

Fig. 8.4 Evolution of the clusters throughout the periods, based on the analysed dataset

such as sustainable neighbourhoods, households, urban-area and green space. Moreover, the most cited papers present a clear sight through the most interesting topics within the field. Particularly, this paradigmatic research on the evolution of high-performance design borders has shown that there is a significant shift towards the larger scales such as neighbourhood and the urban area within the local context.

Creating a literature dataset and the bibliometric analysis methods is becoming more interesting and useful due to the rapidly expanding scientific field and the formation of the big data. The clusters and keywords of the dataset highlight future studies and their weights of importance in the scientific field. Moreover, the variety of climates in the Mediterranean region requires specific studies and outputs to connect the gains of vernacular approaches to contemporary building stock and urban development.

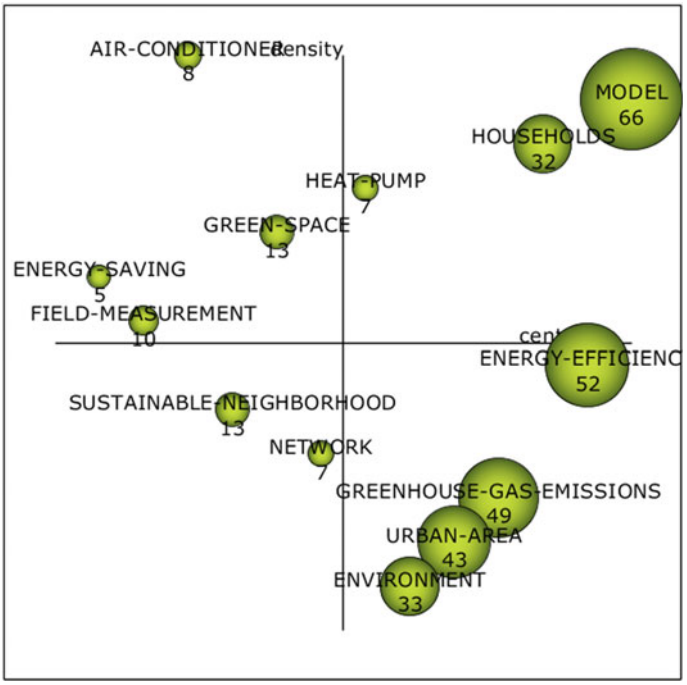

Fig. 8.5 The strategic diagram of the clusters representing the number of documents, based on the analysed dataset (period: 2000–2020)

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Yiğit Yilmaz graduated from Istanbul Technical University, Faculty of Architecture in 2007 and completed his master's degree in Environmental Control and Building Technology at Istanbul Technical University, in 2009. Afterwards, Yiğit YILMAZ studied in Building Sciences Ph.D. Program at Istanbul Technical University, Institute of Science and Technology and conducted a dissertation as "An Approach for Energy Efficient Retrofits Evaluation of Educational Buildings Through Life-Cycle Cost Optimization in Turkey." He was a guest researcher in Politecnico di Milano for one year, during his Ph.D. Currently, he is an assistant professor doctor in Bahçeşehir University, Faculty of Architecture and Design. He is also working on research projects about building energy efficiency, life cycle analysis, indoor environment quality and optimization.

Burcu Çiğdem Yilmaz graduated from Yıldız Technical University, Faculty of Architecture in 2008 and completed her master's degree in Environmental Control and Building Technology in Istanbul Technical University, in 2010. During her master dissertation, she participated in a joint student program with Politecnico di Torino University. Burcu Çigdem YILMAZ then studied in Building Sciences Ph.D. Program in Istanbul Technical University, Institute of Science and Technology and conducted a dissertation as: "A Performance Based Decision Making Approach for Insulation Material Selection: A Social Housing Case". She was also a guest researcher in Politecnico di Milano for one year, during her Ph.D. Now, she is working on research and development projects about building energy efficiency, life cycle analysis, indoor environment quality and decision-making method. She has been currently giving lectures in Marmara University Architecture and Design Faculty.

Part III
Boundaries and Spaces: Physical and Perceptual

Murat Soygeniş

This foreword to the part titled 'Physical and Sensual' questions architecture and urban boundaries within the intersection of physical and sensual. How do we define a boundary in architecture? How do we dream about and design boundaries as an architect?

The definitions of 'boundary' are many. A line indicating the limits of an area, a line dividing the areas, indicating the extent of a zone, a line on a map. Actually, one of these definitions is something that appears either in texts of geography or international relations such as dividing lines between countries. The dividing line possesses deeper meanings. This quotation by a politician, *'I will build a great, great wall on our southern border. And I will have Mexico pay for that wall.'* (Washington Post Staff 2015) is quite self-explanatory revealing the hidden agenda behind a boundary. The word 'border' or 'boundary' and how it is referred to in this case somehow create a fear, tense atmosphere and it is threatening. Here the word border strongly indicates a separation, a division. The meaning of separation, a cold physical border reminds us of dislocated millions, questions about humanity and values, which happen in different parts of the world due to wars, economic and political problems. Actually, world history is full of unfortunate stories about borders.

Historically city walls have provided security for the inhabitants against invaders in the past. People, in order to create a safe environment, constructed walls, boundaries free for some group of people and not allowing others. The Berlin Wall as a boundary element meant separation for a nation, a strong indicator of a polarized world. People had cherished its demolition when it was taken down, letting people cross borders freely, hoping for the unification of people globally (Fig. 1).

Looking into nature, it is possible to see the terrain with its boundaries where mountains border valleys, valleys border mountains in such a dynamic way, that produces spatial perceptions, experiences of variety in nature, a three-dimensional complex pattern. Besides the physical boundaries, there are invisible boundaries between human beings and in nature. The immaterial boundary between seasons is a representation of the complex order in nature and is an indication of time and continuity. The Bosphorus in Istanbul creates a natural boundary between two continents. It physically separates the two lands, yet at the same time connects the two parts of

Fig. 1 Berlin Wall, 2006

the city creating an in-between space, maybe an interface that gives a charm to the city of Istanbul (Fig. 2).

Besides the topographic potentials of the earth, architects and urban designers create manmade boundaries in cities over time. For example, the modern city has created its boundaries by zoning as the residential, business district, agricultural areas and others. The edges, nodes and paths, as mentioned by Lynch in his book, 'The Image of the City', are the physical manifestations of manmade boundaries in a city. People get to perceive the urban environment through manmade boundaries. The spaces or the voids of the urban fabric can be classified as paths and urban squares. It is how the boundaries are defined either as directional as paths or more like gathering places as urban squares that define how space is perceived and experienced. It is the space or void and the enclosure of urban spaces and the spatial layout of the cities that human beings form their visual memories of a city. It is the details and materiality that appeal to all the senses and form the perception of spaces.

Today, architects face the dilemma of how to deal with boundaries in urban environments. How to restore the boundaries that have created memory over the years on the inhabitants of a city? Public spaces reflect the relationship between space, time and people that can be traced on public spaces of cities. Various traditions, belief systems and value judgments have shaped the forms of the past. Concurrently, public

Fig. 2 Bosphorus

spaces while transforming in time reflect the change of time and ways of living. What is crucial is the extent of transformation and how it happens. Restoring the old is a way of keeping the continuity of history and urban memory. *'All experience implies the act of recollecting, remembering and comparing. An embodied memory has an essential role as the basis of remembering a space or a place.'* as Pallasmaa states (Pallasmaa 2005, p. 72).

Concurrently, architectural examples of the past are important sites for exploration for the present. They recall memories, a guide to understand and appreciate the cityscape. The point to remember is an awareness on the value of the existing faces of the urban environment as quoted by Boyer, '*… a better reading of the history written across the surface and hidden in forgotten sub terrains of the city'* (Boyer 1994, p. 21), which asks for re-examining and recontextualizing the past for new paths to the future. In this context, the crucial point is to restore the existing boundaries in order to preserve the sensual qualities of the urban spaces of the city that provokes one's memory. As stated by Pallasmaa, *'We have an innate capacity for remembering and imagining places. Perception, memory and imagination are in constant interaction…'* (Pallasmaa 2005, p. 67).

Concern for privacy or survival is revealed in a variety of ways as boundaries throughout history. Architects have created bordering elements and boundaries from

primitive to complex, being either conservative or innovative at times. Architectural history is full of a variety of manmade examples of boundaries. People of Anatolia have bordered spaces separated from their surroundings for survival as in the Cappadocia example in Turkey where the enclosure is naturally formed. Space is carved to create an interior form with limited voids for structural and security reasons. Over the course of architectural history, a boundary that forms interior space has evolved depending on the changing social aspirations and availability of technology and materials used in forming the boundary. The emphasis of vertical and horizontal elements in creating an enclosure, a border, a boundary, or an interface between interior or exterior have been used extensively by modernist architects as a form of materializing space. A boundary may be just physical, very concrete, or as immaterial as to imply the threshold, foreshadowing meanings and evoking memories. Openings, voids on the boundary, the material quality of the boundary and how it is constructed are the means in creating the sensual of the physical.

Modern architecture had a bias towards the visual nature of design. Yet, there are examples where the design responds to the other senses as well. Mexican architect Luis Barragan's boundaries or walls act as objects in space, with bright colors foreshadowing their location and the climate they are in. *'There is a subtle transference between tactile and taste experiences. Vision becomes transferred to taste as well; certain colors and delicate details evoke oral sensations.'* (Pallasmaa 2005, p. 59). A more symbolic example, the Vietnam Veterans Memorial in Washington, DC by Maya Lin, with its black granite wall lines the earth to create a space of memory. The wall forms a threshold between the earth and the walkway. It pays a tribute to the martyrs. It is an information board to be read, a reflection of sorrow and a reminder of war and death. In some architectural examples, architectural boundary elements like solid walls, waterfall walls, artwork walls, lead the pedestrian to various perceptions of space and artwork. Architecture becomes more of a story of a boundary and then a void or a space. Bordering walls, waterfalls, or art walls create a medium of rich perception for visitors. Void on the boundary is *'… a mediator between two worlds, between enclosed and open, interiority and exteriority, private and public, shadow and light.'* (Pallasmaa 2005, p. 47). Thus, the physical boundary element acts as a tool in creating a sensual experience for the people experiencing the space.

Architects have been facing the dilemma of keeping the local and historical boundaries that have formed the face of the urban environment and at the same time create new boundaries according to the changing needs of people. The challenge is how to form new boundaries that are adequately physical, permeable, inviting and sensual?

In our design work at S+ ARCHITECTURE, one of our concerns is how to read and interpret the existing context with its physical and sensual potential. In a series of built and unbuilt projects in Istanbul, London and Mexico City, we continue to experiment with walls, surfaces, textures, colors and continuous spatial experience of interior and exterior within the realm of surrounding cityscape to create uninterrupted manmade and natural environment. Depending on the location of the project, the potentials of both the existing historic and urban environments have been our concern keeping in mind the power of memory in creating space with sensual qualities ("S+ ARCHITECTURE", n.d.) (Fig. 3).

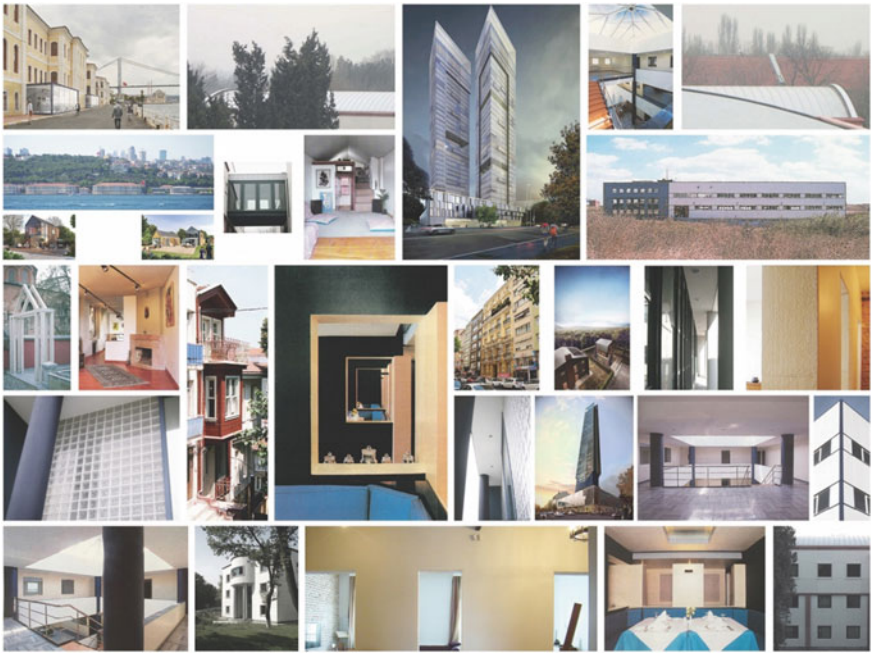

Fig. 3 A collage of projects by S+ ARCHITECTURE

In a loft conversion in a busy downtown district, the existing old brick wall was kept with its original texture, contrasting the new, plain walls that help to intensify the texture of the brick wall, a reminder of the past. In a narrow house on the Bosphorus, the linearity of the open interior space was emphasized by the design and detailing of one of the side walls as a continuous display wall in a gray color contrasting other walls. In an early project, a restaurant in an existing historical building neighboring the Byzantine church museum, Chora, we wanted to create a new interior in contrast to the historic character of the building and urban space. It was an attempt to display the existing in the presence of the new and vice versa. We experimented with walls, colors with the intention to treat an enclosure or a wall beyond its physical content to imply perception responding to visual and tactile senses also displaying itself as a separate element from the existing building. In this restaurant project, the consequences of the existing space almost asked for the play of walls. The solution was to play with solids, voids, rhythm, the contrast of dark and light, lively and pastel hues. To reinforce the spatial unity and visual linkage between the entry area to the restaurant yet to preserve the privacy of booths and tables, walls were designed with modular rectangular voids enriching the light quality of the space with color differences. The freestanding wall became an object in space with the ceiling floating over the corridor and entry area. Similar projects with the spatial experiments followed; a pavilion named ‘maze’ in a park, an academic complex, industrial plants, miscellaneous projects for an Ottoman Palace, mixed-use projects, modular houses for refugees.

Architectural boundaries define activity areas, spaces and order people's lives with their physical and immaterial potential. Physical becomes meaningful with its sensual potential opening way to various perceptions and memories. Following works by two artists and sculptors, Fred Sandback and Jaume Plensa, may be meaningful examples for architects to explore.

An artist, a minimalist conceptual-based sculptor, known for his yarn sculptures, Fred Sandback's work can be inspirational with a deep reading of his work. He creates almost invisible sculptures or installations that do not have an inside and he finds the means to *'… assert a certain place or volume in its full materiality without occupying and obscuring it'* ("The Art Institute of Chicago", n.d.). His sculpture named 'Untitled' occupies the physical site as an invisible plane. He uses string and a little wire to represent the outline of a rectangular solid plane. These invisible planes are sometimes standing upright, sometimes leaning against a wall, just like huge glass panes. It can be viewed from different perspectives. He states that *'It incorporates specific parts of the environment, but it's always coexistent with the environment as opposed to overwhelming or destroying that environment in favor of a different one'* ("Fred Sandback Archive", n.d.). Sandback creates in his artwork an immaterial plane, that can be perceived in the variety by the viewer, appearing and disappearing while moving in space. It appeals to the senses and questions the idea of the border in the memory (Fig. 4).

Spanish artist Jaume Plensa poses a different approach. With an awareness of the body's embodiment of the soul, he has created work that expresses bordering. His sculpture titled 'Alchemist', *'… made of randomly arranged stainless steel letters of the alphabet… in the shape of a person sitting with knees drawn up to the chest.'* is a *'… homage to all the researchers and scientists that have contributed to scientific and mathematical knowledge'* ("MIT List Visual Arts Center", 2018). The physical boundary made up of letters embodies the soul that is yet to be explored and felt.

In light of these issues, I encourage all readers to discover the five chapters in Physical and Sensual that follow. The chapters concentrate on urban aesthetics, fading boundaries in school design, invisible boundaries of periodic markets, the border between perceptual and physical urban space and the future sociability issues in public spaces. In an age of commercialism and globalism in architecture, isn't it worth concentrating on nature and nature of human beings, with all the potentials?

Fig. 4 'Untitled' at Dia: Beacon in Beacon, New York, 2018

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Murat Soygeniş FAIA, a founding partner at S+ ARCHITECTURE, is an architect/professor practicing in Istanbul. He received his architectural education in Istanbul, Turkey (B.Arch., Ph.D., ITU) and Buffalo New York, USA (M.Arch., University at Buffalo). Over the past 35 years, he has served at numerous administrative positions including on the Boards of AIA Europe and as the Dean of School of Architecture of YTU. His publications focus on his teaching, research and practice and include 12 books and monographs, over 100 authored writings in books, journals and periodicals, receiving more than 100 citations globally. Professor Soygeniş has produced more than 150 professional projects, lectured widely to share his views on architecture and urbanism. His professional work has been exhibited at significant venues in Istanbul, USA and Europe including the American Institute of Architects and received design awards from many institutions including the RIBA—Royal Institute of British Architects. He is a Fellow of the American Institute of Architects (FAIA), a member of the Chamber of Architects in Istanbul (UIA) and the Royal Institute of British Architects (RIBA).

Chapter 9
Fading Boundaries: Insights on Learning "in Between" the Classroom Spaces

Yasemin Burcu Baloğlu and Sema Esen Soygeniş

Abstract Along with the advancements in technology and shifts in approaches to education in our day, school architecture began to undergo significant transformations. Learning beyond the classrooms has emerged as a highlighted concern as well as the children's interaction with each other and their environment. Articulation of the changing pedagogical approaches and visions of the innovative, student-centered ideas of the twenty-first century through the physical characters of learning spaces has become a significant issue for research regarding the design of contemporary schools. The evolution of the formation of boundaries, borders, and thresholds defining the distinctions and establishing the relationships and hierarchies between the learning spaces at school settings constitutes a critical part of this process, which deserves attention. This chapter aims to search for boundary-related design suggestions for primary schools in Turkey, based on the data obtained through a field study conducted in Istanbul, which aimed to derive the current issues regarding the spatial use patterns in prototype-based, conventionally designed schools. It is believed that the effective inhabitation of spaces beyond the classrooms has a high potential to contribute to the realization of diverse educational activities and the introduction of more permeable physical and visual boundaries can support the enrichment of school environments.

Keywords Learning spaces · Boundaries · School architecture · Primary schools

Y. B. Baloğlu (✉)
MEF University, Huzur, Maslak Ayazağa Cd. No: 4, 34396 Sarıyer Istanbul, Turkey
e-mail: balogluy@mef.edu.tr

S. E. Soygeniş
Faculty of Architecture and Design, Bahçeşehir University, Abbasağa Mah. Ihlamur Yildiz Cad. No: 10-B 8th Floor, Beşiktaş, Istanbul 34353, Turkey
e-mail: sema.soygenis@arc.bau.edu.tr

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9.1 Introduction

School facilities, like all other physical settings, serve a variety of functions. However, they are often expected to provide an enabling environment for formal educational practices according to the curricula of a particular system as their primary purpose. There have been embedded perceptions and a long history of the spaces where learning traditionally occurs. On the other hand, the educational landscape has been changing with the shifting paradigms in pedagogical approaches. It has been demonstrated in the literature that self-directed, experience-based informal learning has a merging role and significance in the educational processes. Thus, the existing assumptions have been being challenged under the influence of innovative ideas on how designed spaces can support learning more efficiently, and alternative approaches to education had reflections on school architecture during the last century and onwards. The search for alternative ways of designing schools became prominent with progressive movements in education. Today, the subject takes more attention along with the concerns for the twenty-first-century learning environments to respond to the demands for the development of soft skills that require learning processes beyond formal education.

The chapter begins with exploring the definitions of boundaries based on their conceptions in the context of public space design and discussing how they are constructed within the interior-exterior spaces of learning in school settings and how they contribute to various learning activities. Based on the findings of a field study conducted in prototype-based primary schools in Istanbul, Turkey, boundary-related issues were explored at schools with conventional typologies in terms of spatial configuration and relations. Primary school buildings constitute the settings for the very early years of children's formal education in many countries, including Turkey. They are also the first academic institutions that children experience, and the architecture of these schools has a particular meaning in children's lives. For this reason, primary schools have been included to be examined in detail within the scope of this study. Finally, alternative ways of setting up the boundaries at schools are presented and discussed based on the data obtained from the field study, through underpinning cues from school designs in which particular emphasis is given to the construction of spatial relations through diverse interpretations of borders.

9.2 Defining Boundaries and Borders

The terms boundary, border, or interface, are often referred to within the explanation of space-defining elements in architecture. They may gain diverse meanings while serving many different functions such as limitation, division, the organization of spaces, construction of interiority and exteriority, or constituting an interface between the public and private realms, or natural and human-made environments. Besides their space-defining purposes, they usually have mediating roles and even

be simultaneously means of separation and communication (Madanipour 2003). A boundary may be in different forms, but how it is perceived as a line, an area, or a volume depends not only on its form but also on its context (Boettger 2014). Moreover, as Norberg-Schulz (2013) puts in, similar spatial organizations may possess different characters according to the particular treatment of boundaries as space-defining elements. Comparing the definitions of the terms boundary and border from a different perspective, Richard Sennett highlights the restricting function of boundaries in comparison with the borders by asserting that "The boundary is an edge where things end; the border is an edge where different groups interact" (Sennett 2018, p. 102). Sennett (2018) gives references to the porous membranes in the natural ecology and emphasizes the need for permeable borders as essential elements of an open system in cities where a socially sustained collective life is achieved.

As Madanipour (2003) stated, the subdivision of our social world and the spaces we inhabit, into public and private domains through spatial and symbolic boundaries, is one of the critical features of how a society organizes itself. Similarly, boundaries, borders, and thresholds can take a role in giving direction to educational practices at school settings through defining the distinctions and establish the relationships and hierarchies between the spaces of learning. Thus, carrying the various viewpoints on the definitions and functions of boundaries and borders in the urban public environment to the school design, first might highlight the need for the recognition and discussion of their different features besides serving solely for limitation or restriction. The successful design of public spaces in towns or cities is also known to encourage positive social behaviors, and the spaces between formal learning areas at schools as well as their indoor and outdoor public spaces can be considered within similar respect (Nair and Gehling 2010). Accordingly, it may be considered that the way how the borders are architecturally articulated can also reflect ideas about the pedagogical systems that are accommodated in educational buildings.

9.3 The Impact of Spatial Design on Learning Experiences

Learning is described as a relatively long-lasting change in behavior that results from experience (Sanoff and Walden 2012). As proved in many studies, today, it is known that children learn from direct experiences with their surrounding environments (Weinstein and David 1987), and physical aspects of educational settings have significant impacts on learning (Barrett et al. 2015; Heppell et al. 2004; Leiringer and Cardellino 2011; Martin 2005). In other words, the design of learning settings contributes to the quality of learning practices and affects the ways how children learn. Regarding this potential, the school building has even been defined as "a third teacher" (Nicholson 2005; Sanoff 2001) or a "three-dimensional textbook" (Taylor 2009) in some sources. Thus, the integration of the educational aims with the design of buildings and spaces which accommodate them constitutes a significant concern for school design. From another point of view, the design can also give clues about space's linkage with the teaching style, what is happening inside that space as well

as the expectations of behavior reinforced by the educational institutions' policies (Martin 2005). As Nicholson (2005) emphasizes, children are highly aware of the clues and symbolic messages transmitted by school buildings.

Starting from the preschool years, children spend most of their time at schools and, they are continuously interacting with the physical settings within these educational institutions. Based on the ideas claiming that the environment influences the acquisition of knowledge as well as the behavior patterns, it may be inferred that the physical environment at schools can be used as an integrated part of the learning processes. A significant feature of the influence of a designed learning space is that it has the power to direct which activities can occur and to enable or confine movement, and determine how that space is used. The formation of borders can be a critical tool for the setting up of spatial relations.

9.4 Learning Beyond the Classroom

Children often have time inside the classrooms, getting the education presented within the scope of the curriculum of educational institutions according to their level, which may be categorized under formal learning activities. As asserted by Coffield (2000), the formal ways of education, which are often conducted in classrooms, represent only a small part of all that goes on in schools. There are also other mediators of information transferring in educational institutions, including controlled free-time activities and uncontrolled free-time activities (Öymen Gür and Düzenli 2004). This means that all the time periods during which a student stays at school and all the activities the child engages in, in fact, have the potential to contribute to informal learning processes. As explained by Harrison and Hutton (2014), informal learning processes can happen in many ways, and they might include learning from peers, learning by application and learning a range of soft skills, which consists of the productive personality traits that characterize an individual's relationships in a milieu such as communication skills and empathy. Schools are the transitional environments in which students are prepared for real-life experiences before they step into the adult society, an upper level of education, or the workforce. Fostering life-long learning in young people occurs when the physical environment encourages social interaction, incites curiosity for exploration, and acts as a facilitator for learning is one of the primary outcomes of these processes. As asserted by Walden (2015), future school buildings are expected to be the ones where learning processes and pedagogy are inseparable, which facilitates social learning, offers individual and team activities, and exists as a place for encounter and sensory experiences for children.

As a reflection of these ideas on spatial design at schools, the classrooms' role as being the primary venues of learning has been challenged, especially in recent years both by practitioners and academics (Benade 2017; Hertzberger 2008; Neill and Etheridge 2015; Taylor 2009; Sutherland and Fischer 2014). There has even been a tendency in the related terminology to shift from the terms "classroom" or "room for education," to the term "learning space." Moreover, a keen interest in where else

and in which other ways can learning to take place has emerged. The design of spaces between formal learning areas or classrooms started to be given specific attention in order to support informal learning processes. The questioning of the totally-defined learning settings and the blurring of borders has begun at this point. Architectural alternatives to conventional school layouts with double-loaded corridors surrounded by enclosed rectangular classrooms had been and still being discussed by scholars and designers.

On the other hand, the consistency between the teaching and learning practices and the design of the physical environment which surrounds them is mentioned as an essential feature of qualified school design (Hutchison 2004; Moore and Lackney 1994; Walden 2015). School design is interdependent with pedagogical approaches as well as educational activities. Thus, the underlying specific needs of educational systems may have a role in how the priorities are defined, and an examination of the relations between educational methods, learning activities, and the physical space emerges as a necessity for the development of appropriate design suggestions for schools.

9.5 Reading the Boundary-Related Issues at Schools with Conventional Layouts: A Field Study in Turkish Primary Schools

In order to examine and contextualize the border-related issues in school designs that have conventional layouts, the data obtained from the two-phased field study conducted in primary schools of the Bayrampaşa district in Istanbul were utilized. The study aimed to gather the opinions of teachers' on the relations between educational activities and the design of the physical environment and to determine the current space-related problems to develop design strategies to be applied in the existing schools and utilized for the development of the future projects.

According to regulations, in Turkey, the design and implementation processes of buildings and facilities belonging to educational institutions of all grades and types are legislated by the Ministry of National Education, in line with the environmental requirements and the characteristics of the educational programs. In other words, the dominant typology of school facilities, quality, and standards of educational structures are primarily determined by the State, and a significant part of the existing school building stock consists of public schools. There has been a dominant preference for using prototype-based projects for long years. These projects are generated with regard to specific data and, based on a repetition of a similar scheme, became a typical effective response to obtain rapid, easy, and cheap productions to spread the educational buildings. Most of these projects include the features of schools that are referred to as the "conventional" or "traditional" type schools in various sources in literature, with single or double-loaded corridors surrounded by rectangular classrooms (Lippman 2010; Taylor 2009). Prototype-based school projects

have been subjected to criticisms of designers and scholars due to the generic design approach used in their production processes. The prototype projects are not developed according to the specific context in which each school is planned to be located. The shape and size of the building sites, especially the ones, which are constructed on rapidly developing, dense urban areas, are found to be insufficient in terms of enabling the design of engaging educational environments and pleasant schoolyards (Güzer 2014; Karabey 2014).

The two-phased inquiry that is presented here has followed an exploratory and mixed-method research approach, which involved collecting and integrating both quantitative and qualitative forms of data.

9.6 Sampling, Data Collection, and Analysis Procedures

Within the scope of the field study, fifteen state-governed, prototype-based primary school buildings located in Bayrampaşa, Istanbul, were visited, and 144 teachers from these schools participated in the study. Bayrampaşa district in Istanbul accommodates a variety of school building types, and the schools in this area are representative of the current approach to educational building projects located in high-density urban centers in Turkey, complying with the concerns of the sampling strategy. The sample included seven different types of prototype-based projects, as seen in Fig. 9.1. Despite some modest differences, the plan layouts were almost similar, with double-loaded corridors with conventionally designed same rectangular-shaped classrooms and administrative spaces on either side. The buildings had physically distinct sites with clear boundary conditions as well as dedicated outdoor and indoor facilities. The medium-height facilities consist of two to a maximum of four floors.

The first phase of the study aimed to collect the opinions of teachers who constitute one of the main user groups following the students. The interpretations of teaching staff who take the legitimized decisive role in coordinating educational activities at schools were assumed to contribute with valuable data about the spatial needs and requirements at schools. Besides their responsibility to control educational activities, the findings of some studies show that teachers often have the chance to readily action for many factors regarding the environment and spatial use at schools (Barrett et al. 2015). Accordingly, a survey was conducted with the teachers to gather information about the sources that cause the need for changes in spatial requirements at schools within the first phase. Fuzzy Analytic Hierarchical Process (F-AHP) has been utilized for the analysis of the written responses to the open-ended question that is included in the survey conducted with the teaching staff.

The second phase of the study included the analysis of the school buildings through the documentation of the functional changes in spaces, spatial alterations made by the users, and current use patterns during the school visits. Additional required data, including some technical drawings, statistical information, regulations about school design defined by the related authorities, were provided from the sources of official institutions. Some of the highlights from the findings of this study, which give cues on

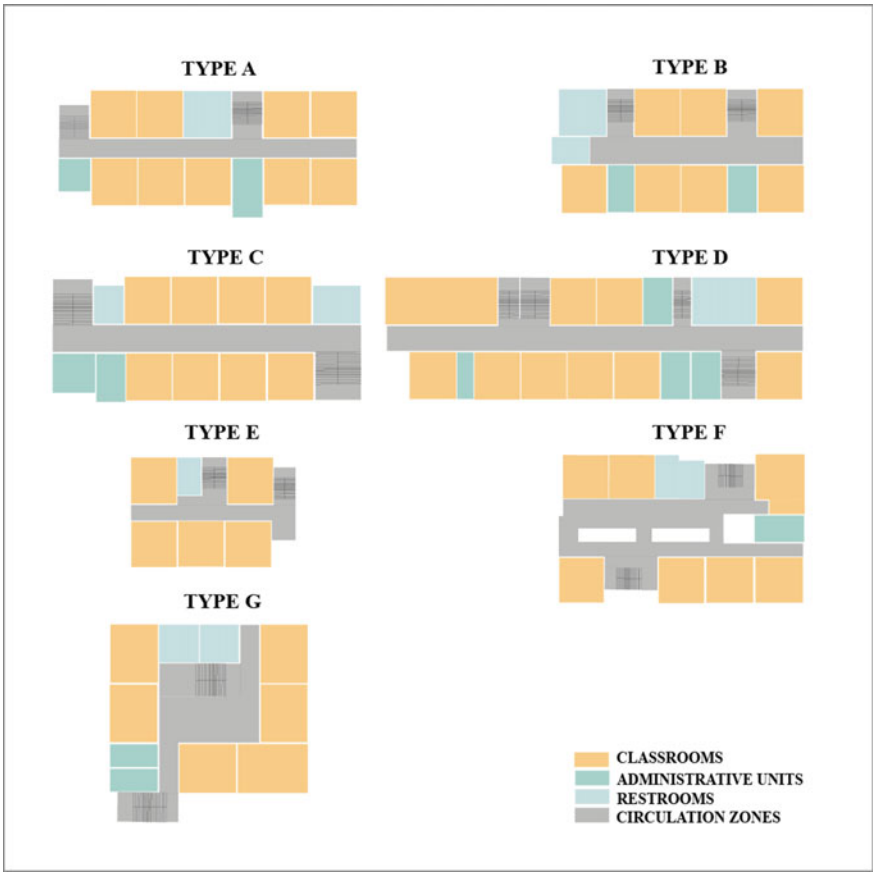

Fig. 9.1 Diagrams showing of the typical floor layouts of the schools

the spatial requirements needed to be addressed to enhance the relations between the physical environment and learning processes schools, are presented in the sections below.

9.7 Highlights from the Findings of the Survey with the Teachers

As a part of the first phase, teachers were asked about their opinions on the most significant issues that constitute the causes of the need for spatial changes in the short or long term at their schools. Responses to the questions were first grouped under seven themes. Then sub-categories under each theme were determined and ordered hierarchically according to their amount of significance in parallel to their

Fuzzy-AHP weights. As may be traced through the tables below, the most significant issue emerged as the spatial changes required to accommodate diverse educational activities, methods (Tables 9.1, 9.2, 9.3, 9.4, and 9.5). Under this theme, providing space for physical activities and sports and the need for subject-specific, devoted spaces for lessons are emphasized as significant causes of the need for spatial changes. Spatial changes required to accommodate social activities shared spaces for informal learning and spending time during recess periods became the second important group of requirements. The need for the efficient use of outdoor space has emerged as the hierarchically most significant category under this item. Providing space for socio-cultural activities and additional courses, reading, and individual studies, and improving the social areas, common informal spaces for break-out times emerged as other important categories under the second theme. Following the spatial needs regarding children's psychological, physical development, and academic motivation, the requirements for spatial change in relation to the dimensions and qualities of core

Table 9.1 Hierarchical order between the main themes according to the F-AHP process results

Main Themes	Fuzzy AHP Weight
1. Spatial changes required to accommodate diverse educational activities, methods	0,1723
2. Spatial changes required to accommodate social activities, common spaces for informal learning and spending time during recess periods	0,1629
3. Spatial needs of children's development and academic motivation	0,1549
4. Need for spatial changes in relation to spatial dimensions and qualities	0,1533
5. Spatial requirements emerged due to demographic changes	0,1342
6. Spatial requirements emerge in relation to indoor environmental quality and technical qualities	0,1164
7. Needs emerged due to operational and managemental concerns (changes in the educational system, safety concerns)	0,1060

Table 9.2 Fuzzy-AHP weights of factors under the theme regarding the sources of change in relation to educational activities and methods

Sources of change in relation to educational activities and methods	Fuzzy AHP Weight
Providing space for physical activities and sports	0,1753
Need for subject-specific, devoted spaces for lessons	0,1598
Need for science laboratories	0,1533
Providing space for music lessons Providing space for plastic arts lessons	0,1501
Creating opportunities to conduct the lessons outside the school	0,1242
Need of space for foreign language lessons Need of a computer laboratory	0,119
Improving the design of spaces to allow the use of different educational methods	0,1183

Table 9.3 Fuzzy-AHP weights of factors under the theme regarding spatial changes required in relation to informal learning and recess time activities

Spatial changes required in relation to informal learning and recess time activities	Fuzzy AHP Weight
Efficient use and access to outdoor space	0,1633
Providing space for socio-cultural activities and additional courses	0,1579
Providing space for reading and individual studies	0,1548
Improving the social areas, common informal spaces for break-out times	0,1369
Need for a multi-purpose space with a stage for drama activities	0,1362
Providing natural elements in outdoor environment	0,1309
Providing space for the exhibition of student works	0,12

Table 9.4 Fuzzy-AHP weights of factors under the theme regarding spatial needs of children's psychological, physical development, and academic motivation

Spatial needs of children's psychological, physical development, and academic motivation	Fuzzy AHP Weight
Providing space for play and movement needs	0,1993
Increasing children's attention and motivation during the lessons	0,1883
Quality of the overall design according to children's needs	0,1638
Improving the school design according to age and classroom-level differences between students	0,1637
Providing space for observation and experimentation	0,148
Providing space for children's self-expression needs	0,137

Table 9.5 Fuzzy-AHP weights of factors under the theme regarding the sources of change in relation to spatial dimensions and qualities

Sources of change in relation to spatial dimensions and qualities	Fuzzy AHP Weight
Allowing changes in classroom layout and organization	0,1936
Inadequate number of standard classrooms	0,1874
Inadequate size of the standard classrooms and learning spaces	0,1852
Providing variety of spaces for educational activities	0,1741
Providing general accessibility	0,1406
Providing comfort	0,1191

learning spaces were listed. It can be interpreted that classroom-related spatial issues were regarded as less significant in comparison with the other concerns. Need for the spatial design to allow changes in classroom layout and organization has become the most critical category under this theme. The fifth theme included only one category

regarding the increasing trend in the population of enrolled students, and the subcategories under the sixth and seventh themes were considered as not directly relevant to the subject discussed here. Thus, the related tables are not given provided below.

The analysis of the results indicated some prominent common issues emphasized by the teachers regarding many dimensions of space's relation to educational activities. The first two of them are the need for alternative spaces inside the school in addition to classrooms and the need for spatial variety. The prominence of this factor in teacher's comments points out that the conventional, enclosed classrooms are found to be insufficient, and there is a need for alternative areas beyond the classroom to conduct diverse educational activities. The need for subject-related spaces for science and art lessons was also stressed out. Another important point mentioned by the teachers was the need for well-designed outdoor spaces and the integration of natural elements in these areas to be both utilized during the lessons for learning by doing and recess periods to encourage children's play and movement needs. Teachers mentioned that primary school children have a particular need to have opportunities to move around and do physical exercise. A third common issue that can be inferred from the review of factors is that children need more space to express themselves through performance and exhibiting their work. They also need alternative spatial opportunities to spend their time and to socialize inside both during lessons and free time to learn from each other. The data gathered from the teachers point out that they are aware of the importance of out-of-classroom, informal learning activities for the development of children, and they underline a demand for spatial design to accommodate the requirements of these processes.

9.8 Highlights from the Findings of the Second Phase

The analysis of the functional changes indicates that there have been some similar situations that have been experienced in the way how educational spaces are utilized, and common modifications have been made in all school buildings. The highlighted issues derived in the second phase are listed below:

- The examination of the school plans regarding functional changes indicates a contradictory position to the need for spatial variation, as emphasized by the teachers during the survey phase. The existing alternative or subject-specific areas has also been converted to standard classrooms,
- The educational activities have been solely performed in the classrooms; other options are not accessible,
- The form and scale of the classrooms and furnishing do not allow re-arrangements or different interpretations for different educational methods,
- As also confirmed by many teachers, children spend almost all their time inside their classrooms or in the school garden during the course hours as well as the recess times. There are no additional defined spaces to play, sit, rest, or to have the course-related activities outside the standard classrooms,

- There are abandoned or inaccessible subject-specific learning spaces and social areas on the basement floors. These spaces, as well as the double-loaded corridors, have not been utilized efficiently. They are not provided sufficient daylight and ventilation,
- Natural elements are not given a place in the school gardens (Fig. 9.2),
- There are inaccessible areas within school gardens due to the existence of unused or unsafe areas due to the shape of the building site and the allocation of the buildings within the site (Fig. 9.3),
- The physical relations, as well as the visual connection between the interior and exterior to support the utilization of outdoor areas, are weak, and children reach the school garden solely passing through the main entrance doors,
- The building blocks are approached as totally discrete spaces from their surrounding landscapes,
- There is a lack of spatial variability and well-defined activity areas through appropriate material and equipment, considering the particular developmental needs of primary school children.

It can be interpreted through the examination of the findings that the design of schools, in a way, dictates a single type of learning for students through a teacher-centered approach, often inside the classrooms. The situation has been both evident in teachers' comments and the information obtained through observations at schools. Informal learning processes, learning through exploration and interaction, have been disregarded.

Fig. 9.2 Exterior views of the visited primary schools within the scope of the study

Fig. 9.3 Amount of accessible areas during actual use in the schoolyards of the visited primary schools

9.9 Re-Imagining of Boundaries in Turkish Primary Schools: Blurring the Borders

In line with the review of different explanations on their definitions, it can be considered that boundaries and borders can serve for delineating the functional, hierarchical, characteristic differences between spaces, and thresholds are formed as mediating zones between spaces with distinct features. From the examination of school projects which were included in the field study, it is possible to infer that the need for differentiating the physical space at schools mainly occurs in three forms. One of them emerges as the need for defining and characterizing a core learning environment according to the changing needs of children who belong to different levels of age groups or levels. Secondly, differentiation is required to determine the borders of accessible areas at school, which have the potential to contribute to the educational activities. These diverse areas can be subject-specific spaces, meeting and gathering areas, or other shared spaces that are often defined according to the way how educational activities are performed in these spaces. The final category of boundaries is required to be set between the school building, the landscape of the building-school garden, and its surrounding urban context.

In conventional school layouts, as it has also been observed in the prototype-based primary schools visited within the study, a common dominant form of constructing borders is the creation of almost totally enclosed standard classrooms, strictly separated from the other shared spaces with walls. Teachers pointed out the need for being able to make re-arrangements inside the classrooms and additional thematic areas to conduct the lessons, such as art rooms or science laboratories. It has been understood from the responses that the lessons are mostly needed to be conducted through hands-on activities inside the classroom or in the way that the teacher explains and directs the lesson according to the current curriculum. As a general idea, the data obtained through the field study showed that the concept of a classroom or a core learning unit seems to be needed in parallel to the current and near-future expectations of the educational system in Turkey. However, classrooms' form and relations with the other spaces at school to support informal learning processes can be discussed for the development of new strategies.

Core learning units constitute the most private zones for children at schools. Children's having separate, private space inside the school is demonstrated to develop a sense of belonging and sense of being through personalization in many studies. Thus keeping and defining these private zones can have positive aspects. In the existing schools, allowing re-arrangements inside the classrooms can be practically achieved by movable dividers, furniture-scale solutions. Classrooms can be divided into different sections without solid borders simply by using changes in color, texture materials. For the development of future school projects, alternative approaches to classroom layouts can inspire the design processes. In these terms, some earlier examples, such as Hans Scharoun's "dwelling-like" units (Blundell Jones 1995) or Herman Hertzberger's "articulated classrooms" (Hertzberger and De Swaan 2009) can also be examined as relevant proposals. In these projects, spatial differentiation is achieved through level differences and with almost invisible borders. In these

projects, separate learning units are given direct physical and visual access to the outdoor landscape or exterior terraces, recognizing the natural environment's role in learning through experience. However, it should be noted that changes in the form of the classrooms always need to go hand-in-hand with the teaching methods.

Through the examination of school projects included within the field study, it was seen that, like all other spaces at schools, the classrooms are defined by walls, and their relations with common areas and the outside environment are weak both in visual and physical terms. More permeable borders between the classrooms and common areas can be set in visual terms. As also asserted by Hertzberger (2008), transparency and maintaining visual relations between spaces can support students' needs for social integration and learn from each other. This can be achieved by utilizing transparent dividers between the classrooms and circulation zones so that children can have an idea of what their other peers from the school community are doing and gain an opportunity to communicate through displaying their works. Besides, the openness in both visual and physical terms can make students feel that the corridors are still their domain. This strategy can also help to bring daylight to the common spaces located between the classrooms.

The optimal amount of openness in physical terms at schools also have been studied by some scholars. For instance, in a recent study, Tanić et al. (2018) demonstrate that there is a need to achieve a balanced relationship between a strictly defined and an open-form of the physical environment to provide conditions in which school children can express their attitude toward their immediate social environment through their behavior. According to the authors, this includes the organization of a dynamic and shifting environment, spatial planning, which needs to enable a higher degree of privacy in certain zones (Tanić et al. 2018). The influence of the form of the borders can mostly be recognized in degrees of openness from the private to the public domains and modes of enabling learning activities and social encounters in common spaces. Thus, for the development of new school projects, gradual transformations between the private zones of the classrooms and the public domain of the communal areas can be defined with more permeable boundaries such as semi-height partitions or appropriately designed furniture. These transitional spaces can be utilized for exhibiting student works, seating areas, or corridor libraries.

The need for alternative spaces for learning activities has been strongly emphasized by the teachers. Their conceptions of these areas are primarily based on their previous experiences with subject-specific areas, in the form of enclosed rooms equipped with the necessary technical or instrumental features. The examination of the alterations performed in the school projects shows that the tendency to utilize all the available areas as standard classrooms has caused the conversion of most of the once-existing subject-specific spaces. Even though it would not be possible to create a science laboratory without the appropriate equipment, some other thematic areas to conduct lessons can be for schools. Since the lack of space is one of the primary problems, these thematic spaces can be multi-functional gathering areas in the existing schools. For instance, amphitheater formed informal seating areas that can be used for both drama activities and socialization during recess times can be given place. A similar design approach can be recognized as evident in some of

Herman Hertzberger's projects as amphitheater stairs, located at the center of the school as a focal point (Hertzberger and De Swaan 2009). Informal learning zones can be integrated into the circulation. Different themes can be assigned to these spaces using graphics, materials, appropriate furniture, and other pieces of equipment, and they can be both utilized as an alternative learning environment during the lessons and free times. This approach can support the blurring of boundaries between the formal and informal spaces of learning, and the whole school can be considered holistically as a venue for learning with its all spatial components for future projects.

Another point highlighted by the teachers was the lack of accessible and convenient spaces to support the play and physical exercise needs of the students. There were not sports halls, or the existing ones were not open to use due to the insufficient ventilation and obsolescence except a few of the visited schools. In many of the visited schools, physical exercise and play sessions, which have a part in the formal curriculum, are being conducted in the schoolyards in suitable weather conditions. However, especially during the winter, they usually have to spend their time inside the classrooms. Play and movement play an essential role in primary school children's development and general well-being, as both proved in the literature (Žaltauskė and Petrauskienė 2016) and as underlined by the teachers. Thus, children can be provided semi-sheltered zones in the playgrounds, which can act like thresholds that make the outside environment used more efficiently for play, movement, and socialization needs in the existing schools. Moreover, the setting of more permeable indoor-outdoor relations to extend the space for learning at schools and the design of versatile and dynamic outdoor spaces where children can choose, create, change and be in charge of their play environment can support the learning processes. For future projects, more radical changes in school typologies can be discussed to set up stronger interior-exterior relations. It may be concluded that the reconsideration and reintegration of spaces beyond the classroom to contribute to the educational activities inside and outside the schools by the use of more permeable boundaries can contribute to the solutions of the existing issues in primary schools.

9.10 Conclusion

School architecture authorizes and emphasizes certain possibilities for teaching and learning by the exploration and expression of the intended program of its users (Deed and Lesko 2015). The literature review reminds us that re-handling the physical boundaries at schools can help the fading away of the borders that once existed between classroom and corridor, teacher and student, and the theoretical knowledge and learning through experience. Utilizing school architecture as a background to the development of children emerges as a necessity that requires to be given more attention considering its significant influence on learning practices. Further research on alternative methods of approaching school design beyond the conventional models can present hints about the ways of enriching learning processes through the establishment of flexible and elaborated boundaries.

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Yasemin Burcu Baloğlu, Ph.D. received her Bachelor Degree from Bilkent University, Department of Interior Architecture and Environmental Design, in 2008. Between 2008 and 2010, she has worked at the same university as a Research and Teaching Assistant and completed a Master of Fine Arts program focusing on environmental psychology and design with a full scholarship. Following her graduation, she has participated in prominent interdisciplinary studies conducted with international agencies and made contributions to architectural competition projects with different architecture firms and design offices. She has worked as an interior designer on many projects with various programs and scales. In 2013, she completed the hospitality design program at the Domus Academy in Milan. Currently, she is a full-time faculty member at MEF University Faculty of Arts, design and Architecture. She has been teaching interior design studios and interior design theory courses since 2017. In 2020, she completed her Ph.D. studies in Architecture and Design programme at Bahçeşehir University. Her thesis study focused on the relationships between the design of learning spaces and educational practices.

Prof. Sema Esen Soygeniş graduated from Robert College of Istanbul, received her architectural degree from ITU in Istanbul. She received a Master of Architecture degree from ITU. She received a scholarship and a fellowship from University at Buffalo (UB) New York and received a Master of Architecture degree in Advanced Building Technology Program at UB. She co-founded her own studio in 1990 and practiced as an architect in the USA. She completed Ph.D. studies at ITU. Currently, she is a faculty member at Bahçeşehir University, Faculty of Architecture and Design. Her research areas are architectural design, theory, architectural education, urban space, and housing. Her research works have appeared in international publications and are cited. She is the author of the book "Mimarlık düşünmek düşlemek" (2006) ('Thinking and Imagining Architecture') which has been used as a reference book. She is the co-author of "Istanbul: An Urban Commentary" (2006). Her projects were exhibited at the Baltimore AIA Gallery (1990, 2002), School of Architecture and Planning Gallery at UB (2002), House of Architects in Moscow (2008) and in many cities in Turkey. She teaches architectural design studio and theory courses.

Chapter 10
Here Today Gone Tomorrow: The Invisible Boundaries of Periodic Markets

Ümran Topçu

Abstract The global spread of the supermarket and the shopping center is causing a convergence in consumer patterns in cities all over the world. Nevertheless, market place trading is continuing to keep its key position as a common means of retail change. Turkey and Istanbul in general are no different from this trend. Over the past three decades or so, urban studies have witnessed cultural shifts in physical sites for commodity exchange as symbolic territories. With their invisible boundaries neighborhood, periodic markets in Istanbul are among these territories. Challenging the view of these retail channels are used out of economic necessity, urbanites from all income and socio-economic levels use periodic markets to satisfy their needs for food, clothing and various other items without considering the proximity of their locations. Periodic markets are based on *location, mobility and periodic time schedule* patterns. Some of the periodic markets have been operating within their known locations since centuries. Most periodic markets have similar products, similar marketing patterns, similar architecture and even similar olfactory characteristics defining their temporary versus permanent boundaries. Periodic markets, in some cases described as *temporary organized chaos* in the literature, are still meaningful and part of traditional life style in Turkey and Istanbul.

Keywords Istanbul · Alternative shopping · Periodic market · Invisible boundaries

10.1 Introduction

Periodic markets, which continue to be reminders of rural retail trade in many parts of the world, meet periodically at certain locations with set time schedules. Such periodic markets are the basic component of the spatial structure of rural retailing in Asia, Africa and Latin America. Skinner (1964) posited that periodic markets correspond to the lowest levels of the hierarchy of central places that serve the need

Ü. Topçu (✉)
Faculty of Architecture and Design, Bahçeşehir University, Abbasağa Mah. Ihlamur Yildiz Cad. No: 10-B 8th Floor, Beşiktaş, Istanbul 34353, Turkey
e-mail: umran.topcu@arc.bau.edu.tr

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for goods and services in an economy. Over the past three decades or so, urban studies have witnessed cultural shifts in physical sites for commodity exchange as symbolic territories. With their invisible boundaries neighborhood periodic markets are among these territories.

Formal retailing literature is abundant on North America and West Europe but there seems to be less amount of research on developing countries. A rich literature on periodic markets in Latin American countries is available (Bromley 1974; Moser 1980). However, research on periodic markets is increasing in the developing countries (Tokman 1992; Bromley 1998).

The term *pazar* as is used in the Turkish context, has its origin in Persian as *bazaar*, coming from ba (food) and zar (place), has survived many centuries and reached today as the *periodic market* in both Istanbul and Turkey. Being at the intersection of trade routes Istanbul has always had many bazaars in her long history, some of which have survived until today. The busy commercial Mahmut Pasa locale of the old CBD of Istanbul was Macro Embolos back in the Byzantine era. The names have changed but what remained the same are the loud and attractive calls of the sellers. Not only the many bridges or the boats, but also these calls bring together the two sides of Istanbul. Echoing calls of many bazaars on both sides of the city never stop. The traders seem to call each other, every day from Asia to Europe and from Europe to Asia (Kayabal and Nur 1997).

Periodic markets manifest themselves as small, labor-intensive trade units. As the simplest and most energy efficient form of retail, periodic markets have survived many years of growth. The virtue of this trading form has traditionally been its flexibility (Dökmeci et al. 2005). Hierarchically, periodic markets range from farmers' markets which open up in relatively less central empty locations on certain days of the week, to periodic markets which open up in central locations in the city with spatial cultural differences.

Cultural theorists oppose the view that informal retailing, like periodic markets, is practiced by disadvantaged urban consumers because of economic necessity, instead they view such practices as a matter of choice (Williams 2002). Besides providing basic goods, such as fresh produce and satisfying consumption needs, they also provide an environment of social interactions. Although some economic historians (Pounds 1974) claim that economic modernization is associated with a decline in periodic market consumer patterns in South America, Africa and some Mediterranean countries, their number and size are increasing, which is a direct indication of their capacity of adaptation to the needs of expanding and modernizing cities (Bromley 1998).

New means of shopping are forcing for structural changes in periodic markets all over the world. This is not the case in Istanbul. Even in the most traditional neighborhoods, periodic markets are surviving the changes and no decline has been observed in the *going to the periodic market* patterns of Istanbul residents. Periodic markets constitute an important part of a society's culture. In any country or any region, permanent or temporary periodic markets reflect local culture with their products, patterns of marketing, architecture, olfactory characteristics and with all of these (Tümertekin and Özgüç 1998).

The phrase *going to the market* is part of traditional life and culture both in Istanbul and Turkey. Neighborhood markets ranging from small farmers' markets operate in less central locations, mostly at crossroads of villages or periodic markets in different neighborhoods in cities. Periodic markets in urban areas provide a regular pattern of shopping as an alternative for shops, super markets and shopping malls. Periodic markets in urban areas not only provide urbanites the basic needs but also provide alternatives as a means of freedom of choice. From this point of view, neighborhood markets can also be called alternative shopping centers. Covered bazaars of the past and shopping centers of today provide a wide variety of choice of products being displayed together in a permanently designated area. The similar case is provided by periodic markets, at neighborhood scale in an open area, with their invisible boundaries and temporary nature. By providing relatively cheaper prices they provide additional chances for lower income groups and for developing areas.

Unlike retail spaces in the developed countries, Istanbul reflects a combination of many means of shopping alternatives, from the most primitive to the most update. The dual development results from the continuing migration and other bigger cities in Turkey follow Istanbul's pattern. New shopping centers and new marketing patterns have impacts on traditional periodic markets and their restructuring. According to research done by German researchers in 1976 on the Middle East including Western Anatolia, "*Even in the most traditionalist systems, periodic markets display a rather elastic view against modernist improvements*" (Gaube et al. 1976). The research also shows that periodic markets are prepared for restructuring. No matter what the structural changes mean, the concept of going to the market has not lost its importance both in Istanbul and Turkey, and does not look like to do so in the near future.

Urban sustainability can be associated with the preservation of diversified retail systems to respond effectively to the needs, wants and desires of different kinds of consumers (Erkip et al. 2012). Recent trends show that different urban retail facilities have distinct levels of resilience that can be empowered by sectoral and spatial planning policies. A better understanding of the role of consumption in the production of new urban spaces is imperative to capture the complexity of the consumption issue.

The abundance of periodic markets in the developing world is an important phenomenon, versus the permanent markets and marketing patterns of the developed world. There are some similarities in the selling patterns of the developing countries. For example, loudspeaker street sellers, who can serve door to door on demand and street sellers who park at crossroads, where marketing capacity is likely to be higher, show similarities both in Istanbul and in other cities in the developing world such as South America (Bromley 1974). There is comparatively increasing research on traditional retailing like periodic markets. Some studies (Özgüç and Mitchell 2000; Yagbasan and Canpolat 2006; Tuncel 2007; Akpinar et al. 2009; Koçak and Çakmak 2011; Aliağaoğlu 2012; Marino et al. 2013; Masoom et al. 2015) highlighted the reasons of preference for periodic markets.

Location, mobility and periodic time are the patterns that neighborhood periodic markets are based on. They have been the subject of many economic, social and spatial studies. These studies have indicated that theoretical background is necessary

to evaluate periodic markets in urban and rural areas. Before investigating Istanbul periodic markets, the theory of periodic markets and their characteristics should be examined for more theoretical information.

10.2 Theoretical Background of Periodic Markets

Stine (1962) was the first to develop a theoretical model to explain why markets are periodic. In low-density areas the level of demand is often too low to cover the fixed cost of a permanent store. Traders can overcome this constraint by visiting several market places in a regular, periodic sequence to aggregate demand from a wider geographical area. Stine studied periodic markets with central places approach in Korea. Stine's theory stood on two bases; a nonpermanent way of selling and a minimum and maximum of variety of goods, which Christaller used in 1933 to clarify his Theory of Central Place. Hay (1971) among others extended Stine's analyses. They outlined the conditions under which a trader will adopt one of the following strategies: mobile or itinerant trading, part-time trading from a fixed location or full-time trading from a fixed location.

Periodic markets, more commonly named as neighborhood markets or weekly markets or bazaars, are official public gatherings of sellers and buyers in a designated location on a designated time. This definition comes from Hodder (1965). Whether they are urban or rural, periodic markets have three basic properties: recurrence, mobility and changeability.

Existing on certain days, mobility between locations, changing the items of marketing, either attracting the buyer potential or getting to the already existing buyer potential are the factors that provide basis for the periodic or temporary markets phenomenon.

The two prevailing traditions observed when studying periodic markets and mobile marketing are: First one being *economic* and the second *non-economic* (Smith 1979). The non-economic tradition sees the subject as a social phenomenon (Tinkler 1973). The traditional economic approach sees it in two different ways. One is the Christaller's (1933) Theory of Central Place, the other one has a wider look explaining it with Theories of Location. Both of these views see periodic markets and marketing as economic phenomena. A third approach which views them as *eco-sociocultural* may be introduced. Periodic markets existing since very long times and existing in different parts of the world in similar patterns looks like has eliminated the third tradition which was found to be anti-theoretical. But, one common characteristic whatever tradition they belong to is the invisible boundaries they carry along with them.

10.3 Characteristics of Istanbul Periodic Markets

Academic tradition studies Istanbul metropolitan area according to three concentric zones: The Historical Core, The First Ring, The Second Ring. The Historical Core is up to 3 km. from the historical center of the city, the old CBD. The First Ring is between the core area and up to 12 km. from the center, in other words the boundary of the city before the migration of 1950s. The Second Ring is the peripheral area or the squatter zones.

Istanbul, with a population of 15 million inhabitants (2019), has got Turkey's highest buying capacity with the highest GNP and the highest frequency of economic activities. It is important to know the exact number of periodic markets that operate daily in Istanbul. According to the information (Table 10.1) obtained from the Istanbul Periodic Markets Association (2019) around 462 periodic markets operate weekly in Istanbul. It can be said that an approximate number of 60 periodic markets a day operate in Istanbul.

According to the spatial distribution of 462 periodic markets operating in Istanbul, while 316 of them operate on the European side, 140 operate on the Anatolian side and 6 on the Adalar district of Istanbul. In a previous study done by the author, 330 periodic markets operated weekly in Istanbul (Topcu 2006). In more than a decade, the number of periodic markets increased by 30% in Istanbul. Obviously, the increase in urban population is one of the reasons for the increase of periodic markets in number, but also it is an indication of economic forces continuing to dominate social life.

Periodic markets can be classified according to their size and prominence in the order of Salı Pazarı (Tuesday Market) in Kadikoy on the Anatolian side, Carsamba Pazarı (Wednesday Market) in Fatih and in Yesilkoy both, on the European side, Persembe Pazarı (Thursday Market) in Ulus, Mecidiyekoy and Bakirkoy all on the European side, Uskudar on the Anatolian side and, Cuma Pazarı (Friday Market) in Findikzade follows as smaller but much visited periodic markets.

Table 10.1 The distribution of the number of periodic markets according to the days of the week

	[a]No of Periodic Markets
Monday	55
Tuesday	63
Wednesday	68
Thursday	70
Friday	64
Saturday	74
Sunday	68
Total	462 Periodic Markets

[a]Records of the Municipal Government of Istanbul (2019)

Periodic markets with 50–100 stalls are categorized as middle-size and the ones with 10–15 stalls as small size. The traders either gather in an empty area, like in Ortakoy or line up along one or two streets, like in Heybeliada.

Food stuff and items for daily use are sold together in Istanbul's periodic markets. The size and the location of the market are two factors acting upon quantity and the quality of the items sold and profile of the traders. While foodstuff is the main item in smaller periodic markets, it is possible to buy household items like TV and refrigerator in larger periodic markets.

Location is significant on the item range in smaller periodic markets. For example, Ferahevler in Tarabya is a small size periodic market but the availability of ready wear garments differentiates this market from other small size markets due to its location. The location happens to be far from central business districts and has no shops selling similar items. The existence of three stalls selling only head scarves is associated with the conservative profile of the neighborhood. As for the interior design of the periodic market stalls, specialist divisions are kept apart. For example, foods and daily items are displayed in separate divisions. Depending on the size of the periodic market, ready wear garments and other daily items are separated by subtle boundaries. As a significant example, in Wednesday Market of Fatih District, only a single item is sold on some of the streets. Leather goods like shoes and bags and electronic items are sold on certain streets. Although there is availability of variety in all larger periodic markets, some items sold are significant for some markets. For example, Thursday Market in Ulus Neighborhood is specialized in ready wear garments, bric-a-brac, leather goods and small household items. Food is also available but in a few stalls at higher prices. In such cases, upper-middle-income group of buyers are reported to buy their food from the neighborhood supermarkets. As for the nonlocal periodic market visitors, they prefer to buy only ready wear garments.

Quality range besides variety range makes the periodic markets different from each other. Larger periodic markets offer a wider range of quality and hence higher prices. For example, Yeşilkoy and Ulus periodic markets are better known as high-society periodic markets offering a wide variety of quality, ranging between the genuine and imitations of famous brands. These two periodic markets are famous for ladies wear. They go to extremes like providing portable changing cabins in some stalls to encourage the ladies. In Ulus periodic market, some stalls offer credit card services. Price is always the primary factor in the preference of periodic markets as a shopping alternative.

Smaller periodic markets and lower income neighborhood periodic markets tend to trade with lower prices. Same items are sold at higher prices in larger periodic markets by the same sellers. From this point of view, Friday Market in Findikzade Neighborhood turns out to be the cheapest whereas Wednesday Market in Yesilkoy Neighborhood happens to be the most expensive. Besides location, relativity of prices may depend on the items, seasons, time of the day and even on weather.

Periodic market trading has continued to proliferate both in Turkey and Istanbul. Progress in transportation has been a key factor of retail change. Most sellers have their own transportation facilities. Free trade policies have increased the chances for the traders.

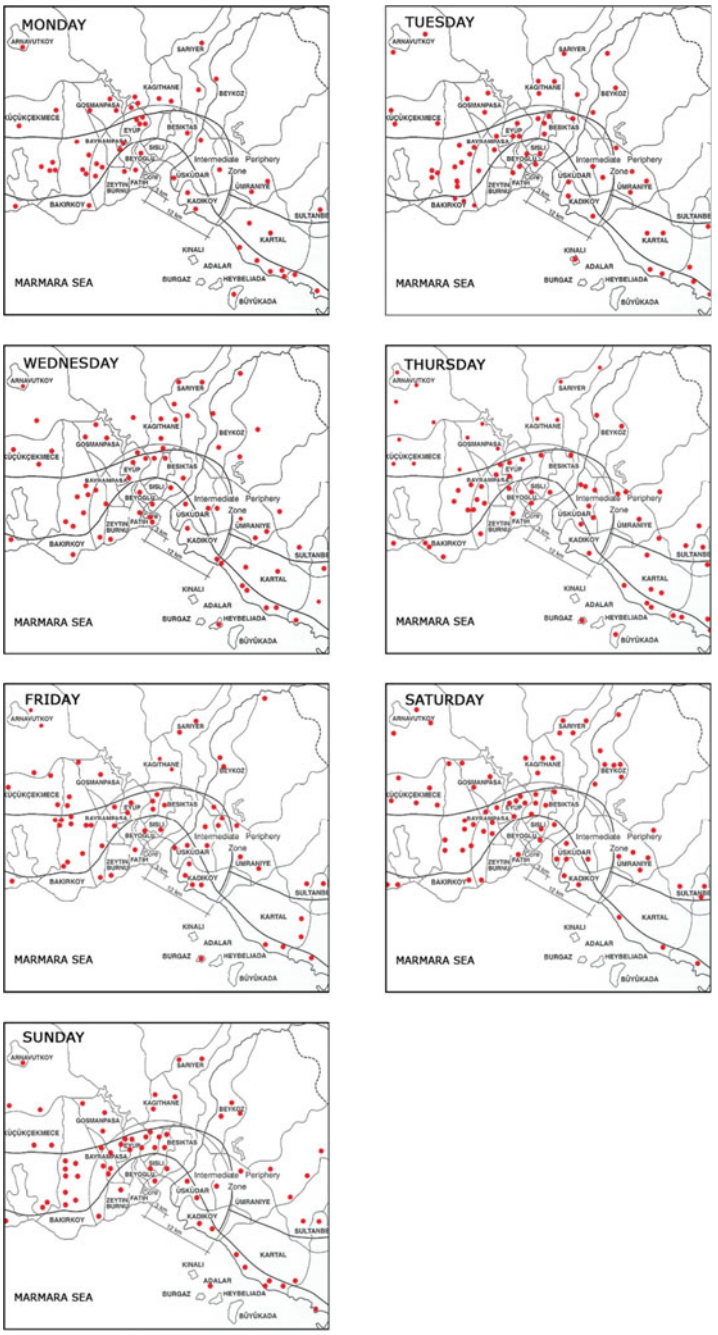

Fig. 10.1 Distribution of periodic markets according to the days of the week in Istanbul

Periodic markets in Istanbul are spread all over the city and hence create an intercity central place system. The bigger and more famous periodic markets are gathered in more central locations so as to attract bigger agglomerations of traders. They are better known as neighborhood markets. They also have metropolitan and regional central place importance.

Spatial distribution of periodic markets in Istanbul shows a regular pattern. So, periodic markets in Istanbul can be said to have compatibility of time and place. Urbanites who have missed the periodic market of one locale can catch up with the neighboring periodic market. Buyers can also commute between neighboring markets just like the sellers. Next to the area of influence of a periodic market, another one exists within close proximity. This situation creates a horizontal complementary characteristic both for the sellers and the buyers alike.

Central and peripheral periodic markets have important differences according to goods sold and according to the profile of buyers and sellers. While size constitutes the first difference, variety constitutes the second. Periodic markets on the periphery are smaller in size and the variety of goods they offer. They mostly depend on food. Sellers are mostly the producer in cases like in Sariyer and Beykoz periodic markets. While the peripheral periodic markets are more simple and quiet with their local buyers and goods, the central ones are more crowded and complicated. The central periodic markets offer much larger economic and social attractions which sometimes go to extremes and make shopping impossible. The time/location maps of periodic markets of Istanbul Metropolitan Area are indicated in Fig. 10.1.

10.4 History of Periodic Markets in Istanbul

History of periodic markets can be traced back many centuries. By the times when Istanbul was a walled city, it was forbidden to sell agricultural products inside the city walls. Sellers from the villages could only sell their goods outside the city gates, at certain places allocated for them. As the city grew, the spaces occupied by market traders also grew and the citizens got used to them (Göktaş 1996).

Through history it is known that after the conquest (1453), Istanbul was administered through four divisions governed by four kadis (judges): Istanbul, Galata, Eyup and Uskudar. It is also known that, as being one every day, seven big markets operated in Istanbul. Such as Wednesday market in Fatih, Thursday Market in Galata and so on. In the eighteenth century, specialist markets operated on certain days of the week such as Flea Market, Chicken Market, Slave Market and Woman's Market (Göktaş 1996).

Istanbul's existing central city periodic markets can be traced back to 50–100 years. As a primary example, Friday Market in Sehremini has been operating since 1920. The very prominent (Sali Pazarı) Tuesday Market in Kadikoy District operated as a Farmers Market between 1930 and 1944. After 1944 it grew larger in accordance with Kadikoy's urban growth. In 1970s it transformed into its current form. Good for Kadikoy's residents, Sali Pazari has survived the latest radical urban

regeneration project by relocating its invisible boundaries. Wednesday Market in Fatih District, with its very long history, has gained its fame through immigrant populations from Anatolia, after 1950s.

10.5 Periodic Markets' Buyers and Sellers

A common observation for periodic markets buyer characteristics is that, almost 90% of all buyers are female and over 75% of all sellers are male. Males among buyers are mostly husbands escorting wives or husbands whose wives cannot come or veterans. In midwinters and midsummers, at back to school times, prior to Religious Festivals, Mothers' Day and the New Year, the customers maximize. Daily varieties take place besides the seasonal ones. Mornings are for those who like to finish shopping while the market place is quiet. Housewives who have no concerns for the relatively higher prices of the morning prefer the morning hours. Noon time is for working people. Evening is for those that go shopping after work. Number of male customers increase in the evenings when the prices are lower. Late evening shopping is for the poor and the free loaders.

According to Göktaş (1996), until 1861 only the Muslim population was allowed to open a grocery store. So until then minorities used to be periodic market sellers if they preferred to get involved in marketing kind of economic activities. With the rush to urban areas after 1950s, periodic market sellers began to show a wider variety in geographic origins. Because periodic market trading activity did not require substantial investment as a start the immigrant population settled for these kind of jobs. The famous quotation *I can make a living by selling lemons* is almost identical with market place sellers.

As for the origins of sellers, they might be from all regions of Turkey. Some sellers cooperate to make citizenship groups of solidarity. It can be said that majority of Istanbul periodic market sellers have their origins in the South Eastern Region and the ones from Middle Anatolia Region follow.

According to the chamber of periodic markets records, it is difficult to register the total number of sellers in Istanbul periodic markets. Number of sellers are observed as higher in central periodic markets but the numbers are always subject to change, as there is a seasonal shift in formal registrations. For central districts like Kadikoy, Besiktas and Fatih periodic markets, the average number of sellers is over 3500. The number may increase to 5000 according to seasons and with car booth sellers and suitcase sellers.

Family products are sold by female members of the family in rural areas. In some rural areas, there are periodic markets run only by females. In urban areas due to no direct relation with production, periodic marketing business seems to have stronger connections with male citizens.

Although it is customary in Istanbul that the majority of sellers are male and the majority of buyers are female, in the recent years, in central location periodic markets ratio of female sellers is getting higher compared to more peripheral areas in

the fringes of the metropolitan area. In some periodic markets female sellers are only seen in stalls where female underwear is sold. According to records of municipal government records (2019) in larger central location periodic markets, 20% of sellers are female. The highest ratio of female sellers is recorded in Ulus periodic market, which is 38%. It is observed that the number of female sellers increase every year. Younger portion of the sellers can be seen in periodic markets as lemon sellers, tissue sellers and peg sellers without a stall.

A similar marketing performance in all periodic markets is observed all over the world. Sellers with loud voices try to be heard and also try to look as colorful as possible. They also create a periodic market literature (Kayabal and Nur 1997). This totally depends on the sellers' marketing skills and power of attraction. Along with customer profile, they are able to blend in physically with the community and create a local identity in accordance with the invisible boundaries of the periodic market. Sellers and buyers appear and disappear at regular intervals, setting their invisible boundaries visible, once a week.

10.6 Periodic Markets Create Negative Impacts with Their Invisible Boundaries

Growing pattern of İstanbul has acted upon the proliferation of neighborhood periodic markets. Especially since 1960s, they proliferated parallel with the squatter areas, as it is called a bilateral impact in the urban planning literature. For example in Bahcelievler and Bakirkoy periodic markets opened up in 1964 augmented the growth of the neighborhood.

As urban plans did not include a certain location for periodic markets in Istanbul at that time, it was not easy to explain the spatial distribution of periodic markets by urban planning criteria only. In newly planned neighborhoods such as Atasehir and Bahcesehir, the overall plan includes a place allocated for a periodic market. In case of an unplanned neighborhood, when the so-called neighborhood reached a certain population, it called for a periodic market to serve the locale. Depending on the area and the population, periodic markets may open up more than once a day in a week. On the second performance, it may either occupy part of the whole market place. This way their boundaries expand and shrink invisibly.

Istanbul's bigger periodic markets have a larger spatial impact, which attract customers from neighboring towns and even cities. Kadikoy's Tuesday periodic market attracts customers from neighboring cities like Bursa, Edirne and Tekirdag. So, periodic markets even if they open up once a week, they have blocking effects over the city. In the literature we find the terminology of *organized chaos* that describes the periodic markets (Backes 2001). The organized chaos is here today and goes to another location tomorrow.

As for the spatial organization of periodic markets in Istanbul, streets are closed to normal traffic, allowing only the vehicles that carry the products for sale. In central markets, they do not always give the opportunity to local residents to choose the

product like supermarkets. Some periodic markets create larger spatial impacts by proliferating over larger areas. Wednesday market of Fatih District makes a perfect example by distributing over three streets completely and 36 sub-streets and extends partly to neighboring streets creating a large network. Saturday market in Besiktas district scatters over a slope where there is an inconvenience of topography with level differences of 5–10 steps. Traffic jams are seen as a common problem for all Istanbul, created by periodic markets.

Another common problem experienced in most periodic markets in Istanbul is that, around ten children get lost every week in periodic markets of central locations, according to local police statistics. Although the main cause is overcrowding, lost children do get to their parents.

10.7 Conclusions

Istanbul has always had a variety of traditional and modern retail spaces, ranging between street shopping to world famous covered bazaars. Today, with continuing migration along with the effects of globalization, both traditional and modern retail systems support each other to serve the needs of growing urban populations. Urban sustainability can be associated with the preservation of diversified retail systems to respond effectively to the needs, wants and desires of different kinds of consumers. Recent trends show that different urban retail facilities have distinct levels of resilience that can be empowered by sectoral and spatial planning policies. The role of consumption in many forms has an effect in the formation of new urban spaces, like the periodic markets with invisible boundaries. Periodic markets lay territorial claim both in high status neighborhoods and low-income neighborhoods, although quality and price may go to extremes.

Periodic markets have always been successful in bringing the customers and the sellers together at regular intervals, at the same place every week. Location is the primary factor for periodic markets. There is a strong correlation between the location and the success of the periodic market. Periodic markets of the central locations try to keep their regular locations unchanged. As the urban population increases, the demand for increase in their size also increases, which physically cause more streets included in periodic markets' boundaries. Urban growth patterns in Istanbul do not allow for more space for periodic markets. Unfortunately, they may come to terms with losing their regular locations. Despite the direct and indirect economic advantages of periodic markets, increased noise, pollution, insufficient place for parking and traffic congestion are the major complaints.

Today, while holding an important part in the country's industry, trade and globalization, periodic markets in Istanbul have kept their importance since centuries. This fact cannot be explained by location theory only but by the historical development of urban populations, by the social structure of the city, and by possibilities for growth.

Table 10.2 The distribution of population, the number of periodic markets according to districts in Istanbul (2019)

	Districts	[a]Population	[b]Number of periodic markets
Core	Beyoglu	233.323	9
	Fatih	443.090	12
1. Ring	Besiktas	182.649	10
	Eyup	400.513	14
	Kadikoy	482.713	15
	Sisli	279.817	9
	Uskudar	531.825	18
	Zeytinburnu	293.574	8
2. Ring	Adalar	15.238	6
	Arnavutkoy	282.488	12
	Atasehir	425.094	10
	Avcılar	448.882	10
	Bagcılar	745.125	14
	Bahcelievler	611.059	10
	Bakırkoy	229.239	12
	Basaksehir	460.259	19
	Bayrampaşa	274.735	17
	Beykoz	248.260	12
	Beylikduzu	352.412	10
	B.Cekmece	254.508	10
	Catalca	73.718	6
	Cekmeköy	264.508	12
	Esenler	450.344	14
	Esenyurt	954.579	22
	G.O.P	491.962	16
	Gungoren	289.441	12
	Kagıthane	448.025	15
	Kartal	470.676	11
	K.Cekmece	792.821	17
	Maltepe	513.316	11
	Pendik	711.894	19
	Sancaktepe	436.733	12
	Sarıyer	347.214	10
	Silivri	193.680	8
	Sultanbeyli	336.021	10
	Sile	37.692	6

(continued)

Table 10.2 (continued)

	Districts	[a]Population	[b]Number of periodic markets
	Tuzla	267.400	10
	Umraniye	710.280	14
Total	38 Districts	15.090.062	462

[a]State Institute of Statistics (2019)
[b]Records of the Municipal Government of Istanbul (2019)

Periodic markets provide job alternatives for the urban population as well as shopping alternatives. These alternative retail channels are seen as a matter of choice, not lack of choice.

Periodic markets have a tendency to establish strong links with surrounding areas. Urbanites see them as good fun seeking out something different or more fun thing to do in the weekend. In order to serve the congregation of people, a host of activities begin to converge on these invisible boundaries. Good and dense transport network, banks, storage points, grading establishments, packaging, telephone links tend to get strengthened. By the virtue of establishment of the periodic market, the income of the settlement establishments is enhanced. Thus a chain effect takes place on the account of the establishment of periodic markets. The periodic market with its invisible boundaries paves the way for visible local and regional development. Further research can be done at certain time periods to check the economic role of periodic markets within the retail system of Istanbul (Table 10.2).

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Ümran Topçu is an Associate Professor at Istanbul Bahçeşehir University, Faculty of Architecture and Design. She worked as a design architect at C.I.E Consulting Engineers in London (1982–1983), and in Riyadh (1984–1995). Since 2003 Topcu teaches Architectural Design Studies, People and Environment, Urban Narratives and Architectural Research Methodology at Istanbul Bahçeşehir University Faculty of Architecture and Design. Topcu's areas of interest are Architectural Design, Architectural Education, People and Environment, Neighborhood and QOL. Topcu contributed to QOL Literature with Chapter No:1934 "Neighborhood Well-Being" in Encyclopedia of Quality of Life and Well_Being Research" (A.C. Michalos ed.). https://doi.org/10.1007/978-94-007-0753-5, Springer Science + Business Media Dordrecht 2013. And she is the first author in a chapter titled "A Participatory Process:Creating Child Friendly Environments" in the book Perspectives on Community Well-Being (Y. Kee, S.J. Lee, and R. Phillips eds.)

Springer, Cham. Dordrecht, The Netherlands. https://doi.org/10.007/978-3-030-15115-7_3. She has been coordinating the International Summer and Winter Workshops between UPC ETSAB and BAU FA&D, held in Barcelona and Istanbul since 2012. She has a special interest in reading, writing, sketching, mentoring and traveling. She has authored a book published in May 2019 titled "Barselona, Şehir/Mimarlik GAUDI."

Chapter 11
Future Sociability in Public Spaces

Maan Chibli

Abstract Technology has redefined new forms of social interactions creating new borders and imposing changes to facilitate these new forms of interactions. People are more and more isolated and tend to spend even more time indoor, which results in greater isolation from public life. So, digital aspects have formed borders of different scope: physical boundaries between indoor-outdoor life and social borders with the new social practice that focuses on individuality. Social relationships are increasingly virtual. Thus, to overcome this situation, public spaces present a promising opportunity to facilitate these new forms of social forms imposed by the digital life, which affect people's behavior. This paper aims to explore the duality created in public spaces through the introduction of new technologies. It will attempt to examine the interfacing between the digital and un-digital aspects of our public spaces and the borders and demarcation lines they create. It will question to what extent technology should be introduced in our public life particularly as the borderline between public and private is starting to recede after social media has invaded most people's reality. The paper will review inclusive designs of public space using digital technologies (smart urban furniture, smart platforms, bench design, etc.) to transform boundaries and promote new types of social interaction congruent with digitally driven lifestyles. The paper will undertake as a case study the area of "Ortaköy Square" in Istanbul where fieldwork was conducted to test the consequences of introducing digital technologies into public space.

Keywords Sense of place · Digital public place · Social interactions · Technological borders · Urban identity

M. Chibli (✉)
Faculty of Architecture and Design, Bahçeşehir University, Abbasağa Mah. Ihlamur Yildiz Cad. No: 10-B 8th Floor, Beşiktaş, Istanbul 34353, Turkey
e-mail: maan.chibili@arc.bau.edu.tr

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11.1 Introduction

Cities are motored by complex and intricate dynamics; they are where human connections are intensified, encouraging both social inclusions by bringing the people together and social stratification by creating boundaries. It is generally accepted that spatial design and the development of cities play a determinant role in defining the quality of life and the extent of social interaction. Urban sprawl, distances between various sectors inside the city and the separation between urban functions create unsurmountable barriers for most citizens. To make positive contributions to the continued development of cities within an increasingly urbanized world, a better understanding of the relationship between people and space is needed. Most people fulfill everyday life's necessities through social relations, either directly or indirectly (Vis 2018). Physical interactions and relations are diminishing in favor of virtual ones. And this will have important consequences on how cities enable their residents to meet their social needs.

The perception and design of public places changed along with the evolution of urban life, however, social and economic connectivity functions have ensured their permanence. Public places enjoyed increased importance because they bring people together and foster communication to socialize and build relationships which in turn drive on new dynamics and stimulate the city's growth. People's need for social and economic services is matched by their perception of safety and security. These are all factors that enable and encourage social cohesion and interaction if public spaces were well designed. However, the quality offered in public spaces should be re-thought to inclusively fit the needs of diverse categories of the population. Urban citizens have different uses and social needs, teenagers and the elderly represent different categories of users. Public space design cannot be thought of in generic terms; it ought to offer the same levels of services albeit of different natures to different types of users. They also need to ensure that the same privileged services are provided in an integrative manner to persons with special needs. To do so, the design of public places should enjoy incorporating multiple dimensions of design thinking on the social, economic, cultural, and environmental levels. These dimensions will need to be reflected by mitigating various functions and activities operating in the same space.

In recent years, the design of public space had to incorporate in addition to the above-mentioned factors new possibilities and functions. The digital transformation of life has penetrated diffusely every aspect of our lives and has changed our behavior. Technology is enabling us to connect in different ways; yet, it susceptibly replaces old forms of social interactions. We still do not know if it is for the better or the worst. Technology has created new forms of connection. Our connectivity is becoming increasingly more virtual. This is demarcating new borders and directly or indirectly imposing changes to facilitate the use of new technologies and the way they define human interaction. People are more and more virtually connected, but more isolated physically. They tend to spend more time indoor where connectivity to the digital world is better assured; the result is greater isolation from public life. Consequently,

the digital transformation of life has formed borders of different nature: physical boundaries between indoor-outdoor spaces and social boundaries defined by new social practices celebrating individuality. This new situation is imposed by a digital layer that has been superimposed onto rather than integrated into people's social practices. It is influencing people's behavior, yet the social order has not recognized the order and manner in which they do so.

Public spaces have had to adapt to this new reality. Their first adaptation was to bring in new layers of digital infrastructure to already existing public places. However, gradually it the potentials and possibilities of developing innovative concepts for public spaces are being discovered. These new approaches ought to offer promising opportunities to facilitate new forms of connections transforming along the way both the physical and the social boundaries. But, how can public spaces transcend these borders and facilitate the news modes of sociability?

The sense of a place is an expressive experience; it is a relationship between one's soul, body, and the surrounding environment. The sense of a place is associated with personal attachment, ownership, and belonging toward a community. All these affective relations with space are marked with symbolic values and demarcated by tangible though sometimes invisible boundaries. Through expressive experiences such as ambiance, aesthetics, as well as symbolic values, spaces are imbued with personal as well social and cultural significance that we normally refer to a sense of belonging to a place. The prospect for a person to become attached to a place is continuously re-articulated and redefined through daily social praxis that pushes boundaries and reconfigures them continuously.

Yet, Easthope declares that a persons' sense of place can provide them with a sense of belonging and offer the chance for a person to feel attached due to its setting, aesthetic, or significance from a social or a cultural point of view (Easthope 2004). This requires some level of permanence or endurance of the physical features of this space. Dovey stated "sense of a place then depends on the quality of the experience and the depth of meaning" which in succession affected by the provision of services, events, and infrastructure (Dovey 1985). In places, people get to know each other and learn from each other, which brings positive consequences to society regarding Averroes's statement several centuries ago "Ignorance leads to fear, fear leads to hate and hate leads to violence. This is the equation." The fine line between the need for strong anchors for people to develop a sense of place and the constant transformation of the urban environment was critically balanced in most cities until the advent of modernism.

The modern era lost many of the incrementally evolving features of public space, as a consequence of the emergence of modern transportation technologies at first and subsequently at an alarming rate after the promulgation of Information Technologies. The rigid formalized and normalized definition of public space created new hegemonic boundaries segregating urban functions, regulating public behavior and dissociating individuals from their social realities.

The present paper aims to prove that this situation is not a necessary predicament of modernism. Indeed, the very ITCs tools that contributed to segregating individuals from their social milieus can be used to reinvigorate the sociability of public space,

making cities not only more functional but more livable and attractive to people. Stadler defines stages for the evolution of the public space, to culminate this evolution he speaks of "the Modern Era," when the mutation of technology has favored the virtual social spaces of the internet over the physical public space. Increasingly the boundaries between "virtual space" the physical one are blurring with severe consequences on connectivity between people and at the expense of important anchors of belonging (Stadler 2013). Riether on the other hand offers a more stark approach to classify the history of public space; he suggests only into two relevant periods: "the pre-internet times" and "the era of digitalization." Before the digital era, public spaces were the place of information and exchange of political ideas, as well as commercial activities and social exchange. With the advent of technology, these activities in the "traditional" term tend to change in favor of e-commerce and web-forums; information becomes easily accessible almost everywhere especially from home (Riether 2010). The drivers that provided public space with vitality are being rapidly transformed. Physical and symbolic anchors of belonging and the boundaries that define them are blurring as the virtual world offers alternative symbolic meanings and liberates individuals from physical boundaries but subliminally imposes new types of boundaries.

Gençel and Velibeyoğlu compared the former role of public spaces that ensured the physical link between space as place and the different activities taking shape in or in the surroundings of that space. Public space is both defined and defines the communication and the social interaction of the local community including recreation and entertainment. The map in their work how the use of the internet and digital technologies had a major impact on the urban life and public spaces; both "Virtual and Physical" spheres and how the challenges set by the technologies were impacting the design of public spaces (Gençel and Velibeyoğlu 2006). We are still grappling with the need to understand the ongoing transformation of public space, as digital technologies are changing much faster than the ability of societies to digest the change.

This paper will review the evolution of public places in cities in as much as they affect and are being affected by social interactions and will scrutinize in particular the relationship between public space and digital media from the perspective of emerging trends in digital technology. It will stipulate through the presentation of one case study how boundaries are being reshaped as a result of this transformation and will stipulate on the ability of digital technologies to transcend the new social divides they have created. The aim is to reactivate interest in the design of public space for the benefit of the "digital generation" and the ability of youth to connect to other members of society and the elderly. The schism between design and the provision of future infrastructure befitting future public spaces will be at the core of this research. ICT can no longer be viewed as a plug-into be added to physical public space, nor as a culprit isolating individuals and creating barriers for social interaction. A systemic review of the role of ICT in enhancing connectivity in public space needs to tackle traditional topics of landscape design (aesthetics, physical connectivity, and interaction between people and ambient environment) but has to also challenge the

perceptions of boundaries, deconstructing demarcation lines and exploring public space as a social construct.

The paper is organized around the following parts: the introduction which discusses the role of public places in public life today exposing the challenges and the qualities of public spaces; the second analyzes the relationship between public place and public life by exploring the physical dimensions and people's behavior as well as the virtual boundaries of public space; the third exposes the technological facet and virtual/real life of public space; the fourth illustrates the context and the present practices in contemporary public places, the case of Ortaköy Square in Istanbul; the fifth depicts the possibilities of reconsidering the emerging opportunity of applying future technological scenarios in Ortaköy square and the last section summarizes the paper and presents some areas for future research.

11.2 Role and Evolution of Public Spaces

11.2.1 The Physical Dimensions of Public Places

The planning of cities in the modern era promoted a clear separation between functions that were sharply defined. Such a planning theory hinders direct dialogue & interaction among the different urban spaces. Vibrant city life does not happen by itself; this is evident in less economically developed cities. The emergence of the new technologies and transition from the "Industrial City" to the "Knowledge City" did not close the gap, as was expected between affluent cities and less affluent ones. Public spaces can only be digitized in as much as people's lifestyles are transformed and a need for a new kind of space arose. ICT can create boundaries and barriers as fast it can remove them; the issue is not with the technology itself as much in the way the technology is put to use. ICT can create new space that dismantles traditional borders/barriers and facilitate the creation of a hybrid space of private, work, and leisure, but access to those space is not to be taken for granted. Like access to any public space in the past, accessibility faces many hurdles and borders. Relying on technology alone to transgress borders is not enough; social action and praxis are essential. This idea is not new or specific to ICT; the issue was explored with the pioneer urban designer Jane Jacobs when she proposed to build cities for people not for cars, which will craft more lively neighborhoods at a human scale and conceive inviting public spaces. Cars that were celebrated as the technological solution to modern transportation were socially dividing cities not increasing their connectivity. To cross the divide, the focus was a need for the social transformation of urban spaces and not just urban infrastructure. Accordingly, public spaces were posited at the core of that need for sociability. They facilitate concomitant interaction and the exchange of experiences converting normative knowledge into social skills. ICT is no different; it needs active engagement to support and sustain sociability.

The vitality and success of a public place rest on three main pillars: first and most important, the social pillar; second, the environmental one; and third, the economic. From a social perspective, a place brings people to meet and interconnect to create a kind of microcosm of society; it condenses social relations enabling interaction through factors such as the accessibility and visibility, but it also provides social meaning through image-making and symbolic markers defining and demarcating the space/place. What people perceive as a good impression or good experience of space happens through the intermediation of centering people in that space. Feeling good in space is partially socially constructed. From an economic point of view, a place does not only constitute a set up for work and earning money; it makes available different opportunities to contact and collaborate with others; to innovate and to expand networks. It is also an indirect opportunity to build communal wealth and new forms of capital by aggregating local resources. It is a place of new forms of accumulation and redistribution at the same time. Finally, the environmental pillar is not only linked to health and wellbeing offered to the population by bringing nature into urban areas as well as improving the quality of air. It defines the metabolic processes that enable society to sustain its economy and social interaction.

As things stand, this role as a medium between the different elements of society gradually lost its prominence. People have used the virtual world to bypass physical and social boundaries and gradually abandoned the physical public space. This trend is likely to become even more prominent in the near future as the existing old patterns of sociability are progressively eroding in favor of virtual ones. The traditional layers of use and activity that made up the public realm are diminishing with the advent of modern digital technologies. Ease of access from home to the virtual space has replaced the need for actual transportation to meet others across the city or even beyond. The flexible connectivity in the virtual world is replacing face-to-face encounters. Not only is the quality of encounter being altered in unimaginable ways, but all the layers of connectivity that happen with the city and with society are being lost (Abdel-Aziz et al. 2016).

The virtual layers encountered through the digital world can act as leverage to broaden the horizon of human interfaces and can be a factor to conceive new forms of social contacts. In doing so they are creating new norms for social relations. These hyper-modern norms are particularly relevant for the new generation of young people today who use social networks almost exclusively favoring virtual interaction over face-to-face contact. “Facebook” status, “Tweets,” posted photos on “Instagram” or “Snapchat” have become part of daily and even hourly activities. The moments of our lifetime, our happy memories, or important events are being broadcasted publicly. The boundary between public and private is being redefined. But while young people are breaking old social boundaries, they are inadvertently setting up new ones between them and the elderly. They are losing connectivity to their physical places, their community histories, and their communal productive wealth. All layers of public space are being lost: the social, the economic, and the environmental. They are being both hyper-connected and disconnected at the same time.

At the beginning of the digital transformation of social Space, the initial reaction of researchers was to focus on the isolation and individualism being induced by substituting physical encounters with virtual ones. However, new research is emerging to study the encounter of the virtual world with the physical one. Researchers are focusing on the new forms of sociability that can be created. They argue that in opposition to earlier research about virtual reality is encouraging segregation of individuals and disconnection between them and their societies, the implementation of ICT tools has strong merits to revitalize the public space. ICT is capable of bridging the divide between the virtual world and the physical one if properly introduced to meet the terms of both worlds. The public place can regain its status as an attractive location of encounter for people, and ICT can actually be used to entice meetings in real life (Abdel-Aziz et al. 2016).

From another point of view, despite the transformation of social patterns in unimaginable ways as a result of introducing ICT to every facet of life, the real quality of face-to-face encounters endure. So far technological tools are being used as a secondary way of contact, as a layer on top of the old social complexity. The "Project for Public Space" conducted a study to scrutinize the change that occurred in public space due to the introduction of contemporary digital technologies into an existing urban public space. The project mapped the transformation of social interaction and before the introduction of various digital devices in Ortaköy square in Istanbul. It developed specific tools to measure the loss in inter-personal communication and observed if alternative patterns were emerging consequently. The results were surprising and in contrast with the ongoing popular perception about the negative impact of ICT on sociability. The research found that with the greater use of digital devices, people have come to be less isolated in public space; also, that mobile phones' users encompassed only 3–10% of those engaged with public space (PPS 2014).

11.2.2 People's Behavior in Public Space

Public spaces are used by multiple users and for different patterns of use, these could be affected by factors such as design, culture, age, and resources. How public space is use is also subject to time variation. Duration and permanence of activities are other aspects because public life is not stable, it changes constantly. Thus, it is essential to while designing worthy surroundings for the people who make their way in the city between buildings and in public spaces to take all these factors into account. Studying the patterns of interaction between life and space in cities can provide a greater understanding of a society and its public life. The more time people spend in a space the more successful it is considered to be, simply walking slowly in the area shows that the user is interested in the space and is engaging with it. On the contrary, when users pace through space without engaging with their surroundings they exhibit a disconnection between people and space. Normally we would conclude

that space has failed socially. The principle is very simple, a project is unsuccessful if it is unfrequented or disconnected from users.

To measure the success of public space, its connection with public life must be carefully mapped and evaluated. It is not possible to pre-program the interaction between public life and space in detail, as designers often make unsubstantiated assumptions about social behavior and societal preferences. However, targeted studies can provide a basic understanding of what works and what does not in terms of actual engagement with a site and thus can suggest qualified solutions (Gehl and Svarre 2013). In his book "How to Study Public Life," Jan Gehl sums up how to accommodate a growing urban population in a way that is sustainable, equitable and inviting with 5 specific questions: How many? Who? Where? What? How long? (Gehl and Svarre 2013). These questions can provide a practical methodology for understanding the performance of public space. (1) **How many** is the basis of public life studies; how many people are commuting (pedestrian flow) and how many are staying in one place (stationary activity). The success of the project is often measured by the number of visitors to the area. (2) **Who** provides knowledge about the behavior of various groups of people and if space is used to accommodate their specific needs such as women, children, elderly and special needs. In the same line exclusion of certain categories of people may point to intended or unintended boundaries and barriers. (3) **Where** allows to position relevant function or elements, giving an idea about the hotspots where people gather and interact. If they are homogeneously distributed throughout the space, it indicates the success of the whole area as an interactive space. But in some cases, intensive use of certain spots is achieved by keeping other parts empty yet visible. Inducing interactions and density may also entail setting boundaries and barriers in a smart way. (4) **What** happened in a place gives specific knowledge of the type of activities in an area, it focuses on the types of activities in which people take part; in general, social activities can be developed around necessary activities such as walking and optional activities such as reading. Activities can be of contradictory nature and some may harm the possibility of other activities. Public space can be sometimes regulated to allow different activities to co-exist, overlap, or alternate. This also requires careful thinking about regulatory boundaries. (5) **How long** points to the amount of time spent that designates the quality of physical frameworks. Often, people walk slower and stay longer relative to the quality of activities, functions, and pleasures offered. But different categories of people exhibit different patterns of engagement. Space cannot be deemed successful based on overall average time spent, but on changing cycles across the day and seasons. Thus, a sixth question can be added: How often it would point to the decisive cyclical time in which people use a space and may add to the validity of such an analysis. The season, the day (weekday or weekend), and the time of the analysis have a big impact on the appropriateness of the results.

11.2.3 The Virtual Boundaries of Public Space

The physical markers surrounding daily life provide images that impact memory. People understand and mentally process the form of cities through the recognition of key physical elements and use their memories to associate urban spaces with symbolic and affective qualities. This allows one to establish a harmonious relationship between oneself and the outside world, between the observer and the environment that re-produce the mental image. So, our memory of the city is physically linked to diverse urban features or cognitive elements. Lynch stated five types of such elements: nodes, paths, edges, districts, and landmarks (Lynch 1960). However, recently another factor must be taken into consideration in how people navigate through urban space: GPS. A virtual layer has been added to the physical one and they are competing and overlapping with each other. GPS is not only a map for circulation, increasingly the technology is absorbing crowdsourced information about the urban environment forcing new social markers onto the urban space and thus defining new demarcations and creating a new understanding of urban space. Physical spaces afford images that are based on urban memory whereas virtual space puts forward a new interface for experiencing the city and moving between physical and virtual worlds. So, the identity, which is one of the place's attachment, tends to change by the digital layer and contribute to creating different aspects of belonging to space. This digital layer can accentuate the cultural identity of a place and can be considered as one of the influencing factors to the sense of attachment to the place. Therefore, Abdel-Aziz has pointed to the question of the sense of a place that does not come when people spending time in a place. When they live in a place, they can be physically "here"; and other social engagements are "there" in other places; thus, the sense of a place can only come when people are actively engaged with their surrounding environment (Abdel-Aziz et al. 2016).

The introduction of simple mapping technologies is not just adding a neutral layer of information onto space. The algorithms are involved in defining what information is absorbed and what cognitive features are incorporated. The boundaries between the public and the private are blurring after the development of ICT technology, social media, and crowdsourcing software. This hybrid re-coding of urban space is dismantling old social barriers, but at the same time, it creates new barriers of another type. Even at the scale of the individual household, from one room to another, people are sending messages instead of speaking face to face. Thus, public space could be reconfigured and re-designed with an understanding of these new barriers. The design must be sensitive to maneuver around and challenge the new boundaries and promote innovative ways of social contacts and connections. Boundaries of social and technological nature can both be constructed and deconstructed using ICT. Bringing ICT technology into public spaces must help bridge the gap between those who can access the technology and those who cannot. The provision of the ICT technology into public space is not enough it must be designed to ensure that the presence of the service itself and the ability of all segments of the population to access it. The uneven distribution of infrastructure and online services has raised

the question of equality inaccessibility and usage of technology, which in turn has raised the question of who can input data into the cognitive hybrid reality of digitally altered social space. People's ability to access ICT can depend on many factors such as their age, education, economic status, language proficiency, social status, cultural backgrounds, and gender; or depending on their location and the digital infrastructure of the country in which they live. There is an exigency to envisage new scenarios for urban spaces that could attract the so-called Digital Generation and make full use of technology and let them emerge from their virtually isolated environment to start networking and engaging with "real life." At the same time, the focus on that generation should not leave behind the older generation and other members of society that have different experiences with ICT.

11.3 The Technological Facet of Public Space

The new technologies are reshaping the relationship between people and the public spaces they inhabit; they are replacing older forms of social interactions for better or worse. The digital aspects of our contemporary lives are increasingly becoming dependent on virtual connections. They are not adding a new layer to our social reality but transforming our lives. They are changing the way we live, work, or socialize. In light of these new developments, public spaces are threatened as focal elements at the heart of the community and the center of social life. ICT technologies such as social media, smart navigation tools, and smart urban infrastructure are influencing everyday life in many ways and traits. This in turn is observed in the conversion and the changing patterns of our social behavior. The fast pace of modern life makes people less interested in slowing down and appreciating their immediate environments including their public spaces. These spaces must be made relevant again and need to be re-adapted to fit with our digitally oriented lifestyles.

Public spaces are to lose its importance and functionality as a catalyst for sociability; human connections are happening less frequently in physical space and this is impacting how people perceive their lives, create their social networks and enrich their cultural life experiences. The new forms of social relationships redefined by technology produce new borders and impose changes to facilitate these ever-changing forms of interactions. People are more and more isolated and tend to spend even more time indoor which, results in greater isolation from public life as well as a disconnection from public space. The focal question is how can future public spaces facilitate new forms of social interactions? The new practices that focus on individuality are ever more virtual, creating new forms of "physical borders" between indoor and outdoor and through radically different generational uses of space. Digital technologies also tend to generate borders of different scope; social and technological. Social borders are those corresponding to psychological factors and social status and relating to the new communities it is creating, While the technological borders involve factors such as knowledge and experience with the technology, its affordability as well as the availability and the quality of the network. To overcome these barriers, public spaces

should be afforded through design to offer promising opportunities to facilitate new forms of social encounters and bridge over boundaries imposed by digital life.

Indeed, in a more optimistic future perspective, physical social contacts are not destined to be fully made obsolete as many had feared. The virtual and physical dimensions of our cognitive experiences of public space can be integrated and the virtual can be added as an impulse to the creation of new modes of social relations. Goldberger stated that digital networks have not only changed relations through space, but they have also changed the social relations between time and space. The constraints which demarcated the boundaries of geography are being obliterated. He represents a by-now classic view that ICT is locking people in new spheres of individuality. He professes that "we are experiencing a loss of culture" though the technology is helping us in experiencing various cultures without the boundaries of time and space (Goldberger 2003). However, technology has negative but also positive aspects. The question is not to adopt to ICT to resist it, but how to adopt it.

Borders are constantly being redefined in the physical as well as in the virtual world. It would be a mistake to assume that one reality has them and the other is free of them. The research must focus on physical, social, or digital borders are created and negotiated? In the modern world, borders are defined by knowledge capabilities and/or affordability of access to the technology; virtual borders exist between the real and the digital modalities of socialization. The "Physical" is the outer expression of urban space and the "Social" constitutes the basis of urban life and vivacity, while the "Digital" is altering the affective cognition of space. The latter uses information and data extracted from the physical or social layers with real references to those two dimensions but then alter these references and transform their symbolic and cognitive meanings (Ma et al. 2018).

The challenge today is to explore new roles or functions of public places to blend the real with virtual worlds. Kirralie speculated on the future of urban design in the light of how technology can affect public places. ICT can help to improve the attractiveness of public space, encourage public participation, and strengthen the sustainability of these spaces. This is especially true if there will be a "re-adaptation" of the requirements and/or standards of urban design in the wake of the introduction of technology (Kirralie 2010). Another main challenge is to what extent digital technologies could be introduced into our public life and the public space design criteria in a sustainable and scalable manner. The recent experience with pandemics has put to the test the future prospects of bridging between the physical and the virtual dimensions of public space; on the one hand, encouraging social interaction and connectivity but on the other hand, imposing social distancing. The future public places should be inclusive in a way to promote new types of social relations to cope with our new realities and lifestyles. The borderline between what is public and what is private, what is physical and what is virtual is being transformed yet in new and unpredictable ways.

Older research raised the question of isolation of people from public life due to information technology. Banerjee claimed that we are all citizens of cyberspace and cyber communities where physical concepts of public space and private spaces turn out to be obsolete (Banerjee 2001). We are not sure anymore if the future will

enable more integration between the physical and virtual realities of urban space or whether we are moving to a new normal altogether. Urban planners speculate how technology might reform or enhance our way of life and what consequence it might have on urban form. Gençel and Velibeyoğlu support the argument that the borderline between real and virtual is blurred, our daily experiences are split between the real space and virtual space introducing a radically different way of how we understand the public space in the information era (Gençel and Velibeyoğlu 2006).

11.3.1 Bring the Virtual into the Real Life of Public Spaces

It is evident that the development of ICT has brought manifold advantages; nevertheless, the point at issue is how do these advantages reflect on public spaces and for whose benefit? This matter is highly dependent on the City's administration and the local community involvement and continued commitment to upkeep, upgrade, and sustain technological innovations. Stadler indicated two types of communities: Geographical/location-based communities which can be outlined as groups of people that share a common use of space, and interest-based communities that can be described as groups of people sharing the same interests. In its initial development, ICT providers and innovators responded to rapid demand on their services by focusing interest-based communities at the expense of the location-based ones. The high level of accessibility in more developed countries enabled a surge of users and a replacement of services and economies based in physical space. However, this does not apply to less developing countries where social relations, traditional economies, and value chains still ensure the survival and continuity of geographic-based communities. He also stated that digital transformations are imposing rapid growth in new classes of labor: home workers, web developers, designers, writers, etc. A larger proportion of the labor force is becoming independent from the workplace and the need to commute to the workplace and all the social interactions that are necessitated by traditional workplaces. This, in turn, contributed to the isolation of the urban inhabitants. Working from home made public space less relevant to peoples' livelihood and thus less interesting for people. In turn, this had a negative influence on the use and perception of public space. It encouraged public space users to shift to the virtual public sphere for work and recreation, further dissociating geographic-based communities from interest-based communities (Stadler 2013). In less developing countries this division of labor is simply not affordable or possible as people depend on multiple forms of monetized and token-based economies to survive.

From a positive standpoint, the digital era has enabled new concepts of the relationships between humans and space. A recent recalibration of digital technologies is enabling a readjustment of ICT to focus on geographical-based communities. This is hoped to increase the attractiveness and sense of belonging between individuals and their spaces as well as strengthening the interactivity between members of the population themselves; this will foster a new sense of belonging to space. Abdel-Aziz defines five domains of interaction: (1) culture and art, (2) education, (3) planning

and design, (4) games and entertainment, and (5) information and communication. The tools of communication are the internet; the digital interactive media facades and interfaces; the interactive public displays; and the smart mobile phones (Abdel-Aziz et al. 2016). Each of these tools can enhance digital connectivity on the one hand but inadvertently increase isolation on the other.

Firstly, the internet and Wi-Fi connectivity are contributing to broader participation and a higher level of people's engagement with the public sphere, but on the reverse side, is forging a private sphere of interaction within public spaces. This phenomenon is called by Hampton "Public Privatism." At worst it can lead to individuals usurping the public space for private use. But in its positive manifestation, it can contribute to personalizing public space for users. This interaction could happen between people and the physical objects to be found in the public space; for example, sensors installed in the public space can create a sociable environment to engage people, prolong their stay, and enhance their experience. Examples can include pavement that serves for entertainment games and to improve the accessibility of persons with special needs. (Hampton et al. 2010). Secondly, digital interactive façades and interfaces can be used to entice people to come and interact with them. The "Aarhus by light" at the Concert Hall Aarhus in Denmark provides a very interesting experiment in how to engage the populations to explore new possibilities of digital media in urban life. On the large LED screen visitors passed through three interaction zones marked with bright colored carpets (pink, blue, and yellow), cameras and sensors translated the movements into digital silhouettes enabling the interactivity with the visitors by pushing, lifting, and dropping them, thereby creating playful investigations of the users' expressions (Abdel-Aziz et al. 2016). Thirdly, interactive public displays can motivate three essential needs in public spaces. These are the passive engagement where people observe each other, the active engagement with the environment where people interact with each other and with the surrounding space and the need to discover and learn. Moving from passive observation to active discovery it is essential to sustain interest and engagement in the public space (Carr et al. 1992). Lastly, smartphones changed the way of how people communicate in public space; with them, the internet is going mobile and ubiquitous; location and Augmented Reality (AR) put forward new means for participation and the perception of space and can play a noteworthy part in involving users and personalizing the urban experience (Abdel-Aziz et al. 2016). Mobile phones and many of their applications are enabling crowdsourcing of urban data and making the city more available and familiar to potential users.

11.3.2 AR as a New Way to Perceive and Interact with Space

The advent of digital environments has predictably attracted much speculation about the future of cities and the relationship between technological change and urban form. Traditionally, physical urban landscape transformations were slow and could be thought to impose a normative reality confined by the rate of technological change.

However, virtually, the rate of change is tremendous and beyond the ability of individual end-users to fathom the transformation is imposes. There are choices of unprecedented scale in the way people interact with their surroundings. When combining virtual and physical transformations of public spaces, the results are yet unpredictable. Initially, there was a shift to introduce a digital layer atop the physical one. This shift was observed to transform the relationship between people and the space they live in. Manovich discussed the impact of the overlay between the physical and the digitally dynamized space, where physical space is enriched with the dynamic information of each user. In AR, the digital device helps in filtering the physical surroundings to enable to customize the public space according to the preference of the visitors (Manovich 2006). However, this initial shift is moving beyond using ICT as an added layer. And the focus now is on integrating the physical and the digital in a more interchangeable and dynamic way.

There are different applications of Augmented Reality (AR) in the city using smartphone devices. The iPhone application released in 2010 by the Museum of London is one example of the overlay between information about the physical environment in a multimedia format. The application entitled "Museum of London Street Museum" is an Augmented Reality (AR) application that allows coordination between the physical location and historical information of the city. The images offered by this application comprise everyday situations overlapped with major events that happened there. It includes the simulation of major historic events overlaid with views from the past on your mobile screen; this presentation offers a unique perspective on old and new London and illustrates that the mobile media could present an entertaining meaning to the understanding of the "sense of a place" and the attractiveness of public spaces which will augment the social interaction and interpretation of heritage and the cultural significance of the place.

Consequently, the central question is, will the concurrence between virtual and real-life in public spaces evolve in a manner to reinforce these new modes of connectivity or will isolation and individuality prevail. Can the two trends of digital transformation complement each other? It is clear that the change in how the public realm is perceived will not be reversible and that our lives will continue to prosper in the virtual space as long as we are connected benefiting from ICT to overcome traditional urban barriers. But there is a fear of becoming "Urban Prisoners" of the technology. The balancing act between these two poles need careful examination and cannot be taken for granted. Banerjee declares that although cyber life will hinder the social contacts and needs in the outdoors, the demand for physical and open public spaces will continue to rise especially in inner-city neighborhoods with increasing numbers of school-age children and senior citizens (Banerjee 2001). While demand for such a balancing act is clear, how to achieve it requires further examination.

11.4 Social Practices in Public Places, The Case of Ortaköy

Ortaköy is a famous place in Istanbul in the district of Beşiktaş, it enjoys a strategic location overlooking the Bosphorus strait and the second bridge that bonds the European and Anatolian sides of Istanbul. The square was established around the Ortaköy Mosque and the small ferry-boat station. It is a welcoming eclectic place with a village-like atmosphere, attractive views, and eye-catching shops on its entrance. The square is a focal point at the level of the neighborhood as well as at the city level; its natural assets as well as the plain platform near the sea made this place very popular. Diverse categories of visitors as well as the area inhabitants give a special ambiance to the place. It has always kept its symbolic significance: the historical buildings, the organic pattern, the traditional colorful wooden houses, bookstores, and small shops. The area is very vibrant especially on the weekends, partially due to the existence of the weekly market that possesses significant commercial and touristic advantages. Cafes and restaurants add to the vivacity along the narrow and organic streets leading to the square. Art and antique shops, art workshops, and other craft facilities gave historic value as well as economic merits to the district. Moreover, Ortaköy is another popular nightlife and entertainment center of Istanbul with its variety of cafes, pubs, restaurants, boutiques, and souvenir shops. Therefore, Ortaköy is a perfect example to investigate the relationship between people and space.

Fig. 11.1 Pedestrian density in different times in a week (*Source* Author and Students of Bahçeşehir University)

Hereafter, the interaction between public space and public life will be analyzed following the methods developed by Jan Gehl to understand how the public space is used. Such studies are important because they can serve as an important tool for improving the quality of urban space and having more people-friendly cities. The analysis of the space will be achieved with five specific questions: How many? Who? Where? What? How long? (Gehl and Svarre 2013). This paper illustrates the results of several surveys conducted in 2018 and 2019 with the participation of the students from Bahçeşehir University, the team working on this survey mapped the social use of the site at different times of the week and in different seasons (Fig. 11.1). The methods that were used during the analysis phase included counting, mapping, tracking, photography, and test walks. In this section of the paper, the outcome of the analytical research is presented.

In conducting the survey, students employed the methods used by Gehl to meticulously finalize the analysis of public life in this area. First, they set a baseline of counting different categories of users, to deliver a number that enables future comparisons between the situation before and the situation after in Ortaköy square, as well as the transformation through time. Second is mapping activities, by providing a list and representing them on "Behavioral Maps." This would enable the racking of transformations in the types of activities. The third is tracking people's movements inside the area to know the origin and the destination of their trail, this is important to track changing patterns. And finally, they used random tracking of users, to observe people's movements throughout the area and time spans for different types of activities and their transformation; observers can discreetly follow people or preferably with their consent, this is called shadowing (Gehl and Svarre 2013).

There are several pedestrian accesses to the area, one of them can be considered as the main entrance and the others are considered to be secondary ones (Fig. 11.2). There is a small ferry-boat station, but it can be considered minor in terms of visitors' arrivals to the area as most passengers move in a different direction to take land public transportation. The area investigated was divided into several parts: zone 2 and zone 4 on both sides of the Mosque, zone 3 where the small shops that sell baked potato and the small organic streets that link these areas and serve for shopping especially on weekends where the weekly market opens in some designated areas.

11.4.1 How Many?

As mentioned earlier, the weekly Bazar is active mainly during the weekends. It attracts large numbers of visitors to shop while circulating inside the area. Cafes and restaurants, souvenir shops and baked potato "Kumpir" sellers also attract many visitors, locals, and international tourists. On weekdays the crowd decreases but the numbers depend to a large extent on the season and weather conditions. The density of people at the seaside does not change considerably, as many people come to enjoy the scenery and take pictures. Only the amount of people doing other activities is affected by the change of time and season. Since the number of families that visit

Fig. 11.2 Accessibility to Ortaköy Square 1-Access Points. 2-The Mosque. 3-Sea Side A. 4-Sea Side B (*Source* Author and Students of Bahçeşehir University)

Ortaköy decreases on weekdays, the number of children visiting the area is visibly different then.

Figure 11.3 illustrates the pedestrians' flow throughout the area of Ortaköy; the movement of people and the time spent indicate where the most interesting points inside Ortaköy square are. In general, these gathering points are formed around the commercial areas, the religious areas, the cafes, and restaurants as well as next to the seaside. The most common paths that people follow are pointed in red color on the map, the color intensity reflects the people's density in the place. It is obvious that the zones with the highest density in the area are those next to the seaside, they provide the most enjoyable experience compared to other streets. Evidently, the weekends are more crowded than the weekdays because people are more numerous and tend to stay longer, plus it is more diverse in terms of the categories of visitors: young couples, families, groups of friends, or individuals (Fig. 11.3).

Fig. 11.3 Pedestrian flow and density of people in Ortaköy (*Source* Author and Students of Bahçeşehir University)

11.4.2 Who?

The survey during weekdays and weekends demonstrates that the area embraces both women and men at all age groups. Efforts had been made to differentiate the percentage of female and male visitors; the presence of a sufficient number of women is a good indicator of whether the area is safe or not. (Gehl and Svarre 2013), however, the presence of the Bazar during the weekends might be another added factor that attracts women to the place. According to the survey, the women represent 53% of visitors on weekends and 45% on weekdays. With regard to age groups, the results of the survey indicated that on weekends there are young couples or tourists who are 20–40 of age. On weekdays there are usually families or elder people. In the afternoon, Ortaköy is mostly visited by women, kids, and elderly people, whereas evening times the area is very crowded with visitors, mostly males, but also with other groups such as families, couples, individuals, and friends (see Fig. 11.4).

On the weekends, people find Ortaköy as an escape from the built environment of the city, they can get rest and fresh air by the seaside alone or with their families or friends. Besides, the presence of tourists is high on the weekends because the area is more vital and dynamic. On weekdays, it is noticeably calmer than the weekend as local residents have jobs and less free time. Thus, it is less likely to find families spending time there, while the number of elderly people increases. Elderly people

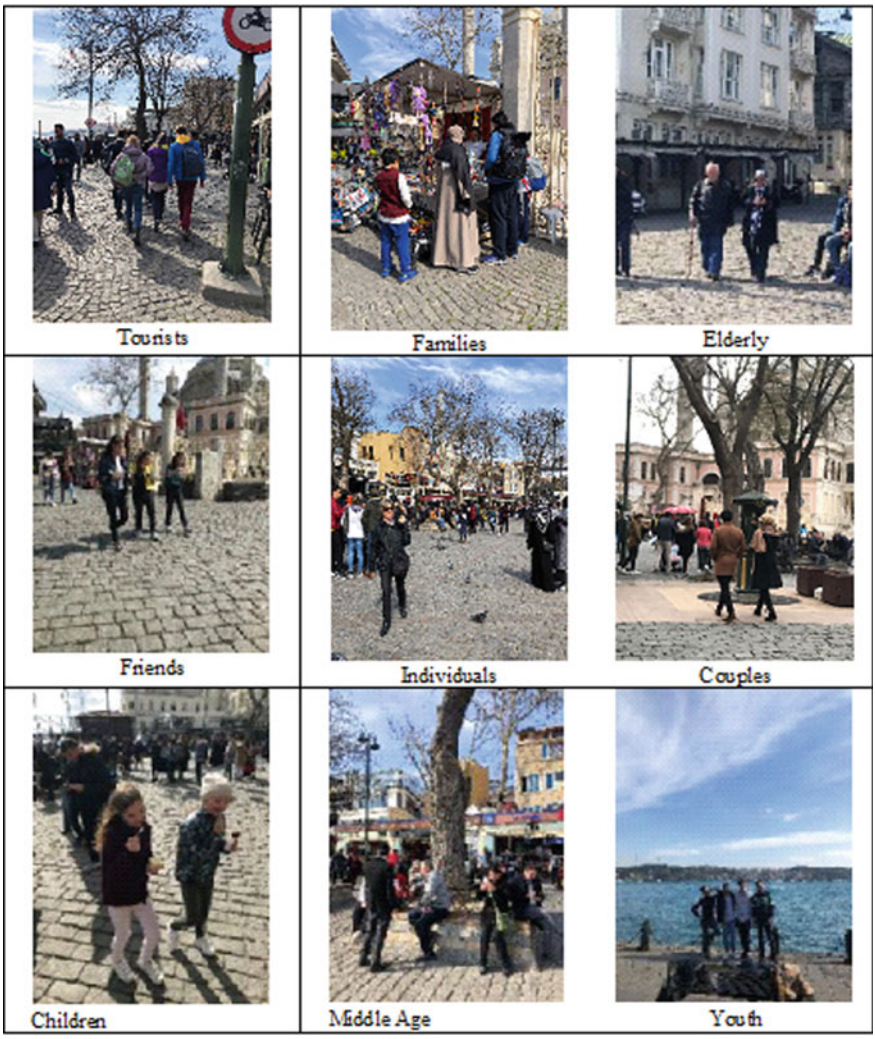

Fig. 11.4 The categories of visitors at Ortaköy Square (*Source* Author and Students of Bahçeşehir University)

find it more relaxing on the weekdays since it is less frequented by people. The teenagers also come only after school around 17:00 to spend time here with their friends. From another perspective, other categories of people were noticed, they pass by Ortaköy square to have some relaxing and fun moments by the seaside from a hard and tiring day, nevertheless, individuality is not a tendency in the area where most of the visitors are coming in groups.

11.4.3 Where?

The quality of the space can be identified by where people are expected to go and stay. Since Ortaköy square is open to the seaside, it is very attractive especially during summer's hot days. With its wide range of open-air and indoor activities for every age and social class, Ortaköy is a place that could be visited at all times of the year. Regarding people's movement throughout the area, they are evenly distributed between the center and all the surrounding activity areas. The open-air areas with trees and benches and the openness to the Bosphorus with its amazing and calming view provide lucidity and repose for people who want to have an escape from the metropolitan city hustle. Another key feature of the area with great symbolic significance the Mosque that attracts locals for the prayer and tourists for a visit. In addition to its central position being near the seaside and at the crossroad of the attraction points of the area, the mosque gives the area its name and is key to its identity. People are also attracted to the baked potato "Kumpir" sellers which are located at the main access street that leads to the seaside. They also visit the weekly Bazar as well as the souvenir shops. There is no one reason why Ortaköy square is very famous and attractive for tourists; it is the cumulative effect of all its features that energize the space: a local village atmosphere with its Bazar, shops and restaurants of different categories offering a variety of Turkish and international food. All these outlets provide diverse opportunities for social interactions (see Fig. 11.5).

Fig. 11.5 Places where people go and stay (*Source* Author and Students of Bahçeşehir University

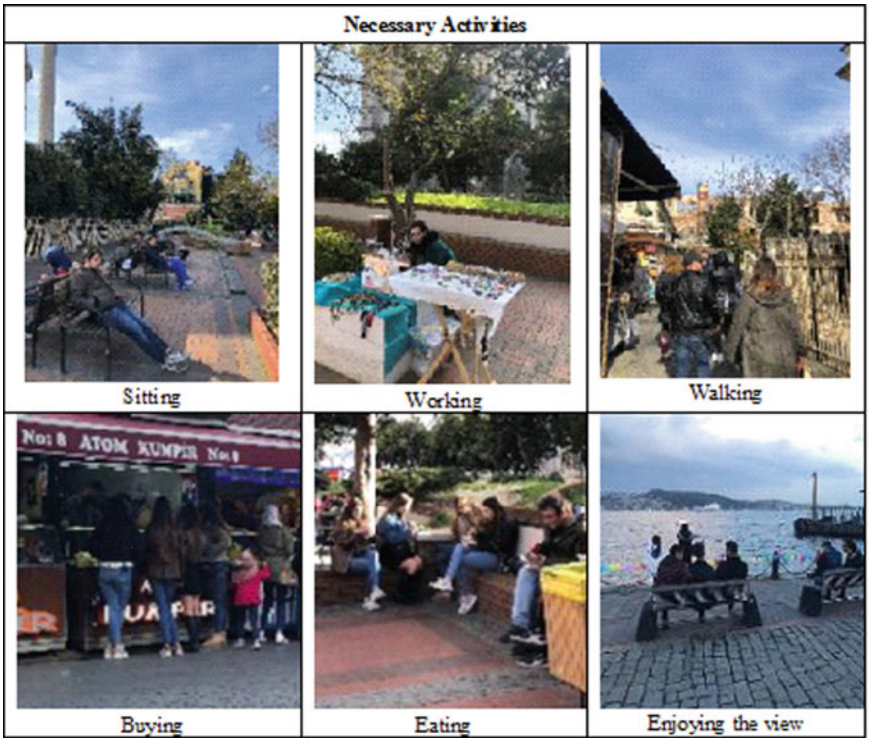

Fig. 11.6 The types of necessary activities in Ortaköy (*Source* Author and Students of Bahçeşehir University)

11.4.4 What?

It is important to notice the different activities that people do in a public space because activities just like physical features add the quality of space and reflect its vitality. The types of activities in Ortaköy square can be divided into two categories: Necessary activities can include walking, enjoying the sea view, or working whereas optional activities can be categorized in shopping, reading, sitting in a café, or playing. Necessary activities for some could be regarded as optional for others. What people are doing in Ortaköy can be sorted out in Figs. 11.6 and 11.7.

11.4.5 How Long?

Another main determinant to evaluate the quality of the physical environment of the place is to analyze the overall time spent in the area by different users. People walk slower or find it worthy to stay longer when place-specific activities catch their

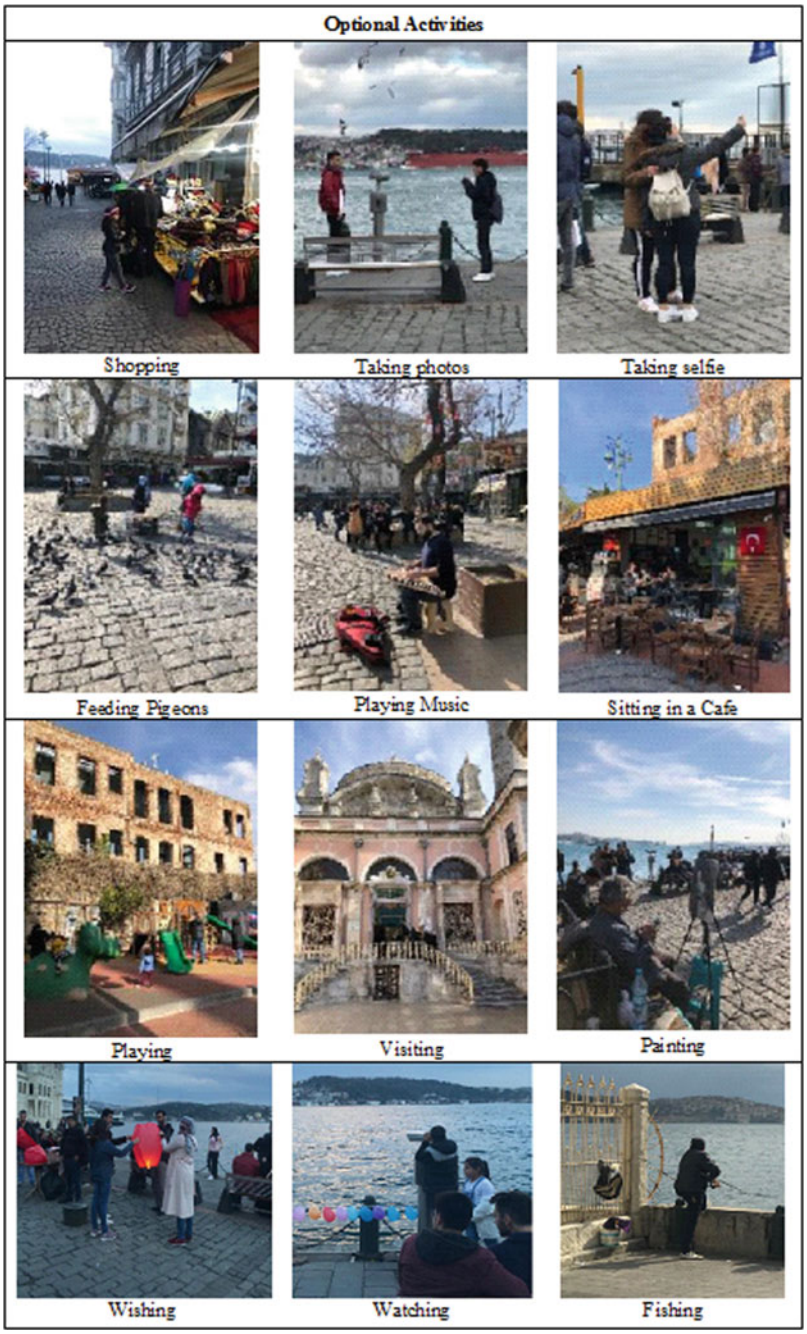

Fig. 11.7 The types of optional activities in Ortaköy (*Source* Author and Students of Bahçeşehir University)

interest and they move faster to get to areas of interest. The time dimension is essential to understanding the quality of life in a public space and the site's success in creating and retaining the attention of people. This is the case of Ortaköy square; users are numerous and the place is crowded by visitors particularly during the weekends. This shows that people are willing to stop and spend time in the area and perceive the vibrancy of the place to decide to stay longer; people are not just rushing to pass by the place to go and do something else (Gehl and Svarre 2013).

People who come to Ortaköy spend 2–5 h on average. Tracking sample users enables an understanding of the duration of some activities. People who come to take pictures spend around 15 minutes in the area; others who came to visit and shop usually spent 4 hours, whereas a family with children spent 2 hours averagely in Ortaköy. The density of people in Ortaköy (illustrated above in Figs. 11.3 and 11.5) determines the time spent by people in those areas as well as the number of users.

11.4.6 Concluding Remarks from the Analytical Survey

Ortaköy square offers people a secluded open area in which they can enjoy walking, shopping, and sitting, it creates a public atmosphere that enhances the quality of public life in the neighborhood. However, what is interesting to notice is that despite the multitude of activities on-site there is little friction among them. No physical boundaries or regulatory ones are demarcating the types of use or the locations of different uses. Yet there seems to be a tacit agreement among users to divide the use of the site through both time and space. These implied boundaries are harder to track as they shift constantly. The team observed little efforts at negotiating them afresh every time, indicating settled social patterns and gradual shifts in the social use of space, not a jarring one. Patterns were repeating regularly to offer a predictable cycle of activities. The social boundaries can be said to be stable. The longevity of patterns is perhaps one of the key factors for Ortaköy's success as a public space.

The question begs itself then; how do these boundaries function in the absence of regulatory programs and physical barriers? Understanding the social norms of the physical space is important to determine what design interventions are needed in the future. The study team had to assess and prioritize where interventions are needed in the area and where things are best left to the regulatory practices of end-users. At the end of the day, it was observed that most activities are initiated by people and their ownership over the space should be respected.

The areas requiring particular intervention were identified by the research team as areas where social boundaries were observed. These were identified by low numbers of visitor time, low levels of interaction among social users and less regular use of the space. The seafront provided a key concern in that regard. Moreover, the team observed that the area imposes a certain barrier against the access of special needs users. Another category of the users that were not engaged on-site as other groups was the teenagers; they seem less interested as the adults in engaging the site. The

seafront is a unique feature and one of the potential sources of success of the place. Without it, the area would lose most of its value.

For the above-mentioned reasons, the seafront was selected to potentially be a site of intervention in Ortaköy. It could be an ideal location for testing the hypothesis of introducing digital technologies to enhance public space and studying its consequences on the quality of public space. The team then started to explore possibilities of artificial enhancement of the public space at that location. Students worked on concepts involving identifying potential sources of attraction and combining them with technological advances such as "Holograms." They thought of tools to enable people with special needs to wander around and explore activities on site more easily. And they focused on young people not as hopeless "digital generation," but as legitimate users of the site. They considered how technology might be motivating for them to come and enjoy what is offered in the area.

11.5 The Expansion of Digital Life

11.5.1 The Development of Digital Public Place

ICT technology often creates digital borders because the accessibility to them is not universal; internet access is not afforded by all populations especially in remote areas. In Turkey according to the Turkish Statistical Institute (TÜİK), almost nine out of 10 households had internet access in 2019 (88.3%). As for the mobile broadband connection, 86.9% of households used this connection in 2019, also 71% of the population are connected to the internet using a mobile were doing so at 4G speeds, while 19% were still connecting using 2G, always according to TÜİK. Thus, in Turkey, the affordability of technology as concerns internet connectivity and mobile internet usage are minimal; there are no real borders of affordability. Due to this fact, most of the population could be thought to absorb technological advancements and the community could be engaged through digital technologies. This was of primary concern as it would be critical for the introduction of ICT into public space. Suggesting the transformation of public spaces by introducing new technological innovations should not impose the paradigm of "appropriate technology." This would then enable a fair comparison between the "qualities" and "tensions" that arise between digital and physical spaces. This renders a case study like Ortaköy to be an ideal case study. It would allow an understanding of the interrelation of physical, social, and environmental aspects of the public space and the impact of the ICT technologies on them without the concern of the novelty of technology itself. The borders that will be examined will be those that exist between the real/physical and the virtual worlds and not between the haves and have nots of technology.

The initial impact of ICT on social practices focused on individuality and was thought to create more personal isolation and physical borders between indoor and outdoor space. People were thought to be less prone to be enticed to go outdoors

to socialize as long as they have a virtual space that had no apparent obstacles nor boundaries of time and space. Yet as we have seen, Kirralie stated that digital technologies can be included to enrich the features of a place and create points of connection and interaction and not just isolation. He advanced the idea that there were intense changes in the behavior and communication between people affected by ICT. The interface can be interactive in real-time one bringing people together. Social media may foster the development of virtual communities over physical ones. However, the present research is showing how to create a physical space that is receptive to the expectations and the present change in behavior and of the digital age (Kirralie 2010).

Communication technology is now intensively and globally integrated within urban spaces in most big cities. The technological revolution is unstoppable; it is producing both positive and negative impacts on people's lives in multiple ways. Increasingly, it is occupying an enormous part of people's cognitive and symbolic perception of the world. Everything is happening too fast. People in trying to adapt to change they become impatient with the speed of physical interactions, and isolated from their community as a result. Yet, it is believed that technological developments can also reverse the trend and improve people's engagement with public space. Places can be digitally re-coded as visitors "tag" memories, comments, annotations, and impressions and leave to the following visitors and passers-by. The urban codes are changing and with them urban boundaries. The status of public space in the digital age could be enriched by having such new digital layers. Shibuya Crossing in Tokyo is one of the busiest pedestrian intersections in the world; it has one of the densest and busiest advertisement panels that the ones of Time Square in New York City or Piccadilly Circus in London. But in all these places, the end-users are on the receiving end of traditional visual technologies bent on transforming them to subservient consumers. New ICT technologies are engaging end-users in an interactive manner, making them active participants in shaping the social and affective qualities of the public space. In an alternative experience of public space, Federation Square in Melbourne's is also a very crowded public place surrounded by mixed and vibrant land use. Visitors can take a virtual trip via virtual reality software using a model of a real-world public space, they can navigate their experience in that space. It is an experiment in the design of a virtual public space that is envisaged as a kind of public space waiting for a community to define its meaning (Gençel and Velibeyoğlu 2006).

11.5.2 The Future Forms of Social Interactions in Ortaköy

People's lifestyles are increasingly becoming digitally driven with impacts on their everyday experiences and an even greater impact on the form of services provided inside and by the city. Digital media are becoming affordable and popular; they are no longer accessories but essential vectors of socialization and connections. Technology rendered our life easier in every way possible in terms of building knowledge thanks to the open-source of the internet, improving service delivery and even enhancing

governance. It is evident that the future public place will follow this tendency of "digitalization" to respond to the future needs of social connectivity and sociability.

In Ortaköy's place, this was thought to be an important factor to test the impact of future digital communications on a stable and rather successful urban space. Innovations always change social patterns and lifestyles. Ortaköy's place offers a potentially important testing ground to study future social interactions in public places. As described earlier, the initial evaluation was that Ortaköy Square is a vital space visited by numerous categories of users from different age groups in every hour of the day. To add a digital layer to Ortaköy it is not merely adding a piece of urban furniture that supplies services or energy (e.g. banks with solar panels or serves as providers of information such as digital screens). The idea behind adding a digital layer to the existing physical one is to make available the necessary assets that contribute to further engagement of the visitors with the services offered in the square. The digital layer could be composed of several sub-layers with each one providing information or services of different natures. Thus, it is not an item of simple urban furniture.

The first demonstrative example to be tested in the area is the Augmented Reality application created by the Museum of London to see the historical past of the public spaces. So, the main goal of a good public space is to have a wide variety of human interactions, hence, integrating a digital layer shall increase the chance for people to come and enjoy the full potential of the place. This can be done in the following manner:

First, it could consist of an educational tool for the visitors, for example, Quick Response (QR) codes can be attached to historical buildings and link people to websites where relevant information is provided. This also applies to public artworks, urban routes, touristic attractions, or civic campaigns. Simply, QR codes can serve as detailed information transmitters attached to any relevant object from the public space. Moreover, the research team considered various examples of digital technologies to encourage a collective re-coding of the site in an attempt to entice new forms of sociability. This was proposed through the creation of a common platform for Ortaköy square within which people can share photos, comments, feedback, or tag other friends. Moreover, the platform can share information about the place with the visitors while walking by scanning a QR code near a landmark and get information about it or about other amenities such as shops and restaurants that exist in the area. Second, insert various entertainment-focused applications on-site particularly at the seafront which is an important criterion that many public spaces miss. The necessity for entertainment is always present and new technologies can be used to creatively fulfill it. Projections on buildings, pavement, or specific objects raise attention by changing the area's image—colors, dynamics, etc. and can be used to generate interactive games and/or opportunities for engagement in public spaces. Third, communication is a key activity of every public space, but it has changed dramatically, especially over the last years, concerning the emergence of social media platforms (Stadler 2013). However, the use of mobile devices leads to refocusing an individual's gaze from the public realm to the screen inducing isolation even when people are physically in a public space. People's focus on mobile screen reduces eye-contacts

and make them lose touch with their surrounding environment. This type of behavior also discourages human interaction in the physical environment. Re-focusing digital interest outwardly was proven effective in creating collective visual experiences and interactive activities. This is particularly relevant for engaging young people.

Fourth, more effort to ensuring interactivity and integrating various categories of the population currently underrepresented among the users of the site. Different ICT tools and services could be deployed to enhance accessibility and walkability. In Ortaköy square, mobile phones or devices could serve as assets for more interaction with space especially for people with special needs. The public spaces and activities described earlier in the area lacked the necessary infrastructure and assets to support the accessibility of persons with special needs. This category of visitors cannot wander easily in a safe and harmonious milieu because they were not inclusively considered in the design of the place in the past. Thus, it was thought that technology could offer a unique opportunity to integrate these people within the walkability and activities cycles of the place, for example, they can be guided throughout the area by sensory devices when in the proximity of specific features or risks. These sensors could respond to their special needs and even provide an enhanced memory of the site. Light, colors, as well as acoustics sensory reactions, can be activated with each individual user.

To conclude, public space's abilities to provide information and foster communication represent key factors for its success and. With the use of ICT technologies, these qualities can be greatly enhanced if they focused on complementing existing qualities and not substituting them. New technologies might appear passive to people. They do not need to be overly active to draw benefit from being connected to such technologies. However, designers should look for a way to render them more active through the interactivity between people and public places to create a sense of belonging to space. The key difference between ICT that isolated people and create new boundaries and ICT that integrated people and bridges over social borders is not the availability of ICT or lack thereof. It is mainly by transforming users of ICT from passive users to active makers of the new codes of sociability.

11.6 Conclusion

In conclusion, with all the analysis provided above it is safe to say that Ortaköy Place is successfully functioning for all ages and social classes, it's visited frequently and for extended periods by diverse groups; people like spending time in it. Ortaköy's place creates a public atmosphere that enhances the quality of public life in the neighborhood. Even though it is used as a transit for some people, the place also offers pleasant outdoor and indoor activities. However, even a space like this was found to be short on providing access for certain categories of users and for inadvertently creating real but subtle barriers in some parts of the site. With technology present in our everyday life and information and communication tools being accessible to most people the site was a ready candidate for digital integration to improve its

accessibility, attractiveness to different types of end-users and better integration of urban with the natural environment. Public place represents a platform for social interaction where the hybrid virtual-physical world is in enhanced ICT. Gençel and Velibeyoğlu (2006) raised the question of the complexity of the amalgamation of these two worlds, which requires a different setting, approach, and management of the future public space. The blending process would blur the boundaries between virtual and physical spaces and can be considered as a new chance to reconsider the significance of public space for people in the future. But this can only happen if end users were perceived as partners in the definition of the new uses of the space and not just passive users.

One of the biggest challenges is changing an individual's awareness of the space, particularly in terms of how people will use digital technology and communications. Another recent aspect of our modern life is the spread of viruses and pandemics, which resulted from an endangered global eco-system. ICT solution stands must consider the inclusion of the environmental context in the design of our public places. Thus, an additional dimension is added to the design of public space in the future; it concerns the interaction of people with the environment and not just the social space of the city. Typically, landscape and urban designers tackled environmental considerations at the micro-level. From now on, they have to think of the interlinkage between local environmental interventions with ecological remedies at the macro-level. The relationship between the environmental system and the immune system is relevant, not only at the personal level but also in the context of the urban environments. The pandemics are imposing new boundaries in cities. Our immune system both as individuals and as a society is in a constant status of self-defense due to the poor environmental policies and responses to global transformations. Action is needed to deal with our footprint on the eco-system through improving the environmental performance of our cities and public spaces, but also in ensuring that people are part of the solution and not passive recipients of statuary regulations. ICT will have yet another challenge in the future.

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Maan Chibli holds a Doctorate from The University of Paris XII, Paris Institute of Urbanism and is an Associate Professor in Urban Planning. He is teaching Architecture and Urban Design at Bahçeşehir University, Faculty of Architecture and Design. He worked as a consultant for several international organizations (GIZ, UNDP, ESCWA, and EU programs) for various architectural and urban projects and programs. He was the former Mayor of Aleppo City where he was the initiator of the Aleppo City Development Strategy (Aleppo 2025) with GIZ, the World Bank and Cities Alliance. He is the co-author of other books including *Urban Ökologie, Damascus-Aleppo, 5000Jahre Stadtentwicklung in Syrien*, *In Beate Bollmann ed.* and *Local Governments in the Middle East and West Asia, UCLG-MEWA*

Chapter 12
Mapping Borders in Urban Aesthetics: A Brief History Since Early Modernism

Tuğba Erdil Polat

> *Here is a mode of vital experience-experience of space and time, of the self and others, of life's possibilities and perils -that is shared by men and women all over the world today. I will call this body of experience "modernity." Modern environments and experiences cut across all boundaries of geography and ethnicity, of class and nationality, of religion and ideology: in this sense, modernity can be said to unite all mankind. But it is a paradoxical unity, a unity of disunity: it pours us all into a maelstrom of perpetual disintegration and renewal, of struggle and contradiction, of ambiguity and anguish. To be modern is to be part of a universe in which, as Marx said, 'all that is solid melts into air.'*
> —Marshall Bermann (1988, p. 15)

Abstract Understanding and mapping aesthetical codes of the cities which depend on the socio-cultural and economic conditions of their age have always been one of the major interests of both architects and urban planners. Reasoning aesthetical codes have always led researchers to answer this literal question: Whom the city belongs to? Finding a compelling answer to this tough question is required while afterward, an easier question comes; "Who is the real authority responsible for defining the rules, mapping the borders and making aesthetical decisions on morphologic characteristics of the cities?". Answers given for different periods of civilization enlighten us not only about important decision-makers but also their reasoning for introducing aesthetical codes to cities. Understanding the spirit of cities via aesthetical codes may then help us understand the socio-cultural and economic dynamics that create real borders in society. This chapter aims to interpret socio-cultural dynamics by examining the main structure of cultural connections in several cities as well as Istanbul and to understand the system theory of aesthetic reasoning in the urban environment.

Keywords Urban aesthetics · General System Theory · Diagram · Modernism

T. Erdil Polat (✉)
Faculty of Architecture, Haliç University, Sütlüce Mah. İmrahor Cd. No: 82, Beyoğlu, Istanbul 34445, Turkey
e-mail: tugbaerdil@halic.edu.tr

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12.1 Defining Borders in Urban Aesthetics

Making a quick retrospective recollection in history, it can be predicted that whomever the decision-maker (architects or urban planners) in early-modern ages when everything is as clear and perfect as a "machine" wouldn't have many difficulties on setting borders both physically and socially. In parallel with the early-industrial straight line of vision, it must be much easier to convince the masses which was is the right path following for architects, urban planners, or any kind of designer on a larger scale. Speaking of decades while scientific information was blessed and questioning the decision of the professionals or crossing borders in any way would not even be imagined. Hence, defining rules and setting borders were the primary motivation of early-modernist periods. Limits were certain, social classes were well defined, aesthetical values were set and everything in life seemed to work out well as long as masses continued remaining in predetermined borders which are nearly ceremonial. Naturally, perceiving life itself in such mechanical prescriptivism provides the ability of persuasion on society that everything would stay put in its place forever as long as the system works by the perception of a machine. Aldo Van-Eyc (1962) made the most striking explanation of the effects of this point of view on urban aesthetics by his well-known tree-leaf diagram in his paper titled "The City Is a Tree," which addressed the stinting nature of the modern city later on.

Even though modernist designers including architects and urban planners had good intentions and a strong motivation to build up the perfect lifestyle, what bursts the bubbles of this fantasy can be explained by the weak clairsentient characteristics of this ideology which got paralyzed itself by sticking with in the same borders once were supposed to be unfailing. While the variable roles of the producer and the consumer were representing the perfect equilibrium between producing and consuming, the masses begun to gain a different point of view gave the signals of the change in late modernity. Hence, the new-age individual who identifies himself as a consumer, the idea of that static social classes of modernism a new idea begun to burgeon that the only thing that doesn't change is the change itself. While people, the real actors of the city adopted the perspective that they also can determine borders in social and political ways, the world would be obligated to accept the fact that borders can be re-determined, re-created, re-built anytime anywhere. Even as the aesthetical indicators have begun to show more spontaneous values, Christopher Alexander (1965) reasoned against the theory of Van-Eyck by his semi-cage diagram depending on his paper titled "The City Is Not A Tree." He claimed the necessity to accept the flexible nature of this new society and its demands from urban life. His semi-cage diagram would create a strong ground for the forthcoming period of the borders which will be demolished into the air by the works of Deleuze and Guattari (1987, 1991, 2013).

Defining the borders of solid things in a city such as the address of a park or the number of citizens living in that city might be much easier than defining the borders of abstract notions of the terms such as culture, aesthetics, or spatial spirituality. It means you have to make reasoning about why that park has been built there or why and how.

Those citizens live in that city. What we are trying to explain the reasoning of urban aesthetics needs to achieve a higher perspective to see that everything is ultimately affected by every other thing. The story of reasoning the borders in urban aesthetics from early modernism to contemporary times makes it necessary to understand the big picture by taking some help from practical systems.

Perhaps one of the best examples is Marshall Bermann's book titled "Everything Solid Melts into Air" (1998) which is referred to in the abstract part. Bermann attributes "the condition of being modern" far before the Industrial Revolution, the analogy he creates to define opposite poles of existence matches perfectly with the analogy he creates depending on basic principles of physics as seen in the title he chose. In brief, the story of urban aesthetics scrutinized below is the same story of the existential crisis of humankind who swings between opposite poles and search for the answers: rationally set and irrationally original, reasonably foreseeable, and unexpectedly spontaneous. Mapping the un-mappable surely requires scientific systems, diagrams, and multi-disciplinary approaches which allow us to make various notions of urban aesthetics.

12.2 Mapping the "Already-Defined": Urban Aesthetics in Early and Late Modernism

Early modernist studies that originate from a re-examination of rationalism aimed to create a ground including all areas of life to organize every inch of it according to the main principles of Modernism. These principles were clear to imply adapting individuals to certain role models harmonized by an industrialized society after all. Within this vision, it is inevitable to comprehend urban aesthetics somehow obligated to an ideology that has a long way off being flexible. In turn, regionalist explanations gave sufficient means for urban aesthetics which pertained to certain principles of Modernism. Belonging to something beyond the object's own existence formed the basis of regionalist models that offered stable yet sufficient explanations for how the city should be examined aesthetically. This vision created a striking example of a diagram by Aldo Van-Eyc (1962) who explained the aesthetical interactions of the Modern City. In his article titled "The City is a Tree," he comprised a brief analogy between the built environment and nature, which again reminds the basic methodology of the General System Theory. As well as showing a mutual relationship between the pieces and the whole, tree and leaf diagram he constituted a strong metaphor of a perfectionism-based society idea. It was based on the unquestionable authority of Modernism which built its discourse on the hierarchy of modern bureaucracy that was considered to work without a hitch. In the written discourse of the diagram (Fig. 12.1), we can encounter these epic phrases:

Fig. 12.1 Aldo Van-Eyck, "Identification of leaf with tree," the original text of 1961, presented at the Team 10 meeting (Abbaye de Royaumont, September 1962); the handwritten diagram was prepared for Domus, May 1965

Tree is leaf and leaf is tree.
House is city and city is house.
A tree is a tree but it is also a huge leaf.
A leaf is a leaf but it is also a tiny tree.
A city is not a city unless it is also a huge house.
A house is a house only if it is also a tiny city. (Van-Eyc 1962, p. 3)

Nevertheless, this projection of idealized urban aesthetics had been accused of several counts via several citizens of late-modern. Assuming that the settled rules would work perfectly as they were once decided by professionals, modernist ideology failed to see the big picture of how everything affects every other dynamics in urban life in parallel with newly born consumption tendencies of late-modern society. While capitalism widens its ground by inviting subcultural classes to join the game, the "idealized modern city" became just a myth by all its great white hopes for welfare in urban life. Probably, the destruction of Pruitt-Igoe settlement which once had been considered to be an ideal settlement for modern living would prove the justifiability of the new society's aesthetical expectations from urban life one day in the not-so-distant future. This epic fail of assuming that everything would remain

as a part of a certain root as it was decided on graphics devoid of error margin just as shown in Van-Eyck's tree and leaf graphic, gave its most dramatic examples on urban life with criminalized tendencies of "Pruitt-Igoe like" atmosphere in the late '60s and early '70s.

Roots of the unpredicted problem that causes conflicts in the late-modern city lie in the reductive interpretation of modernism which somehow neglected the "individuality" of the actors that constitutes the wholeness of society. This new comprehension of the human ego brings a new understanding of the major role of aesthetic values on human behaviors. The main interest in studies of critics on what went wrong in modernist aesthetic values mostly focuses on the failure of misunderstood human-nature that reflects socio-economic and cultural changes in ponderous ways. For instance, while Castells (1978) would name urban products of this rigid approach in modernist planning as "Monotone-Ville," Harvey (1988) would remind dangerous dimensions of "over-planned" and even "ghetto-like" environments on human psychology. Modernist aesthetics shows up in a form that defends the freedom of art, yet rejects the ineffability areas which would give enough ground for this freedom to bloom or that claims autonomy of art, yet rejects heteronomy as the opposite of authenticity. If we take a look at Van-Eyck's diagram once again within this concept, we can read the strong hierarchy of bureaucratic authority. This hierarchy, however depending on the observation of nature by the system theory, tends to concentrate on defining inevitable conclusions to maintain the Modernist way of definition putting an end to any possible attempts on re-evaluating the textuality of aesthetic messages behind.

Most defensive critics against Van-Eyck's regionalist diagram came from Christopher Alexander by his article titled "The City Is Not A Tree" (1965) carrying its discourse evidently on its title. This new point of view can be taken as the sign of a new tendency that the bureaucratic hierarchy of Modernist approach toward aesthetical values and offers a more open-minded comprehension that would allow more discrepancy in urban readings. The mentioned discrepancy here comes from accepting the fact that the city must be evaluated as a flexible context rather than a stable and constant form of being. According to this theory, Alexander (1965) suggested a semilattice diagram against the tree and leaf analogy which would allow different layers to move more openly over each other (Fig. 12.2). Once again, late modern tendencies accepted that everything in the city would affect every other thing, this flexible approach matched better with the newly understood need for gaining more varieties of urban aesthetics.

Christopher Alexander (1965) also focused on the cognitive difficulty of thinking in terms of overlapping subsets with simple examples. For instance, given an orange, a watermelon, a football, and a tennis ball, we can group them as fruit and sports balls or as small spheres and large oblong objects we can visualize individual groupings in a tree structure, but because they overlap, it is beyond us to visualize four sets simultaneously in one simple move. Then, we have to decompose and re-compose.

After being discussed largely in late-modern ages, critics on side-effects of rationalist modernism express negative aspects of one-sided thinking which narrows the perspective of seeing the big picture on socio-economic and cultural levels. This

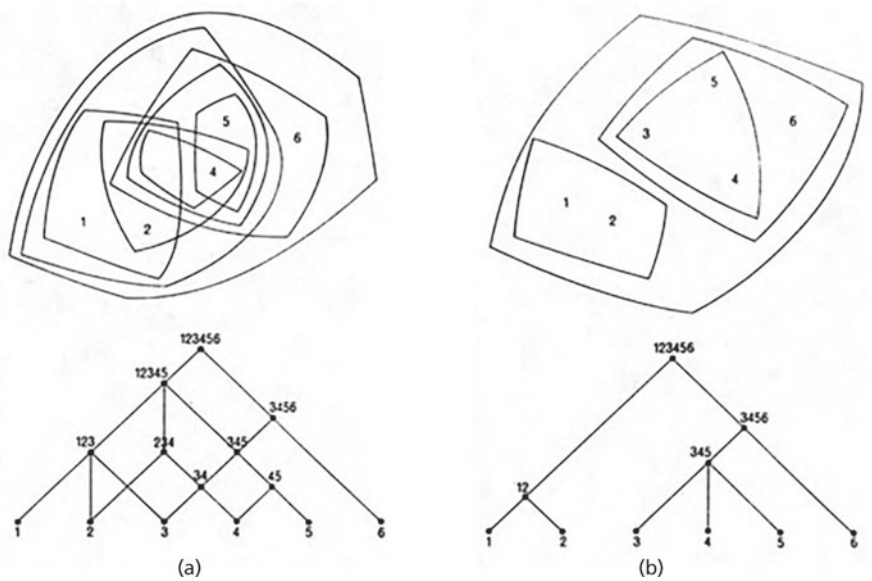

Fig. 12.2 Semi-cage diagram (Alexander 1965)

tendency coming from the need for re-examination of human nature, which rationalism ignored in some measure by setting common rules on aesthetical values, confronts the needs of "post-industrial individuals" who seek more space for personalized variations of pleasure. This protest behavior on consumption practices can be comprehended as a reflective defense of the individual against the probable loss of personal identity. Plus, while the advanced streaming format of production techniques automatically expands customer scale all around the world, competitive pressures on marketing increase that would encourage producers to find brand new ways to attract the masses. Among this hustle and bustle on aggressive consumption behaviors of post-modern society, it is obvious that old arguments of early modernism would no longer serve to explain the socio-cultural codes of this new society which consists of individuals each seeking personal tastes on design and aesthetic values.

In the very middle of these winds of change, Norberg-Schulz (1980) mentioned a brand new crisis felt deeply in the pre-globalized world. According to him, individuals could not able to find any meaningful connection with the built-environment which would lead to alienation (Fig. 12.3). He simply explained this idea of alienation against the built-environment with the term "loss of space." Within this theory, humans became the victims of certain pollution in both physical and cultural meanings and the persona is taken with only its material side. On the other hand, it was clear that the relationship between people and "things" or "places" was once the main elements of longing and identity before mass-production hunted modern society down. When rationalist ideals predicted to promise eternal happiness by building certain principles on every level of life, the scientific point of view tackled

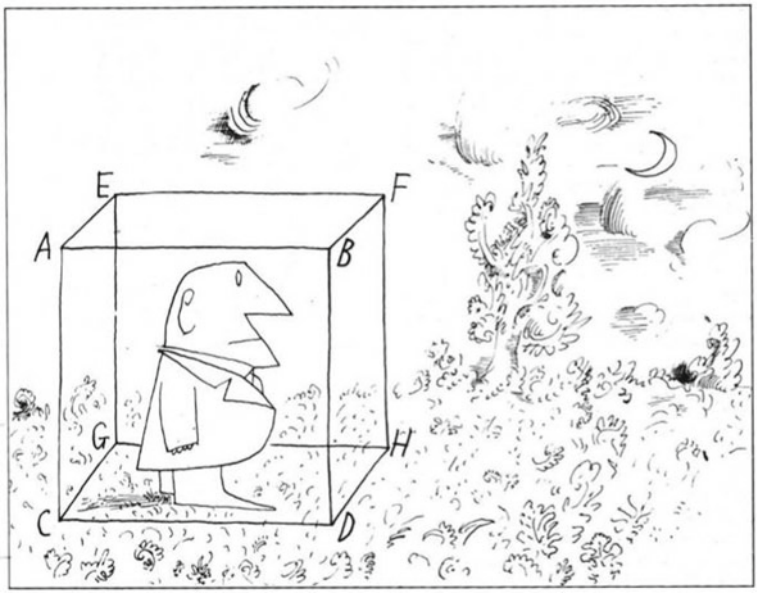

Fig. 12.3 Borders or prison: urban individual diagramed in alienating concept (Norberg-Schulz 1980)

the modern world as a "data set." It also divested the existence of meaning, which would be criticized by both negative and positive meanings by post-modern theoreticians later on. Despite several critics on side-effects of postmodern culture, one thing was for sure that according to the regionalist idea, the individual felt "homeless" the moment he lost his "space" that would give enough arguments to discuss the need for more freedom for personalized tastes and various aesthetical values differing from each other by any means (Norberg-Schulz 1980).

When it comes to urban studies, discussions based on alienated individuals gave its results on urban aesthetics in the form of unquestioned regionalist models. In any case, the destruction of the "modern myth" opened the door for uncalculated prospects of human behaviors which give society its very shape of aesthetic comprehension. Hence, the chain of possibilities showed the fact that, talking on urban aesthetics, relationships and connections can occur spontaneously or semi-spontaneously. While these spontaneous reactions showed themselves in a chaotic universe, postmodern culture studies had already begun to search the basic motivations of this post-industrialized form of mass activities. Many of these studies are seen to be connected directly with newly found consumption behaviors as each theory tries to explain its discourse on different layers. For instance, Harvey (1990) announced the destruction of scientific knowledge and claimed that the only way to keep masses busy in an un-criminalized urban atmosphere is to create "fun" in ordinary life. As well as Debord (1967) put forward the idea of Spectacle Society, he also accepted the case of the entertainment force which made the wheel going in post-industrialized society.

Maybe one of the hardest critics comes from (Baudrillard 1981) when he made an analogy between postmodern cities and Disneyland claiming that the masses would only follow their basic instinct of hedonism discovered in the late-capitalist system from then on.

12.3 Melting Borders: Urban Aesthetic Notions Toward the Postmodern City

After all, this list can be widened to a huge amount of examinations on postmodern culture. All in one thing is for certain that the so-called postmodern city needs to be examined in a new level of understanding; a level of reading which would claim to explain unpredictable reflexes of the chaotic environment of cultural codes in postmodern society. The need for naming the chaos is very real; however, reading the codes is not so clear to follow. Mostly connected with the "loss of space" here comes the need for searching for new ways of defining chaos, as well as explaining interactions of chaos by verifying new diagram forms.

The "Loss of space" discussion must be examined as the forerunner of the birth of a new aesthetical language whose grammar can only be solved by understanding the chaotic environment it causes. Any approach toward understanding the chaos must, of course, consider new problem-solving theories of multi-valued logic. According to Deleuze and Guattari (1991), chaos is explained as a system in which things lose their shapes as soon as they get one. Thus, chaos can be a "space" but not a "nullity"; on the contrary, it has space for every possibility in every shape which occurs and dies away in an eternal loop. There are times when it feels like the chaos overwhelms us; it is the speed of becoming and fading away in a schizophrenic universe.

Deleuze and Guattari (2013) explain the condition of the individual in this schizophrenic atmosphere by their "deterritorialization" concept which is shown as the most important tendency of capitalism in their study named "Capitalism and Schizophrenia." After a long reading on post-capitalist culture, this theory claims that deterritorialized individuals became purposeless immigrants wandering around in a schizophrenic manner. These individuals are also schizophrenic in their expressions of needs too as they seem to fail in understanding the limits of things such as culture, value, and interactions with others. Hence, capitalism builts fictional and symbolic spaces to capture these wandering mass in a "dream-like" world.

On the other hand, among the most effective reason for their analogy between schizophrenia and capitalism, is the fact that they studied schizophrenia clinically with patients who have complex mental disorders to understand the human nervous system by all means. In contrast with the classical therapeutic approach, patients were allowed to take the lead of seances instead of the therapist. What they were after was to take the problem—the disease—as the main question and to understand how the nomadic way of thinking works. As the mechanism of nomad thought seemed impossible to define as it does not have any certain beginning or end but always there

as a fact. This mechanism became the main element in naming "deterritorialization" in their study for a nomad is always being deterritorializing and they claimed that "the nomad can be called deterritorialized par excellence." Within this concept major codes of this nomadic action were solved: constantly evolving, adaptive, always going with the flow, resisting authority and control, indifferent to boundaries laid down by the state apparatus.

Here is the very point General System Theory reminds itself once again just like the phantom of the opera; in some way, Deleuze and Guattari (2013) managed to put forward the basic mechanism of chaos by examining neuro-biologic principles of nomad thinking. With this multi-disciplinary approach, it became possible to understand how new opportunities occur and disappear as well as comprehending the same interactions of these spontaneous relationships between opposites in the postmodern city. Just like in the human mind, the built-environment has the same working dynamics; not always in proper order, but always full of possibilities and life. Hence, in contrast with the classic rationalist point of view, notions of the Deleuzian approach tend to explain non-monumental being of architecture by concentrating on these possibilities which can only be craved by accepting the mere reality.

At some point, it's clear that Deleuze and Guattari also found motivations in Eugene Dupreel's philosophy too. Dupreel (1933) is known to suggest new notions such as the coherency principle, consolidation, and intervention. Especially consolidation concept suggests a model that claims life does not expand from the center to the periphery but comes from the periphery toward the center in the form of unclear mounds. For Deleuze and Guattari (2013), this concept means three main notions; first of all, nothing can occur from a certain beginning for there are always interventions, consolidations, and interactions. Secondly, there is a need to put different rhythms in order and inequalities must be placed according to the allocation principle. The third and the most important one is the necessity to accept the uncertain universe of the chaos which consists of different rhythms all together and doesn't depend on any canon or certain rule. There can be sensed a mapping format referring to rhizomatic interactions which are also somehow geological in multi-layered levels (Ballantyne 2007).

Deleuze and Guattari (2013) put forward the idea that different layers constantly relate to each other eighter pre-planned or not within a concept of mutual fluency. Their point of view examines the socio-cultural, and political dynamics of post-modern culture which interreacts with different sections on different layers. Deleuze (1968) discusses this permeable universe of post-capitalist society which creates spontaneous ties with each other by questioning the concept "differancé."

His approach is conducive for explaining the nature of hyper-reality where everything remains loyal to its own while interreacting toward an approach of mutual communication at the same time. Thus, interacting parts create their periods of metamorphosis by their own dynamics spontaneously. By giving accepting the major role of diversity and multi-layers, the discourse of Deleuze draws a picture of the urban aesthetics of the post-industrial city by being both free and relative. However, these spontaneous interactions still need to be described in basic principles according to the System Theory.

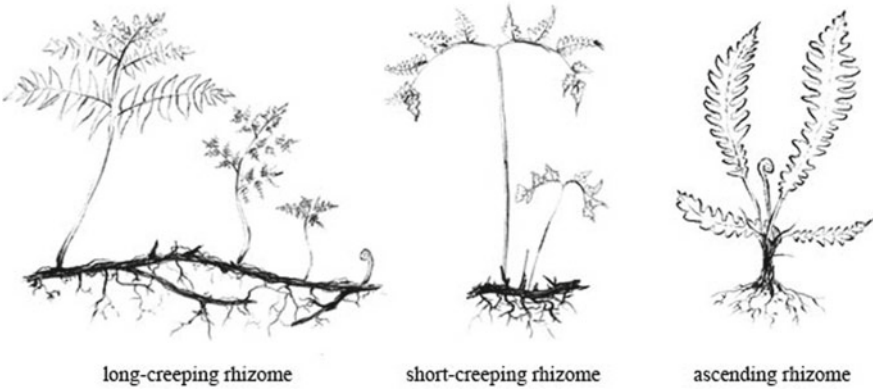

Fig. 12.4 Rhizome models in biology (Mickel 2003)

Further thinking of this notion of rhizome can be found in "A Thousand Plateaus" by Deleuze and Guattari (2013). They offer a theoretical model that relates to a logic of emergency. For instance, multiplicities are referred to by the packs of wolves and the logic of the crowd. This approach also resonates with the mass activity which claims to solve basic rules of the "population thinking." By several analogies they create, they build connections to the logic of urban aesthetics when they describe the city as a network that can only exist with a function of circulation and circuits. As a consequence, the interaction between the wasp and the orchid can be read at a diagrammatic level of understanding. The main mechanism of this diagram thinking is related to the illustration concept of the rhizome (Fig. 12.4). The example they give is a familiar image of the relationship between a plant and an insect attracted to it. Here, the wasp is being housed by the orchid which has developed that attracts the wasp as well as the wasp has developed beneficial patterns for serving the orchid. The observation is made upon this relationship shows mutualist togetherness which would be used to explain the form of "mutual becoming" in things, thoughts, and forms. At some level, the wasp becomes like the orchid and the orchis becomes the wasp in a notion that everything melts in every other thing in a natural order. Therefore, the rhizome model becomes a phenomenon for mapping uncertain, organic, and sudden connections of the aesthetics.

This uncertain biologic growth mechanism matches smoothly with the very concept of Deleuze and Guattari (1987) built on their studies on nomad thinking mechanisms they examined in neurology. Once again they achieve to grasp a match with different disciplines that explain the same principles on different levels on scientific examination that verifies each other in mathematical thinking. For them, the concept of the rhizome can be built in six main principles as connection, heterogeneity, multiplicity, a signifying rupture, cartography and decalcomania.

When it comes to aesthetic reasoning, a rhizomatic model for mapping cultural fluency in the postmodern city allows reading spontaneous and/or semi-spontaneous urban flow both culturally and architecturally for the postmodern city. Talking

about mapping the rhizome Deleuze and Guattari (1987) mentions the "cartography/decalcomania" notion. Cartography is described as a mapping model that is "always modifiable and has multiple entryways and exits and its own lines of flight" (Deleuze and Guattari 1987, p. 22). This ground for understanding contemporary cities describes contrariness and gives birth to new interactions between different socio-cultural layers by un-planned urban flows. Hence, identification of the rhizome points which represents the transformation of cultural directions in urban layers becomes necessary for drawing the main picture of diverse architectural tendencies. This multi-culturally productive environment creates new spaces of interactions for different cultural layers in the city which are not expected to come together normally. Cultural fluidity, which passes over, affects, enriches, or drags each other, forms the basis of aesthetics in postmodern urban culture. At this point, this cultural fluidity, which develops from the inside out, triggers a process of diagraming that can be defined by its rhizomatic connections (Fig. 12.5). Rhizome creates a rhizomatic scheme that best interacts with the bio-political expansions of architecture as well as its mathematical definition and biological definitions (Otto 2009).

As examined above, whether it is the rationalist perspective of early modernism or the multi-layered approaches that come up with the debate of postmodernism, General System Theory has always served as an effective tool in the reading of the current conditions in all of them. Perhaps we can more appropriately bring the search for hierarchy and system to modernist studies. Although these words may not seem to

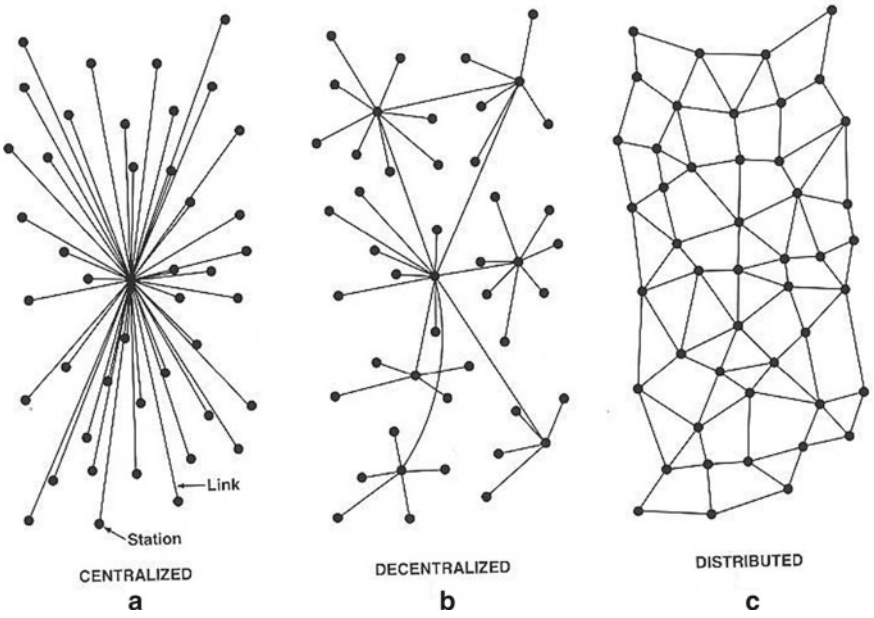

Fig. 12.5 The image of rhizomes by Frei Otto in support of his argument that human spontaneous networks of urbanity follow similar patterns to ones formed in (Otto 2009)

have found their place in the chaotic universe of postmodern culture, What Deleuze and Guattari did was based on the act of systematically examining the connections of current conditions with mass biological movements that are the same as Van-Eyck and Alexander's; mapping aesthetic codes within an understandable system. At this point, the development of General System Theory in the multi-disciplinary framework is remarkable as summarized by Bertalanffy (1969) as below;

> The above considerations pertain particularly to a concept or complex of concepts which indubitably is fundamental in the general theory of systems: that of hierarchic order. We presently "see" the universe as a tremendous hierarchy […] A similar hierarchy is found both in "structures" and in "functions." In the last resort, structure (i.e., the order of parts) and function (order of processes) may be the very same thing: in the physical world, matter dissolves into a play of energies and in the biological! world structures are the expression of a flow of processes. At present, the system of physical laws relates mainly to the realm between atoms and molecules (and their summation in macrophysics), which is a slice of a much broader spectrum. Laws of organization and organizational forces are insufficiently known in the subatomic and the supermolecular realms. (Bertalanffy 1969, p. 27)

12.4 Perceiving Shifting Images: Drawing the Boundaries or Accepting the Unexpected

David Lynch (1960) ponders on what does the city's form actually mean to the people who live there by asking the main question "what can the city planner do to make the city's image more vivid and memorable to the city dweller?". In "The Image of the City" Lynch answers this question by examining the aesthetical codes of three important cities of the USA; Los Angeles, Boston, and Jersey cities. While the image of the city environment depends on legibility, structure, identity, and imageability, Lynch expands the meaning of these descriptions. Finally, he describes the elements of the image as paths, edges, districts, nodes, landmarks, element interrelations, the shifting image, and image quality. In terms of comprehending physical codes of the built environment, perceiving the urban aesthetics depends on both elements itself and the common sense of these elements create by coming together. Hence, a space-time discussion comes to the fore in the sensation of the aesthetic image of the cities. City/urban design, therefore, is explained as a "temporal art" in Lynch's studies which rarely uses the controlled and limited sequences of other temporal arts like music. According to the various occasions and various people, the sequences can be reversed, interrupted, abandoned, or cut across. Here, the "shifting image" topic becomes one of the most important elements which should be taken in the discussion of the identity that can be re-evaluated according to the moving elements in the city. Lynch defines the role of moving elements and their connection which cultural identity by his words below;

> Moving elements in a city and in particular the people and their activities, are as important as the stationary physical parts. We are not simply observers of the spectacle, but are ourselves a part of it, on the stage with other participants. Most often, our perception of the city is not sustained, but rather partial, fragmentary, mixed with other concerns. Nearly every sense is in the operation and the image is the composite of them all. (Lynch 1960, p. 3)

According to this point of view, when you change any physical element in the city, you don't only change the physical element but also change the habits and actions of the participants and therefore the whole experience of people who are the active participants of the experiment. Thus, any decision made on physical elements of a specific part of the city can be caused by any un-calculated reactions of participants who themselves build up the urban culture causing new cultural networks spontaneously. On the other hand, everything in the built environment continues to be experienced always in relation to its surroundings, the sequences of events leading up to it, the memory of past experiences. This is the very point that makes the structure of the change process as important as the change itself. Lynch strengthens his theory by giving striking examples on cultural memory by Washington Street in Boston City;

> Washington Street set in a farmer's field might look like the shopping street in the heart of Boston and yet it would seem utterly different. Every citizen has had long associations with some part of his city and his image is soaked in memories and meanings. (Lynch 1960, p. 2)

Experiencing the urban space with its own history brings us to perceive the picture of the city image as the whole structures. Speaking of urban aesthetics it would be quite possible to select topics just as colors, tissue, scale, or geometry to define a specific urban space according to such data that give us the basic information sensually. Basing on the basic mechanism of human understanding of aesthetical codes, studies of Gestalt psychologists put forward the most striking principles (Koffka 1935). What they took as the basic principle is the fact that stable objects would be sensed as a whole instead of separated from each other independent of the examination of the observer's actions. In specific scales, the elements of urban aesthetics can be observed one by one only if one can see the whole picture of all those elements, that urban space would become a meaningful painting for the observer. When you take a look at the street you can easily observe buildings here and there, trees, shops, or parking cars if any. Only if you walk a few steps through it, the unseen spirit of the street combining the past and the present becomes visible by its everyday life scenes with walking or chatting people by the unclear and yet to be lived experiences.

Reaching a universal aesthetic level is not always possible without examining the intersections of retrospective memory. Within this retrospective memory, it's easy to find that universal meaning in the archetypal discourse of the space since the memory of all the ancestors with all their aspects. Hence, collective consciousness can be built on every instant reflex of pain, happiness, symbols, or metaphors which can only be found under the surface of the current photographic scenes of the built environment.

12.4.1 Mapping the Unmappable: Deleuzian Way of Reading Ultimate Transformative Character of Post-Industrial City

During the history of architecture, the dualistic relationship between culture and built society has always been a matter of discussion. However, this relationship between what is social and what is architectural is being developed in a mutual fluency, especially works of Lefebvre (1974) based on the production of social space highlights the major role of socio-cultural dynamics on the transformation of the built environment. Metropoles, which show rich layers of cultural stratification such as İstanbul, give proper grounds for examining production and consumption periods of social spaces. In the case of Beyoğlu district, saltatorial urban transformations seem to stimulate spontaneous or semi-spontaneous socio-cultural nomadism instantly. While local users of urban life are being forced to immigrate within the city, another case of socio-cultural nomadism shows up which manifests itself as "deterritorialization" (Deleuze 1968). While masses are forced to move places in the city, the ability of adaptation shows various rates. While the rate of adaptation grows quickly, the risk of identity loss increases oppositely. Witnessing these sudden transformations in an urban culture gives academics a new mission to record the periods of change, as well as figure out the cultural map of social-architecture according to the logic of late capitalism (Deleuze and Guattari 2013).

Conditions can be seen as the results of certain needs of participants in the city. But if we recall Maslow's pyramid of needs (Maslow 2011), there is an order to complete one's needs. The same principle goes with masses socio-economically and culturally. Today's citizens or in other words "the postmodern individual" want to define himself, find his own identity and find or create certain conditions where he can maintain his primary needs economically and culturally. Under the conditions where sudden decisions are made in urban morphology, participants of the city find their own way to adapt these new conditions according to their needs of satisfaction socio-economically and culturally.

Reminding the network system of Deleuze and Guattari (2013), this adaptation can cause the spontaneous flow of masses in the city for producing their own spaces socially, which can cause un-calculated results in urban aesthetics. Istanbul, which has been one of the oldest capital cities during history, faces some of these results in historical neighborhoods by observing the shifting images of these districts just like Beyoğlu. Within the complex nature of mass activity triggered by sudden interferences in urban politics, creates a ground for investigating Deleuzian theory in mapping cultural change and spatial transformations (Fig. 12.6).

It would be helpful to take a closer look at the demographic and cultural characteristics of the Beyoğlu district to make it easier to define its aesthetical codes. Beyoğlu district as a part of the Pera area can be defined as the world of a mosaic consisting of different layers of cultural populations. This togetherness of different cultures comes across as a result of cultural refinement during years since the late eighteenth century. That cultural multi-layers have found themselves a unique space that can be defined

Fig. 12.6 İstiklal Street is one of the most historical streets of beyoğlu District (Illustrated by Polat)

as an open-air museum with its bookshops, churches, mosques, art galleries, theatres, cinemas, and all kinds of common spaces that allow random encounters of different cultural layers. All those activities represent the intellectual background of the area where many different participants of the district satisfy their own cultural needs as well as experiencing the unique atmosphere of the oldest buildings and restaurants of the early 1900s.

On the contrary, certain decisions by state authorities intentionally or unintentionally destroyed that organic togetherness of cultural layers day by day since shopping malls and entertainment areas have begun to take place rather while cultural activities have begun to decrease in front of uncontrolled growth of consumption activities. This specific condition of the Beyoğlu district can be seen as a unique example of cultural change that remarks itself on the built environment by creating or shifting urban images on its own scale. But on a larger scale, this cultural change seems to trigger a chain of reactions triggering one another and causing mass activities to build new urban landmarks as a result of deterritorialized cultures.

Mapping the cultural flow and following the steps taken toward shifting images of the district needs to be defined in a model where we can examine the nature of aesthetical growth codes of the postmodern city systematically. Here, reminding Deleuze and Guattari's idea (2013) that different layers constantly relate with each other eighter pre-planned or not within a concept of mutual fluency) can give us the methodology of this cultural mapping in urban aesthetics. Their point of view can be taken to examine the socio-cultural and political dynamics of post-modern culture which interreacts with different sections on different layers. Deleuze discusses this permeable universe of post-capitalist society which creates spontaneous ties with each other by questioning the term "differancé" (Deleuze 1968). His approach

is conducive for explaining the nature of post-modern society where everything remains loyal to its originality while interreacting toward an approach of mutual communication. Thus, interacting parts create their periods of metamorphosing by their own dynamics spontaneously. Giving space for diversity and multi-layers, the discourse of Deleuze draws a picture of the post-industrial city nature by being both free and relative. However, these spontaneous interactions still need to be described in certain principles according to the General System Theory. Here, comes the idea of mapping postmodern culture by "Capitalism and Schizophrenia" which Deleuze and Guattari (2013) create a ground for accepting and understanding the "chaos." Rhizomes describe the mapping principle of variable relationship networks of unplanned urban and cultural flows. Rhizomes are the points that enable cultural layers to interact without being affected by their original sources. Every direction from a rhizome point is made spontaneously and fluently according to the unstable dynamics of the socio-cultural and political environment and creates other interactions instantly.

The rhizomatic model for mapping cultural fluency in the postmodern city allows the reading for spontaneous and semi-spontaneous urban flow both culturally and architecturally for the postmodern city. This meaningful ground for understanding postmodern city dynamics is valid for reading architectural transformations in the İstanbul-Beyoğlu district which feeds by contrariness and gives birth to new interactions between different socio-cultural layers by un-planned urban flows. Hence, identification of the rhizome points which represents the transformation of cultural directions in urban layers becomes necessary for drawing the main picture of diverse architectural tendencies. This multi-culturally productive environment creates new spaces of interactions for different cultural layers in the city which are not expected to come together normally. The term "heterotopia" comes into the discussion as Foucault (1975) put forward and a kind of marginal aesthetics becomes visible for contrasting cultural togetherness. As Foucault describes marginal aesthetics by conditioning multi-space term in one real space, Beyoğlu district gives striking examples of this marginality.

According to Harvey (1990), metamorphosing in urban space is linked to the movement of economic opportunities; thus when the opportunities are nomad, they cause cultural flows and produce their own spaces within the urban space. From the smallest decisions to the bigger ones, each and every step in urban policies causes transformative reactions following each other.

For the Beyoğlu case, many steps of urban transformation can be observed that changes economic opportunities and causes cultural nomadism in parallel following the main triangle among Beyoğlu, PERPA, and Karaköy regions. If to follow a historically linear chronology, origins depending on the transformation of Beyoğlu can be found in the periods following the nomination back in 1996 for the European Capital of Culture. Such periods have always been counted as important milestones for the great expectation to increase cultural and socio-economic climate. However, different from other candidate cities, for İstanbul the nomination periods begin with civil initiations but turned out to be a total urban planning project by taking the attention of government rulers.

These new urban innovations have gained a notion of building up a global image for İstanbul. Thus, it can be said that culture seems to be taken as a tool for realizing economical goals. Creating a cultural image globally leads to the utilization of certain regions that causes instant cultural nomadism. Works during remobilization periods bring out questioning socio-cultural articulation problems in the areas of transformation. These areas become breaking points for cultural nomadism according to socio-economic movements (Şentürk 2009). Socio-cultural layers which forced to move within the city become a live example for the "deterritorialization" theory of Deleuze (1968). While these cultural layers begin to move in parallel to economic opportunities as Harvey mentioned (Harvey 1988) begun to give visible results in built-environment by creating spontaneous and semi-spontaneous flows in urban layers.

Deleuzian reading can be used as a mapping methodology to diagram consecutive periods of socio-cultural and socio-economical flows depending on the main urban transformations based in the Beyoğlu district (Fig. 12.7). These consecutive periods manifest themselves as sequential rhizomatic relationship networks which cause various changes in the built environment instantly. When we examine socio-spatial differentiation as a manifestation of cultural space production according to Lefevbre (1974), these changes in the built environment should be seen as a representation of space production according to the adaptation of unstable conditions of sudden interventions on urban policy.

As a matter of discussion, remobilization policies based in Beyoğlu represent a sense of centralization (Fig. 12.8) which manifests itself in housing remobilization activities in neigborhoods such as in Sulukule and Tarlabaşı cases. According to Şentürk (2009), it is unavoidable that these kinds of dissociation in socio-politic and socio-cultural levels create pit spaces in urban culture. As a result, it would not be a surprise that various socio-cultural levels would produce their own spaces by infiltrating from these spaces.

In this case, the PERPA period which occurs in parallel to the dissolving periods of Beyoğlu district which has always carried its characteristics of being a cultural center for artisans and intelligence triggers interaction periods of mutual cultural flows between Beyoğlu and Karaköy regions. Inspired by Lefebvre's idea of production of space (Lefevbre 1974), Deleuze's (1968) deterritorialization thesis is valid for both sides of interaction in the name of socio-cultural nomadism which gives visible examples for socio-culturally produced spaces in the Karaköy region.

Socio-spatial transformations based in Beyoğlu creates a differentiation reaction which approaches toward old Perşembe bazaar region and Karamustafapaşa neighborhood in the Karaköy region. First of all, in parallel to the changes in Beyoğlu, Perpa, which is the organized industrial region in Şişli, showed itself as a new offer for the old Perşembe Bazaar economy, which had built up one of the oldest networks of the industrial economy during the times of Ottoman Empire. While the tradesmen of the old bazaar were offered to move to this newly organized area, this old network of production-trade-export and import network seemed to fade away compulsorily.

These kinds of togetherness of layers such as Perpa have often been criticized for creating a type of ghetto-ism in literature. For instance, Mumford (1961) examines

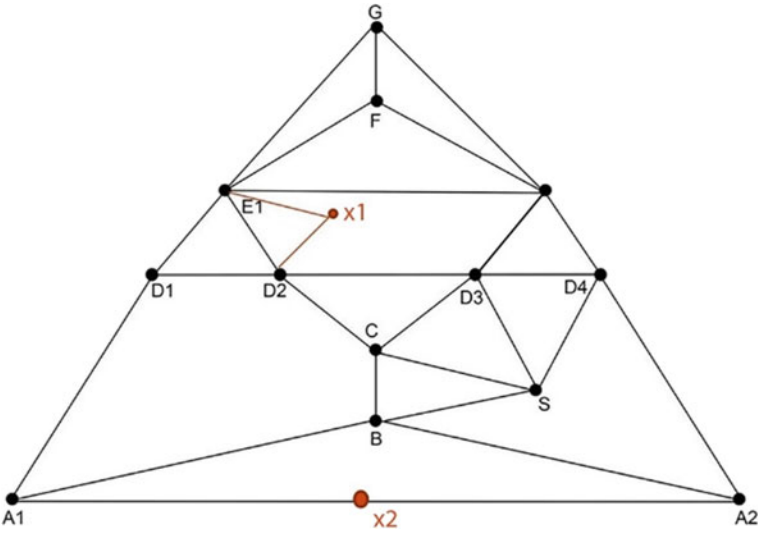

Fig. 12.7 Diagram for Beyoğlu district showing consecutive periods of socio-cultural and socio-economical flows (Illustrated by Polat. *Notes* A1; 1996, HABITAT Istanbul [United Nations of Human Conferences],
A2; 2010, Candidate period for European Capital of Culture,
B; Urban Renovation Procedures,
C; Elitisation Project as creating the image of «Ville-Elite»,
S; Urban Renovation of Beyoğlu,
D1; Urban Renovation of Karaköy,
D2; Speculations on renovation projects of historical port areas in Karaköy: Galataport-Haliçport
D3; Cultural Change in Beyoğlu District; moving away from a cultural center to the shopping center. Demolishment of historical theatres, etc., vagrant nation period of culture,
D4; Urban Planning of Tarlabaşı-Sulukule, vagrant nation period of old residentials,
E1; Vagrant nation of culture in Karaköy
E2; Vagrantnation of culture in Beyoğlu,
F; Crashing of layers,
G; Breaking point in Karaköy, transforming to Hypsterville from historical trade area,
X1; Transforming of Karaköy tradesman to PERPA [2005–2008],
X2; Beginning of lot period for transforming tradesman ateliers to PERPA region [1996])

these kinds of organized settlements as places that are prone to be surprised opposite effects against the plan by offering speculative offers of the built environment. Pragmatically paradoxical side effects must be calculated of these kinds of ghettos by also their overlaying characteristics. This over-planning approach toward urban networks is also prone to create breaking points in cultural heritage sociologically and architecturally.

Accordingly, Harvey also examines the matter of designing urban policies according to social de facto as a matter of designing urban aesthetics in tune with socio-cultural realities. While he names this approach as creating a "consistent social goal," he mentions that ignoring socio-cultural realities would be ignoring the diagnosis that would cause every solution to be paradoxical (Harvey 1988). As Sennet

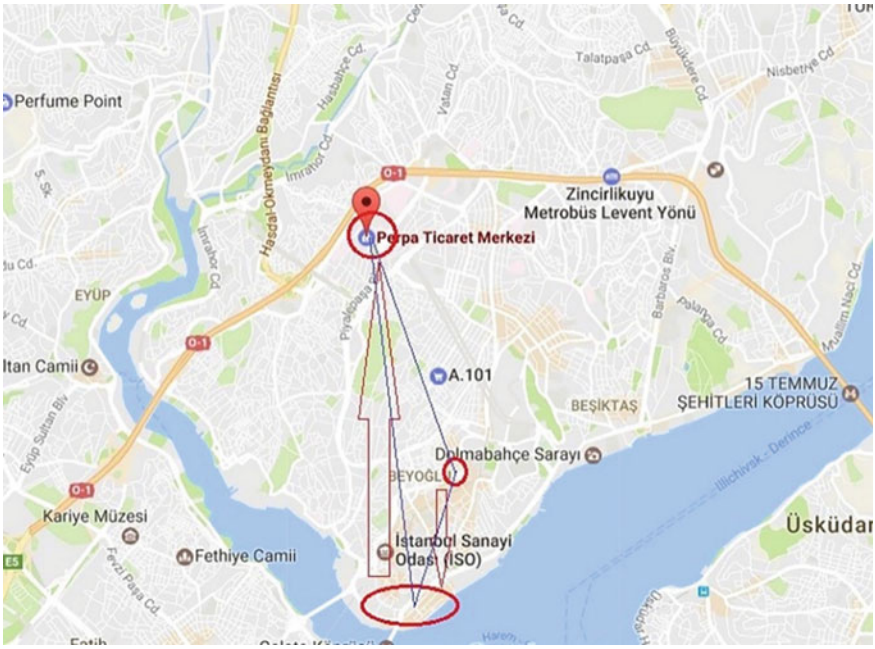

Fig. 12.8 Socio-cultural flow triangle amongst Beyoğlu, PERPA and Karaköy (Illustrated by Polat)

(2009) expresses that socio-cultural articulation is vital for cultural sustainability, he criticizes these kinds of centralization periods for breaking historical networks behind.

Today, urban transformation shows its production of space periods in new-age regeneration projects in old Karaköy neighborhoods such as Karamustafapaşa (Fig. 12.9). In these neighborhoods, we examine major differentiation of spaces as avantgarde art-galleries and gourmand restaurants which were industrial ateliers once upon a time. At this point, it would be wise to remind Sennet's (2009) investigations on the importance of cultural articulation for socio-cultural sustainability in cities such as Istanbul with a large historical legacy. Especially in Urban Age Conference in İstanbul, Sennet (2009) pointed out the high risk of cultural disintegration for urban life and claimed that the only way for avoiding this risk would be taking cultural articulation principles seriously in historical areas. He asked if İstanbul wanted to represent an image as Venetia or Frankfurt in the future (Sennet 2009).

Today, Karaköy district gives us strong cues of cultural change and this change leads to spatial transformations as well as socio-cultural changes which are visible results of urban transformation policies based in Beyoğlu (Fig. 12.10). Reading the codes of changing conditions in urban life depends on the socio-cultural and political structure of the change. These codes give us a first impression of the change. Observations on physical, morphological, and characteristic layers of urban life, give us priory judgments about current conditions. If nothing ever happens in the city randomly for

Fig. 12.9 Some gourmet restaurants renovated from old industrial ateliers in Karaköy- Karamustafapaşa neighborhood (Illustrated by Polat)

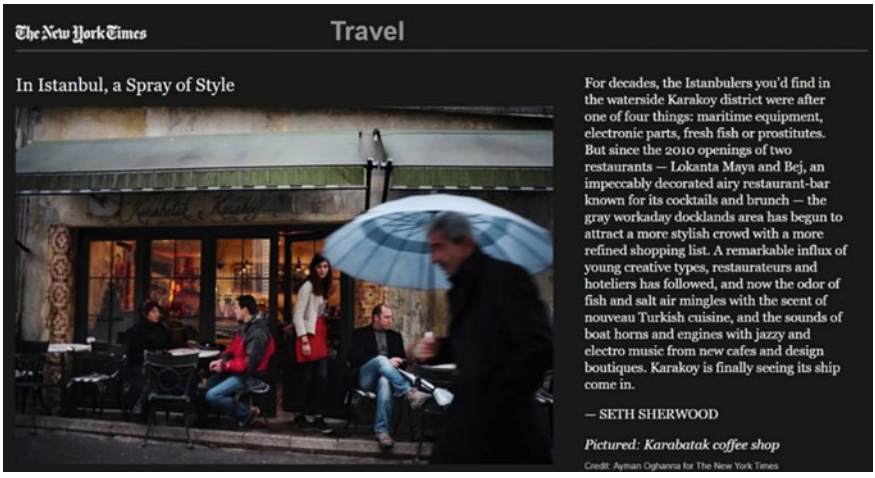

Fig. 12.10 Karaköy is the new "Hypsterville" (*The New York Times*, 2013)

«no reason», this change gives us certain questions to ask; why and how does the change happens and affects contemporary architectural trends. Deleuzian method for mapping chaotic relationships offers to count socio-cultural, socio-economical and political dynamics as important ingredients for understanding spontaneous network relationships between these terms. This network of unstable nature in post-capitalist city, mapping cultural and architectural transformation depending on cultural change can be explained by taking a picture of rhizomatic networks including all aspects of urban policies.

The configuration of the old neighborhoods shows a clear influence of urban transformation projects, conducted or planned by central or local governments and possibly reflects on urban use. On the other hand, the effect of daily life practices of Karakoy district's residents on this configuration is a fact that must be considered. It is observed in successful regeneration projects around the world that "projects that integrate the city and the city dwellers, make life easier for residents and improve life quality" are sustainable. In this context, it is important for the sustainability of decisions taken for the area that daily life practices of urban spaces are interpreted and spontaneous socio-spatial transformations and their borders are taken into consideration.

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Tuğba Erdil Polat is a Professor at Halic University, Faculty of Architecture, Istanbul, Turkey. She is a senior lecturer at the Faculty of Architecture of Halic University. Her Master's degree is from Halic University (2008) by her thesis titled "In Search of Lost Architectural Heritage of Istanbul: A Restitution for the Pagan Temples in Historical Penninsula." She took place as Ph.D. Researcher at L'école Nationale Supérieure d'Architecture de Paris Belleville (2010–2011) and studied Postmodernism in architecture. Her Ph.D. is from Mimar Sinan University of Fine Arts Department of Architectural History (2014) with her thesis titled "Theatrical Principles As Baroque Approaches in Postmodern Architecture" which was published by Gece Publications later in 2016. She worked as an excavation-site architect in Pedesa Archeological City, Muğla, Turkey between 2007 and 2008.

She has been teaching at Halic University since 2008, Polat teaches History and Critics in Architecture from prehistoric ages to contemporary architecture with several courses. She has a special interest in reading, writing, sketching, and traveling.

Chapter 13
The Border Between Perceptual and Physical Urban Space: An Aural Encounter

Mine Dinçer

Abstract The perception and the effects of urban spaces are being studied in many dimensions. The porous border between how urban open space is recalled and how it exists physically exists as a consequence of individual senses, as well as personal, social and cultural backgrounds. The impalpable aural experience at these tangible spaces, often subconsciously, is a crucial factor in understanding the users' impression of the space. Over the course of history, various objective and subjective evaluation techniques have been used in an effort to make sense of aural perception. Objective evaluation techniques based on measurements and calculations are used by many scientists and policymakers. Subjective evaluation techniques, on the other hand, use mostly surveys to determine relationships between sound, user and space. This point of view transforms space and sound from being physical entities into interpretable phenomena, therefore, helps to understand the elaborate dynamics of the border between perceptual and physical space. This chapter takes examples of aural perception at urban open public spaces, from Mediterranean countries such as, Spain, France, Italy, Greece, Turkey, Egypt, Libya and Algeria and attempts to evaluate them through objective and subjective evaluation techniques, by focusing on the encounter of physical and perceptual space.

Keywords Sound · Noise · Urban space · Mediterranean

13.1 Introduction

In textbooks, acoustics is usually defined as 'a science of generation, transmission and reception of energy as vibrational waves in matter.' It is very common to define acoustics in completely non-aural terms, saying nothing about the sound as you might hear it (Steege 2015). The sound may be vibrating in various mediums, but after it reaches the human brain, it becomes an object of comprehension.

M. Dinçer (✉)
Faculty of Architecture and Design, Bahçeşehir University, Abbasağa Mah. Ihlamur Yildiz Cad. No: 10-B 8th Floor, Beşiktaş, Istanbul 34353, Turkey
e-mail: mine.dincer@arc.bau.edu.tr

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It is claimed that the Latin root of the word 'noise' is 'nausea,' from the Greek root 'naus' meaning 'ship.' Disorientation created by noise has led to forming this word resembling seasickness. In Latin-based South European languages, such as Italian, Spanish and French, the word noise (rumore, ruido, bruit) comes from Latin words 'rumor' (murmuring) and 'rugitus' (roaring). In Arabic-based Middle Eastern languages, the word noise originates from an onomatopoeia word, imitating the sound of rumpus (Novak 2015). So, the word 'noise' in today's Mediterranean languages emerged from specific sounds, rather than their effects on people.

Comprehension of the environment around us is directly related to our senses. The sense of seeing can be cut off from the world by using our eyelids, for instance when we go to sleep. The sense of hearing, on the other hand, is the last gate to close and the first gate to open during sleep (Schafer 1977). In this perspective, it guides us through conscious and unconscious transitions, tangible and intangible worlds.

The sense of touch is a major source of information in our impressions of our close physical surroundings. Surprisingly, sound, in the form of vibrations coming from afar, can interact with this sense. The senses of touching and hearing encounter at very low frequencies, around 20 Hz, where vibrations felt at the highest frequencies and sounds heard at the lowest frequencies meet each other (Schafer 1977).

In this study, we are going to investigate aural perception as a means to understand the world around us. Our focus is going to be on Mediterranean urban open spaces, where people socialize and connect on a daily basis. The aim of this study is to evaluate the Mediterranean aural perception of urban spaces by forming a link over the border between physical and perceptual space.

13.2 Evaluation of Sound Environment

Sound and noise evaluations are complicated and related to various disciplines such as acoustics, physics, physiology, sociology, psychology and statistics (Kang 2006). A number of objective and subjective evaluation methods are used in order to understand and explain the sound environment. The discipline of acoustics struggles to link these two groups of methods to each other in order to comprehend how humans interact with sound.

13.2.1 Objective Evaluation

Objective evaluations of sound mainly include measurement and calculation methods. There are numerous units and indices used for these evaluations; the most common ones are used for explaining sound levels. Sound in air is measured as pressure, in Pascal units. Humans are able to hear between 20 μPa (0.00002 Pa) and 20 Pa, which was found to be impractical, due to its large range. Therefore, this range was converted logarithmically into sound pressure level, in decibels, dB,

which works between 0 dB (20 μPa) and 140 dB (20 Pa) in terms of human hearing (Kang 2006). The perception of dB is quite different than the physics of it; doubling the acoustic energy, for example, having twice as many cars, would result in a 3 dB increase, while humans barely notice this difference. Interestingly, we interpret that a 10 dB increase is a doubling in the volume of sound.

Frequency, which shows pitch, such as high-pitched and low-pitched sounds, is a key factor in sound evaluations. Humans cannot hear all the sound frequencies equally. So, the sound pressure measured as a physical phenomenon and what is comprehended by humans are different from each other. In order to eliminate this difference, A-weighted sound pressure levels were invented, shown as dBA or dB(A), by altering sound levels in different frequencies (Kang 2006), so that it can represent the way humans hear. It can be interpreted as an attempt trying to form a bridge between physical and perceptual. dBA also became the unit used by many legislations that try to control urban sound levels.

Scientists are always trying to find better ways to explain the human perception of sound. The word, 'loud,' similar to 'noise,' is subjective; what is loud for one person could be defined as a calm environment for another. In an attempt to define loudness in terms of human perception, equal-loudness-level contours were presented a few times, in 1933, 1956, 1987 and 2004. Equal noisiness contours followed a similar path (Kang 2006).

Descriptors or indices used to define urban sounds often attempt to be linked to human perception. Day-night level (DNL) and day-evening-night level (L_{den}) take measurements or calculations of urban sound levels throughout the day, penalize evening and night hours by increasing their levels and then take the logarithmic average of 24 h, presenting a single sound level. This depends on the idea that humans are more annoyed by noise during evening and night hours, during resting and sleeping. These indices are used by legislators in order to limit urban noise levels.

These common objective descriptors of sound are all shaped around the perception of sound and that is what made them accepted worldwide.

13.2.2 Subjective Evaluation

Two recognized and standardized subjective evaluation methods stand out in urban sound evaluation; *noise annoyance* and *soundscape*. They approach the subject from two very different perspectives. One of them sees urban sound from an environmental noise point of view, while the other celebrates and welcomes the sound environment as it is.

Noise annoyance is a feeling of resentment, displeasure, discomfort, dissatisfaction or offense when noise interferes with someone's thoughts, feelings or actual activities (Passchier-Vermeer and Passchier 2000). The European Parliament and The Council of The European Union (2002) define noise annoyance as the degree of community noise annoyance as determined by means of field surveys. This degree

is then associated with L_{den} sound levels. Noise annoyance is mostly used for how people perceive environmental noise in their own houses.

Factors effective in annoyance are acoustic/physical factors and social/psychological/economic factors (Kang 2006). Types of vehicles, disturbance according to the type of activity and tonal characteristics, for example, horn sound, are all subjects that should be considered when studying noise annoyance. Even though types of road vehicles may not affect annoyance in a continuous stream of traffic they may cause important variations in single event annoyance levels (Kang 2006). Demographic factors have little effect on annoyance, but they are still studied. In terms of attitude, the strongest factors are fear of the source, sensitivity to noise and type of activity (Miedema and Vos 1999). Cultural differences are considered to be strong factors in noise annoyance studies. Technical specification ISO/TS 15666 (2003) Acoustics—Assessment of noise annoyance by means of social and socio-acoustic surveys guides noise annoyance studies.

Soundscape is the sonic environment in a specific place or area. Schafer (1977) states that noise is sound men have learned to disregard on purpose. He claims fighting with noise pollution is a negative approach and that a positive approach on environmental sounds would be encouraging, preserving and populating sounds that we adore. He argues that, only then, we will be able to distinguish and eliminate the destructive sounds (Schafer 1977).

Each soundscape has its own specific features, expressing its individuality and domination. Soundscape main themes are explained below:

Keynote sound: A sound so common and familiar to the area that it is perceived as background sound.

Signal: Any sound that attracts attention, opposite of keynote sound.

Soundmark: Unique community sound or a sound noticed or specifically regarded in a community; similar to the word 'landmark.'

Archetypal sounds: Ancient sounds inherited from history. (Schafer 1977).

Keynote sounds are perceived unconsciously, signals are listened to consciously. Soundmarks need to be preserved because they are one of the important elements that provide the uniqueness of that community (Schafer 1977).

Objective descriptors trying to make connections with soundscape studies are called psychoacoustic magnitudes, the most common ones are loudness, sharpness and roughness (Kang 2006). The methods for soundscape studies are defined in ISO/TS 12913-2 (2018) as soundwalk, questionnaire, guided interview, sound source taxonomy and binaural measurements.

Noise control and soundscape have very different approaches and perspectives, but there are a few studies trying to link these two. A study in Greece tried to create better soundscapes through noise mapping and action planning practices. 5 districts from Volos and Larissa cities in central Greece, which have completed their noise maps, were taken as case studies. Semi-constructed surveys with local residents were made in order to form sound marks map and sound identity maps. Action plans reducing noise levels were formed while preserving and reinforcing sound identities of the districts (Vogiatzis and Remy 2014).

Authorities in urban areas usually choose to take precautions against noise problems through some commonly used methods such as traffic calming, traffic restrictions or adding non-motor traffic to streets. An online survey study in Italy tackled these noise reducing measures and assessed the soundscape using virtual reality. The case study was Piazza Vittoria in Naples, Italy. Traffic restriction scenarios by diverting part of the traffic and shared-street designs by pedestrianization were tried out. The online survey results demonstrated that shared-street design converted the soundscape perception to a calmer state and traffic restriction helped the soundscape to be more pleasant (Jiang et al. 2018).

Schafer (1993) expressed that the solution to the global environmental noise problem is not through legislations and noise limits. The solution he suggested was to pattern ourselves after natural soundscape, where no sounds dominate each other and they respect each other. This idea leads to a designed sound environment, which is being only tested in very small areas and has a low potential in being used by authorities in large urban areas.

Guastavino (2006) questioned 77 people from Paris, Lyon and Nantes about their ideal urban sound environments in a free-response format survey. Results suggest that sound is processed in the brain through semantic characteristics instead of abstracted perceptual physical characteristics. So, the brain does not start cognition by assessing sound in an objective manner, such as sound levels. It classifies sound into cognitive categories by semantic analysis which can later be identified as physical parameters. The study proves that sound level measurements are not enough to assess urban soundscapes, semantic characteristics based on memories identify sound environments (Guastavino 2006).

13.3 Perception of Sound in Urban Open Spaces

Urban open spaces are where public interactions occur, they are social areas. Their design and perception are important for the social construct of society. The Mediterranean climate allows the intense use of these open areas. Aural perception of these areas, its relationship with other physical factors and its effect on non-physical constructs have been studied extensively by researchers. Some of these researches were on types of urban sounds and others were on sounds of specific urban spaces. We will be examining these studies from a Mediterranean perspective.

Urban sound sources may be classified into some headings, such as community/human sounds, mechanical/transportation sounds and nature sounds. These classifications were also used in some studies in the Mediterranean cities to understand their effects on the public.

People living in urban areas of Cairo were questioned with an online survey about their perception of various urban sound types; such as nature, people, traffic, transportation, construction sites and deliveries (such as garbage, mail, etc.). The loudness preference of each sound was also investigated. Only loud nature sounds were found to be acceptable. Sounds that were found to be positive by participants

in low levels were from nature, people, transportation and delivery types. These sounds were preferred because they made people feel safe and social, help position themselves in an urban environment (Ismail 2014).

Open-ended questions were used in the same study to assess the expectations and perceptions of the Cairo soundscape and their descriptions were used to identify their choices of urban sound semantic types. Unfortunately, the words used for types of sounds were limited; cars, motorcycles and horns for transportation sound sources, traffic noise as a generic term for transportation sounds, voices and children playing for human sounds were the words used. Even when expressing a positive soundscape, the negative interpretations of these same words, such as 'without cars' or 'less traffic,' were used (Ismail 2014). This can be interpreted as the lack of diversity of sounds in urban areas or the low awareness of the sounds around us.

A study in Spain used recordings of 31 different urban sounds, grouped as only traffic, traffic with other sounds, urban green areas, construction, public transport, crowds, children and others. Listening tests with 25 locals were used to establish subjective responses which could then be compared to some common objective acoustic indices. The strongest correlation was found between the answer 'very unpleasant' and equivalent sound level in dB, L_{eq} index (Rey Gozalo et al. 2015). It is quite surprising psychoacoustic magnitudes (loudness and sharpness) and equivalent sound level in dBA, L_{Aeq}, which are all expected to explain human perception were found to be less relevant in this case. An explanation could perhaps be that the varying sound pressure levels of the recorded sounds distracted people from a fair assessment of the sound characteristics. The methods and samples heavily effect the outcomes of these studies.

The varying types of sounds in the urban area effect how people feel about themselves and the environment around them. Unfortunately, most of the time, users are not able to control the diversity or levels of urban sound environments. Studies that focus on specific urban open spaces such as urban squares, urban streets, urban green spaces and open historic spaces are going to be discussed in this section.

13.3.1 Urban Squares

Urban squares are meant to hold community gatherings and represent the heart of social life in a town or city. In the Mediterranean cities and towns, you can witness the vibrant use of open spaces, especially squares, day and night due to climate and culture. In some Mediterranean countries, urban squares are so essential in daily life that the term for 'square' in their own languages is recognized around the world; such as 'piazza' in Italian, 'plaza' in Spanish and 'place' in French. The purpose of the urban square leads people to expect community sounds to be dominant, but modern life reduced the impact of the community and nature sounds all around urban areas. Usually, due to heavy traffic roads placed around the squares, transportation has become the most recognizable sound in these areas.

Squares also witness some temporary but very effective sounds, during carnivals and protests. Both carnivals and protests, give the public a chance to shout out to the rulers, through music, songs, drums, rants and raves, pots and pans and whistles. These events create a cacophony of sounds but also have their own distinct rhythms and melodies (Hendy 2013). The event may take place in a single square but the sound scatters to a very large area and spreads a strong feeling of joy, anticipation or intimidation, crossing borders of urban spaces and urban people. In strong protests or riots, the sound of the crowd converts into a vibrating pulse, encouraging people to use their voice as a persuasive weapon (Schafer 1993).

In 2011, the economic crisis in the Euro region caused protests in the main squares of South European countries such as Spain, Portugal, Italy and Greece (Britannica, n.d.). In 2010 and 2011, a series of protests took place in the Islamic world, later called as the Arab Spring, in countries such as Syria, Egypt, Libya and Tunisia, around the Mediterranean (Wikipedia, n.d.). Other Mediterranean countries also face strong protests, from time to time, some based on politics and some based on economy. Some recent examples could be Morocco in 2011–2012, Turkey in 2013, France in 2018–2019, Algeria and Lebanon in 2019. All of these protests, no matter what the reason was, created a sense of connectivity that crosses borders.

The soundscapes created by protests are temporary, but in the modern age, they are recorded, giving us a chance to listen to them again. There is even a web site (Cities and Memory, n.d.) which has recordings of sounds of protest and demonstrations mapped onto a world map.

Another temporary event in squares, this time with an adverse effect, is a lockdown, in case of an emergency or a pandemic, where community and transportations sounds are nonexistent. A lot of acoustic studies on this subject are underway during the COVID-19 pandemic period.

Although many European squares may seem similar to each other, they may be perceived differently. In Raimbault et al.'s ambient sound assessment study (2003), similar town squares in two French cities, Lyon and Nantes, were selected, which were 'place du Commerce' and 'place de la République,' respectively. Both town squares were surrounded by 4- to 5-floor buildings with commercial and leisure activities. Two market squares in Lyon, 'Quai Saint Antoine' (near traffic) and 'Villeurbanne' (residential area), were also included in the study. People were asked to assess soundscapes using opposite adjectives. Town squares and market squares were perceived differently in this semantic grid analysis. Spatial Arrangement (organized–disorganized) and Temporal Balance (steady–unsteady) questions from the survey were found to explain the sound perception differences. Market squares were assessed mostly in the middle categories, such as in the middle of organized and disorganized adjectives. On the other hand, town squares were judged in a definitive perceptive, either organized or disorganized, either steady or unsteady (Raimbault et al. 2003).

An extensive study by Yang and Kang (2005) studied 14 urban open public spaces in Europe. Five Mediterranean squares explained as residential squares (Kritis Square in Thessaloniki, Greece and Petazzi Square in Sesto San Giovanni, Italy), cultural and tourism squares (the Seashore of Alimos in Alimos, Greece) and multi-functional

squares (Karaiskaki Square in Alimos, Greece, Makedonomahon Square in Thessaloniki, Greece and IV Novembre Square in Sesto San Giovanni, Italy) were included in the study. The study compared quantitative sound level measurements to qualitative survey results. Makedonomahon and IV Novembre were measured to be the noisiest squares, but the subjective survey results did not agree. On average, Mediterranean squares were noisier than other European squares (by about 4 dB), but they were perceived to be quieter (by about 0.2 on a 5 scale). It was concluded that this could be due to the noise environment subjects experience in their homes and also cultural differences. It was suggested by the authors that people in warmer climates, such as Mediterranean climates, become more tolerant to high levels of urban sounds because they open their windows at home (Yang and Kang 2005).

The relationship between noise levels, sound sources and acoustic comfort was also investigated in the same study. A low background noise level was found to be effective in the evaluation of high acoustic comfort. Even though it seems obvious, what it means is that instantaneous sounds, peaks in noise, is not as effective as it is expected to be in open public space acoustic comfort perception. Another finding about acoustic comfort was that type of dominant sound source was more important than sound levels. Sound sources that were considered to be pleasant, such as music or water sounds, instead of traffic noise, improved comfort evaluation (Yang and Kang 2005).

A study compared the sound perception of 3 squares in Istanbul, Turkey, by utilizing soundwalks and questionnaires (Bahalı and Tamer-Bayazıt 2017). The squares, Taksim, Galatasaray and Tunel, were all connected by one pedestrian street. Even though these squares were all in the same area and connected by the same street, the sound perceptions were very different from each other. Taksim Square is a large and empty square, surrounded by few roads and few large buildings, of which the soundscape descriptors used were dull and monotonous. The feeling-related words used to define this square were boring and repulsive. Galatasaray square contains one low-frequency traffic street, is a public meeting point and is surrounded by restaurants. The soundscape was defined with the words: complex, diffuse, rich and varied. The emotions given for this square were chaotic, disturbing, mighty, spooky, threatening and tiring. Tunel Square is a small square, a small transport hub for tram and funicular, full of street musicians and music stores. This was defined with the words homogeneous and rhythmic. The feeling-related words used for this one were impressive, lively, melancholic, pleasant and safe. It was clear that Tunel Square had a much positive sound environment than others, while Taksim was boring and Galatasaray was found to be dense and complicated. Street musicians were found to be the most positive sound source along the route and they were mostly placed in Tunel Square. On the other hand, sound measurements showed that Galatasaray and Tunel Squares had similar high sound levels, while Taksim has a low sound level (Bahalı and Tamer-Bayazıt 2017). This study shows that likely factors such as sound levels, the proximity of urban spaces, cultural and architectural similarities do not define the perception of urban space.

It is quite common to have fountains in city town squares and it changes the sound atmosphere drastically. A study by Semidor and Venot-Gbedji (2009) worked on the

effect of water sound in Plaza Catalunya in Barcelona, Spain and Piazza Ferrari in Genoa, Italy. Sounds were recorded and analyzed on routes around the squares. Even though the squares have different sizes, both of the squares are surrounded by high buildings and large roads with heavy traffic. Plaza Catalunya has two big fountains on one side of the square, whereas Piazza Ferrari has circles of smaller fountains around a central one. When the fountains are turned off, traffic noise, human voices and bird songs can be recognized in different parts of the squares. The sound of water when fountains are turned on has the ability to mask, cover-up, the sound of traffic. The central part of Piazza Ferrari has very high sound levels due to both traffic and fountains, but a lot of people enjoy spending their leisure time sitting around the huge fountain. The results of the study showed that closeness to a powerful fountain makes it easy to mask urban sounds, but in large urban areas such squares, many small fountains that are distributed around the perimeter of the square, closer to the traffic, is more effective (Semidor and Venot-Gbedji 2009).

Simple changes in the sound environment can result in important changes in the perception of an environment. A study in Turin, Italy, modeled the soundscape of a small square and conducted listening tests using auralizations, which are simulations of an acoustic environment. The sound sources highly perceived in the chosen square, in reality, were voices and human activities. Therefore, these sources were simulated in the model. A number of façade surfaces were used and the results showed that the sound absorption coefficient of the façade material effects the assessment space wideness (Calleri et al. 2018). It is interesting how the perception of physical characteristics such as the width can be changed with only a sense of hearing.

Even though most soundscape studies focus on analyzing the current situation, using this knowledge to prepare an action plan with the aim of building a better auditory environment is also possible. Rehan (2016) proposed a soundscape planning strategy and applied the process to Ramses Square in Cairo, Egypt. The proposed strategy first defines the situation at hand; identifies the sounds and activities in the case study area and the parties involved (such as the public, authorities, experts, etc.) in the process. The approach then analyzes the activities and soundscape, focusing on the sound identity of the space as well as the user's perception of the soundscape in the area. Finally, the strategic plans for scenarios that concentrate on reducing unwanted sounds, adding or improving pleasant sounds and ensuring the audibility of soundmarks in order to maintain the identity of the area. The practice of the strategy on Ramses Square in Cairo was used to form possible urban planning scenarios, which included solutions for traffic noise control, reflective materials, vegetation and adding pleasant and masking sounds (water and nature) (Rehan 2016). Careful addition of simple physical elements can enhance the perception drastically.

These studies about Mediterranean urban squares showed some mutual ideas. Purpose of the square as well as activities on and around the square determined the dominant sounds. The preferences of the people depended on personal aspects and these dominant sounds, not on the noise levels. Some factors likely to affect perception, such as surroundings, area, belonging to a specific city, did not have the anticipated effect. Simple changes in the sound environment, such as adding masking water sounds, placing fountains differently, adding music, designing surrounding surfaces,

proved to have drastic effects on the perception of the urban square. Even though the main purpose of the squares is to gather people, modern-day Mediterranean squares are mainly dominated by transportation routes. To reduce that effect and transform urban squares into a favorable position, simple sound masking interventions would provide effective solutions. Visual perception and physical characteristics are not necessarily the dominant factors in preferable urban squares.

13.3.2 Urban Streets

Ancient Rome, at the height of power and wealth, with a population of one million, was most probably the noisiest city of its time. Authors in the first century described Roman streets as narrow, clogged with human and cattle traffic, with high intensity of commercial activity. The sound environment, with loading and unloading goods through day and night, production in the workshops, the slaughter of livestock, street vendors, drunk fights, gave no rest to humans, not even at night. Rich people of ancient Rome sought refuge on Palatine Hill. It was a serenity oasis, which proved nobility even though the sound environment. The only sound to be heard was the Romans' favorite, water from the fountains (Hendy 2013).

Before the industrial revolution, the main sources of annoyance, especially in South Europe, were street criers and street musicians. In nineteenth-century Europe, legislations regarding sound were focused on stopping these vendors and musicians (Schafer 1977). Contrary to the belief that legislations were successful, Schafer (1977) claims that the sound of traffic in the streets was the real reason street musicians and criers ceased.

Before the industrial revolution, the most common keynotes on the streets of Europe were the rattle of horse and wagon (Schafer 1977), which was the transportation noise of that time. After the industrial revolution, city streets are filled with traffic noise due to the growing amount of vehicles. Schafer (1977) points out that in the midst of all the mechanical sounds, horns serve as the voice that the drivers use to converse with each other. Today, it is almost impossible to think that urban streets can be without traffic sounds.

A study on typical Paris streets (Lavandier and Defréville 2006) focused on the perception of sound events. Two-way streets with regular width, no slope and steady vehicle speed (50 km/h) were chosen for sound recordings. The sound sources frequently used by Parisians, when they are questioned about sounds that identify Paris, were used in this study, which were adults' voices, children's voices, bird songs cars, mopeds, buses and motorcycles. Cars were usually not perceived as separate events, they were lost within the loudness, perceived as part of the street. Because the streets chosen were not highway streets, buses and mopeds were perceived as events and they had a negative effect on the sound quality. In recordings with a low number of vehicles, birds and human voices could be noticed and had a positive effect on sound perception (Lavandier and Defréville 2006).

Similar to this study, a laboratory test study in Besiktas District, İstanbul, Turkey, with different road traffic sound samples, pointed to the same direction. In dense traffic, individual vehicle events could not be perceived separately and sound levels became important. Whereas in low traffic areas, especially in canyon type narrow streets, each of the traffic events, cars, motorcycles, horns became a serious reason for annoyance and this situation caused even more annoyance than busy traffic (Ascigil-Dincer and Yilmaz Demirkale 2021).

In Raimbault et al.'s ambient sound assessment study (2003), town squares, market squares, main roads and playgrounds were compared in terms of perception. Similar main roads in two French cities, Lyon and Nantes, were selected, which were 'rue de Strasbourg' and 'rue E. Herriot,' respectively. Both of these main roads were one-way streets, surrounded by nineteenth-century buildings. Only these main roads were found to be mainly 'unpleasant' in all of these different urban areas and their perception is strongly associated with high sound levels (Raimbault et al. 2003).

A study in Paris, France, evaluated soundscape pleasantness with walks, questionnaires and measurements on a long, 2.1 km long path, which mainly included urban streets (Aumond et al. 2017). Many different types of streets were taken into consideration on the evaluated path. Most of the streets were identified using traffic density; such as large two-lanes traffic, high vehicle flow rates, moderate traffic flow rates, very low traffic flow rates, rare traffic pass-byes or without traffic. Others had event or location definitions; for example, interrupted traffic (traffic lights), animated street (bars and restaurants), park alongside a street and quiet pedestrian street located between two busy streets. Objective indicators, through acoustics measurements, in this case, could explain only 85% of the perceptual results, which were answers to 'pleasantness' in this case. In the case of adding traffic, voices and birds as sound sources into this equation, 90% of pleasantness perceptions could be explained (Aumond et al. 2017).

The studies showed that road traffic noise is the major source of disturbance on the streets. Electric and Hybrid Electric vehicles (EV and HEV) can the solution to this problem. However, the quiet nature of these vehicles presents a serious threat, a HEV has twice the risk of being in a pedestrian crash. A study in Spain (Poveda-Martínez et al. 2017) tested out various vehicle warning sounds using a virtual road-crossing test and measured the reaction time of pedestrians. The test was integrated into three different soundscapes, a traffic light crossing on a three-lane street, a crowded pedestrian street in a shopping area and near a playground. The background soundscapes were effective in pedestrian reaction time for the different vehicle warning sounds (Poveda-Martínez et al. 2017).

Mohareb and Maassarani (2019) tried to investigate the streets of Tripoli, Libya, from a pedestrian viewpoint. When they compared the perception of the sound environment from residents versus passers-by point of view, they found that they had different perceptions than each other. The most obvious example was of generator sounds, while the residents of the area disregarded this monotonous sound, passers-by were very much aware of it. It was found that how long a person is subjected to a specific sound source is effective in their perception (Mohareb and Maassarani 2019).

Djellali et al. (2014) compared the acoustics images of streets in city centers of Algiers, Algeria and Bordeaux, France, which are both UNESCO classified World Heritage sites. The relationship between soundscape and urban morphology was investigated; 'Rue de la Lyre' in Algiers had a mixed historical urban development while 'Rue Guaspard Philippe' in Bordeaux had new architectural developments. The situation, the area, the design and the integration with respect to the immediate environment were found to have a great impact on the sound levels. The arched walkway on both sides of 'Rue de la Lyre' and the market at the end of the street provided human urban ambiance which dominated over traffic noise from time to time and also recreated the historical soundscape. The acoustic differences in open and arched urban spaces were distinguishable in acoustic imaging. 'Rue Guaspard Philippe' also had market places with human interaction, but overall, the open fabric of the street created a tranquil sound environment (Djellali et al. 2014).

The surrounding buildings or areas around the streets, the morphology of the area, have substantial effects on the sound environment of the urban streets. This is due to the proximity of the surfaces to the sound sources. Even though lower sound levels are usually preferred, low traffic does not always provide a pleasant sound environment. The traffic noise needs to stay as a low background sound and not be perceived as single events, in order to be able to hear other possible sounds, such as community or nature sounds.

13.3.3 Urban Green Spaces

Urban green areas are expected to be quiet, or at least less noisy than other urban areas. Due to low sound levels, all types of sound sources elements may have a chance to effect the sound environment in parks.

A laboratory listening test was used to assess the effect of footpath materials in urban parks. Sound recordings from two public gardens in Torino, Italy, one of them exposed to traffic noise while the other had dominant nature sounds, were used as background sounds. Four materials, grass, wood, stone and gravel, were used to record walking sounds and combined with background park sounds. Participants were asked to assess the annoyance and the soundscape quality of the sound clips. The results showed that walking on different materials effected both annoyance and soundscape perception significantly (Fuda et al. 2015).

Patón et al. (2020) worked on 16 different water sounds to be perceived in urban green areas. They found that while large fountains with jets or waterfalls caused dislike, artificial water channels with small jumps could provide deep and sustained relaxation (Patón et al. 2020). This idea is very similar to what was found about fountains in urban squares by Semidor and Venot-Gbedji (2009).

A soundscape study (Calleja et al. 2017) took place in Retiro Urban Forest Park in Madrid, Spain, which is located in the center of the city, serving as a touristic and historic landmark. Fitting to the function of the park, natural sound sources, such as water, birds, trees and wind, were found to be the most pleasant sounds.

Mechanical sound sources, such as music devices, cellphones and traffic, were found to be the most annoying sounds. Sounds that would normally be considered annoying, such as maintenance machines and gardeners, were found to be neither pleasant nor annoying, due to their function in maintaining the park (Calleja et al. 2017).

One of the major differences between forests and urban green areas is the effect of traffic noise surrounding the area. Continuing with the same case, Retiro Park (Calleja et al. 2017), even though it covers an extensive area, more than 70% of the visitors could hear the traffic noise, because the park was surrounded by high traffic density streets. Sound pressure level measurements showed that 6 out of the 9 areas studied in the park exceeded the 55 dBA limit, which is the acknowledged limit for quiet areas. The study also questioned whether people would pay for a noise reduction program in the park and the results showed that the majority of the people refused to pay any money for such a purpose (Calleja et al. 2017).

A comparative noise pollution study on seven public gardens in Biskra, Algeria, proved that noise levels in green areas do not depend on its location in relation to the city center, even though they are perceived as the noisiest areas in the city. Instead, it was found that noise levels in these green areas depended on urban activity types and characteristics of traffic (Bouzir et al. 2018).

Semantic studies in urban green spaces point to the feelings of the visitors. Bahalı and Tamer-Bayazıt (2017) studied the soundscape of Gezi Park in Istanbul, Turkey, by soundwalk and questionnaires. The descriptors used to define the park's soundscape were coherent, subdued and uniform. The feeling-related words used to define the park were calm, calming, comfortable, familiar, happy, mild, peaceful, serene and wonderful. The positive sound sources were bird and water sounds, but the effect of these was limited in specific areas. It was perceived as a quiet environment (Bahalı and Tamer-Bayazıt 2017).

A study on soundscapes of urban parks being assessed in laboratory conditions investigated the effect of socio-cultural context, for France, Sweden and Korea. The study found that language, especially the connotation of the words chosen, had an important effect on how soundscape perception was expressed. Emphasis was on the word 'eventfulness,' translated as 'animé' in French but was understood as 'lively.' The semantic descriptors used in data collection need to be standardized in order to have an accurate socio-cultural comparison (Jeon et al. 2018).

Rey Gozalo et al. (2018) investigated the overall satisfaction of 7 different green spaces in Cáceres city, Spain. Perception of noise could explain more than 70% of the overall satisfaction in these green areas. Noise in these environments was found to effect walking and talking activities, as well as fear and irritability emotions. Even though traffic noise was found to be annoying, it was less annoying than it would have been in a dense urban built environment (Rey Gozalo et al. 2018).

Having the majority of the overall satisfaction related to the perception of the sound environment demonstrates the importance of the sound studies. Urban green areas have a soundscape quite different than the rest of the city but traffic noise is still one of the problems. When there is distinguishable traffic noise in these areas, it clashes with the visual perception, therefore forms a dissatisfying experience for the user. The expectation upon entering into urban green areas is to immediately cross a

border, feeling like you are in an isolated state. The sensation is quite disappointing; while you believe that you have secluded yourself from the city, once you hear the traffic, you immediately return to the reality of the city. Unfortunately, while the physical elements, such as buildings, streets and trees, can be placed right next to each other and form invisible functional borders, the sound environment in urban areas is continuous and cannot be limited in the same manner.

13.3.4 Historic Open Spaces

Ancient ruins are restored in order to recreate the historical environment. However, visitors still need a lot of imagination to recreate that atmosphere. The buildings are representations of only a small portion of ancient daily life. The people, activities, sounds, all need to be conceived in our minds. The sound environment recreation of historical open spaces needs a lot of imagination and historical information. In the first century, an author described the street musicians performing around the Hippodrome in Rome (Hendy 2013). While we can visualize them playing, the sound of the instruments or the type of music they are performing is most probably absent in our minds.

One of the sounds that would not change over the course of history would be religious sounds. In the middle ages, the strongest sound in the Christian world's daily life was church bells, the loud symbol of religion's exceptional supervision on the world. Bells were the communication link between priests, monks and people. Bell rhythms and patterns reflected the traditions of villages and cities. The soundscape they create attaches centuries to each other. However, some events may disturb the association. An important example of that would be the conquest of Constantinople (Istanbul) in the fifteenth century, which resulted in the conversion of the religious soundscape of the city from bell sounds to the Islamic call to prayers. Religious soundscapes deliver the feeling that sound moving around us ties all of us to each other and divinity, throughout time (Hendy 2013).

There is an expectation that historical areas need to be quiet, perhaps with respect to the past. Masullo et al. (2020) worked on historical cloisters and courtyards in Naples, Italy and defined them as quiet areas through measurements and surveys. Cloisters of Santi Marcellino e Festo and Sant'Andrea delle Dame and the courtyards of buildings, the Palazzo Marigliano and the Palazzo Venezia were studied. In such an old historical city center as Naples, with chaotic and loud nature, quiet refuges are sought by many. The quiet areas increase the historical perception and perceived restorativeness, which make them favorable (Masullo et al. 2020).

Many historic open spaces in urban areas are exposed to sounds from tourists. At the end of 2014, the historical city of Venice, Italy, tried to issue a ban on wheeled suitcases, in an attempt to reduce noise disturbance, but later they did not follow through with this proposed ban. It is quite often that the sound environment is overlooked when it clashes with other kinds of benefits.

Heritage sites need preservation of the sound environment as well. However, modern sounds, such as traffic, interferes with that aim in urban areas. A quantitative study (Barrigón Morillas et al. 2013) in the medieval historic city center of Cáceres in Spain aimed to group and analyze the effects of sound sources on the total sound energy in the area. Due to limited vehicle access in the area, other sounds, not masked by traffic in this case, grouped as passers-by, people standing and restoration works, could be identified. Even in this case of limited traffic, roads were still the source responsible for most of the sound energy in the area, while community sounds followed it (Barrigón Morillas et al. 2013).

The soundscape of a historical area in Alhambra of Granada, Spain, was investigated in terms of dominant sounds. The dominant sounds in the area were found to be nature (birds and water) and human (voices and footsteps) sounds. As expected, nature sounds had a positive effect on perception. While human sounds were found to be favorable in urban areas such as squares and streets, here, it was perceived to have a negative effect on soundscape quality. Overall, it was found that if the dominant sound is considered to be pleasing, the quality of soundscape and the overall impression were evaluated as high on the scale. Therefore, it could be concluded that basic action plans to improve soundscapes could be realized by dominating pleasant sound sources (Pérez-Martínez et al. 2018).

Historical areas in urban context may be restored, which can change their physical and social construct as well as the auditory environment. Urban historical district, Hamamonu in Ankara, Turkey, went through gentrification and rehabilitation process which resulted in a change of function, from a residential zone to leisure and commercial zone. The visual aspects have been preserved to the original state, while the users, the activities and therefore the acoustic characteristics have changed drastically. In other studies mentioned before, human sounds were found to be most pleasing, while in this district, human and traffic sounds were found to be the most annoying sounds. The open-ended questions revealed that the visitors felt that this historical area was missing the link between the current activities, the sounds and the historical visual environment (Kaymaz et al. 2016).

Some historical urban areas are no longer seen as places of the past but are still used in daily life, without any change in function. The perception of people visiting Gazi Street in the historical Surici Region of Diyarbakır city, Turkey, was assessed by a soundscape questionnaire. This street was mainly used for commerce and leisure and was at the heart of the old city. The participants who were coming to the area for shopping perceived the soundscape to be more pleasant than the people who were there to work or were only passing by. When participants were asked to choose between some defined adjective pairs with opposite connotations, participants who were touring defined the soundscape to be strange, while all the others thought it was familiar. Most of the people expressed the sound environment to be irregular, instead of regular. The participants visiting only a few times a year defined the area as quiet, while the ones visiting every month or every week thought it was noisy and the people who came in everyday judged it to be highly noisy (Cakir Aydin and Yilmaz 2017).

Sounds of historic open spaces are expected to revive the authentic atmosphere. However, other than sounds of religious activities or quiet courtyards, original sounds cannot be brought back to life in urban areas, because of increasing transportation, changing functions and activities. Community sounds, once dominant in these areas, are found to be annoying once they are caused by tourists. Sound, which could tie the past to the present, disconnects them causing dissatisfaction and disappointment.

13.4 Conclusion

In the mild Mediterranean climate, people tend to spend a lot of time outdoors. The Mediterranean culture promotes strong social connections and these commonly take place in urban areas such as squares, parks, streets. The overall satisfaction of these open spaces depends on the perception of the users. Aural perception, although mostly overlooked, influences the overall perception of a space immensely.

It was proven that Mediterranean people are more tolerant than others in terms of noise annoyance. It was suggested that this might be due to the mild climate, where people open their windows at home and therefore are more tolerant to high levels of noise. With that in mind, the studies presented in this chapter showed that Mediterranean people are quite clear about the urban soundscape they would like to live in.

In the modern Mediterranean urban area, the sound environment is mostly dominated by traffic noise. When traffic is continuous, it is perceived as the background sound and a regular event in the daily life of the city. When it is not continuous, for example in low-density traffic situations, individual transportation events can be heard, such as individual cars, buses, mopeds or horns; then it becomes noticeable and therefore annoying. An exception is service vehicles or maintenance sounds; they make people feel safe and connected to the city. Masking undesirable sounds with calm water sounds is favorable in all types of urban open areas. People always seek out nature sounds, but they are scarce in the city. Urban areas filled with community sounds, such as market squares and shopping streets, are preferred by the Mediterranean people. They enjoy that familiar feeling of being socially connected to the city and its people. However, if activity or community sounds do not match the urban area, such as modern sounds in historical open spaces, that connection is lost and the perception is dissatisfying.

The physical and visual urban open space directly affects the perceptual space we create in our minds; however, that perception is also affected by sound and the experiences we have. Buildings form the main physical aspects of urban space, as they border open areas. They help us understand the boundaries of an urban square, or a street, or an urban park. Sound, on the other hand, travels through these limitations. The boundary of a green area does not stop traffic noise from coming into the park or nature sounds to travel out of the park. The sound of a protest does not contain itself in an urban square, it travels to the city streets. A historical area cannot seclude itself

from modern-day sounds. Sound connects open spaces to each other and eliminates borders defined by physical urban elements.

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Mine Dinçer received her architectural bachelor degree, M.Sc. in Environmental Control and Ph.D. in Construction Science programs from Istanbul Technical University, focusing on the subject of environmental acoustics. She was based in Italy, Genoa University, for one academic year during her Ph.D. She worked in ITU Department of Architecture for ten years, as a research assistant and later as an academic specialist. She has been teaching at Bahçeşehir University in Istanbul, as an assistant professor since 2017. Her research interests are environmental control, architectural and environmental acoustics.

Epilogue

From 'Either-Or' to 'Both-And'?

Sema Esen Soygeniş

'The Dialectics of Urban and Architectural Boundaries in the Middle East and the Mediterranean' comprises three parts; Physical and Sensual, Global and Local, Urban and Rural. Invited authors discuss these dichotomies in architecture within the borders defined in the title. Each part is enriched by the comments of architects, professors from three different geographies.

Human beings, from the primitive civilizations onwards, have tried to define their territory through creating boundaries, in order to be secluded and/or separated from the others. From a primitive hut to the ancient city walls, to the recent borders of countries, human beings have been very conservative of their boundaries and even shed blood for either keeping or eradicating the boundaries. Thus, as stated by Szary, boundaries are symbolic components of the human environment that has an impact on human lives and human beings experience it by confronting or crossing (Szary 2015). Boundary as a dictionary definition gives these keywords; 'limit of an area or something,' 'dividing line.' In that respect, boundary implies separation and limitation, concurrently could it imply binding?

'The Dialectics of Urban and Architectural Boundaries…,' as referred to in the title of this book, suggests a dichotomy on architecture and urban boundaries within and maybe among each other. Is it possible to think about architecture and urbanity as separate entities? I will be concentrating on the potential of the boundary as an interface of dualities in the epilogue part of this book. Architecture may be defined through the compromises of dualities. Typically, they are; solid and void, opaque and transparent, exterior space and interior space, vertical and horizontal, dark and light, introvert and extrovert to name a few. The forewords of three parts in this book look into three other dualities that exist in architecture and the urban environment. Physical and Sensual, Global and Local, Urban and Rural.

The embodiment of architecture is the buildings that human beings live in while dwelling on earth. Buildings that bound human beings and distance them from the natural environment make up the physical, manmade environment. The manmade environment from the most primitive to the complex of the contemporary world

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function as enclosures from nature, providing possibilities for survival and various activities one performs. It is the physical boundaries that define one's territory, either limiting movement, in some cases freedom, concurrently enabling order and concern for privacy in a realm of public life. The boundaries that define architectural and urban space are examples of the physical. Yet they possess sensual qualities at the same time. According to Hendrix, referring Jacques Lacan '*… it is impossible to perceive architecture as only formal and physical relationships.*' Hendrix 2006, p. 20). As stated by many, one of the critiques of modern architecture is its extensive emphasis on the function of a building which dictates its rational form rather than the sensual qualities of space, whereas human beings perceive their environment with all their senses. As Pallasmaa states '*Architecture does not only respond to the functional and conscious intellectual and social needs of today's city dwellers; it must also remember the primordial hunter and farmer concealed in the body*' (Pallasmaa 2005, p. 60). In that sense, physical and sensual exist together in an architectural boundary. Human beings not only perceive an environment with all their senses but also experience an environment within the content of their memory. Architecture is open to the interpretation of a perceiver according to the lived experiences of the perceiver with its sensual quality. How about understanding the nature of human beings?

In urban life people have organized the ways of living, signifying boundaries with or without a barrier. A line between a pavement and a lawn imposes some kind of boundary indicating the intersection of private property and public area. It signifies a limit in one's actions, yet it is not as indicative and compelling as a concrete wall that limits movement. Rows of trees can provide a buffer zone between traffic and a pedestrian area for environmental concerns. Nature has its immaterial boundaries in defining space, such as shade and light, tranquility and noise, land and water. The dilemma is the immaterial boundaries that exist within architectural space. In some cases, the boundary implies memories, meanings and enriches the urban life. In other social, political, religious beliefs and ways of doing things bound space, discriminating others and preventing their usage of space.

The digital world has introduced a new boundary to architecture and urban life. It implies boundlessness, unlimited communication while imposing an invisible barrier for human movement and interaction. It is contradictory that one can easily communicate with one another from distant parts of the world with different time zones and fail to communicate around a dinner table due to the attraction, seduction of smartphones. Time and distance can be measured by megabytes in today's digital world, gigabytes providing unlimited information.

The dichotomy of global and local has started and gained pace with the industrial era in the West and spread all over the world after the 1950s. Industrialization can be considered as a breaking point in architecture, gradually modern ideals have transformed the way how cities look and function. The influence of modern architecture has had an enormous effect on the built environment. Examples of modern architecture have dominated the cityscapes relentlessly, with very little or no concern for local cultural, social, or environmental characteristics and varieties. Thus, indigenous characteristics of architecture seem to fade away in many parts of the world.

Among many theoretical discussions, regionalism can be considered as an attempt to regenerate the local characteristics in architecture in a transforming globe.

The dichotomy of global and local has become very evident in the digital era as the internet with its information potential, either factual or junk information have penetrated even to the households advertising the global goods and values to each culture. Thus, global gains more power over the local, blurring the border between the two. Blurring of the boundary between global and local opened ways to communication, exchange of ideas and tolerance between cultures in some ways, but at the same time have caused the disappearance of indigenous characteristics of the local cultures.

Global and local have been one of the hot topics of the architectural circles since the beginning of the postmodern era. The indifference of modern architecture to the potentials of the context both tangible and intangible opened the way to this concern. Robert Venturi and others 'Learning from Las Vegas' and Aldo Rossi's 'The Architecture of the City' are the early examples that explore the concern for learning from the local potentials and history of a city in architecture. Kenneth Frampton explores architectonics in 'Studies in Tectonic Culture' to pinpoint the potential of the art of construction and materiality which may foreshadow the characteristics of architecture bound to the local context. The dichotomy of global and local at some stages can turn into a clash of the two, where global wins over to the local, eradicating the richness of the local, or vice versa when societies shut themselves to the potentials of the global world. In this fast globalized and digitalized world, it is obvious not to disregard or avoid globalization and its influences on society and architecture. What about addressing the local characteristics in the light of the potentials of the globalized world?

The dichotomy of urban and rural poses similar concerns as global and local. It may easily be said that urban possess a more globalized character than the rural. Urbanization that started in the West with industrialization has spread to many parts of the world including the Mediterranean and the Middle East. People living in rural areas for years have migrated to cities for work after industrialization and started to live in urban environments, eventually are urbanized. According to the United Nations polls of 2018, 55% of the world population lives in urban areas. UN's projection of the urban population for 2050 is 68%, concentrating in Asia and Africa which also include Middle Eastern countries. With recent developments due to conflicts in the world, migration to foreign lands shows a similar trend.

The problems arising from urbanization thus population increase in the congested areas are twofold. With uncontrolled urbanization, housing for the poor in urban environments poses a problem. Similarly, many urban environments do not possess the adequate infrastructure and urban spaces for the accommodation and wellbeing of the newcomers. Urban squares for public gathering and communication, green spaces for recreation are not accessible or reachable to the low-income inhabitants of the urban environments in many cases.

The second issue is due to the uninhabitability of urban environments with congestion and limited infrastructure. Lack of open public space, green environment, insufficient transportation system causing traffic jams and recently the pandemic, project

a turn in the direction of migration, the other way around. With work from home potential, provided by the digital world, city dwellers start to leave the urban environments for the rural thus the backflow from urban to rural is beginning to be the next trend. Boundaries between urban and rural become a critical issue in this dichotomy. The in-between space of the two, where potentials of the two opposites can coexist and merge is something to discuss.

Understanding of the intersection and interface of physical and sensual, global and local, urban and rural in architectural and urban scales require a new reading. Architects as actors on these issues may concentrate on looking for innovative solutions with the involvement of actors from other disciplines and the public, eradicating so-called boundaries in-between. Dualities that exist in the essence of architecture remind us of the necessity of one, for the sake of the other. We can appreciate light in the contrast of dark, vertical in the presence of horizontal, solid in the openness of the void. Thus, dualities have a potential either to create a dependence on each other becoming an interface or a tension as the opposite poles. Then, why not 'both-and' instead of 'either-or'?

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Prof. Sema Esen Soygeniş graduated from Robert College of Istanbul, received her architectural degree from ITU in Istanbul. She received a Master of Architecture degree from ITU. She received a scholarship and a fellowship from University at Buffalo (UB) New York and received a Master of Architecture degree in Advanced Building Technology Program at UB. She co-founded her own studio in 1990 and practiced as an architect in the USA. She completed Ph.D. studies at ITU. Currently, she is a faculty member at Bahçeşehir University, Faculty of Architecture and Design. Her research areas are architectural design, theory, architectural education, urban space and housing. Her research works have appeared in international publications and are cited. She is the author of the book *Mimarlık düşünmek düşlemek* (2006) ('Thinking and Imagining Architecture') which has been used as a reference book. She is the co-author of *Istanbul: An Urban Commentary* (2006). Her projects were exhibited at Baltimore AIA Gallery (1990, 2002), School of Architecture and Planning Gallery at UB (2002), House of Architects in Moscow (2008) and in many cities in Turkey. She teaches architectural design studio and theory courses.

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