Facade Layout Review Through Examples on Bitlis Traditional Houses

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Abstract: Houses, which are examples of civil architecture that constitute the traditional architectural texture that forms many old Anatolian cities that have survived to the present day, but whose numbers are gradually decreasing, are a synthesis of human life, social, cultural, functional and aesthetic experiences. Increasing accurate information about our housing culture produced using traditional materials and techniques is very important in terms of documenting the local housing that constitutes the world heritage, as well as the value it provides in establishing the connection of our present life values with the past and enlightening the future generations of our country on this issue. In this regard, Anatolia has a diversity and richness that cannot be ignored. Local housing architecture in Anatolia varies depending on factors such as geographical features, climate, topography, use of local materials and traditional lifestyle. Architectural techniques and details traditionally passed down through generations show the local people's commitment to their roots, tradition and local identity. Houses are of great value as a set of spaces that reflect the lifestyles, values and traditions of the people in that region. The information on the architectural features of the local housing examples in Bitlis Province, one of the Eastern Anatolian provinces, which is the subject of this article, is presented in order to contribute to the research on Anatolian Local Civil Architecture. Recognizing the local housing architecture as much as it is researched, protecting and keeping it alive as much as it is recognized, will be instrumental in transferring the culture we have to the future.

Keywords: Vernacular architecture, traditional housing, stone house, façade layout, Bitlis

Bitlis Yöresel Konutlarda Örnekler Üzerinden Cephe Düzeni İncelemesi


Anahtar kelimeler: Yöresel mimari, geleneksel konut, taş ev, cephe düzeni, Bitlis
1. INTRODUCTION

The visual image that cities leave in our memory is directly related to the architectural identity of the city integrated with its natural beauties. Urban identity is formed by the harmony of the natural environmental data of the city and the economic, sociological and cultural components of the society living in that region. However, deterioration, change, degeneration in the urban fabric, loss of architectural authenticity, loss of identity and mediocrity. In order to prevent this, factors such as historical environment and traditional texture, cultural and natural heritage, social and economic structure, property status, technical infrastructure, building and street texture, transportation system, and the organization of social reinforcement areas should be evaluated as a whole in the preparation of conservation zoning plans. In 1989, the Diyarbakır Cultural and Natural Heritage Conservation Board decided to register 280 buildings in Bitlis under the scope of urban conservation site with the decision number 317 [1]. Although the Bitlis Conservation Plan, prepared by urban planner M. Remzi Sönmez, was approved by the Ministry of Culture on 5.12.1998 with Law No. 2179 and entered into force, it could not be implemented due to the terrorism and lack of public security in those years [2].

When natural disasters such as floods and earthquakes in the vicinity of the region in recent years were added to the lack of implementation, initiatives such as durable construction - qualified construction - healthy urbanization were seen as a way out by local administrations, and transformation projects have started to be implemented in many regions of our country.

Although it is known that the geographical and human characteristics of a city and its socio-cultural structure form the architecture specific to that city, almost all of the houses built by the state through “urban renewal, urban development and transformation projects” in many provinces such as Bitlis, Kars, Gaziantep, Trabzon, Bayburt, Adana, Diyarbakır, Bursa, Agri, Edirne, Malatya, Istanbul, Izmir, Erzincan, Denizli, Erzurum, Ankara reflect a very similar architecture. While the permanent living spaces to be built in cities are planned to meet today's comfort conditions, the necessity of starting from examples reflecting local architectural features and using local building materials has been overlooked in the projects prepared in this context. Within the scope of this study, it is aimed to convey and once again emphasize the architectural features in the facade layouts of traditional houses in the center of Bitlis and to draw attention to the issue.

2. HISTORY OF SETTLEMENT

Obsidian samples found in Nemrut and Suphan Mountains within the borders of Bitlis province show that the history of the region dates back to the Neolithic period. Traces of civilizations dating back to 3000 BC, Mitanni, Urartu, Roman, Sassanid, Byzantine, Byzantine, Muslim Arabs, Seljuk period traces in Bitlis and its immediate surroundings show that the region was considered as a settlement by different civilizations [3]. Although the origin of the name of Bitlis used today is not known for certain, according to historical sources, the Assyrians called it Bit-Liz, Persians and Greeks Bad-Lis or Bad-Lais, Byzantines Bal-Lais-on, Babaleison or Baleš, Arabs Bad-Lis, Armenians Pag eş or Pagi ş [4]. The region, which was under the rule of Turkmen raids, Ahla şahs, Artuqids and Ayyubids in the XIlth century, and the Great Seljuks, Ilkhanids, Karakoyunlu, Akkoyunlu and Safavid states in the XIth century, came under the Ottoman Empire in the middle of the XVIIth century [5]. Occupied by Armenian gangs during World War I, the city was liberated in 1916 and became a province in 1935.

The historical urban fabric of Bitlis consists of the historical castle built by Badlis, one of the commanders of Alexander the Great period, and the 56-meter high walls surrounding it, religious buildings, bazaar, bedesten, baths, madrasahs, inns, bridges, tombs, cumbets and many local housing examples built with smooth cut stone. The beautiful houses of Bitlis have even been the subject of travelogues. In the 17th century, Evliya Çelebi wrote about Bitlis in his travel book, “... there are a total of 5 thousand beautiful houses in the city of Bitlis on the hills, and all of them are well-built houses covered with amber-scented earth. But some of them are houses leaning against each other. For they are generally beautiful houses built on high airy ground...” [6]. Among the information Lieutenant Colonel J. Shiel gave about Bitlis, which he
visited during his trip to the east in 1836: “...the city of Bitlis has a very remarkable appearance. The houses are made of red stone cut into square blocks and there is a general two-story construction with windows on the street...” [7].

3. NATURAL AND GEOGRAPHICAL FEATURES

Neighboring the provinces of Batman, Mus, Van and Siirt, about three-quarters of Bitlis' land is mountainous and the settlement is located between steep mountains. It is close to the Upper Euphrates part of the Eastern Anatolia Region. It is very easy to reach Lake Van, Mount Nemrut and Mount Suphan from the city center. The climate in Bitlis is very harsh, winters are cold, snow usually falls heavily and remains unmelting for a long time. Therefore, the settlement formed in the form of terracing on steep topography throughout the city is the most important feature that emerges as an architectural identity.

Mustakbaba neighborhood, Zeydan neighborhood, Atatürk neighborhood and İnönü neighborhood, which were formed in Bitlis Kale and its immediate surroundings in the center of Bitlis, have the feature of embanked settlement sitting on the steepest slopes in the region [8]. In the placement of Bitlis houses in this region on the topography, it is noticeable that an architecture that respects the privacy of the neighbor, does not interrupt his sun and view, protects the nature and intertwines with it [9]. For this reason, storeyed structures have emerged depending on the steepness of the slopes descending from the hills towards the Bitlis Stream.

4. BITLIS LOCAL HOUSING ARCHITECTURE

Bitlis local stone houses are located on the slopes descending from the hills surrounding the center of Bitlis towards the Bitlis stream. The houses, which sit on sets in terracing order, have one, two or three floors depending on the steepness of the slope. Almost all of the houses built with smooth cut stone have straight facades. The houses are covered with a flat earth roof. When the stone housing examples examined in the urban conservation area of Mustakbaba, Zeydan, Atatürk and İnönü neighborhoods, which are the subject of the research, are viewed from a distance, the cubic architecture with green vegetation between them exhibits a unique settlement texture [10]. Single-storey, two or three-storey stone houses located perpendicular to the slope offer a very neat architectural integrity. Depending on the topography, the houses have back or side gardens. Houses located parallel to the slope usually form a row side by side, creating a street silhouette.

The alleyways and streets are also shaped according to the slope. The roads parallel to the slope are wider, but the roads perpendicular to the slope are very narrow and stepped. The steep streets are generally shaped with many and wide steps. Since it is difficult to reach the houses by climbing a large number of steps, some corners of the stairs are twisted and turned [11]. It is quite difficult to climb up and down these steps in Bitlis. For this reason, even today donkeys are used to carry loads and goods [12]. The heights and widths of the steps are sized so that donkeys can easily climb them. It has been observed that donkeys, with the load on their saddles, can climb those steps even more easily than humans.

5. FAÇADE LAYOUT DETERMINATIONS ON EXAMPLES OF TRADITIONAL HOUSES IN BITLIS

The number of single-storey houses in the region is small, mostly two or three-storey houses. The exterior facades of the stone houses that make up the fabric of the neighborhood are generally flat, with no projections. There are no bay windows, closed overhangs or balconies. The basic building material of Bitlis houses is stone on the exterior and intermediate floors with wooden beams in the interior. Yellow-brown-red colored stones obtained from the quarries in the region were shaped in the form of cut stone and used in the buildings.

The most important decorations are the row windows facing the street. These architectural elements, which mostly form a series of twin or triplet windows, are the most important elements depicting the
The most common window sizes in the houses in the region are 90x135 - 95x175 cm. The windows are usually double-hung wooden windows and many of the ones close to the street have iron bars. Rosebud motifs seen on the window arches are among the decorative elements applied on the facade. Almost all of the exterior walls from outside are unplastered. The thickness of the exterior walls varies between 85-100 cm. The reason why the wall thicknesses are so high is insulation due to the fact that it is a very cold climate zone, as well as providing rigidity in the structure in terms of the carrier system. It is seen that the interior wall thicknesses are thinner than the exterior walls. The interior walls, which are usually 30 cm thick, are mostly plastered.

Among the houses that make up the architecture of the region are the houses of the leading aghas of the region. Agha houses are mostly planned on the basis of Haremlik-Selamlık (separately houses for women and men). Since such examples sit on a large and wide area on the land, they have created a typology where more than one building comes together. Below are examples of dwellings consisting of both single and multiple structures. Through the examples, determinations were made regarding the facade layout of local houses.

5.1. Example 1: block 499, parcel 2

The house built with smooth cut stone technique in the Zeydan neighborhood, block 499, parcel 2, has two floors due to the slope of the land (Figure 1). The ground floor of the house is defined as the basement and is used as an animal shelter. The basement is entered through a single-leaf wooden door. There is a rosebud motif ornament in the center of the stone lintel on the entrance door (Figure 1). The entrance to the main floor, which is used by the rightful owner of the house, is provided from the upper level, from the south facade. It can be clearly seen that there is a distinction in the workmanship between the ground floor and the main floor. While the basement floor was built with more sloppy rows of cut stone, the upper floor was built with more qualified and elaborate cut stone. The floor separation of the building is provided with wooden beams. On the north façade facing the courtyard of the building, there are triplet windows connected by arches. There is a flattened and protruding stone arch above the windows. The window arch in the center of this triple window arrangement is decorated with floral motifs (Figure 1). The wooden joinery of the windows is original and there is an iron grid in front of each of them.

5.2. Example 2: block 454, parcel 12

The house on block 454, parcel 12 in Mustakbaba neighbourhood was built using smooth cut stone technique and has two floors (Figure 2). There are storage and cellar spaces on the ground floor and rooms on the upper floor. Since the façade of the building forms the silhouette of the street, it was built with a very qualified and elaborate cut stone technique. On the ground floor, there is an arched entrance door entered through a single-leaf door and a light window above it. There is also a winter room on the ground floor and the windows of this room are arched twin windows. The first floor of the dwelling has a series of three windows. There are flattened and protruding stone arches above the windows.
arched windows are planned adjacent to each other, they form a series. The wooden joinery of the windows are original, painted with white oil paint and each has an iron grid in front of it. Where the roof cover meets the façade, a profiled stone molding draws a distinct line.

**Figure 2. Mustakbaba neighbourhood, block 454 parcel 12, double window on the ground floor, double triple window row on the 1st floor façade (source: author, 2013)**

### 5.3. Example 3: block 498, parcel 5, 6

The building, which is one of the most beautiful examples of traditional Bitlis residential architecture, was built in masonry using cut stone (Figure 3). It sits on a rather large area. Due to the slope in the topography, it appears to have three floors from the façade facing the street, while it has a single floor from the rear façade. The distinction between the first and second floors of the building is marked with a decorated floor molding. The main entrance door of the building is located on the south façade facing the street. The door is located in a pointed arched niche. The door, which also has a flat arch at the top, is double winged and wooden. The façade is characterized by rectangular windows. There is an iron grid in front of all the windows. Almost all of the garden walls of the building have been demolished. The façade of the building is also damaged, and some stones have fallen. The building has a flat roof but part of it has collapsed.

**Figure 3. Zeydan neighbourhood, block 498 parcel 5, 6, rectangular double window row on the 1st floor façade (source: author, 2013)**

### 5.4. Example 4: block 456, parcel 1

The building constructed with smooth cut stone is one of the three-storey houses in the region. The floor separations of the dwelling are provided with wooden beams that protrude a little bit. There are two entrance doors on the south façade. One of them leads to the upper floors of the building while the other one leads to the storage and service area on the ground floor. Both entrance doors do not have original wings. The rectangular windows of the immovable have wooden joinery and iron grids. There are small rectangular windows above the doors on the ground floor. On the first floor there are two twin windows with flat lintels (Figure 4). The second floor has one triplet and one twin rectangular windows with flat
lintels. There are stone jambs around the upper floor windows. The building was constructed with smooth cut stone and covered with a flat earth drop.

Figure 4. Zeydan neighbourhood, block 456 parcel 1, double & triple windows on the façade (source: author, 2013)

5.5. Example 5: block 499, parcel 7

The rectangular dwelling has three floors and a flat roof. A wooden beam is seen at the separation of the ground floor and the first floor and is perceived as a horizontal dividing element on the facade. There are independent cellar and storage rooms on the ground floor. The entrance doors of these spaces are single-leaf narrow doors. There are also ventilation windows above two of these doors. These windows have no joinery, only iron bars. The windows on the facades of the building built with smooth cut stone have a rectangular form. There are three twin windows with flat lintels on the first floor (Figure 5). All windows have iron grilles. The building is covered with a flat earth drop.

Figure 5. Zeydan neighbourhood, block 499 parcel 7, double window row on the 1st floor façade (source: author, 2013)

5.6. Example 6: block 496, parcel 3

The L-shaped dwelling on the parcel has two floors and a flat roof. The floor separation of the two-storey immovable is provided with wooden beams. The ground floor entrance is from the east facade of the dwelling. There is a winter room on the ground floor apart from the cellar and storage room. There are rectangular windows above and on both sides of the door on the ground floor. The openings between the cut stones on the ground floor have reached a dangerous level. There are seven rectangular windows on the first-floor façade. If the window arrangement is followed, the room layout plans at the back can be understood. Behind the double window in the center of the façade is the sofa space. There are rooms
on both sides of the sofa. The room on the left has a double window and the room on the right has a triple window array (Figure 6). The triplet window joinery has been renewed. There is an iron railing in front of all windows. The building, which has partial cracking and deterioration on the walls, is covered with a flat earth drop.

![Figure 6. Zeydan neighbourhood, block 496 parcel 3, double & triple window row on the 1st floor façade (source: author, 2013)](image)

5.7. Example 7: block 162, parcel 6

The building with a rectangular plan has two floors and a flat roof. The floor separation of the two-storeyed dwelling is provided with wooden beams and can be easily seen from the facade. The ground floor is entered from the east façade through a rectangular door. There is a rather large window above the door, which is not joinery. There is an iron railing on the ground floor window. There is a rectangular double window on the first-floor façade (Figure 7). The windows have wooden joinery and iron grilles in front of them. The immovable is covered with a flat earth drop. The wall of the building built with smooth cut stone adjacent to the neighboring building has cracks. Water enters from the roof and spills are seen in places. It was observed that the roof and some interior walls were supported from inside with wooden posts to prevent collapse. The partition used as an arched hearth inside was filled and closed. Since the building is in danger of collapse, urgent measures should be taken.

When the row of houses towards the end of the street is examined, a similar façade layout is observed. The ground floor of the dwelling in the center of Figure 7 again has a single-leaf entrance door and a small horizontal rectangular window above it. The windows on the first floor are also rectangular and have iron bars.

The dwelling on the far left of Figure 7 is also two-storeyed and covered with a flat roof. The ground floor has an arched double window arrangement next to the entrance door. The first-floor windows are twin and rectangular windows. The two-storey stone dwellings formed in an adjacent arrangement form the silhouette and architectural identity of the street.

![Figure 7. Inonu neighbourhood, block 162 parcel 6 (building on the far right) and neighboring buildings next to it (source: author, 2013)](image)
5.8. Example 8: block 495, parcel 1

The two-storey house has elaborate stone masonry. Built with smooth cut stone, the dwelling also has a wooden beam determining the floor separation (Figure 8). The entrance is through a single-leaf door on the south façade. There is a window of different sizes on each side of the door. Behind the small window is the cellar. Behind the other window on the ground floor is the winter room. There are 2 rooms on the first floor of the house. The windows of the rooms form a double arrangement on the façade. The wooden joinery of the windows are original and there is an iron grid in front of each of them. The house is covered with a flat roof and there is a profiled stone molding at the roof level.

![Figure 8. Zeydan neighbourhood, block 495 parcel 1 (source: author, 2013)](image)

5.9. Example 9: block 138, parcel 3

The house on block 138, parcel 3 is planned as a haremlik-salamlik (separately houses for women and men) and the entrances of the sections are separate and far away from each other (Figure 9). The harem (for women) part of the building, which is accessed through four separate doors, is the size of a house on its own with its rooms, a living room and service units. In this example, which is a combination of several buildings, no building interrupts the field of view of the others since the large and small buildings are placed in accordance with the topography. Since there are smaller windows depending on the functions on the ground floor, there is no regular window row. However, in the first-floor façade layout, there are rows of windows depending on the proper room layouts. The rectangular windows add a distinct order to the building (Figure 9). The harem section is entered through a wooden door in the north through a narrow courtyard with a stone paved floor. There is a sofa with a hearth at the entrance and there are two rooms opening to the west. There is an intermediate space to the north-west of the hall and a single room and bath sections opening to it. At the southwest end of the hall, there are two more rooms divided by a cupboard. It is understood from the rich decorations, carved wooden cabinets and ceiling decorations that the room entered through the door on the south façade was planned as the head room of the house. The other room next to the head room is simpler and smaller in size. The building is covered with a flat earth roof.

![Figure 9. Inonu neighbourhood, block 138 parcel 3, double window row on the 1st floor façade (source: left figure Bitlis Municipality archive, 1985 while right figure author, 2013)](image)
5.10. Example 10: block 140, parcel 3

The building examined in Inonu neighborhood, block 140, parcel 3 has a square plan, two storeys and a flat earth roof (Figure 10). There are rectangular windows on the ground floor of the street façade depending on the functions in the rear. The interior consists of an iwan (local name: akı), cellar and storerooms on the ground floor. The smallest window in the corner is quite small depending on the function behind it (cellar) and has no joinery. To the east of the building is a garden surrounded by high walls. The garden is entered through a door with a flat arched door; one wing of the entrance door is present while the other is missing. The stones of the garden entrance have the same characteristics as the stone architecture of the house and the rest of the garden wall is a smooth cut stone masonry wall. However, since most of the garden wall was demolished, it was rebuilt with fragmentary stones for security purposes. The entrance to the dwelling is from the east façade, through the door in the courtyard. The first floor is reached by a wooden straight-arm staircase. There are 3 rooms on the first floor. There are eight rectangular windows on the street (south) façade of the first floor. The triplet window arrangement is planned in an arch pediment. The rooms where these windows open are more special. The window frames are wooden and have vertical sashes. The sashes are divided into squares with slats. There are iron railings outside the windows. The floor separation of the two-storey building is provided with wooden beams and can be seen from the facade. The building is covered with a flat roof. There is a profiled molding that visually separates the roof from the facade.

EVALUATION

Some of the dwellings in the neighborhoods examined could be entered, while others were demolished, so no measurements could be made and only the relationships between the spaces could be examined. It is seen that the local houses generally have a simple plan and have service spaces such as woodsheds, stables, kitchens on the ground floor and sofas and rooms on the upper floors. Even if there is a garden or courtyard, it is observed that it is kept small due to the harsh climate and has units such as warehouse, latrine or outbuilding. In houses with large programs, it is observed that wet areas such as baths and toilets are part of the house and are usually resolved by protruding outward from the ground floor in cylindrical form. However, such examples were not included in this study and it was deemed appropriate to analyze them in a separate category.

In the two- or three-story houses in the region, there is a common area on the ground floor called “akı (as local name)”, which evokes the function of a sofa. The sofas on the ground floor are generally rectangular in size, with stone walls and floors. The ceiling is covered with a vault, also made of stone. Stables, cellars and other storage spaces of the house open onto the ground floor. The entrances of the buildings from the ground floor usually open to this common room. It is the coolest part of the house. Above the entrance door, there is usually a window opening without joinery for ventilation and lighting.
There are also wooden stairs leading from the ground floor to the upper floor. In some examples, there is a winter room (examples 6, 7, 8) on the ground floor in addition to spaces such as sofa, cellar, storage room. There are rooms on the upper floor. The windows of the rooms are arranged in a row, creating very regular silhouettes with an architectural identity.

![Figure 11. Traditional Bitlis houses that sit on the slope of the topography and create architectural identity integrity (source: author, 2013)](image)

**CONCLUSION**

It is noteworthy that the local architectural identities of ancient cities in Turkey have been lost in the last century due to many reasons. Changes in the social profile, rapid migration from villages to cities, unplanned urbanization, social, economic and political factors cause rapid change and transformation of the local architectural identity that has been formed over centuries in that region. With the rapid change of cities over time, it is seen that they move away from their unique architectural identities and that every city is becoming more and more similar to each other. One of the most important parts of the city, which is the memory object of the city and reflects the identity elements of the city belonging to a period, is the residential architecture. Traditional houses are the most important element that carries the traces of the past, reflects the history and cultural heritage of a city, preserves the deep-rooted past and cultural identity of the city and ensures its transfer to future generations. The architectural styles and styles that emerge with such houses reflect the cultural richness of a city by bearing the traces of local traditions, handicrafts and construction techniques.

Local houses shape the identity of a city and reflect its history, cultural heritage and the identity of its local community. Preserving and restoring these houses helps to preserve the identity of the city and pass it on to future generations. It creates a lasting image of the city in the memory of those who live in the region, as well as visitors for a certain period of time. Local housing examples in Anatolia have many aesthetically unique architectural details. The ornamentation and decorative elements adorning the facades and the handcrafted motifs make them different from other examples. The local housing examples create a visually different atmosphere in the streets and neighborhoods of the city and present a character unique to the identity of the city. The image formed in the whole street also contributes to the touristic attraction of the city. Tourism activities contribute to the economy of the region and help the development of local businesses.
Conservation policies should be developed and disseminated for houses with local architectural features without losing their identity at the urban scale. The power of preserving collective urban memory in conservation policies is linked to supporting the urban dwellers both culturally and socio-economically. Long-term planning is the key to ensuring that families who take ownership of their own homes stay in the area longer and that young family members take ownership of their own living space and city.

The modern comfort conditions of today's life, the desire for individual life apart from the family, distance to central business areas and social reinforcement areas, etc. cause the loss of the culture of life in Bitlis, as in other regions, and thus the rapid disappearance of Bitlis civil architecture examples. In Bitlis, which harbors many riches, inventory studies that cover the whole province and will serve different studies should be carried out. Surveying and documentation studies for historical monuments throughout the region should be completed, and large-scale planning and conservation-implementation moves should be made to protect the cultural and architectural texture.

REFERENCES