

THE IWAN-COURTYARD HOUSE CULTURE IN THE REGION OF SOUTHEASTERN ANATOLIA

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Abstract:

Besides the different geographical, topographical, climatic, vegetative conditions and construction materials that make up the environmental features of the many regions of Anatolia, each region also has a traditional residential culture that reflects its particular sociocultural characteristics. In turn, houses bear the characteristics of the region in which they stand, creating a new identity that is unique to that area. The region of Turkey known as Southeastern Anatolia displays a type of house that has been widely used throughout this part of the country—the “iwan-courtyard house.” The iwan is defined as a semi-open space surrounded by walls on three sides, open in the front with a flat or vaulted covering, sometimes decorated with arches. In Islamic architecture, the iwan can be identified as a characteristic element of all structures, including mosques, tombs (türbes), madrasahs, hammams, caravanserais and houses. The iwan-courtyard house can be found in various typologies in Anatolia, Syria, Egypt, Iraq, Iran, Saudi Arabia, Lebanon and many other Middle Eastern countries as well as in the countries of North Africa.

The aim of this article is to describe the residential plan of the “iwan-courtyard house” with examples of the types of mansions (konak) where wealthy extended families still reside in Southeastern Anatolia, in particular those examples that can be seen in the major cities of the region, Diyarbakır, Urfa and Mardin.

Key words: Vernacular Architecture; traditional houses; identity; the Iwan-Courtyard house; Anatolia.

INTRODUCTION

The term “iwan” derives from the Persian word for portico, open gallery or porch. The semi-open space is surrounded on three sides with walls, open in the front, and covered by a flat or vaulted roof (Peker 1991). The renowned archeologist Gertrude Bell points to the Hittite *hılanis* as the origins of the iwan, stating that it derives from the *Bit-hilani* columned portico (Bell 1914). Leonard Woolley claims that the arched entrances in front of the broad and shallow reception rooms situated in one wing of the courtyards of large houses dating back to the Ur III period in the city of Ur can be considered the precursors of the iwan (Woolley and Mallowan 1976).

After that period, the iwan can be seen in Parthian and Sassanid architecture. The iwan was an important element of the layouts of the temples, palaces and houses dating back to the second century B.C. in Hatra (Safar and Mustafa 1974). In the Parthian palace dated to the second century B.C. in Assyria, iwans stand at the four wings of the open courtyard, in the rooms to the sides and in other spaces as well (Keall 1974). Another early example of the use of the iwan appears in the audience hall of the king in Sassanid architecture (Peker 1991). In the palace of Tak-i Kisra, dating to 550 B.C. and situated in Ctesiphon, the throne room has a giant iwan that is 43.50m. deep and 25.50m. wide, that is built of brick and covered with vaults, producing a dramatic effect in its own right (Keall 1974).

The iwan was first used in residential architecture in the Parthian Period. The spatial arrangement in the main living quarters of Parthian-era houses consisted of iwan-room and room-iwan-room formation. In the Parthian period of Assyria, the courtyard of every house had at least one iwan on the south side (Keall 1974).

In the Islamic period, the courtyard house with *iwan* was called the “Arab Courtyard House,” because it was a form that was familiar in the Arabian lands (Ragette 2003; Bienca 2000). The house plans of these areas, where the climate was hot, were characterized by a courtyard situated at the center of the structure. All of the spaces in the house were arranged around the courtyard. Besides providing thermal comfort and climatic regulation, the high walls of the courtyard also answered various religious and social needs. The self-enclosed structure of the courtyard made it one of the most essential elements of an Islamic residence.

Another architectural archetype of the *iwan-courtyard house* plan is the iwan itself. The iwan is the most prominent part of houses with courtyards, especially in the summertime. The main function of the iwan is to create a cool area in the courtyard in the summer, where the family can sit and entertain their guests. The iwan also helps in regulating the temperature in adjacent spaces and can be considered an element of ventilation by teasing breezes into the building.

Besides being a part of the architecture of Anatolia, Syria, Egypt, Iraq, Iran, Saudi Arabia and Lebanon, the iwan-courtyard house can be found in other areas of the Middle East, and in some North

African countries, bearing common characteristics as well as differentiating typologies. The aim of this article is to describe the residential plan of the “iwan-courtyard house” with examples of the types of mansions (*konak*) where wealthy extended families still reside in Southeastern Anatolia, and in particular, those examples that can be seen in the major cities of Diyarbakır, Urfa and Mardin in the region.

GENERAL FEATURES OF THE HOUSES IN THE REGION

Occupying an area of 58,600km², the Southeastern Anatolian Region is Turkey's smallest geographical segment. Major cities in the region are Batman, Diyarbakır, Gaziantep, Mardin, Siirt and Şanlıurfa. Areas in the region have differentiating features depending on climatic conditions, the availability of water, and agricultural opportunities. The population is mostly settled in the west, where conditions are more favorable, at the skirts of the Taurus Mountains and on the threshold of Mardin. In particular, Adıyaman offers a very opportune climate which, due to an annual rainfall of up to 650mm, is quite suitable for cultivation (Yakar 2000). The fertile soil of the area of Urfa has attracted a dense settlement since early times in history (Yakar 2000). Diyarbakır, with its broad alluvial plains, is another area that lends itself to agriculture. On the other hand, despite the broad and fertile land in the region, the long summer months lead to long periods of drought, a factor that inhibits cultivation. Agriculture occupies an important place in the economy of the region. Petroleum, chromium, manganese, iron, asphaltite, perlite and phosphate make up the underground wealth of the region.

In terms of settlement, the area has enjoyed uninterrupted habitation from the Paleolithic Age up to the period of the Ottoman Empire. Its rich geographical character has made the area desirable to many different cultures throughout history. The demographics of the region encompass a broad range of sociocultural differences and multicultural ethnicities, producing a rich tapestry of social life. The differences in language, religion and ethnicity make this area of the country stand out from other territories in Anatolia (İnalçık 2018).

Besides the settlements dating back to the Paleolithic and Neolithic Ages, this region was inhabited by the Hittites, Assyrians and populated by settlements of the Hellenistic, Roman, Byzantine, Sassanian, Arabian and Turkish periods. The Arab invasions started in the year 639. With the incursion of the Turks, the region fell under the rule of the Artuqid Dynasty. The reign of the Artuqids, who were particularly in control of the lands of Diyarbakır and Mardin, was followed by the period of the Turkish principalities (*beylik*), in which the Akkoyunlu tribal federation took hold of the region in the fourteenth century. Subsequently, the rule of the Akkoyunlu passed into the hands of the Safavid Dynasty for a short period, and then into the jurisdiction of the Ottomans under the reign of Sultan Yavuz Selim (Dalkılıç and Bekleyen 2011).

The houses in the region have a square, rectangular or skewed plan with one or two courtyards that include structural masses surrounding the wings of the courtyards. The wings of the central interior courtyards have been built in the form of one or two floors (Fig. 1). The number of floors of the mass structures at the courtyard wings as well as the size of the property was proportional to the wealth of the house-owner (Dalkılıç and Bekleyen 2011). Each block displays different features depending upon the direction it faces. The covering system over some of the houses consists of wide eaves, gabled roofs on the building masses but is generally made up of a flat terrace with a railing. The flat roof (locally *dam*) is an area used for the additional activity of keeping goods dry for the winter.





Fig. 1.
The blocks of the building at the wings of the courtyard (Author).

To preserve privacy, the house is accessed through a narrow passage or corridor that is called “sokak arası” or “kapı arası.” This space leads into the courtyard, which is the central part of the house. The courtyard is generally referred to locally as *hayat* and is paved in stone. In the middle of the courtyard is a fountain pool that is surrounded with flower beds. Decorated with attractive landscaping and plants, the courtyard sometimes has a well on one corner. Grapevines and pomegranate trees are important elements of the courtyard landscaping. Despite the simplicity of the outer facade of the buildings, the interior courtyards are reminiscent of a “garden of Eden.” The courtyard of a house attempts to portray the impression of paradise and therefore the trees, plants and pool are significant elements of this symbolism (Bianca 2000).

The organization of the floors of the wings of the palace-like building consists of a vaulted basement (*zerzemi/serdab/soğukluk*) that acts as a climate regulator throughout the year, especially in the summer, and contains a storeroom and pantry in which provisions are kept, a “*selamlık*” constituting the main living space, situated on the ground floor, and the private “*haremlık*” section of the house on the first floor. The basement “*serdab*,” meaning “cold water” in Farsi, acts as a climate regulator all year round, especially useful in the summertime. Accessed by means of a few steps, the *serdab* is a space that has a dome or vaulted covering that lets in no sunlight and also has a fountain in the middle. The subterranean rooms located approximately 50cm - 3m beneath the courtyard are used to store food supplies and provide shelter from the sun. *The serdab* also has a small water fountain connected to the underground water installations. Ceiling height in this section is about 2.5m. This is to provide ample space for ventilation for stored foodstuffs. The space is not only a cellar but a place where the household can rest and sleep in the summertime since it is the coolest part of the house. (Al Abidin 2005). In the houses of Urfa, these spaces serve as a cooling corridor due to an additional windcatcher, or *badgir (Malqaf)* system that is a characteristic of the house (Bianca 2000; Al Abidin 2005).

On the courtyard level (ground floor) when the “*selamlık*,” the main living space, is situated, there is also a kitchen (*tandırılık*), pantry (*zerzeme*), a barn (*develik*), a woodshed, toilets, a bathing space and other service and living areas as well as iwans with fountains. The bedrooms of the house and other private spaces are on the first floor. This floor also contains iwans and sometimes a toilet settled into the landing or upper platform of the stairs. The service units of the structure are situated in some cases only on the lower floor and in others on both the ground and first floors.

In houses with double courtyards, the outer courtyard contains the *selamlık*, while the *harem* is located in the inner courtyard. Appearing as though they are two houses, the doors of the structures are separate and passage is through a connecting corridor. The *harem* is where the women of the house receive their guests; it is also the area in which the kitchen is located. The *selamlık* is where the male members of the household entertain male guests. The biggest and most ornate room of the house is the main room (*mabeyn*), which is situated in this area (Erginbaş 1953). The connection between the two sections is through a door on the east wall of the “*kapı arası*” at the entrance to the *haremlık*. The courtyard that connects the ground floor and the upper floors is accessed through an iwan or stairs located in the *aralık (sofa)*; access to the basement is by stairs leading down from the courtyard (Dalkılıç and Bekleyen 2011).

The effect of the climate can be understood by the way the masses surrounding the courtyard have been arranged as *yazlık* (summer area) and *kışlık* (winter area), depending upon the direction from which the sun comes in. *Kışlık* areas are generally set up on a single floor and are located on the north; all openings in this space look toward the south, thereby letting in the sunlight. In houses without a structure on the north,

there is a structure at the east of the courtyard that lets in the sun from the west. In houses with no structures on either the north or the south, a structure situated at the west of the courtyard letting in the sun from the east constitutes the *kışlık* area. The units in these sections are called *kışlık*, or winter rooms. These closed winter spaces on this side of the courtyard have the simplest of layouts and contain a winter iwan and kitchen. The layout is usually made up of closed spaces set up in an arrangement of room, room-sofa-room or kitchen-room (Dalkılıç and Bekleyen 2011).

The south of the courtyard comprises the *yazlık* (summer area) of the house. These summer areas are the most important parts of the house, the place where guests are entertained, and they look toward the north, preventing sunlight from entering. Daylight and natural air comes in through the courtyard. In the summer months, these units help to cool off the inside temperature. The ceiling of *yazlık* rooms are higher than in the others. This section is the most ornate space in the house and the one with the biggest iwan. The *yazlık* iwans are higher and more ostentatious than the iwans in the other seasonal blocks. This is an open-air reception area where the family spends its time throughout the summer. In *yazlık* spaces, the arrangement of the mass is usually in the form of iwan, iwan-room, room-iwan-room. In some large houses, besides *yazlık* and *kışlık* divisions, there are rooms called *baharlık* (spring rooms) on either the west or east side of the courtyard. These sections are used all year round and look toward the east or west.

There are two semi-open spaces in the houses of the region. One of these is the most characteristic part of the house—an iwan that is open in the front and on three sides, with a closed roof. The long axis of the iwan is sometimes perpendicular to the facade of the house and sometimes parallel. There may be two iwans—one for winter (*kışlık*) and one for summer (*yazlık*) - of different heights and depths in the house. In examples where there is more than one iwan, the sides that are appropriate for the different seasons have been defined. The iwans are elements of design that serve to protect against the heat and capture the cooling breezes (Fathy 1986). The summer (*yazlık*) iwans were more frequently used on long summer days and were built in a larger dimension facing the north. The winter (*kışlık*) iwans look to the south and are smaller. The iwans are where the household passes the summer days. The iwans on the ground floor are accessed by two-sided stairs. The iwan is also a common space to which the rooms open out, serving the purposes of utility and social circulation. Iwans on the ground floor are open in the front whereas those on the first floor are broad and can have one, two or three arches. The arch of the iwan is built of stone and the iwan itself is covered with a vault or sometimes with wooden beams (locally *hezen*) (Akın 1985). The iwan can be on the level of the courtyard (ground floor) or on the first floor. Iwans located on the first floor sometimes are accessed with a few steps in the middle but more commonly, by two symmetrical stairs rising on either side. In front of the first-floor iwans can be seen a balcony with wooden columns or an arch, which is called *gezemek* (Fig. 2, 3, 4). Ground-floor iwans sometimes appear with some kind of water element such as a water dispenser or fountain (*selsebil*). This is a requirement of the warm climate. On the back and side walls of the iwans are niches called *camhane* where valuable glass items are displayed. The stairs of the upper floor of the house sometimes flank the courtyard wall and sometimes are on one edge of the iwan.



Fig. 2.

Right: Balcony in front of the iwan (*gezemek*), Urfa, *Karaçizmeciler Residence*. Left: Ground-floor iwan (Urfa, *Hacıbanlar Residence*) (Author).



Fig. 3.

Right: Balcony with wooden columns in front of the iwan (gezemek), Urfa, Şahap Bakır Residence.
Left: Arched balcony in front of the iwan (gezemek), Urfa, Karaçizmeciler Residence (Author).



Fig. 4.

Gezemek in front of the iwan, Urfa, Hacı İmam Demirkol Residence (Author).

Another semi-open space in the houses of the area is the *revak*. Closed on top, the *revak* has one or more columns or arches in front (Fig. 5, 6). The *revak* is also called “iwan” in this region. The *revak* usually stands in front of the spaces on the entrance floors where daily life activities are more concentrated, creating a cool and shaded area during the summertime (Alioğlu 2000). This is why there may be two or three arched *rewaks* in front of the structure’s masses, for as much as the plot of land will allow. *Rewaks* have specifically been fitted into the spaces remaining from the arrangement of the closed rooms on the entrance floor and the courtyard. *Rewaks* in the houses of the region are broad and of horizontally rectangular form. There may sometimes be a *revak* in front of a structural mass where an iwan can also be found.

The houses in the region have been built adjacent to each other and lie on narrow streets to create shade. For privacy, the houses are separated from the street with high walls that are almost completely blind on the street-side. Although some of the upper floors may project outwards, there are generally no windows on the main facades. Instead, windows have been opened on the sides of the projection or on the upper part of the main projection (Büyükmihçi 2001). Some of the windows on the projections have wood latticing. The street-side facades are extremely plain, with the only elements providing movement to the structure being the projections and the stone consoles supporting these. The most striking element found on the street-side facade is the arched entrance of the house.



Fig. 5.

Arched iwans on the upper floor, Diyarbakır Behram Pasha Konak (Author).



Fig. 6.

Ground-floor rewaks (Author).



Closing off a house to the outside world is a societal requirement that has affected the arrangement of the facades of the house, a feature that can be seen by the ostentation of the courtyard side of the walls in contrast to the simplicity of the exterior of the structure. The main facade of the houses in the region exhibit a wealth of movement with their iwans, revaks, balconies (*gezemek*), *gezemek* and stair balusters, stone consoles supporting projecting elements, gargoyles (*çörten*), abundance of windows in rooms, windows close to the ceiling, flat lentils and low arches, moldings and revak columns. Besides these plastic elements that shape the walls of the courtyard, the characteristic features of the houses also include geometrical ornamentation. At the same time, the flat roofs of the houses, with their roof railings and eaves, are additional decorative motifs that add rhythm to the courtyard facade. The stone consoles that carry the eaves are called “ayı başı” (bear heads) in Diyarbakır (Dalkılıç and Bekleyen 2011). In the houses of Diyarbakır, decorations consist of floral, rose, rosetta and star-shaped forms on black basalt stone filled in with white-colored grout made of a special mortar called “cis” in the region.

The traditional houses of Mardin have been built on the Mesopotamian Plains in a manner that is blended with the topography of the land. The houses look out on the scenery and all facades are quite simple outside of those looking to the south (Alioğlu 2000; Büyükmihçi 2000). The projecting structures of the houses also look out on the plains. The main side of each building is the south facade, which features plain or squared projections. The corners of the structures are beveled and are called “çal köşe” by the locals. These features soften the turns of the street and give the street side of the building a massive appearance (Büyükmihçi 2000). In the houses of Urfa, in addition to the facade features that are common to

the houses in the region, decorative bird-houses (*kuşluk*) that are locally called “matar” are a significant facade element that also embellish courtyard walls (Büyükmihçi 2000a). The tripartite arches seen on the courtyard gates, unique to Urfa houses, together with the niches and revaks contained in the iwans, the ogee and the horseshoe arches all add character to the courtyard walls of the houses of Urfa (Akkoyunlu 1989).

PLAN TYPES

The houses in the region have a square, rectangular or skewed plan with one or two courtyards that include structural masses surrounding two, three or four wings of the courtyard. The arrangement in the main living spaces along the courtyard wings is shaped by the iwan. While there are living spaces having the same layout on each wing in some courtyards, sometimes the spaces in each wing are arranged differently (Akkoyunlu 1989). The spatial arrangements widely used in these living spaces of the houses with iwan in the region are as follows:

1). Iwan-room: The most common spatial arrangement used in the houses of the region is a single room situated on one side of the iwan, whose main axis lies parallel to the courtyard and which looks out on the courtyard from a broad or narrow angle (Fig. 7). In this arrangement, there is sometimes a barn (locally *develik*), woodshed or pantry (*zerzembe*) adjacent to the single room next to the iwan. The front of the iwan is sometimes arched.

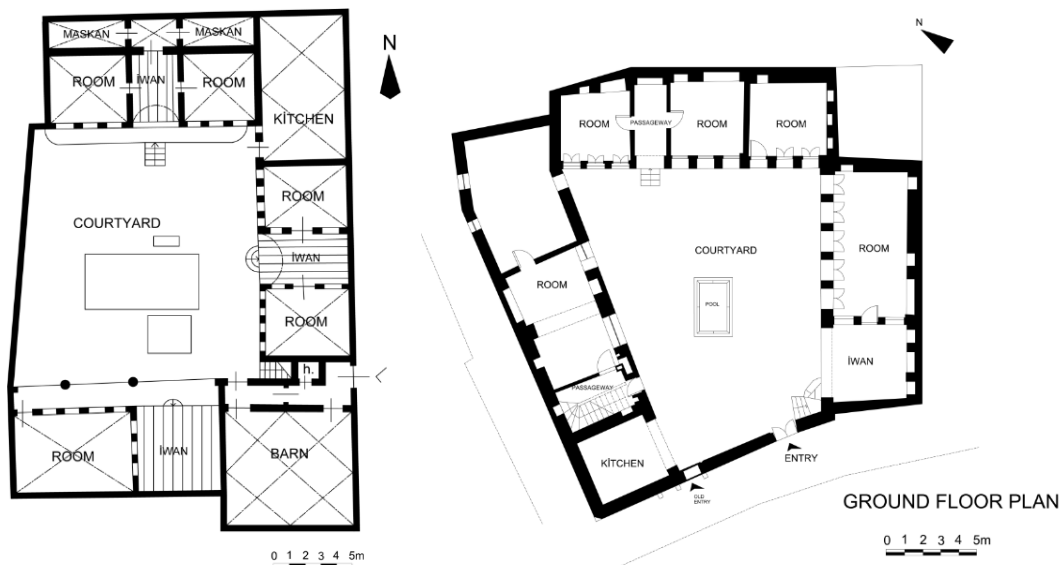


Fig. 7.

Right: An iwan-room arrangement, Diyarbakır Küçük Zingilli Caddesi. Left: Room-iwan-room arrangement, Urfa Hacıabanlar Residence (Author).

2). Room-iwan-room or room-passageway/sofa-room: Another common spatial arrangement in the area is the one where there is a single room on both sides of the iwan (Fig. 8). This plan with a room on each side of an iwan-like space also includes another space that in Mardin is called “ev ortası” (middle of the house), “aralık” (passageway) or *sofa*. This spatial concept sometimes includes two rooms on either side of the iwan. Besides being a cool place to sit in during the summer, the iwan or aralık in-between these rooms serves the purpose of space distribution since the doors of the rooms on each side open out to this area. In two-storied houses, this plan is also used on the upper floor. In this spatial arrangement of room-iwan-room or room-aralık/sofa-room, there is sometimes a kitchen, pantry or other areas adjacent to the rooms (Fig. 8). The iwan is oftentimes on a higher level than the rooms on the side (Akkoyunlu 1989). The rooms on either side of the iwan have windows looking out into the courtyard. The iwans are barrel-vaulted or have ceilings with plain wooden beams, while the rooms are covered with cross vaults or ceilings with plain wooden beams. Sometimes one or both rooms lying beside the iwan have a utility room in the back; the local name for this is *maskan* (Fig. 7, Right). The short sides of the rooms contain a shoe shelf, called *gedemeç*, that runs along the wall, sometimes in the direction of the arched side and sometimes toward the wall (Fig. 8).

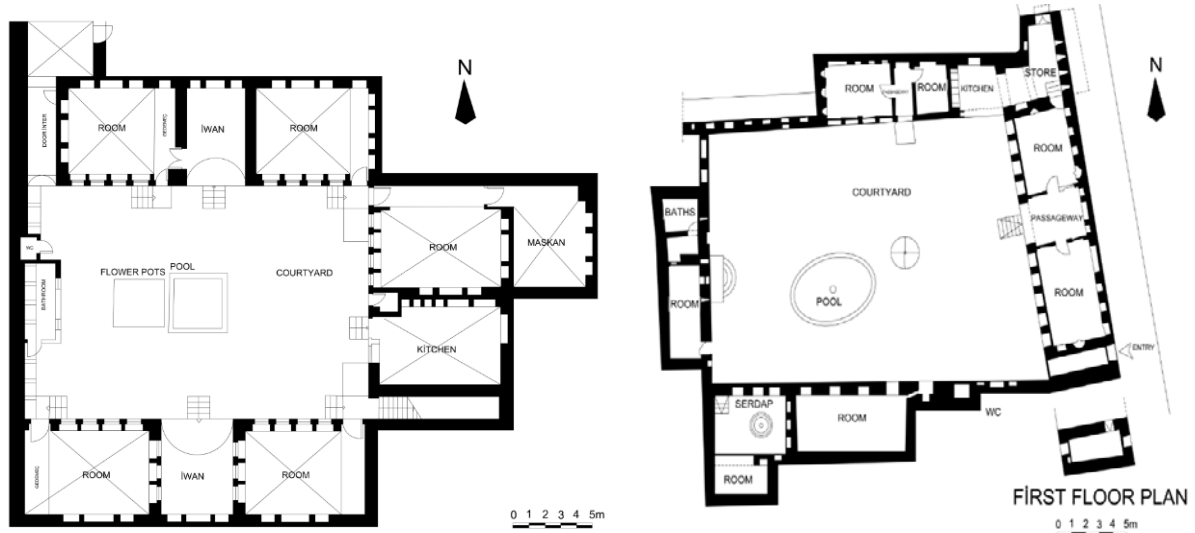


Fig. 8.

Right: The room-aralık-room arrangement, Cahit Sıtkı Tarancı Residence, Diyarbakır. Left: The iwan-room, room-iwan-room arrangements, Urfa Hacı İmam Demirkol Konak (Author).

3). Inverted-T Arrangement: This inverted-T living space, popularly known in the region of Mardin as *hicre* or *hücre* (cell) (Alioğlu 2000), is a type of layout that is widely used in the area. Here, in front of an arrangement of adjacent room-iwan-room or working area (*işlik*)-iwan-*işlik* stands a triple-arched iwan (*revak*) with sometimes a *seki* (platform) on each side of the *seki altı* (ev ortası-middle of the house) section of the structure (Fig. 9). This arrangement thus gives the building the appearance of an inverted-T. In this arrangement, the iwan assumes the identity of an area of circulation in its position between the rooms. The iwan stretches out in front, broad and arched, and leads into the “ev ortası” (*sofa*), and then into the rooms (Erginbaş 1953).

The rear arrangement of room (*işlik*)-iwan-room (*işlik*) is made up of “*seki altı*”-“*seki üstü*” sections and while this plan typology is not seen in the houses of Urfa, it is a widely used feature of the houses of Mardin and Diyarbakır. In the traditional houses of Mardin, the room (*işlik*)-iwan-room (*işlik*) organization has what is called a *pabuçluk*, or a shoe shelf, a low platform (*seki altı*) for storing shoes when they are taken off upon entry into the house. While this section is situated at the entrance, the two “*seki üstü*” or upper platforms opening out on either side are on a higher level and have windows looking out on the terrace. This is the main sitting (living) room of the house (Alioğlu 2000). The “*seki üstü*” rooms are for sitting during the day, eating, cooking and entertaining visitors. They are also used as bedrooms during the night and on the blind wall of each room are niches for storage closets (*yüklük*) and lamps as well as other niches that are closed off with wooden shutters. One of the “*seki altı*” units is reserved as quarters for the family’s married son. In some houses, there is a triple-arched iwan in front of this motif. In the houses of Diyarbakır, however, the central space situated as an organization of room-iwan-room in the back is called *ev ortası*, *aralık* (*passageway*) or *sofa* (Fig. 9, 10) (Büyükmihçi 2001). The spaces opening into the “ev ortası” are referred to as “*seki*” or “*seki üstü*.” The interior arrangement of the *seki* rooms are similar to what is seen in Mardin. The inverted-T living space resemble the “three-iwan” or “three-arm” guest rooms called *qa* in Syrian houses.

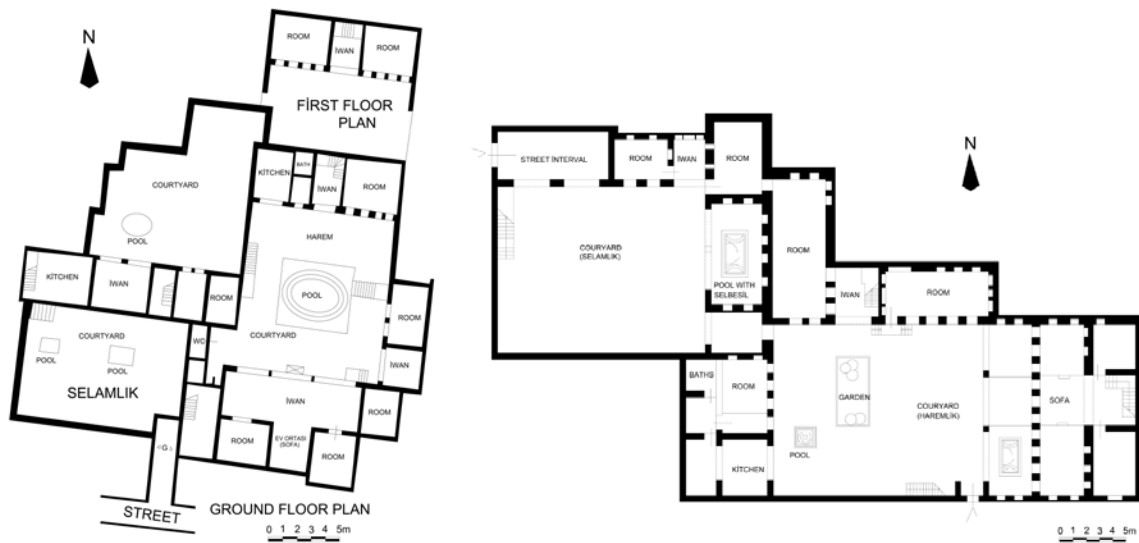


Fig. 9.

Right: Inverted-T arrangement, Diyarbakır Gökalp Residence. Left: Inverted-T arrangement, Mardin Sait Paşa Residence (Author).

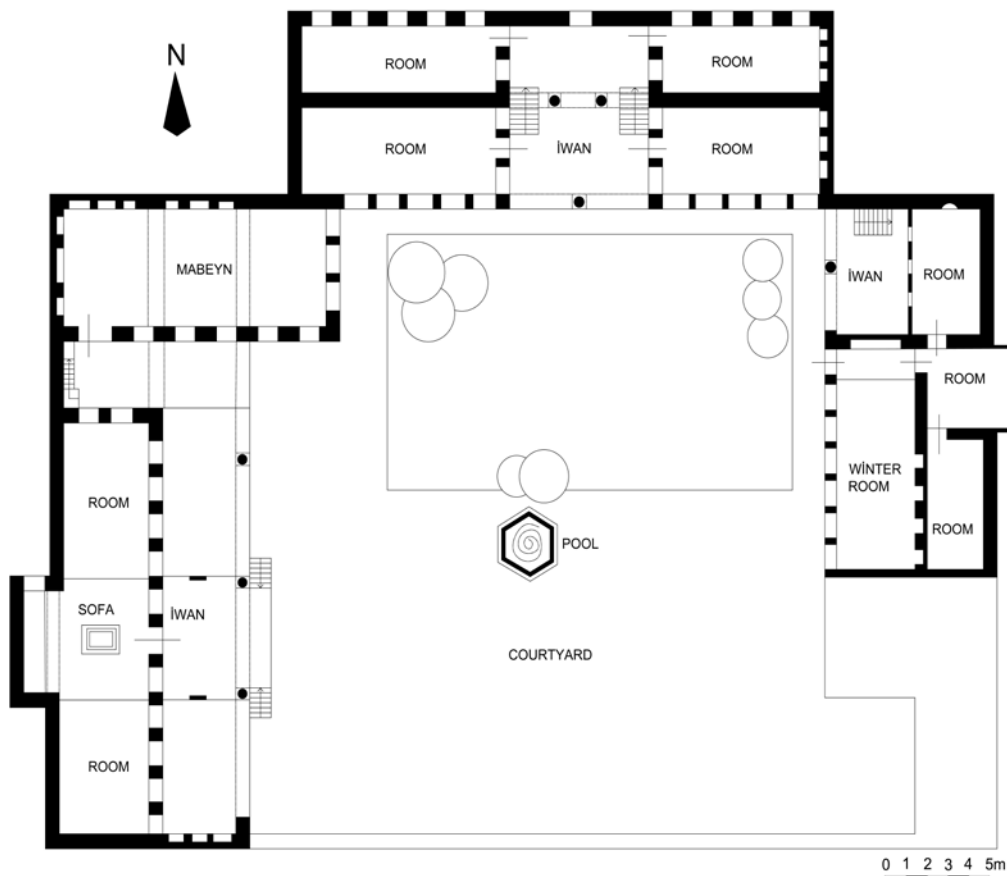


Fig. 10.

Inverted T arrangement, Diyarbakır Gevraniler Konak (Author).

4). **Layout with entrance iwan:** This spatial organization has an arched iwan, its entry axis lying parallel to the courtyard in front of the living unit. In this type of organization, the iwan takes on the identity of an entry. Three types of room arrangements can be seen related to the iwan. The first organization of rooms consists

of a broad main room in back of and of the same width as the arched iwan and a room on each side of the shorter wings of the iwan (Fig 11A). In the second arrangement, in back of the arched iwan are two rooms lying side by side, a kitchen on the short side of the iwan, and another room accessed through the kitchen (Fig. 11B). The third arrangement features a room in back of the arched iwan that stretches out in parallel to and is of the same width as the iwan. Adjacent to the iwan and this room is an iwan and a second room that is of the same width (Fig. 11C). Stairs are sometimes found on the interior side of one of the arched iwan wings.



Fig. 11.
Entrance iwan spatial arrangement (Author).

5). The arrangement of a central iwan (or sofa) and a pair of rooms on either side: Another kind of spatial arrangement used in the living space of the houses in the region is where there are rooms of different sizes and numbers on two of the long sides of a central iwan or *ev ortası* (*sofa*) that is in the form of a long and narrow corridor (Fig 10, 12). Sometimes there are two adjacent rooms of different sizes facing each other along the two long sides of the long and narrow iwan (*ev ortası/sofa*), and sometimes there is only one long room symmetrically placed on each side. The stairs in this spatial arrangement are inside the iwan (*ev ortası/sofa*).

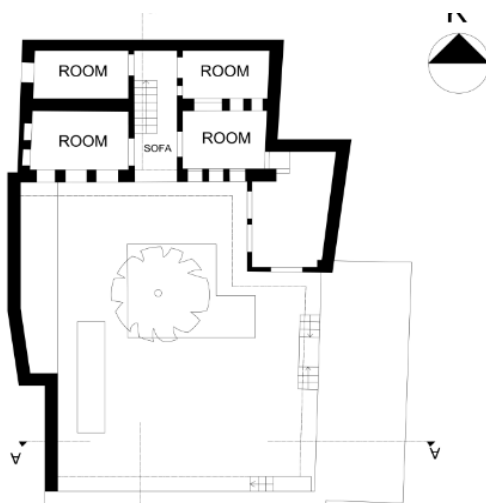


Fig. 12.
The arrangement of a central iwan (or sofa) and a pair of rooms on either side, Mardin Konak (Author).

BUILDING SYSTEMS AND MATERIALS

The houses in the region are built in the masonry system. Construction materials generally consist of smoothly cut stone because of the scarcity of wood in the area. The building material used in the houses of Mardin is light yellow, soft limestone (Büyükmihçi 2000). The principal material used in the traditional houses of Urfa is white limestone of volcanic origin, which is called "havara" in the region. The stones are woven into

the walls with 30-40cm. gaps in-between that are filled with dry-rubble (Büyükmihçi 2000a). In Diyarbakır, the main building material is black basalt stone formed by the lava flowing from Karacadağ volcano. The stone is known to be of two types—porous and non-porous, the porous type being lighter, softer and more malleable than the other. The stone is also known to create a natural air-conditioning effect (Büyükmihçi 2001). The porous type of basalt stone is used for walls and floor coverings while the harder non-porous are utilized in pavements, pools and foundations, columns and column capitals (Büyükmihçi 2001). Some researchers have speculated that the reason this stone was preferred was that it was considered a prestige product (Akın 1985). The masonry of the houses consists of porous basalt stone and smoothly cut stone, woven alternately. The white-colored grout filling in the junctures of the black basalt stone is a characteristic that is unique to the houses of Diyarbakır. The iwan and revak arches as well as the decorative arches on top of the doors are again of black basalt, used together with while cut stone. Sometimes a motif or pattern can be observed in these stones (Fig. 5, 6).

CONCLUSION

The traditional residential plan that is known as the iwan-courtyard house has its roots in the culture of Mesopotamia and is one of the oldest plan archetypes to be recognized. The typology is still alive today, albeit with various regional variations. Despite ethno-cultural and regional differences, this type of house carries certain common characteristics in the region and it can be seen that its plan and spaces are smoothly integrated to address social needs.

REFERENCES

- Akın G (1985) *Doğu ve Güneydoğu Anadolu'daki Tarihsel Ev Tiplerinde Anlam*, Unpublished PhD Thesis, İstanbul: İTÜ Mimarlık Fakültesi Baskı Atölyesi.
- Akkoyunlu Z (1989) *Geleneksel Urfa Evlerinin Mimari Özellikleri*. Ankara: Kültür Bakanlığı Yayınları, 1989.
- Al Abidin EMZ (2005) The Courtyard Houses of Syria. In: *Courtyard Housing. Past, Present and Future*, ed. B. Edwards, M. Sibley, M. Hakmi, P. Land, 42-54, New York: Taylor&Francis.
- Alioğlu F (2000) *Mardin Şehir Dokusu ve Evler*. İstanbul: Türkiye Ekonomik ve Toplumsal Tarih Vakfı Yayını.
- Baran M, Yıldırım M, Yılmaz A (2011) "Evaluation of Ecological Design Strategies in Traditional Houses in Diyarbakır, Turkey." *Journal of Cleaner Production* 19, pp. 609-619.
- Bell GL (1914) *Palace and Mosque at Ukhaider. A Study in Early Mohamadan Architecture*, Oxford University Press.
- Bekleyen A, Dalkılıç N (2011) "The Influence Climate and Privacy on Indigenous Courtyard Houses in Diyarbakır, Turkey", *Scientific Research and Essays* 6/4:908-922.
- Bianca S (2000) *Urban Form in the Arab World. Past and Present*, ORL. ETHZ Institut für Orts-, Regional und Landesplanung, ETH Zürich.
- Büyükmihçi G (2000) "Mardin Evlerinde Plan Oluşumları." *Arkitekt* 485, pp. 60-74.
- Büyükmihçi G (2000a) "Urfa Evleri Plan Oluşumları." *Arkitekt* 482, pp. 67-74.
- Büyükmihçi G (2001) "Diyarbakır Evleri Plan Oluşumları." *Arkitekt* 486, pp. 77-92.
- Dalkılıç N, Bekleyen A (2011) Geçmişin Günümüze Yansıyan Fiziksel İzleri: Geleneksel Diyarbakır Evleri, In: *Medeniyetler Mirası. Diyarbakır Mimarisi*, ed. İbrahim Yıldız, Diyarbakır: Diyarbakır Valiliği Kültür ve Sanat Yayınları-3, pp. 417-462.
- Erginbaş D (1953) *Diyarbakır Evleri*. Unpublished Doctorate Thesis, İstanbul: İstanbul Teknik Üniversitesi.
- Fathy H (1986) *Vernacular Architecture: Principles and Examples with Reference to Hot Arid Climates*, Chicago: The University of Chicago Press.
- Keall JE (1974) "Some Thoughts on the Early Eyvan," In: *Near Eastern Numismatics, Iconography, Epigraphy and History. Studies in Honor of George C. Miles*, ed. Dickran K. Kouymjian, 123-30, Beirut: American University.
- Inalcık H (2018) *Osmanlı İmparatorluğu*. İstanbul: Kronik Kitap.
- Peker AU (1991) The Monumental Iwan: A Symbolic Space or A Functional Device? *METU JFA* 11(1-2):5-19.

Petruccioli A (2006) The Courtyard House: Typological Variations over Space and Time, In: *Courtyard Housing. Past, Present and Future*, ed. B. Edwards, M. Sibley, M. Hakmi, P. Land, 2-14, New York: Taylor&Francis.

Ragette F (2003) *Traditional Domestic Architecture of the Arab Region*, Germany: Axel Menges.

Safar F, Mustafa MA (1974) *Hatra. The City of the Sun God*, Baghdad: Ministry of Culture.

Sözen MŞ, Gedik GZ (2007) "Evaluation of Traditional Architecture in Terms of Building Physics: Old Diyarbakır Houses." *Building and Environment* 42(4):1810-1816.

Woolley CL, Mallowan M (1976) *The Old Babylonian Period (Ur Excavations, VII)*. London: Oxford University Press.

Yakar J (2000) *Ethnoarchaeology of Anatolia: Rural Socio-economy in the Bronze and Iron Ages*, Emery and Claire Yass Publications in Archaeology, Tel Aviv.