

INVESTIGATION OF FORMAL CHANGE IN AKŞEHİR CITY CENTER IN THE HISTORICAL PROCESS WITH MORPHOLOGICAL REGIONS METHODS

Hüseyin Özdemir¹,

Mehmet Topçu²

1 Introduction

Urban fabric is a concept that provides an effective framework for describing and determining the physical features that constitute the specific character and identity of a city (Kropf, 2018). It is also a concept that is difficult to understand because it has been shaped by many actors such as architects, city planners, administrators, and the public throughout the historical period. Studies to understand this structure are based on analyzing the morphological form of the city in an accurate and intelligible language. Urban morphology is an approach that enables, through various analyses, comprehension of the form, formation and transformation processes of settlements, their spatial character, processes of historical development and the constituent parts that make up the settlements (Kubat & Topçu, 2009). In its general definition, it is called “a study on urban form” (Michael P. Conzen, 2001; M. R. Conzen, 2004; Cömert, 2015; Gauthiez, 2004; Gu, 2010; Küçük & Kubat, 2015; Larkham, 2006; Ünlü, 2018; Whitehand & Larkham, 2000).

Urban morphology studies began at the end of the 19th century. Urban morphology has been influenced by many factors such as social, economic, political, climatic, historical, and religious ones. Depending on these factors, urban morphology has been applied in many different types of research such as architecture, geography, and archaeology (Whitehand & Larkham, 2000). This research began to investigate the physical changes and the transformation processes of cities under the leadership of English, French and Italian schools, which are different educational schools. Morphological studies in Germany, which started with

¹ Research Assist. Konya Technical University, Faculty of Architecture and Design, Department of Architecture

² Assoc. Prof. Dr. Konya Technical University, Faculty of Architecture and Design, Department of Urban and Regional Planning

Schlüter (1899), generally handle morphology within a geographical perspective, while Phillipe Paneria and Jean Castex and sociologist Jean-Charles De Paule (1972) in France deal with morphology within the scope of sociology and architecture. On the other hand, Muratori (1960) in Italy started to evaluate typo-morphological studies from an architectural dimension (Cömert, 2015). While these approaches are closer to mathematical models and quantitative evaluations with respect to spatial analysis based on form, they are predominantly used for qualitative evaluations in terms of historical-geographical approach and process typology (Ünlü, 2018). Conzen (1975), the founder of the historical-geographical approach, states that as a balanced whole, the city emerges when urban patterns produced at different stability levels of lower, middle and upper scales integrate with each other (Ünlü, 2018).

In his morphological studies, Conzen analyzes layers forming the city by considering the street and connections of the street, land plots and building blocks, as well as buildings and their location within the building blocks. Thus, Conzen seeks to understand certain relational patterns of culture and society that constitute architecture and urban design.

When studies on urban morphology in the literature are examined, it is observed that they mainly focus on morphological analysis (Fan, Zipf, & Fu, 2014; Soleimani, 2020; Topcu & Kubat, 2012) in the context of the analysis of urban patterns and the analysis of urban form. Studies focusing on urban morphology have examined multi-layered cities that reflect different genius loci (spirit of the place) in terms of geopolitical location, climate, and socio-cultural values as a sample area. This situation provides resource diversity to the field of urban morphology. In this direction, the fact that the urban morphology of Akşehir, which has a rich cultural mosaic, has not been studied shows a gap in the urban morphology literature. In this study, Akşehir city morphology is examined and provides a new contribution to the morphology literature.

The aim of this study is to examine, through morphological analysis, the physical change of the city of Akşehir, one of the Anatolian cities shaped under the effect of various cultures in the historical process, and to reveal the changes in the historical urban pattern. To this end, the historical change of the conservation area where the Akşehir Houses are located, which reflect the characteristics of traditional architecture, was examined with specific reference to the block-based street, building and plot relations by applying the morphological regions method developed by M. R. G Conzen. As a result of the analysis, the change in the historical urban pattern of Akşehir has been revealed. Akşehir can be a source for the continuity of the values of the place considering the information obtained from the traditional form and pattern drive from the urban morphology. In addition, The Akşehir urban

conservation area analysis can provide an important data source for both morphology and today's planning areas.

2 Material and method

M.R.G. Conzen developed a detailed theoretical method for the interpretation of urban form, called "morphological region". While doing this, he divided an urban area into morphological regions and attempted to determine the physical development of this area. He began to implement his method with the analysis of the cities of Alnwick and Ludlow towards the end of the 19th century. He dealt with the periodical planning and morphological processes of these cities in all details.

Conzen states that a city is formed because of the integration of the urban patterns at different stability levels (Ünlü, 2018). He explains the emergence of the urban fabric by dividing it into three basic form components: town plan, where streets, building blocks, plots and building plans converge; building types and land use (M. R. G. Conzen, 1960; Whitehand & Larkham, 2000). These components are examined as follows:

- Town plan is examined based on its general characteristics and the regions it creates by considering the relationship of the building with the plot on which it sits and the neighboring plots, the street/square and the block it is located in.
- The building type is analyzed and grouped according to its importance in different historical periods.
- In land use, on the other hand, first, the function of each land is evaluated, then general topics are determined and finally it is considered what kind of a land use pattern is created by the identified uses.

The overlaying of the three specified components allows the explanation and description of the morphological features of the region. Each component is a morphological region with unity in form that distinguishes it from other surrounding components. This region is arranged in a hierarchical order within itself. In the end, morphological regions are created by overlaying the three determined components. For example, Conzen investigated the morphological regions of the English market town of Ludlow in a four-stage hierarchical-region model (Fig. 1). According to Küçük and Kubat (2015), the hierarchy by which Conzen divides the city into morphological regions can be explained as follows:

1. A historical city within its main boundaries constitutes the first order area. A peripheral settlement or residential areas can also be taken as a basis in determining this area.
2. Master plan units are expressed as urban parts, urban neighborhoods, or small residential regions.
3. Intermediate plan units, street units or the street – building – plot groups in a neighborhood are determined as tertiary areas.
4. Small plan units are areas defined as cells or morphotypes showing building types (Küçük & Kubat, 2015).

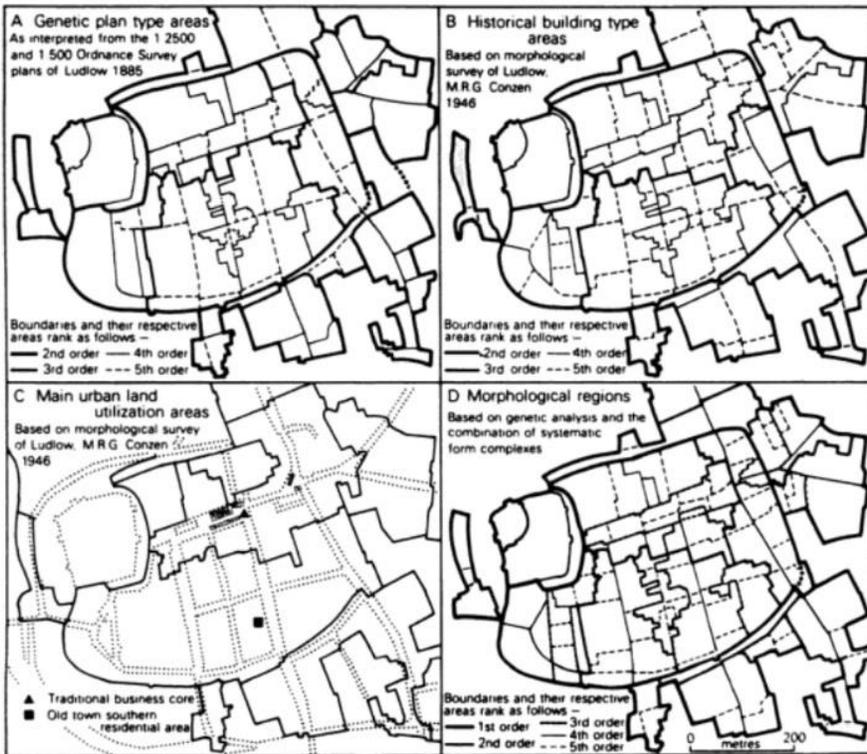


Figure 1: Map showing the morphological regions identified by Conzen in Ludlow (Source: (M. Conzen, 1988))

In this study, three levels, namely land use, building type and town plan, were analyzed within themselves, based on Conzen's morphological regions approach,

and then morphological regions were created by overlaying the results of the analysis.

In 1467, Akşehir entered the domination of the Ottoman empire. Before 1467, Akşehir reflects the traces of the period of the principalities and the Seljuks. Especially during the Seljuk period, traces of Central Asian and Iranian culture were reflected in Anatolia. After 1467, the first applications of ideas that would form the basis of the classical period took place. The use of domes for large openings in architecture became widespread. In 1923, the republican period began. In the Republican period, a new order was established that differed from the Ottoman state in many respects as political, social, economic, etc. This order brought about a different style in both the city and architecture. After 1950, a multi-party ideology was adopted politically. This ideology effected the planning and architectural discipline. It has been observed that the different styles brought by the periodic breaking moments are reflected in the city of Akşehir. For this reason, the historical process of 4 periods is discussed in the study (Figure 2). The detailed history of Akşehir is explained under the 4th title.

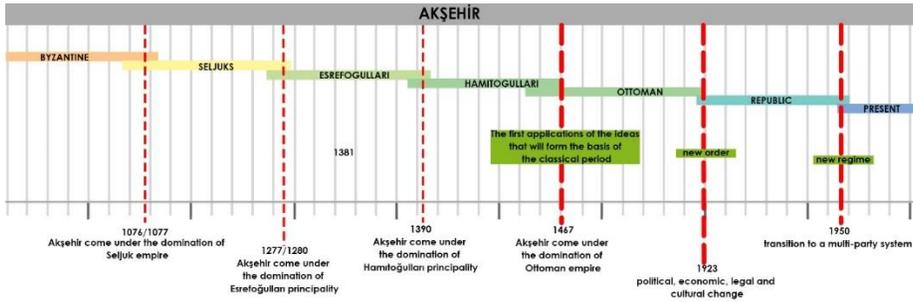


Figure 2: Akşehir's historical process (illustration: authors).

The study was conducted in 5 stages (Table 1):

In Stage 1, the current land use of the Akşehir urban conservation area was analyzed by dividing its historical process into four phases, namely “pre-1467, between 1467 and 1923, between 1923 and 1950 and post-1950” in four-order boundary regions.

In Stage 2, the current building type of the Akşehir urban conservation area was analyzed by dividing its historical process into four-order boundary regions as “pre-1467, between 1467 and 1923, between 1923 and 1950 and post-1950”.

In Stage 3, the current Town Plan of the Akşehir urban conservation area was analyzed by dividing its historical process into four-order boundary regions as: “pre-1467, between 1467 and 1923, between 1923 and 1950 and post-1950”.

In Stage 4, the morphological regions map was obtained by overlaying the analysis results of the first three stages. With this map, the morphological character of the Akşehir urban conservation area has been revealed in its historical process.

In Stage 5, the street fabric reflecting the morphological character of the Akşehir urban conservation area was revealed using the Morphological regions map. The importance of the streets was determined by presenting Grand Mosque, Middle Bath, Seyyid Mahmut Hayrani Tomb, Armenian Church and Nasreddin Hodja Archaeology and Ethnography Museum in Grand Mosque and Flour Mill Street, which reflect the urban character of Akşehir.

Table 1: Stages of the Study Method

<i>STAGE 1</i>	Determination of the Current Land Use and Land Use in the “Pre-1467, Between 1467 and 1923, between 1923 and 1950 and Post 1950” periods
<i>STAGE 2</i>	Determination of the Existing Building types and the building types in the “Pre-1467, Between 1467 and 1923, between 1923 and 1950 and post-1950” periods
<i>STAGE 3</i>	Determination of the current Town Plan and the Town Plan in the “Pre-1467, Between 1467 and 1923, between 1923 and 1950 and Post 1950” periods
<i>STAGE 4</i>	The morphological regions map obtained by overlaying the analysis results of the first three stages
<i>STAGE 5</i>	The street fabric reflecting the morphological character of Akşehir has been revealed. Grand Mosque, Middle Bath,

Seyyid Mahmut Hayrani Tomb, Armenian Church and Nasreddin Hodja Archaeology and Ethnography Museum on Grand Mosque and Flour Mill Streets, which reflect Akşehir's urban character, are presented.

3 Study area (Akşehir city)

Akşehir, which stands out in terms of its historical background, geopolitical location and social-cultural assets, is a multi-layered center that has hosted many civilizations. Due to the difficulty of examining the borders of Akşehir district at the urban scale, the new settlement areas that have not undergone much change in the historical process have been excluded from the study. In the present study, the periodical change of the conservation area in the center of the city where Akşehir Houses are located has been determined as the study area due to its undisturbed urban fabric and multi-layered settlement area (Figure 3).



Figure 3: Aerial view of the study area (illustration: authors).

4 Historical developments of Akşehir

The first settlement in Akşehir began in the Neolithic Age and has continued to the present day. Chalcolithic, Old Bronze, Hittite, Phrygian, Hellenistic, Roman, Byzantine, Seljuk and Ottoman periods followed this initial settlement (Akşehir Municipality Immovable Cultural Heritage Inventory, 2012). Enjoying a rich cultural mosaic, Akşehir has hosted many civilizations. It was called "Philomelium", or the city of honeyphiles, in the Roman period perhaps because its residents were engaged in beekeeping or sweet conversations, (Küçüktop, 1978). Following the Persian and Hellenistic rule, the city came under the Roman and then the Byzantine domination (Akşehir History, 2020). One of the sultans who came here described it

as "Akşehir", inspired by the flowering trees he saw there (Akşehir Municipality, 2018).

The city has hosted the Seljuk (1076-1281), Hamitoğulları (1281-1467), Ottoman (1467-1923), and Republican periods, respectively. Having been home to different civilizations, Akşehir entered a period of renewal and development after it was destroyed by many attacks, invasions, looting and destruction (Figure 4a). New regulations with modern approaches were implemented in the renewal and development process of the city. These arrangements formed the background of the changes that would occur in the morphological structure of the city. These modern approaches applied in the city did not spoil the old traditional fabric of Akşehir. Every civilization that ruled in Akşehir grew in harmony with the old settlements. To achieve this harmony, downtown Akşehir grew to the east and south during the Seljuk, Hamitoğulları and Ottoman periods (Figure 4b).

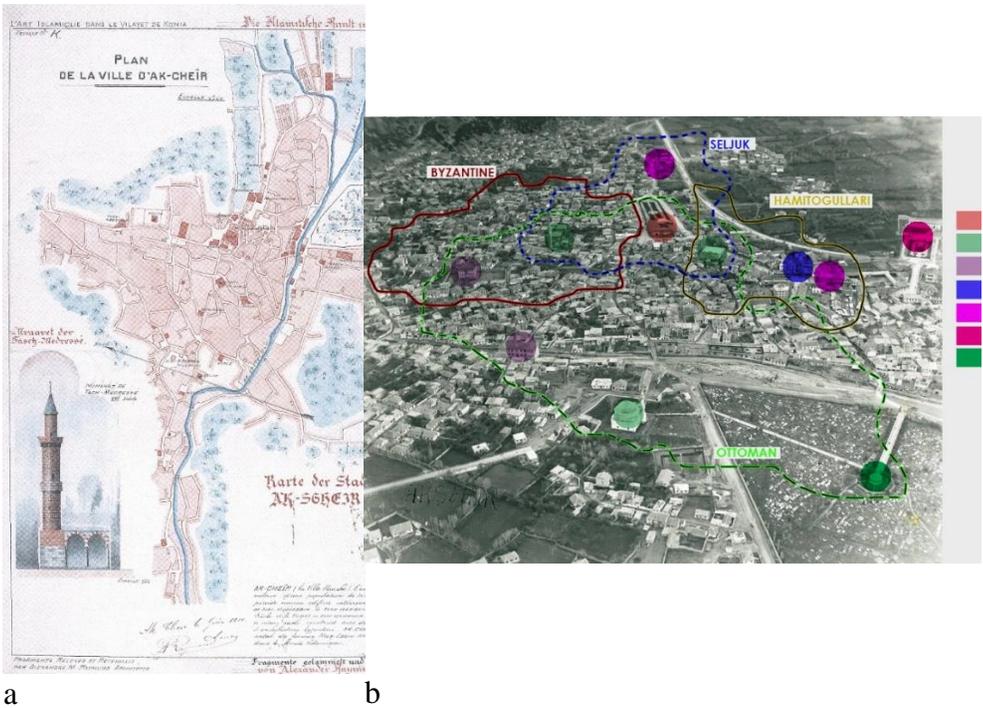


Figure 4: a) Akşehir city plan 1910 (source: Raymund, 1910); b) The developmental process of Akşehir city center in 1955 (illustration: authors).

5 Analysis of Akşehir conservation area

In order to reveal the spatial morphological differences in the city, an area that reflects the unique pattern of Akşehir's historical urban conservation area was selected. This is an area where land use is predominantly for residential purposes. Generally, the building blocks and road pattern are organic. This layout also reflects the traditional lifestyle.

When the area is analyzed spatially, it is seen that generally the heights of the buildings vary between 6 and 9 m. The buildings were designed with the human size in mind. However, low-rise buildings in Akşehir city center in the 1950's were replaced by 5-6-storey reinforced concrete buildings over time (Figure 5).



a)



b)



c)

Figure 5: Buildings in the center a) 1896 Akşehir (source: Sarre,1896); b)1950 Akşehir (source: Pinterest,2022); c) 2019 Akşehir (source: authors).

In both Seljuk and Ottoman periods, religion was at the center of urban formation. In parallel with this, the center of the Akşehir Urban Conservation Area is the Grand

Mosque. The fact that the Grand Mosque is both perceptible and accessible from every point of the historical city has made it a center of attraction. Throughout the historical period, each civilization has shaped its own city formation around this center. Takkasızlar Mansion (1), Gazi School (2), Traditional Akşehir House (3), İplikçi Mosque (4), Seyyid Mahmut Hayrani Tomb (5), Middle Bath (6), Armenian Church (7), Grand Mosque (8) are examples of registered architecture that shaped the formation of the city within the Akşehir Urban Conservation Area (Figure 6).

The area where the Akşehir Urban Conservation Area is located has a topography that rises towards the Tekke Boğazı (eastward). Topography is an important factor that shapes the urban fabric of Akşehir historical city center. The topography of Akşehir historical settlement offers The Akşehir Stream flowing through the Tekke Boğazı and green, clean and comfortable climatic conditions.

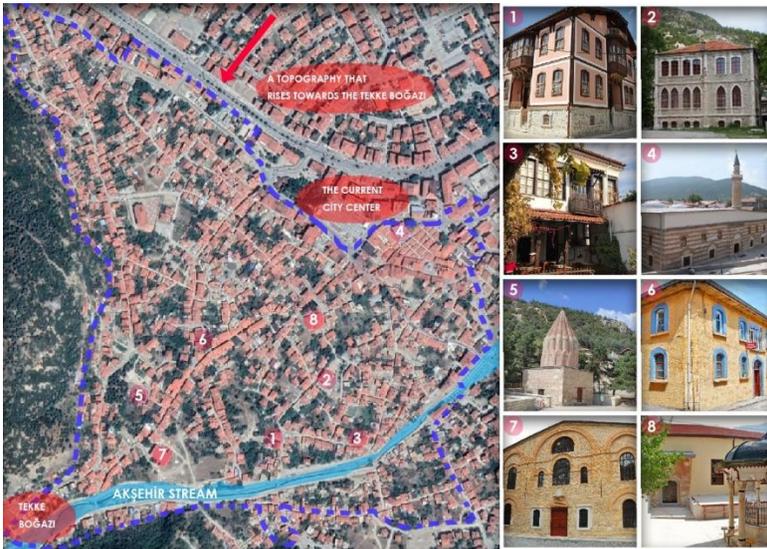


Figure 6: Akşehir urban conservation area (source: Aerial photo from google earth, 2021; other photos are from the personal archive of the authors)

Access to Tekke Boğazı is provided from Grand Mosque Street via the northeast-southwest main arterial road or from the road parallel to the Akşehir Stream. The fact that the main arterial roads directly open to Tekke Boğazı creates a microclimate effect. Vehicles, pedestrians and bicycles use these two main arterial roads

intensively. The other streets that provide transportation between the current city center and Tekke Boğazı contain the original characteristics of the traditional street fabric. Small squares, one of the most important components of the traditional social fabric, form at the intersection of these streets, which generally have an organic structure. The fact that the streets are wide enough for only one vehicle to pass and the houses are adjacent to each other has improved neighborly relations.

When the building-plot relationship of the urban conservation area is examined, it is observed that the settlements are generally houses with a front, back, side garden or without a garden. Access to these houses is usually provided by an entrance with an organic street pattern at the ground floor level (Figure 7). While the facades of the houses facing the street have oriels, consoles and decoration, the facades that do not face the street are simpler.



Figure 7: Entrances of old Akşehir houses facing the street (illustration: authors).

Most of the buildings in the Akşehir urban conservation area overlook the street, are generally adjacent to each other, and have a garden and a basement. Here, we also see the two basic elements of the traditional Turkish House plan, namely the room and the hall, the examples of which we see in almost every region of Anatolia (Eldem, 1954). This is also true for traditional Akşehir houses. According to Kaçar (2015), it is seen that the houses in the Akşehir urban conservation area have the following layouts according to their plan typologies:

The plan type with an outer hall; These houses usually consist of rooms lined up on one side of the hall. Plan type with corner hall is another application of

the outer hall plan type. It is a plan involving addition of a room to one corner of the hall.

The plan type with an inner hall is divided into two groups within itself as one-section and two-section.

In houses with a single-section inner hall, the part of the hall facing the road overflows into the street as a ledge. This plan scheme is found in most of the houses that have a plain oriel in the middle of the facade.

In the plans of the two-section inner hall type, the basic unit is copied and the two are pasted to each other, so that they display the feature of a twin structure. The units are interconnected inside. However, each unit is a whole in itself (Kaçar, 2015) (Table 2).

Table 2. Plan typology of Akşehir houses according to the location of the hall

Outer hall	Inner hall	
	Single-section	Two-section

Source: Kaçar (2015)

The buildings in the Akşehir urban conservation area are generally one or two-storey ones. The second floor of the buildings have an oriel, with consoles or bay windows. These structures are built taking into account a certain ratio and proportion regarding the street so that they do not prevent the penetration of daylight into the building nor the vista opening to Tekke Boğazi. When the door and window analyses are examined, it is seen that the door is directly connected to the street, while the window is closed to the north but open to the south (Figure 8).



Figure 8: Door and window sections of old Akşehir houses (illustration: authors).

6 Investigation of Akşehir Urban Fabric with the Morphological Regions Method

The Akşehir urban conservation area, which includes the old Akşehir Houses, was examined by applying the morphological region method. As a result of this examination, attention was drawn to the developments observed in the urban fabric of Akşehir.

The following sections of the study include the analysis of the land use, building type and town plan of the city of Akşehir.

6.1 Land use and Morphological Regions

Multifunctional land use was observed in the conservation area, including Traditional Akşehir Houses, as well as buildings of trade and worship, madrasahs, Turkish baths, and educational buildings (Figure 9). It has a homogeneous land use. Traditional Akşehir Houses constitute the majority within the conservation area. Akşehir conservation area has survived to the present day by preserving its commercial function throughout the historical process. However, in the course of time, the roads in the conservation area have narrowed, expanded, or remained the same in terms of width. Each period left its own mark on the road pattern.

The periodical change of the conservation area where Akşehir Houses are located has been examined. The conservation area constitutes a multi-layered region where different cultural periods live together. The current land use of this area was examined by dividing it into four-order boundary regions as "pre-1467, between 1467 and 1923, between 1923 and 1950 and post-1950" periods and its morphological regions were thus determined. The morphological region of the land use was made considering the land uses in the Byzantine, Seljuk, Hamitogullari, Ottoman, Late Ottoman, and Republican periods. Changes have occurred in land use due to factors such as cultural transformations and population growth in the course of time. These changes caused the city to develop in a northerly direction. The transition between the spaces is provided with the traditional street layout. The commercial area has expanded, worship has continued in places of worship, the madrasa has been used as a museum, educational buildings have continued to provide education and baths have continued to function as baths. The continuity of the spatial traces of the past indicates the historical importance of the conservation area, where Akşehir Houses are located. Accordingly, it has been determined in the morphological region results of the land use of the Akşehir urban conservation area that the traditional houses with unchanging architectural typology on Grand Mosque Street and Flour Mill Street reflect the urban character of Akşehir.

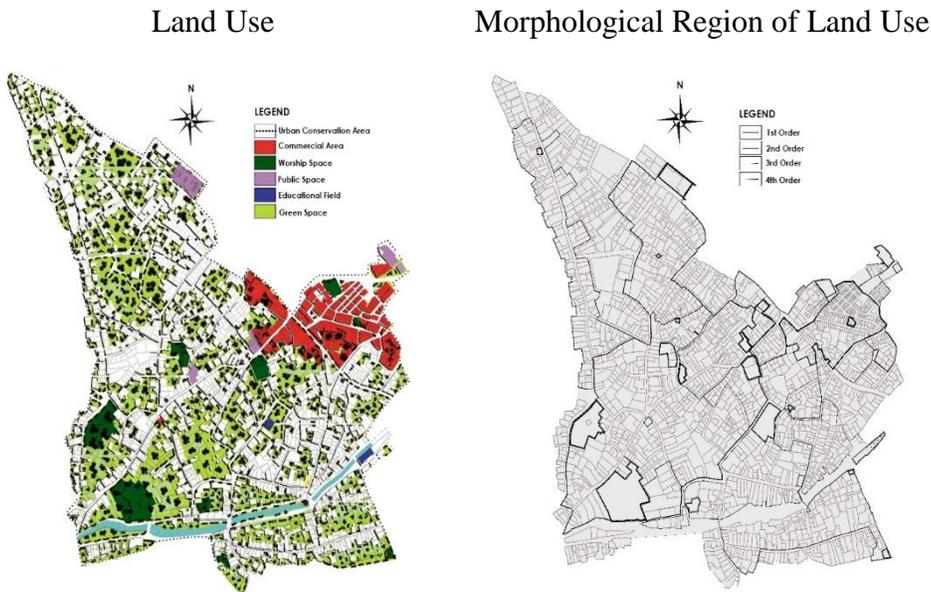


Figure 9: Land use and its morphological region in Akşehir urban conservation area (illustration: authors).

6.2 Building type and its morphological region

In the analysis of building type, the floor heights and materials of the buildings are taken into consideration. According to the analysis, it has been observed that Old Akşehir Houses are generally one or two-story buildings while new settlements are four or five stories. Old Akşehir Houses, which have one or two floors, are made of wood and adobe material. The buildings in the new settlement area are made of reinforced concrete. Most of the buildings in the city center of Akşehir, which has a cultural mosaic, are from the 18th-19th centuries and lie to the south and west. The most recent period of construction has filled the empty plots in the north (Figure 10).

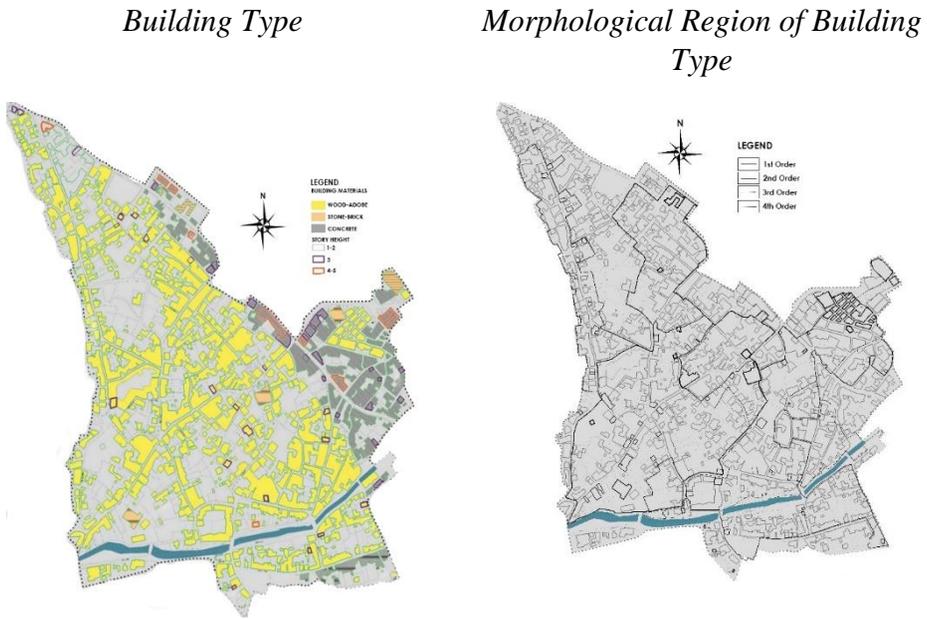


Figure 10: Building type and its morphological region in Akşehir urban conservation area (illustration: authors).

The periodical change of the type of the buildings in the urban conservation area, where Akşehir Houses are located, has been examined. The morphological regions of the existing building type in this area were examined by dividing the existing building type into four-order boundary areas, i.e., "pre-1467, between 1467 and 1923, between 1923 and 1950 and post-1950". As a result of the morphological

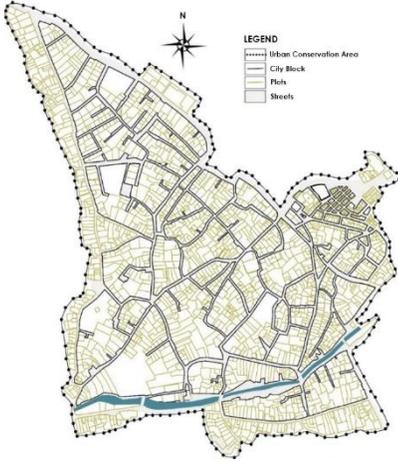
region of the building type, it has been observed that low-rise buildings made of wood-adobe or stone-brick materials on Grand Mosque Street and Flour Mill Street have a fabric that reflects the urban character of Akşehir. With the increase in population, new buildings began to be constructed to the north of the city. The city center reflects an evolution where new and old co-exist.

6.3 Town Plan and its morphological region

The morphological region of the town plan consisting of streets, plots, and buildings in the traditional city center of Akşehir has been examined. This provides a better understanding of the historical process of the town plan and an analysis of the building layouts. In Figure 11, buildings, streets, and plots have been grouped and a morphological region map has been created for the urban conservation area. From this point of view, there has not been much change in the fabric of Old Akşehir Houses throughout the historical process. However, the city center, which is between the new and old settlement areas, has undergone changes in the process. Generally, this change did not spoil the physical pattern of the city. With the increase in population, the city expanded towards new residential areas.

The periodical change has been examined via the Town Plan in the conservation area hosting the Akşehir Houses. In this area, the morphological region of the town plan was made by dividing the historical Town Plan into four-order boundary areas, namely “pre-1467, between 1467 and 1923, between 1923 and 1950 and post-1950” periods. As a result of its morphological region, it has been observed that Grand Mosque Street and Flour Mill Street have preserved their fabrics. When the size, depth, and façade of the plots on these streets, which maintain their characteristics, were examined, no major change was observed in areal size (Figure 11). It was also observed that these streets function as social interaction areas at the nodal points where they intersect. Other streets and plots within the urban conservation area have undergone transformation in the process.

Town Plan



Morphological Region of Town Plan



Figure 11: Town plan and its morphological region in Akşehir urban conservation area (illustration: authors).

7 Research Findings

It is understood that the change in the urban space has emerged with the integration of the regions and areas of the city that enjoy different characteristics and has been shaped in the historical process. Each new period brings with it some spatial elements from the cultural lifestyle of the previous periods. Thus, the spatial structure of today's city emerges.

Conzen not only reveals the spatial structure of today's cities, but also ensures that the urban fabric that contains social experiences, historical background and the context of the space are exposed.

Conzen (1960) argues that it is possible to analyze the character of urban space with the analysis of land use, building types and town plan to create distinctive sub-regions in an urban area. Based on this approach, analyses of the sample area of Akşehir Urban Conservation Area were carried out in three stages: land use, building types and town plan. Overlapping these stages enables us to see on a single map the transformations of the city in its developmental process as well as its historical layers (Figure 12). With this map, the morphological character of the city that has formed throughout the historical process is revealed. As a result of the morphological regions, it has been observed that Grand Mosque Street and Flour Mill Street, which

connect Tekke Boğazı and the Historical Bazaar, reflect the urban character of Akşehir.

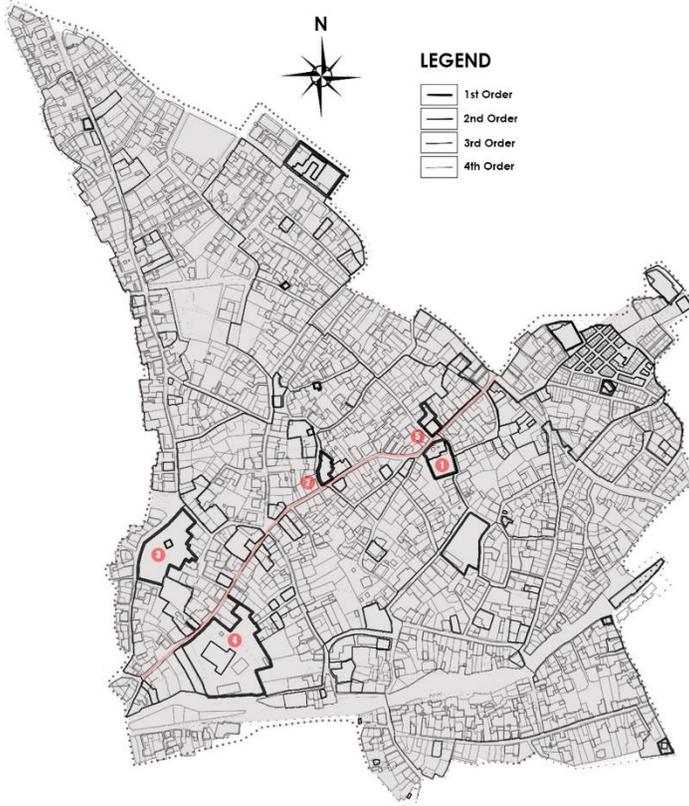


Figure 12: Morphological regions of Akşehir urban conservation area (1- Grand Mosque, 2- Middle Bath, 3- Seyyid Mahmut Hayrani Tomb, 4- Armenian Church, 5- Nasreddin Hodja Archaeology and Ethnography Museum) (illustration: authors).

Grand Mosque Street and Flour Mill Street, which reflect the urban characteristics of Akşehir, form a strong pedestrian-vehicle axis connecting Tekke Boğazı to the city center. These organic streets bear the traces of Akşehir's undisturbed traditional road fabric (Figure 13). The houses opening to these streets generally have a low-rise plan type, with gardens and inner and outer halls that keep neighborhood relations strong. The importance of the street is highlighted by presenting Grand Mosque, Middle Bath, Seyyid Mahmut Hayrani Tomb, Armenian Church and Nasreddin Hodja Archaeology and Ethnography Museum on Grand Mosque and Flour Mill Streets, which reflect the urban character of Akşehir.

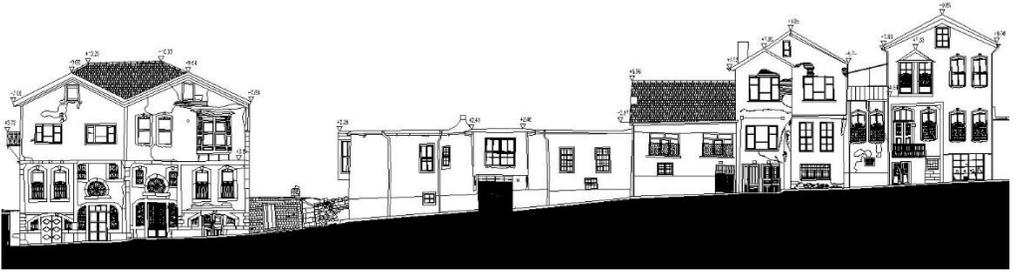


Figure 13: Silhouette of flour mill street (source: Akşehir municipality,2020)

7.1 Typological examination of the buildings reflecting the characteristic features of the city, which emerged as morphological regions result.

Conzen's morphological regions approach analyzes an urban space at three levels: land use, building types and town plan. By overlapping these levels, it enables us to see on a single map the transformations the city has undergone in the development process as well as its historical layers. The characteristics of an urban space are analyzed with this map. Based on this approach, analyses of the Akşehir Urban Conservation Area, i.e., the sample area, were conducted in three stages, namely land use, building types and town plan. By overlapping these levels, the transformations of the city in the developmental process were revealed (Figure 12). As a result of the application of the morphological regions method, it has been determined that Grand Mosque Street and Flour Mill Street, which connect Tekke Boğazı and Historical Bazaar, reflect the urban character of Akşehir. The importance of the street was emphasized by making a typological examination of Grand Mosque, Middle Bath, Seyyid Mahmut Hayrani Tomb, Armenian Church and Nasreddin Hodja Archaeology and Ethnography Museum located on these two streets, which reflect the urban character of Akşehir.

A multi-functional land use was observed within the Urban Conservation Area, including Traditional Akşehir Houses and buildings of trade, worship, and education as well as madrasahs and Turkish baths. Grand Mosque is the first architectural example that has shaped the spatial structure of Akşehir and reflects its urban character under the influence of Islamic culture. Just as it did it in the past, Grand Mosque still functions as a place of worship today. Commercial areas around Grand Mosque that have traded in grains, ropes, rugs, fish, leather, etc. have been operating as bazaars from past to present. While the fish trade is based on the existence of Akşehir Lake, the commercial activities related to tanning are based on the existence

of the Akşehir Stream (Özcan, 2005). When viewed from the perspective of spatial organization, it has been observed that commercial activities are concentrated around Grand Mosque. In this sense, the commercial areas around Grand Mosque and Old Akşehir Houses reflect the urban character of the past. The total floor area of the Grand Mosque and its courtyard covers an area of approximately 1200 m². The mosque consists of an irregular rectangular space on the south-north axis. Its minaret is positioned on its north-east façade. It is composed of two parts, namely the courtyard and the harim. Cut stone, rubble stone and brick were used as materials in its construction. The multifunctional use of Grand Mosque and its surrounding spaces shows that it is Akşehir's main node (Figure 14).

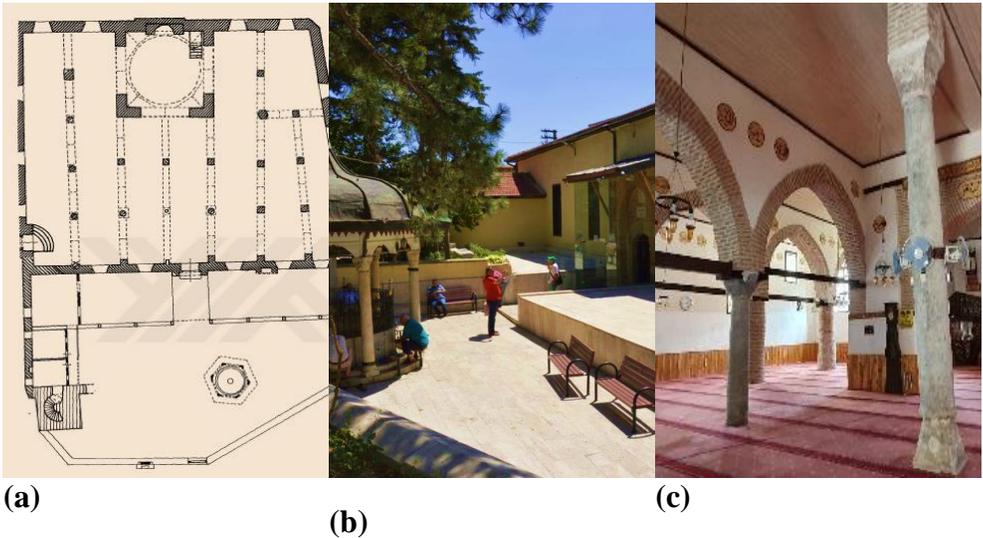


Figure 14: Buildings reflecting the urban characteristic of Akşehir (a-Grand Mosque's Plan b-Grand Mosque's Exterior c-Grand Mosque's Interior (illustration: authors).

It is seen that the ground floors of the residences overlooking the main Street (Grand Mosque Street), which is located at the central focal point of Akşehir, serve as commercial units. In addition to examples where the use of the ground floors is for purely commercial purposes, there are also examples where only parts of the ground floors are used as commercial spaces. The floors above the ground floor are generally used for residential purposes and have a plan typology with a two-section

hall. The commercial and residential spaces on Grand Mosque Street reflect the traditional urban character of Akşehir.

Middle Bath is the second architectural example reflecting the urban character of Akşehir on Grand Mosque Street. Middle Bath continues to function as a bath as it did in the past. Middle Bath has a four-iwan typology. Cut stone, slate stone, rubble stone and brick were used in construction of the bath (Figure 15).

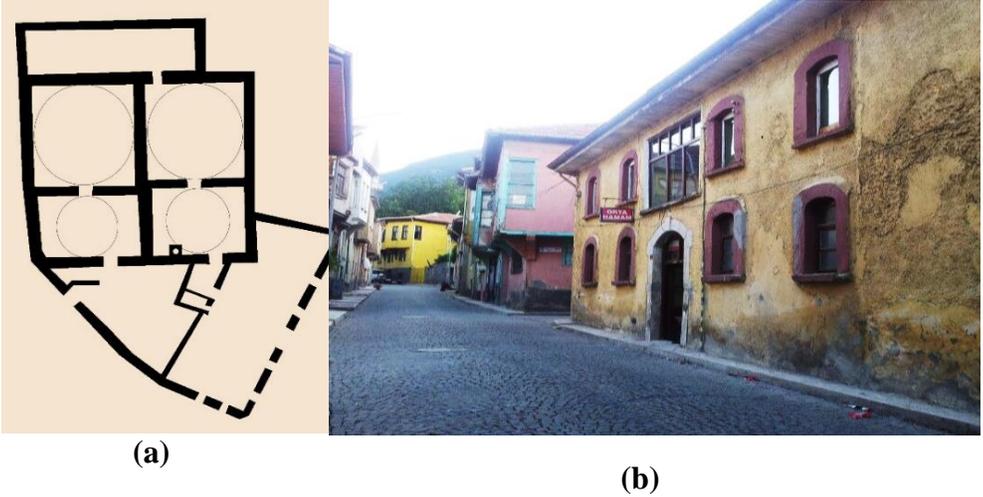


Figure 15: Buildings reflecting the urban characteristics of Akşehir (a-Middle Bath Plan b-Middle Bath Street-Facade Relationship (illustration: authors)).

The third architectural example reflecting the urban character of Akşehir on Grand Mosque Street is the Seyyid Mahmut Hayrani Tomb. The tomb has a square plan and was built with cut stones and bricks. It contains geometric decorations shaped by laying the bricks in various ways (Figure 16).

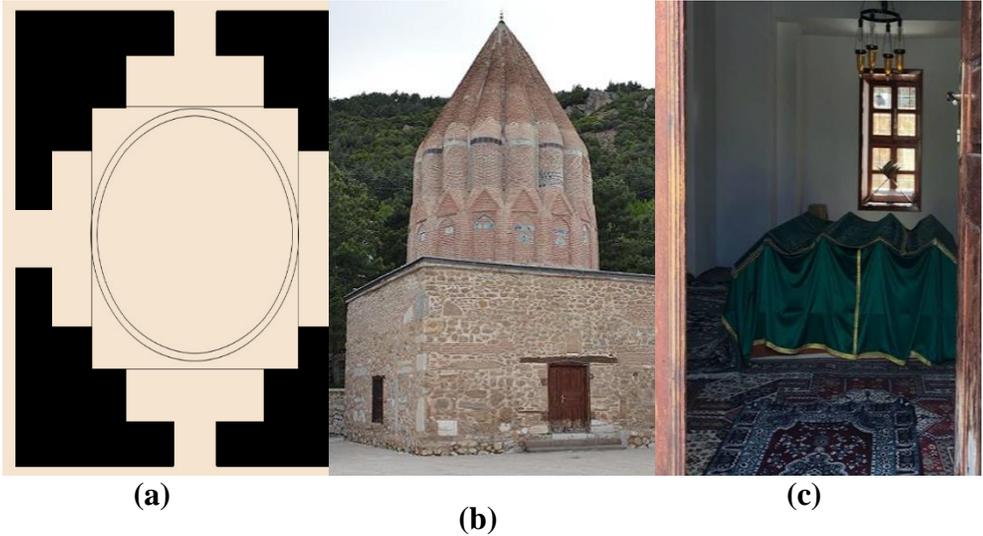


Figure 16: Buildings reflecting the urban characteristic of Akşehir (a-Seyyid Mahmut Hayrani's Tomb Plan b-Tomb's Facade c- Tomb's Interior (illustration: authors).

The fourth architectural example on Grand Mosque Street reflecting the urban character of Akşehir is the Armenian Church. The church is entered via Flour Mill Street. There are wooden additions to the right and left of the church entrance that provide access to the mezzanine floor. The church has a basilica plan, is made of masonry and rubble stone, and covered with a vault. The church is divided into three naves with two rows of columns. The middle nave is wider and higher than the others. There is a domed roof supported by six marble columns perpendicular to the apse in the middle nave. There are round arched windows and niches with protruding apse parts (Figure 17).

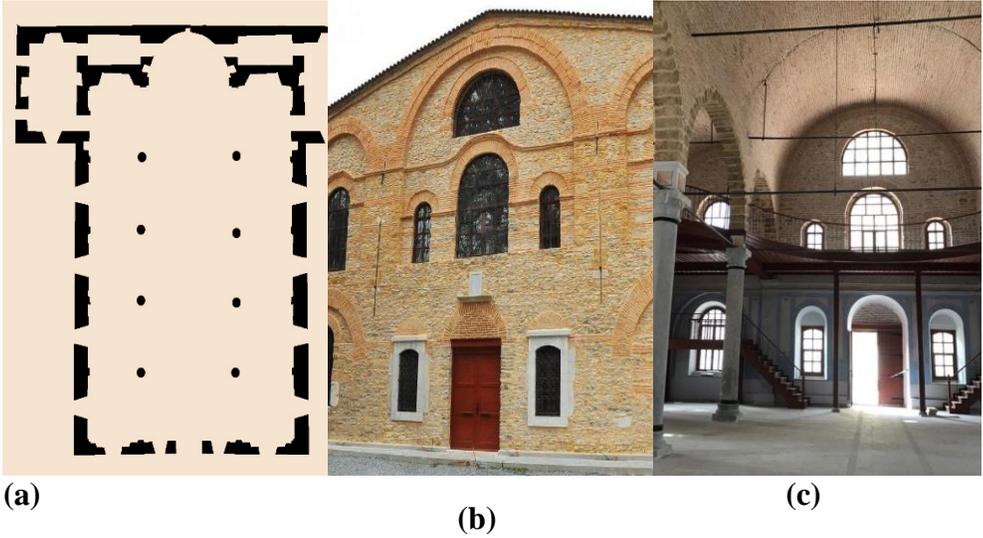


Figure 17: Buildings reflecting the urban characteristics of Akşehir (a- Historical Armenian Church Plan b- Church Facade c- Church Interior (illustration: authors).

The fifth and last example on Grand Mosque Street reflecting the urban character of Akşehir is the Nasreddin Hodja Archaeology and Ethnography Museum. The museum has a plan type with an inner hall, which is often used in traditional Turkish houses. Symmetry has been considered in both the architectural plan and the façade layout. Stone, brick, wood, adobe, and iron materials were used in its construction. The entrance to the museum is from Grand Mosque Street. The halls facing the Grand Mosque Street are in a protruding form. Ornamental motifs have been used on the wooden oriels (Figure 18).

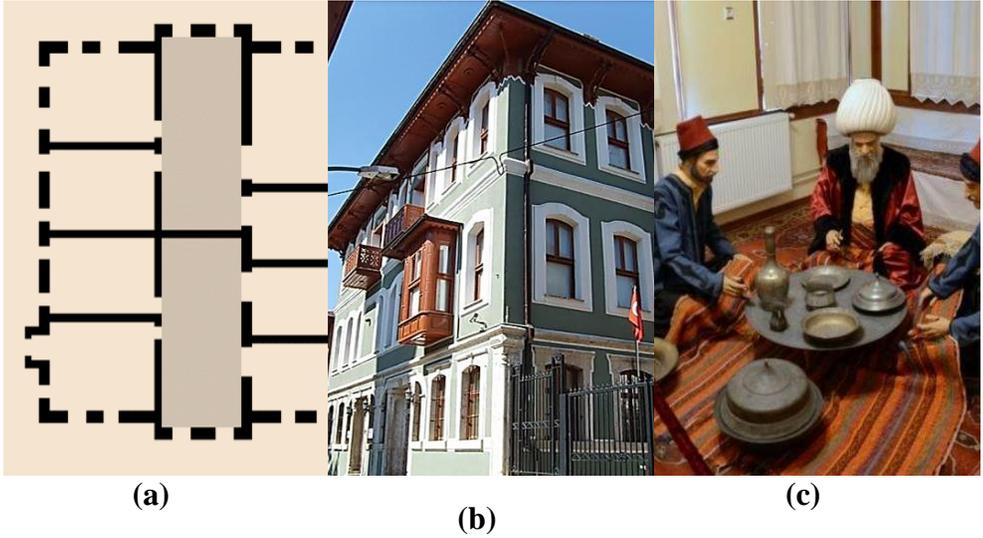


Figure 18: Buildings reflecting the urban characteristic of Akşehir (a- Plan of Nasreddin Hodja Ethnography and Archaeology Museum b-Museum Façade c-Museum Interior) (illustration: authors).

When the general fabric of the region is examined, it has been determined that street types create small social areas at the intersections of narrow streets. When the size, depth and façade of the plots are examined, it is seen that in the course of time, the sizes of the plots have decreased, the depths have increased, and the façades have narrowed.

8 Conclusion and Suggestions

M.R.G. Conzen's morphological region method examines the physical change of a city center from past to present. The physical change of the city is graded depending on the historical layers. Thus, it aims to prepare a development plan and to ensure the continuity of the city. For this purpose, the Akşehir urban conservation area was analyzed in terms of land use, building type and Town Plan by applying Conzen's morphological region method. As a result of the analyses, changes were observed in the Akşehir urban conservation area in the historical process.

Akşehir city center developed around mosques dating from the Seljuk and Ottoman periods. Commercial areas have emerged around this center in the course of time. Within the urban conservation area, residences exist around Grand Mosque

where ground floors are used completely as commercial spaces or only a part of the ground floor is used as a commercial space. The Historical Bazaar, located near İplikçi Cami, has served as a trading center from the past to the present. The commercial spaces around Grand Mosque and İplikçi Cami and business spaces on the ground floors of residential buildings reflect the traditional urban character of Akşehir. With the increase in population, new settlement areas developed around the center that had developed in the vicinity of the mosques. Accordingly, Akşehir exhibits urban expansion with the mosques in the city center and the roads opening to the commercial areas. Grand Mosque Street and Flour Mill Street connecting Tekke Boğazı and the center form a strong pedestrian-vehicle axis. The traditional road fabric has developed with the side streets organically connected to this axis. Each civilization has built houses that open to these streets in a way that reflects their own cultural traits. The houses generally have a low-rise plan with gardens and a design feature that keeps the neighborhood relations strong.

In addition to providing a basis for studies investigating the formal change in urban space, the present study also provides a method for decisions to determine new settlement areas for the development of the city, its expansion towards the periphery as well as its sustainability. Studies should be conducted in the light of the information obtained from traditional forms and fabrics to ensure the continuity of the landmarks of the place and to make decisions regarding them. In this context, the characteristic fabric of Akşehir urban conservation area provides a source for and contribution to the development of an innovative approach towards the field of morphology and planning of historical preservation.

Research Ethics and Acknowledgments

Ethics of research and publication was observed in this article. Ethics committee approval was not required for the study. Support was received from Akşehir Municipality in obtaining some of the data used in the study. We would like to thank Akşehir Municipality for providing the necessary data.

References

- Akşehir History. (2020). Retrieved from <http://www.aksehirtb.org.tr/AK%C5%9EEH%C4%B0RTANITIM/Ak%C5%9FehirTarihi/tabid/5611/Default.aspx>
- Akşehir Municipality. (2018). *Kısaca Akşehir Tarihi*. Retrieved from <https://www.aksehir.bel.tr/v2/aksehir/tarihimiz/kisaca-aksehir-tarihi>
- . Akşehir Municipality Immovable Cultural Heritage Inventory. (2012). In. Akşehir/Konya: Köroğlu Matbaası.
- Conzen, M. (1988). Morphogenesis, morphological regions and secular human agency in the historical townscape as exemplified by Ludlow. *Urban historical geography*.
- Conzen, M. P. (1975). A transport interpretation of the growth of urban regions: An American example. *Journal of Historical Geography*, 1(4), 361-382.
- Conzen, M. P. (2001). The Study of Urban Form in the United States. *Urban Morphology*, 5(1), 3-14.
- Conzen, M. R. (2004). *Thinking about urban form: papers on urban morphology, 1932-1998*: Peter Lang.
- Conzen, M. R. G. (1960). *Alnwick, Northumberland: A Study in Town-Plan Analysis*: Wiley on behalf of The Royal Geographical Society.
- Cömert, N. Z. (2015). *Lefke Geleneksel Kent Merkezi Gelişim Sürecinin Morfolojik Bölgeleme Yöntemiyle Analizi*. Mersin.
- Eldem, S. H. (1954). Türk evi plan tipleri.
- Fan, H., Zipf, A., & Fu, Q. (2014). Estimation of building types on OpenStreetMap based on urban morphology analysis. In *Connecting a digital Europe through location and place* (pp. 19-35): Springer.
- Gauthiez, B. (2004). The History of Urban Morphology. *Urban Morphology*, 8(2), 71-89.
- Gu, K. (2010). Urban Morphological Regions and Urban Landscape Management: The Case of Central Auckland, New Zealand. *Urban Design International*, 15(3), 148-164.
- Kaçar, E. (2015). *Akşehir Eski Evlerinde Cephe Düzenlemesi*. (Yüksek Lisans). Selçuk Üniversitesi, Konya.
- Kropf, K. (2018). *The handbook of urban morphology*: John Wiley & Sons.

- Kubat, A. S., & Topçu, M. (2009). Antakya ve Konya tarihi kent dokularının morfolojik açıdan karşılaştırılması. *Uluslararası İnsan Bilimleri Dergisi*, 6(2), 334-347.
- Küçük, E., & Kubat, A. S. (2015). *Tarihi Kent Dokularında Morfolojik Bölgeleri Belirlemek: Tarihi Yarımada-Aksaray Örneği*. Paper presented at the Türkiye Kentsel Morfoloji Sempozyumu.
- Küçüktop, A. (1978). *Her Yönüyle Akşehir*: Nasreddin Matbaası.
- Larkham, P. J. (2006). The Study of Urban Form in Great Britain. *Urban Morphology*, 10(2), 117-141.
- Muratori, S. (1959). Studi per una operante storia urbana di Venezia. *Palladio*, 1959, 1-113. 122.
- Özcan, K. (2005). Anadolu'da Ortaçağ Kent Morfolojisi Selçuklu Çağında Akşehir. *Journal of Academic Studies*(24), 1-13.
- Raymund, A. (1910). Akşehir Şehir Planı ve Taç Medrese.
- Schlüter, O. (1899). Bemerkungen zur Siedlungsgeographie. *Geographische Zeitschrift*, 5(2. H), 65-84.
- Soleimani, M. (2020). Urban morphological study as a method of urban design assessment in the historic context of Iranian cities: a case study on Urmia.
- Topcu, M., & Kubat, A. S. (2012). *Old and new city: morphological analysis of Antakya*. Paper presented at the 8th international space syntax symposium.
- Ünlü, T. (2018). *Mekânın Biçimlendirilmesi ve Kentsel Morfoloji*. Paper presented at the Türkiye Kentsel Morfoloji Araştırma Ağı II. Kentsel Morfoloji Sempozyumu Bildiri Kitabı, İstanbul.
- Whitehand, J. W. R., & Larkham, P. J. (2000). *Urban Landscapes International Perspectives*. New York: Routledge.