



Spatial Analysis of the Use of Iwan in Turkish Architecture from Central Asia to Anatolia

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Abstract

The iwan, whose use dates back to ancient times in Iran, Mesopotamia and Central Asia, is an architectural element with functional and semantic qualities and is usually seen on a monumental scale. At the same time, the iwan emphasizes the four-direction design within the Asian central space tradition, strengthens the centrality and carries symbolic value. The iwan, which has an important place in Turkish architecture due to these features, is an architectural element with historical continuity. In the process from Central Asia to Anatolia, it is observed that the iwan is seen in almost all kinds of architectural functions and generally in monumental-scale buildings. Still, especially when the Ottoman period passed, it lost its importance and disappeared to a large extent. The aims of this study, in examining the historical development of the iwan, are to determine in which periods, buildings and functions it was used, to define its role in the spatial organization and to reveal the changes it underwent in this process. In the study, the buildings in which the iwan is seen in Turkish architecture were examined according to historical periods and building groups, the place of the iwan in the plan typologies was examined, and it was discussed how the iwan gave direction to the space design in mosques, madrasas, khanqahs, caravanserais, palaces, kiosks, baths and tombs. The continuity, feature of monumentality and function of the iwan in Turkish architecture are examined. It has been observed that iwan serves various purposes in buildings with different functions.

1. INTRODUCTION

The iwan has been used in various cultures, different building types and spatial configurations starting from the First Age. The use of the iwan in Near Eastern and Central Asian architecture dates back much earlier than Islam. In addition to its monumental and functional feature, the iwan also has a symbolic meaning. The tradition of building with an iwan in Turkish architecture is the main subject of this study. The iwan has always existed in historical continuity in Turkish-Islamic architecture. The role of the iwan in the spatial organization has changed in different geographies, different periods and architectures. The main purpose of the research is to determine the periods and building types of the iwan during the long-term migration of the Turks from Central Asia to Anatolia, while also questioning its continuity and the reasons for its change in spatial organization. Although there are different opinions on the historical origin of the iwan, the widely accepted view is that it originates from Iran [1]–[5]. However, showing the origin of the iwan used in Turkish architecture from Iran alone is not sufficient to explain the role of this architectural element in spatial organization. In this context, it will be important to look at Central Asian architecture and its cosmological content in order to understand the role of the iwan in Turkish architecture. In this study, while examining the iwan as an architectural element in Turkish architecture, the understanding of space not only in Iran and Mesopotamia but also in Central Asia was taken into account. Therefore, in the tradition of the building with iwan, Central Asia (Gokturk and Uyghur) for pre-Islamic Turkish architecture, Central Asia-Iran (Qarakhanid, Ghaznavid and Great Seljuk) and Anatolia (Anatolian Seljuks, Beyliks and Ottomans) were looked at for post-Islamic Turkish architecture. After this reading, the role of the iwan in spatial organization is evaluated.

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When we look at the previous studies on the iwan, it is seen that this subject has been examined from different perspectives by many authors. In these studies, the origin of the four-iwan [6], the spatial meaning and monumental importance of the iwan [7], examples of early iwan [3], [5], [8], the symbolic and functional value of the monumental iwan [9], the analysis of the four-iwan in the context of dynastic power and the representation of heaven [10], the space-function relationship in the use of the iwan in medieval Turkish architecture [11], iwan architecture and origin as the Greco-Roman and Greco-Persian [12], are discussed. In addition, studies examining the iwan in a building group are also included in the literature. Ottoman divan houses with three iwans [13], typological variations in the iwan-courtyard house tradition [14], [15], iwan-type tombs [16], [17], the role of the iwan in medieval Anatolian madrasas [18] the iwan-courtyard-water element relationship in the four-iwan buildings [19], the origin of mosques with open courtyards and iwan in Great Seljuk architecture [20], the relation between the central dome and the iwan in Anatolian Sufi lodges [21], [22], are the previous studies that has been covered in this context. In the light of the data obtained, previous researches show that the development of the iwan outside of Anatolia was examined, the iwan was investigated specifically in the Middle Ages, the iwan was examined in a building type or indirectly included the iwan. The contribution of this research to the iwan literature is to follow the spatial change of the iwan through Central Asia-Iran and Anatolia in the historical process. At this point, the study presents an approach to question the continuity of a traditional architectural element and to identify changes and transformations in architectural history studies.

The geography extending from Central Asia to Anatolia, the homeland of the Turks in different periods of history, was examined to look at the use of the iwan in Turkish architecture. The examination was made according to historical processes as pre-Islamic and post-Islamic. In pre-Islamic Central Asia, the archetype of the iwan and four-iwan was sought in the buildings of the Gokturks and Uighurs. Turkish Islamic architecture was analyzed in three different periods. The first period is the Karakhanid, Ghaznavid and Great Seljuk periods in Central Asia and Iran between the 10th and 12th centuries. The second period covers the period between the 11th and 14th centuries and the aftermath of the migration from Central Asia to Anatolia. In this context, the architecture of the Anatolian Seljuks was analyzed. The later time covers the Beyliks and the Ottoman period. Centuries are defined as 14th and 15th century Early Ottoman, 16th-17th century Classical Ottoman, and 18th-20th century Late Ottoman and the use of the iwan in the buildings belonging to these periods is questioned.

2. THEORITICAL FRAMEWORK

2.1. Definition of Iwan

The word iwan is of Persian origin (*ayvân*) and has entered the architectural terminology of Turkish (*eyvan*) and Arabic (*iwan*, *liwan*) languages [23], [24]. The first meaning of iwan, which basically has four meanings, includes meanings such as hall, *sofa*, [25], [26], *divanhane* [26], [27], which opens to the outside on one side directly or with a portico. The second meaning is defined as a platform raised from the ground, which carries official importance as an honorary place, or a customized space whose elevation from the ground arises from functional needs. The third meaning is a palace or a building of official importance [23], [25]. This meaning differs from the above two meanings by defining a building rather than a part of a building. The fourth meaning of the iwan is the meaning used in architectural terminology and is defined by Western art historians and archaeologists as a space with a rectangular plan, surrounded by walls on three sides, open on one side and usually covered with a barrel vault [23]–[26], [28]–[30].

2.2. Historical Development of Iwan

The iwan has a unique place among the architectural elements that define Islamic architecture. However, the use of the iwan in the Near East and Central Asia dates back to a long time before Islam. Although there are different assumptions about the origin of the iwan, the prevailing views are that it originated in Mesopotamia, Iran and Central Asia. Langenegger and Oelmann, gave reference to parabolic arched reed shelters plastered with slime found in the Euphrates basin [31], [32], and Diez cited natural or artificial rock cavities as the prototype of the iwan [33]. Tarhan and Sevin also indicated Urartian monumental

rock niches as the source of the iwan [34], while this rock niche tradition was later transferred to Persia through the Medes in the 4th century AD [9], [35]. This tradition dates back to the monumental iwan carved into the rock at Taq-ı Bostan during the Sassanid period. Müller, on the other hand, associated the *megaron*, the basic prototype of Greek architecture, with the iwan, defined the open type of the megaron as liwan (iwan) and stated that it reached the Aegean via Mesopotamia [36]. In addition to this, Downey expressed the view that the iwan had its predecessors in Mesopotamia with the iwan-like spaces found in private residences in the settlement of Dura Europos [37]; Erarslan referred to Mesopotamian houses with courtyards dating back to the 3rd millennium BC [11]; Akdeniz stated that the idea of the iwan lies in the cult area in the eastern courtyard of the Mari Palace (1st millennium BC) [38]. Likewise, the iwan-like spaces called *pesgam* in the Parthian houses and palaces in Mesopotamia were used in pairs (*do-pesgami*) and quads (*chor-pesgami*) [3]. According to Boyce, the *pesgam* derives from Zoroastrian dwellings in Yazd [39]. Gasche, Schmitt and Stronach looked for the earliest examples of the iwan in the façade of *apadanas* in Persian architecture [8], [40]. Henning on the other hand, took a different approach and established an etymological link between the *apadana* in ancient Persian palaces and the origin of the iwan, but the idea that the iwan derives its etymological origin from the *apadana* was considered scientifically controversial [4], [23]. Another approach, which is thought to be the prototype of the iwan, establishes a relationship between the iwan and the portico opening to the courtyard seen in the Late Hittite Palace at Zincirli and the Hittite Hilani [32]. Reuther, who suggested that the iwan may be an archetype created by nomadic cultures [41], put forward the idea that the iwan originated not from the habits of sedentary people, but from the tradition of a people accustomed to living in tents or thatched huts as shelter in the open air [9]. There is also the view that the iwan is an eastern adaptation exported from the West. It is thought that the iwan developed as an adaptation of the Roman *tablinum* to Mesopotamian and Iranian construction techniques as a result of the influence of Mediterranean architectural forms on the Near East [23].

The consensus on the first use of the monumental iwan points to the Parthian period. In the 1st century AD, the iwan was preferred as a common form in palaces and temples as well as in residential buildings in and around the Parthian city of Hatra [42]. The iwan, which aims to emphasize the entrance and define the entrance façade, can be seen in examples such as the Hatra palace in the Parthian period, especially in the triple iwan arrangement on the façades (Figure 1). The first example of the four-iwan scheme is also found in the Parthian palace in Assyria, which dates to the 1-2th century AD [3], [43]. As can be seen in Figure 1, although the iwans were placed on four sides of the courtyard, they were not located on axes that cut each other perpendicularly as in the classical four-iwan schemes. The barrel-vaulted iwan was usually flanked by corridors surrounding and communicating with the square reception hall or banquet hall [44]. In Sasanian palaces, the iwan functioned as a reception hall and a throne room or a vestibule connecting to the throne room itself. The iwan was in front of the domed throne room in the palaces of Sarvestan, Firuzabad, Damghan and Imaret-i Khusraw, and in front of the fire temple in Takht-e Soleymān. The iwan, in addition to opening onto the garden or courtyard, also opens to a pond, as in the Takht-e Soleymān and Firuzabad palaces, and to a large pool in the courtyard in the Imaret-e Khusraw. Another example where the iwans are oriented towards water is Taq-e Bostan, which has arched rock reliefs. In Zoroastrian doctrine, water is sacred along with fire. Therefore, the presence of a water element at the place where the iwan opens in the Sassanid palace-temple combination buildings gives a sacred meaning to the ruler's office. The iwan, which represents the space of the ruler, has been transformed into a place of representation that reflects power by being made in gigantic dimensions and openness as seen in the palace of Ctesiphon.

The iwan, which was widely used in Mesopotamia, Iran and Central Asia before Islam, gained new meanings and functions during the Early Islamic period. For example, when the Sassanid capital was conquered by the Arabs in 637, Friday prayers were held in the iwan, the throne hall of the Ctesiphon palace, and the building became a symbol of conquest for the Muslims [45]. In addition, the iwan palace tradition of pre-Islamic Iran was reflected in the Umayyad and Abbasid palaces [46], [47]. The Umayyads used the iwan as a reception hall in Kuseyr-i Amra, a desert pavilion. In the inner palace at Amman Citadel, an iwan opening to the courtyard connects to the throne room with a cruciform plan [47]. On the other hand, while the residential units with courtyards in the castle have two iwan beyt, the Amman Pavilion, which is used as an audience hall, has four-iwan arrangements opening to the dome. The Dar al-

Imara complex in Kufa also has an iwan-like basilical hall and a domed official room connected to this hall [48]. In the Abbasid period, the domed throne room in the Ukhaidir Palace was reached by a vestibule iwan, while the *beyt* on both sides of the palace had non-monumental iwans between the two rooms. In the palace of Jawsaq al-Khaqani, the section with three iwans opening to the water is reminiscent of the triple iwan arrangement in Hatra. In the Balkuvara palace, iwans are connected to the reception hall with a cruciform plan from two directions. The use of iwan continued after the Early Islamic Period, and after the Turks converted to Islam, the iwan was seen in religious, commercial, military and educational buildings in addition to palaces in all the regions they dominated.

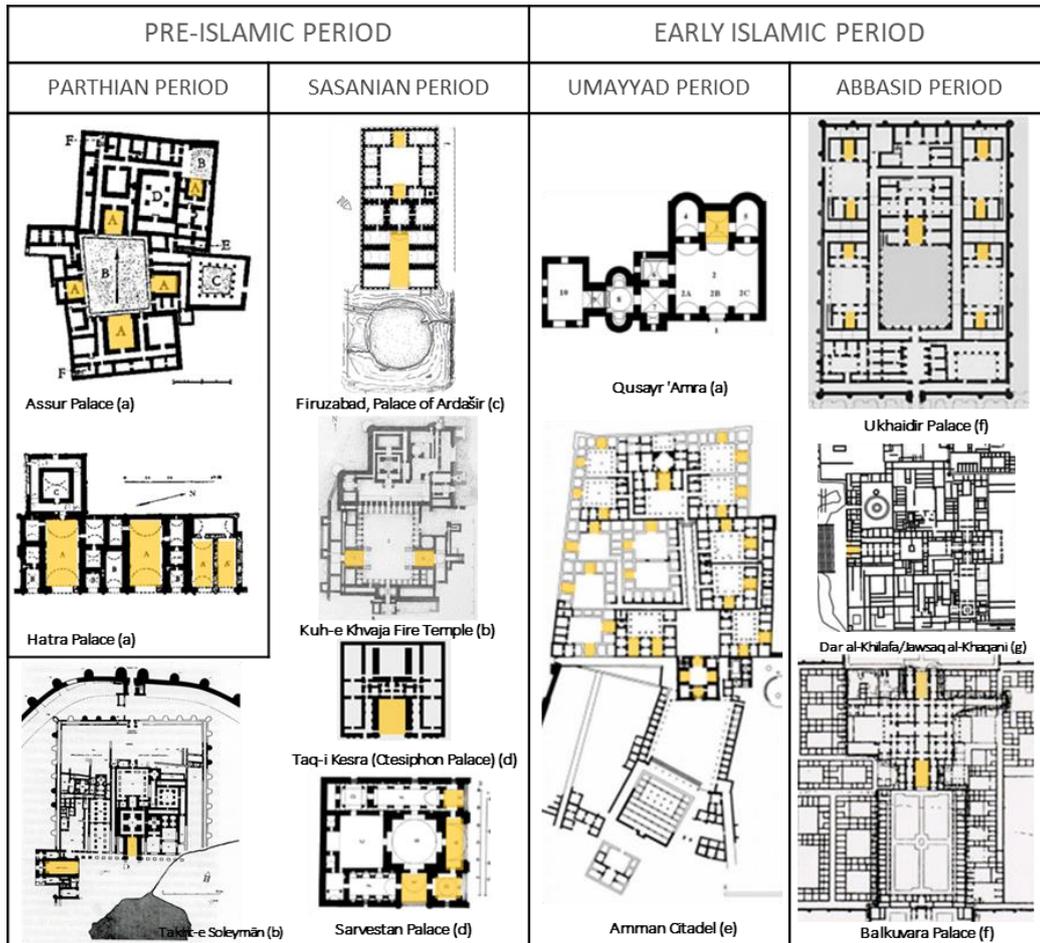


Figure 1. The use of iwan in Pre-Islamic Iranian and Early Islamic architecture
(a.[1], b.[44], c.[49], d.[2], e.[50], f. 47], g. [51])

2.3. Semantic and Spatial Role of Iwan in Architectural Organization

In the Near East and Central Asia, the iwan was seen as one of the planning principles in the architectural design process. The main purpose of using the iwan, which has an important role in spatial organization, is to define the axes within the building. These axes appear in architectural planning as entrance or four-direction axes. The iwan(s), which represent the beginning and end of the axes, can be elements that express the boundaries within the spatial organization. When it is looked at the views that question the reasons for the use of the iwan and define its purpose as a spatial organization principle, it is seen that the iwan serves various design configurations.

According to Grabar, the practical characteristics of the iwan are difficult to define, and a single iwan has the advantage of creating a single large space [23]. In a great building with several iwans, however, it is a way of dividing large spaces into smaller parts, each of which creates a separate focal point. Hillenbrand notes that in Great Seljuk architecture, iwan (the four-iwan configuration) played a prescriptive role in spatial organization and plans [52]. According to Golombek and Wilber, iwans serve as interior-exterior

spaces, providing protection from the sun and establishing a relationship with the open air [53]. As design elements, they are extremely important in terms of creating architectural accents. Located around a courtyard, they determine its axes. Placed in the center of a facade, they define the entrance. According to Çaycı, the iwan constitutes the focal point of architecture and defines the axis of symmetry if it is placed in the center [54]. In architecture, this axis is more than a tangible element, it constitutes the aesthetic system that provides order in the architect's shaping of the building and is an emotional bond established between the person and the building [55]. While this order is achieved by drawing the eye to a certain point or by deepening the spaces, the building axes can be determined by the iwan or emphasized by architectural components such as the portal and mihrab. At this point, the iwan indicates the axes of the building by being located in the middle of the edges of a central space. In addition to this plan design with four-iwan, there are also examples with three-iwan. In these examples with three iwan and a double axis, the fourth iwan is completed by the eye.

In addition to the interpretations that draw attention to the space-forming and functional aspects of the iwan, some opinions define its role in terms of semantic and symbolic dimensions. Researchers have pointed out that in the four-iwan scheme with a central courtyard, the image of the cosmos is formed by emphasizing the four main directions by the iwans [10], [56]. This cosmos image is associated with the "mandala" symbol from Buddhism and Hinduism and is reflected in the architecture. At this point, the scheme, which is thought to constitute the origin of the four-iwan scheme that is dispersed from a single center and emphasizes the four directions, emerges as an ancient Asian tradition. According to ancient Turk and Chinese beliefs, the earth was a plain with four or eight corners and the sky was a dome covering them [57]. In the Uighur and Gokturk notion of the cosmos, the dome of the sky, similar to the dome of a tent, contained the breathing atmosphere called *kalık*. According to this belief, Tengri was positioned outside the firmament and was called *kök-kalık*. The region outside the tent where he was located was considered the macro-cosmos, while the inside was considered the micro-cosmos [58]. As an abstract axis passing through the center in this microcosmos, the 'Axis Mundi' defines the vertical axis of the earth. It is assumed that this cosmic axis passes through the three layers of heaven, earth, and the underworld seen in the Shamanist system [59], [60]. This idea was reflected in Central Asian architecture as square and rectangular plan schemes emphasizing the four directions representing microcosmos; it manifested itself on the scale of the city, *vihara* and building. This view of the universe and tent symbolism of the nomadic tribes of Central Asia shapes the foundations of the cosmology that would progress throughout the Middle Ages and be enriched in the Islamic period [58]. This depiction of the cosmos and the mandala symbol would continue until the Selimiye Mosque, the masterpiece of classical Ottoman architecture, where the *Arsh* concept [61].

The concept of *Tawhid* gave rise to a monocentric approach in Islam. Based on this approach, the organization of central space in Islamic art has enabled the development of a single-centred composition in architectural design. In post-Islamic Turkish architecture, the tradition of central space as a concrete expression of this conception has manifested itself in the central scheme with a domed (closed courtyard) or open courtyard [62]. In addition to the other spaces that develop around the central space, there are secondary space elements that emphasize the direction and strengthen the centrality on the x, y and z axes of this central point. While the iwans represent the entrance and the end on the X and Y axes, on the vertical axis, which we will define as the Z axis, elements such as the pool-pavilion-masjid-*mahfil* on the ground plane in the center of the courtyard and the sky-lighthouse-lighthouse-light on the top constitute the axis mundi. The iwans gain meaning by establishing a relationship with the pool in the central courtyard. The sacred four directions here emphasize the four rivers in heaven [10].

The image of the prophet's pool in Islamic depictions of paradise and the sanctity of water in pre-Islamic Asian and Iranian cultures are reflected in architecture as the use of the water element [59]. Therefore, the use of the water element in worship buildings and palaces is frequently encountered in Islamic geography. The use of water in palaces was considered a symbol of the prestige of the ruler [59]. This symbol is read strongly in pre-Islamic Iranian architecture. The iwans of the Takht-e Soleymān, a Zoroastrian temple complex where iwans positioned according to the angles of the sun opened to a pond, witnessed the coronation ceremonies of Sassanid rulers [59]. At this point, the iwan turned into a place of representation of the power of the ruler. As mentioned above, the iwan, an important element of the pre-

Islamic Iranian palace tradition, was associated with the throne and found its place in the post-Islamic period. The fact that the owner of the throne was regarded as the representative shadow of God on earth sanctified the throne space. Thus, the *fawqani* (raised ground) iwan, which is associated with the threshold and throne objects, appears as the expression of the hierarchy between the subjects and the sultan [54]. The iwan, which is associated with the transition as well as the threshold, is interpreted as the space of movement of the soul between the courtyard representing the soul and the room representing the body [63]. There are also opinions that define the transitional space as a gate [9], [35]. Akin, while stating that the iwans carved into the rock was a pioneer, associated the iwan with the 'cave image' and interpreted it as a 'gate of abundance' opening to the underworld [35]. Peker, on the other hand, looked for the symbolism of the Sassanid-era caved temple "rock-iwan" in Mithraism and defined it as "the gate of heaven and earth" in connection with the "cosmic mountain" (Mount Kaf in the Middle Ages) [9], [64].

The symbolic use of the iwan is also found in literary texts. In Divan literature, the iwan was often used in conjunction with the arcade (*riwaq*) and the arch and was often included as an element of a phrase in poetry. Poets have mentioned phrases such as *Taq-ı Eyvan* (arch of iwan), *Eyvan-ı keyvan* (iwan of star), *Eyvan-ı aşk* (iwan of love), *vücut eyvanı* (iwan of the body) [65]. At this point, the iwan is associated with heaven, the world, the body and love. At the same time, in the *qasida* praising the sultans, the iwan is associated with the reflection of the four directions in the world in architecture and appears as a symbol of world domination or the earth [65]. Paskaleva, who associates the four-iwan tradition with sovereignty and dynastic power, stated that this representation could also be a depiction of paradise. Based on the unity of power and sanctity and the cosmic and sacred references of the four directions, she stated that the four orthogonal iwans represent a divine order [10]. She pointed out that the central organization emphasizing the four directions highlights the image of heaven as an idealized earth.

3. SPATIAL ANALYSIS OF THE IWAN BUILDING TRADITION FROM CENTRAL ASIA TO ANATOLIA

3.1. Utilization of the Iwan in the Central Asia and Iran

In pre-Islamic Central Asian architecture, the elements that prepared four-iwan and the use of the iwan-like can be mentioned. The cross-axial central plans could be in the background of the monumental four-iwan. In the Kultigin funerary complex from the Gokturk period, there was a court layout emphasizing four directions. In the Murtuk A Shrine, one of the Uyghur temples, the axes continuing from four entrances converged in the sacred room located in the center of the nested courtyards. One of the earliest examples of the four cross-axial designs is located in Afghanistan at the Ai-Khanoum settlement. The gymnasium there (2nd century BC, Greco-Bactrian Kingdom) is a synthesis of Eastern and Western architecture with its exedras located on the four cross axes of a square courtyard. The Babish Mulla 2 mausoleum (4th-2nd century BC) is the oldest known example in Central Asia where the cross-axial plan with iwan-like vaults was used in the four-iwan tradition [59], [66]. During the Gokturk period, the scheme with the iwan courtyard can be seen in the Varakhsha palace (7th-8th century) and Gavur Kala (8th-7th century) [66]. The first Buddhist temple in Akbeshim consists of an east-west oriented courtyard and arcades around it. After entering the building through a portal, which can now be called the entrance iwan, the small domed space and then the courtyard is reached, and the continuation of the axis ends with the sacred room. During the Uighur period, the transition to settled life increased and the beliefs of Buddhism and Manichaeism led to the construction of monumental temples. The Adzina Tepe Buddhist vihara in Tajikistan, dating to the 7th-8th centuries, has an important place among pre-Islamic examples. The square building with two courtyards has four vaulted iwan-like passages extending from the centers of the courtyards (Figure 2). Because of this building, researchers believe that it may be the prototype of the four-iwan court seen in the 11th century [9], [59], [67].

It is known that the use of the iwan in monumental buildings in post-Islamic Turkish architecture can be traced back to the dwellings in Khorasan [6]. The dwellings unearthed during excavations in Merv and Termez have a square, cruciform plan with a central dome and four iwans. A house in Bamiyan, Afghanistan, dated to the 6th century AH has a central courtyard and four-iwan plan [6]. The buildings where we can see the iwan during the Qarakhanid period are residences in Termez, Termez Palace,

madrasa, bath, prayer halls and caravanserais while the archaeological excavations increase the number of examples. The remains of an important madrasa were found near Samarkand during excavations in the 1970s [68]. It is estimated that the madrasa built by Tamgach Bugra Khan in 1066 had a courtyard with four-iwan. In this case, the first example of the four-iwan madrasas appears in Qarakhanid architecture. For the first-period madrasa, Esin argued that the complex model should be sought in the Buddhist viharas [69].

Belonging the Qarakhanid period, mosques are seen in different typologies. Among these mosques, Nisa and Termez mosques are the ones that developed in the three-sectioned iwan typology. Nisa Namazgah mosque of the central space is organized as an iwan [70]. Caravanserais are the most prominent examples of the iwan and four cross-axial schemes that survived to the present day during the Qarakhanid period. Qarakhanid caravanserais are square-planned (except Akcakala and Başane Caravanserais), single courtyard (except Akcakala Caravanserai), four-iwan, symmetrical, corner tower structures. Manakeldi, Dehistan, Day Khatun, El Asker and Ode Merguen Caravanserais show similar plan features. The Ribat-i Melik shows a difference from the caravanserais of its period. Ribat-ı Melik has a square plan, four iwans and a central dome. Başane Kurtlu Tepe Caravanserai is another building that differs from this period. With its four-iwan courtyard at the front and a covered area at the back, it appears to be seen in the Anatolian Seljuks as a predecessor of the closed and open courtyard type. The Fortress of Kirk Kiz in Termez also has a square plan with a central dome and four-iwan in a cruciform plan. The bath in Otrar of the period has a central plan with a cruciform iwan. Termez Palace has a quadrangular courtyard and the iwan opposite the entrance is the ruler's throne reception hall [66]. The throne hall with an iwan opening to the courtyard in the Termez palace is significant as a continuation of the Iranian and Central Asian palace traditions.

During the Ghaznavid period, in the 10th and 12th centuries the palace was built in Lashkeri Bazar is an important example of the iwan usage. The Lashkeri Bazar Palace is a complex with a rectangular four-iwan courtyard. The palace opens to the river with a throne iwan in the north. The scale of this throne iwan in the north is larger than the four iwans in the courtyard [59]. After reaching a central domed space with a cruciform plan from the iwan on the façade, is entered the main courtyard. The harem apartments hidden from the main courtyard are placed in the corners and have small courtyards with four-iwan. Another example is the eponymous palace built during the reign of Masud III. The palace has a four-iwan courtyard and the southern iwan in front of the domed throne room. The only surviving example of the caravanserais built by the Ghaznavids is Ribat-i Mahi. It resembles Qarakhanid caravanserais with its square plan and four-iwan courtyards.

It is seen that the iwan, which continued to be used in the Great Seljuks, was tried in a new plan scheme in this period. The four-iwan courtyard mosques, which were the buildings of Seljuk city, created a new typology by the addition of a dome in front of the qibla to the south iwan. Although the four-iwan mosque type was not transferred to Anatolia after the Great Seljuks, it was used in Iran and Turkestan for many years. The first example of the four-iwan mosque type is the Jāme' Mosque of Zavara dated 1135. After the Zavara mosque, the older Ardistan and Isfahan Masjid-i Jumaas were also converted into four-iwan mosques [68]. Although the existence of madrasas in the Qarakhanid and Ghaznavid periods is known, the systematic construction of these madrasas with an institutional idea date back to the Great Seljuk period. Even though the Nizamiyya Madrasas built by the vizier Nizamulmulk have not survived to the present day, Godard unearthed the plan of the Nizamiyya of Hargird [6]. The four-iwan courtyard and cruciform plan confirm that the tradition of four-iwan courtyards was also used in Seljuk madrasas. The second four-iwan madrasa Godard uncovered in Rey has equal north-south iwans and is smaller in scale than those to the east and west. Godard, as a result of excavations in Central Asia, expressed the view that these madrasas developed from the four-iwan houses in Khorasan [6].

The mudbrick dwellings in the Seljuk city of Merv are cruciform, iwanned, central domed structures. The Seljuk Palace, dating to the 11th and 12th centuries, is also in the tradition of local residential architecture. This recurring scheme is a slightly enlarged version of the residential scale. It is seen that the Seljuks continued the tradition of baths. In a Seljuk bath in Nigar, the four-iwan caldarium (*sıcaklık*) scheme seen in the Qarakhanids is found in the frigidarium (*soğukluk*). In the caldarium, there is an iwan

opening to the domed space. The Great Seljuks adopted the Qarakhanid and Ghaznavid caravanserai tradition. Ribat-i Anushirvan and Ribat-i Zafarani have a square plan with a courtyard and four-iwan. Ribat-i Sharif, on the other hand, has a plan consisting of four-iwan courtyards, one rectangular and the other square. The iwans on either side of the main entrance iwan, which opens to the courtyard overhanging the facade, can be considered an extension of the triple iwan tradition seen in Ancient Iran and Mesopotamia.

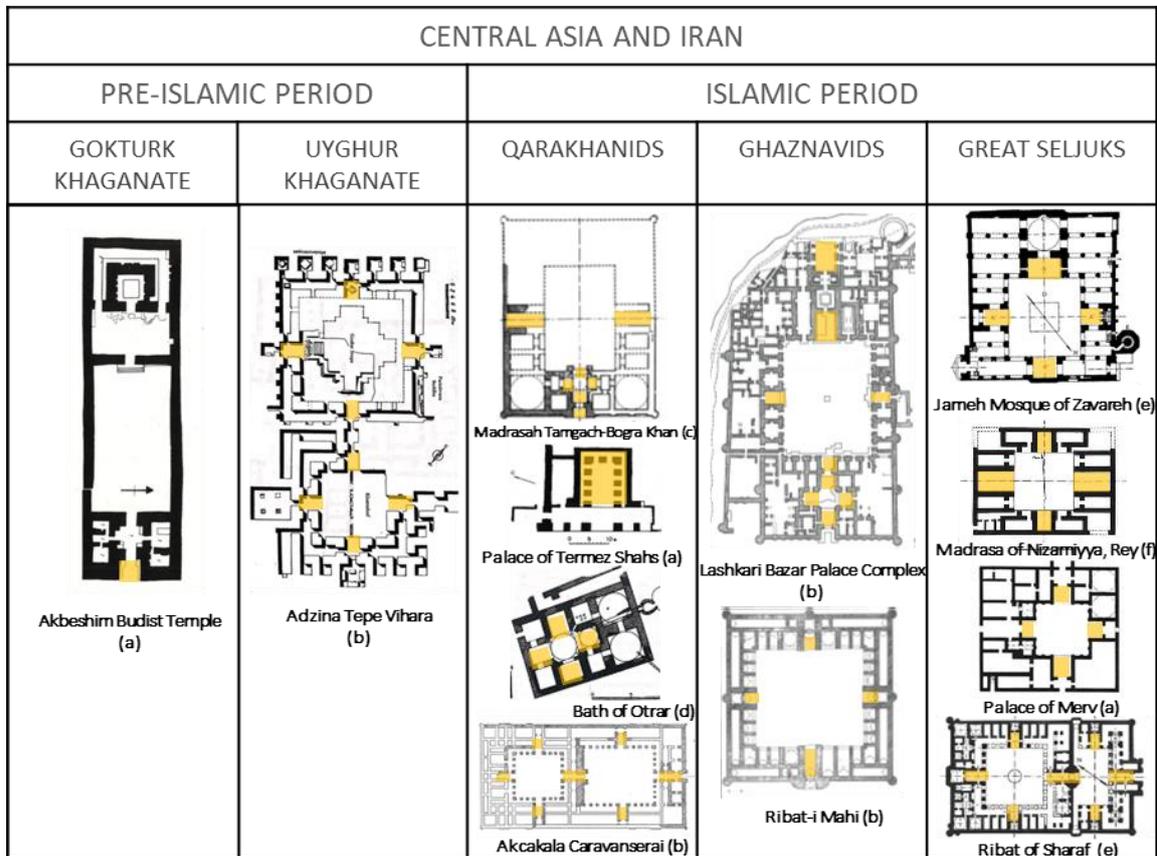


Figure 2. The use of iwan in the Central Asia-Iran regions under Turkish Khaganates
(a. [71], b. [59], c. [69], d. [66], e.[1], f. [6])

The Anatolian Seljuks carried the Great Seljuk-Iranian tradition to Anatolia and were also influenced by the local cultures of Anatolia. In this setting, it is seen that Seljuk architecture is in constant trials and innovations [72]. In addition, the iwan was used in different variations, numbers and functions in this period. The use of the iwan in Anatolian Seljuk buildings can be seen in mosques, madrasas, tombs, khanqahs, caravanserais, palaces and baths. The iwaned courtyard design, which originated from the Great Seljuk architecture, continued in Anatolia, but it also brought innovations. If these innovations can be explained through the iwan, the iwan was tried in madrasas not only in the courtyard but also in a covered area opening to the central dome. The planning with four-iwan was no longer an indispensable element for madrasas and was used in different numbers. Various typology trials were made about madrasas according to the open-covered courtyard, the number of iwan, the usage of the arcade and the number of floors. It has been noted that the iwan was a determining element in the planning of the typology of medieval Anatolian madrasas. In his study on Anatolian madrasas, Sözen classified madrasas as open and closed, according to the number of storeys, and then according to the number of iwan [73]. He made a similar classification in Kuran and analyzed the typology that shapes the madrasas in two groups: cross-axial and uniaxial [55]. He suggested typologies based on the axis-iwan relationship, taking the iwan, which the common element of the madrasas.

The tradition of the Great Seljuk Mosque with the iwan courtyard and dome in front of the mihrab continued in Anatolia, interpreted according to geographical conditions. In the Great Mosque of Siirt, a

deeply oriented entrance iwan opens to the dome in front of the mihrab (*maqsura*), while in the Great Mosque of Malatya, the iwan and the *maqsura* are reached from the inner courtyard in the center. In contrast to the type with four-iwan, the courtyard is narrowed to the width of the iwan in front of the mihrab and has reached a symbolic role (Figure 3). As an interpretation of this tradition in colder climates, in examples such as Erzurum Ulu, Kayseri Ulu, Kayseri Kölük, Kayseri Hunad Hatun, Divriği Ulu and Niğde Alâeddin Mosques, the covered skylight in the center stage has turned into a symbolic courtyard [74]. Here, the transitional space between the dome in front of the mihrab and the light well, usually covered with a vault, and open side surfaces, supported by four or six pillars, also represent a symbolic iwan.

Enclosed courtyard madrasas are an Anatolian building type consisting of units around a central dome. According to Kuran, domed madrasas are not a type of building developed after courtyard madrasas but originate from the domed houses of Central Asia [55]. In this type, which is an Anatolian version, the central dome is supported on piers or walls. In this typological variation, the iwans appear in different arrangements, predominantly double and quadruple, occasionally single or triple. The first madrasas established in Anatolia, built by the Danishmentids, the Yağıbasan Madrasas in Tokat and Niksar, have a central dome that covers the courtyard. Tokat Yağıbasan Madrasa has three iwans opening to the dome, while the one in Niksar has two non-opposite iwans. In these early examples, the iwans are not symmetrically positioned from the center of the dome. Isparta Atabey Ertokuş Madrasa belongs to the two-iwan group and its dome covering the courtyard is carried by four piers. The roof lantern and the pool are located in the center of the main axis. There is a mihrab niche on the south wall of the main iwan which is connected to an octagonal tomb. This formation is similar to the iwan tomb combination in Erzurum Çifte Minareli Madrasa. Konya Karatay and Ince Minareli Madrasa have a single main iwan opening to the central dome. Although the Karatay Madrasa has an entrance on the opposite side of the main iwan, they are not located on the same axis. In the Ince Minareli Madrasa, the entrance and the main iwan are located on the same axis, and the entrance iwan is replaced by a small domed room. The Taş Madrasa in Afyon Çay, which has a similar plan, has two iwan, the entrance and the main iwan. Kırşehir Cacabey Madrasa has a plan with a domed courtyard and four-iwan. From the portal on the north façade, there is access to the entrance iwan and after the covered courtyard. The main iwan in the south of the madrasa functions as a maşjid and contains a mihrab niche. In the northeast wing, there is the east iwan connecting the tomb. Except for the entrance iwan, the other three iwans approached the same span as the dome. Erzurum Yakutiye Madrasa, built during the Ilkhanid period, has four-iwan. The court has a dome with muqarnas carried by four pillars. There is a tomb with a dodecagonal plan attached to the main iwan in the east.

Madrasas in the open courtyard typology are shaped with spaces arranged around the courtyard. The portal is located opposite the main iwan, and there are usually domed rooms on both sides of the main iwan. Typically, one of these rooms is used as a tomb while the other serves as a classroom. The Sırçalı Madrasa in Konya, Tokat Gök Madrasa, Sivas Buruciye Madrasa and Keykavus Darusshifa, Çifte, Hunad and Sahibiye Madrasas in Kayseri, Diyarbakır Zinciriye and Mesudiye Madrasas are of this type. In Kayseri Çifte Madrasa, the madrasa and darusshifa were built side by side. Both buildings have a plan with four-iwan and an open courtyard. In the Kayseri Çifte madrasa, Gevher Nesibe Sultan's tomb is located adjacent to the side iwan. As for that in the Sivas Keykavus Darusshifa, the side iwan leads to the tomb of Keykavus. Among the madrasas with courtyards, Kayseri Sahibiye, Akşehir Taş, Sivas Gök, Erzurum Çifte and Buruciye Madrasas have four-iwan, Kayseri Hunad Hatun, Tokat Gök, Sinop Pervane and Konya Sırçalı Madrasas and Amasya Darusshifa have two-iwan. All these buildings were designed according to the principle of symmetrical planning. Erzurum Çifte Minareli Madrasa is the most monumental example of the two-story, four-iwan courtyard madrasa type. There is a tomb adjacent to the main iwan of monumental scale and depth in the south on the entrance axis.

While the Seljuks built tombs and gonbads with iwan-shaped entrances outside Anatolia, when they came to Anatolia, they created a separate typology with "iwan tombs" that were completely unique to Anatolia [11]. Tombs, which give the appearance of a high gate, have a vaulted funerary chamber (crypt) underneath and an iwan above, accessed by stairs. Samples of this type are found mainly in Afyon, Konya, Kastamonu, Amasya and Kayseri [16], [75], [76]. Iwan tombs known to have this typology in the

capital of Konya are Gömeç Hatun, Akşehir Emir Yavtaş, Bedrettin Gevhertaş, Cemel Ali Dede, Şeker Furuş, and Eflaki Tombs [17] [77]. In addition to the iwan-type tombs, the tombs consisting of a combination of a gonbad and an iwan, which in some cases also open to a closed area, can be evaluated in a separate group. Examples of these tombs are Konya Şeyh Osman Rumi, Ahlat Emir Ali, Çine Ahi Bayram, Konya Sahip Ata and Mevlâna Celaleddin Rumi mausoleums.

The other building group in Anatolian Seljuk Architecture in which the iwan is used is the khanqahs which are generally buildings with a central dome and iwan. These iwans were raised from the floor of the central courtyard as in madrasas. The reason why they are higher than the central space is due to functional concerns. The raised iwans are the *mahfils* (gathering places) reserved for the audience, while the central space is the *sama'khana*, where the ritual/ceremony/worship is performed [21]. The first typology we will discuss is the plan type with a central dome with an oculus, opening to the central space, a single iwan in the south and dervish rooms arranged around the central space. This type was applied in Şeyh Meknun, Ebu'ş Şems, Hoca Sümbül Baba and Halef Gazi Khanqahs in Tokat (Parlak, 2005). The second typology where the tomb of the founder sheikh is located is seen in Konya Sahip Ata Hankâh. The northern iwan, one of the three iwans openings to the central domed space, is located behind the tomb and the mosque. Aksaray Melik Mahmud Gazi Khanqah has two iwans, one larger than the other, opening to the domed central space. In the Khanqah of Afyon Boyalıköy are two iwans with the same spanning as the dome of central space on the north and south side. The different arrangement in the building is that one more iwan was placed on either side of the south iwan where the *mihrab* is located, giving the building a T-plan appearance. In this way, a large masjid was obtained with the triple iwan space in the south.

The use of iwan is seen in Anatolian Seljuk kiosks and palaces. In the 12th and 13th centuries, it is known from written sources that Seljuk palaces and pavilions were located in many cities. These palaces and pavilions, which have survived to the present day in very limited numbers, were built alone in inner fortresses or on open land. Buildings consist of a central space around which other units are arranged and an iwan [11], [78]. In Seljuk mansions, besides the iwan-like vaulted spaces opening to a central space similar to a sofa, there are also iwans opening to the outside [79]. Kılıç Arslan II Kiosk in Konya is an observation pavilion with a single iwan, walls with pointed arched openings and served as a balcony located on the inner castle. The palace in the inner castle of Alanya consists of a throne iwan and two adjacent rooms to the south of a courtyard [78]. Great and small palaces in the Beyşehir Kubadabad Palace complex have a throne iwan. The great palace in the west of the complex has a quadrangular and asymmetrical plan. This part consists of a large courtyard (ceremonial hall) paved with stone in the centre, an iwan (throne hall) opening to it and other units around it. Diyarbakır Artuqid Palace has a cruciform plan with a four-iwan courtyard. What makes the building distinctive is the *salsabil* (fountain) on the southern iwan and the small water stream connecting it to the pool.

One of the other buildings constructed by the Anatolian Seljuks in which the iwan is seen is the baths. The tradition of the four-direction plan scheme, the first examples of which were seen in the Karakhanid and Great Seljuk periods, continued in Anatolia. The most common plan scheme consists of iwans in four directions opening to the *caldarium* (*sıcaklık*) and *halvet* cells (special bathroom) in the corners. In this period, the cruciform plan type of baths was sometimes built as single baths, as in the Divriği Bekir Çavuş Bath, and sometimes as double baths, as in the Hunad Hatun and Sahip Ata Baths. Apart from the cruciform type, there are also baths with different numbers of iwans.

The Anatolian Seljuks adopted the caravanserai they borrowed from the Qarakhanids, Ghaznavids and Great Seljuks and used them in different typologies. However, except Emdir Han, the four-iwan central courtyard type is no longer seen in the buildings of this period. The use of the iwan as a functional semi-open space rather than a monumental building element is more prominent. Emdir Han, which has a central courtyard with four-iwan schemes, is the only building in Anatolia that is a similar example of Central Asian caravanserais. Apart from the Emdir Han, the iwan is found under the masjid in Altun Apa Han, instead of arcades on both sides of the courtyard in Kızılören Han, between the rooms lined up in the courtyard in Alara Han, two on opposite sides of the courtyard in Ertokuş Han, and as an entrance in such

as Karatay, Zazadin and Obruk. In Afşin Eshab-ı Khef Han, the iwans are located on both sides of the rooms lined up in the courtyard as well as in four directions.

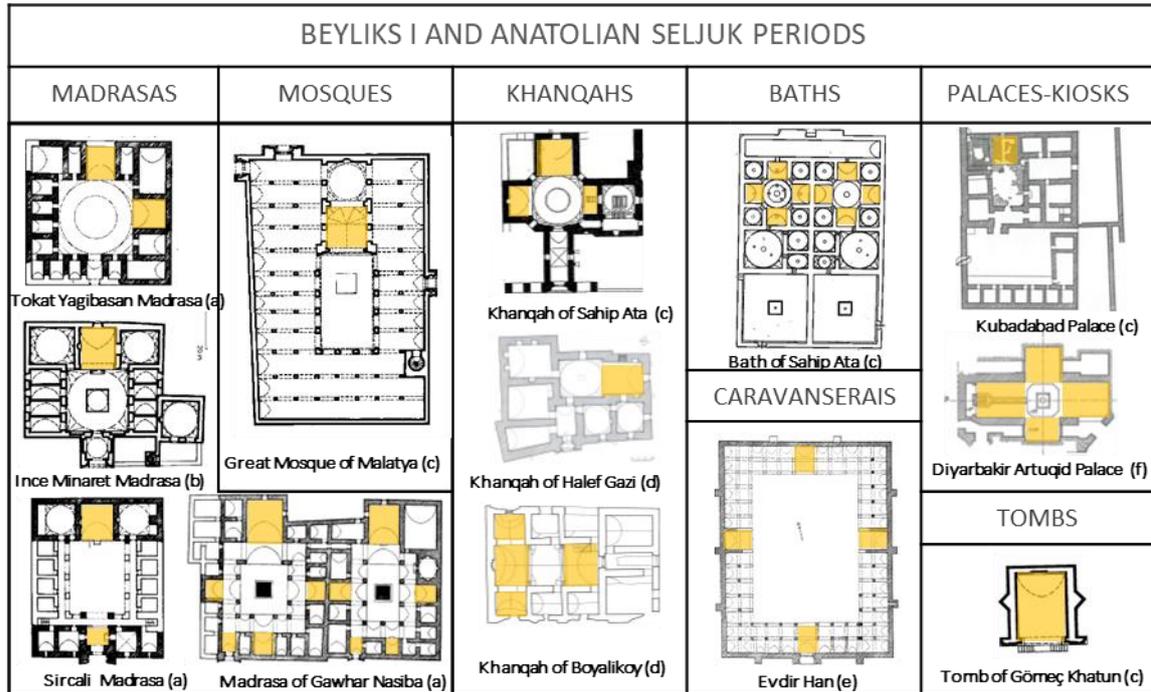


Figure 3. The use of iwan in Anatolian Seljuk architecture
(a. [55], b. [73], c. [72], d. [21], e. [80], f. [68])

Although the use of the iwan is seen in the architecture of the Beyliks and Ottoman period, we cannot say that it has as diverse and intensive usage as in Anatolian Seljuk architecture. This multifunctional building type, which is defined as mosques with *zawiya* (*imaret*, *futuwwa* buildings, multifunctional mosques, inverted T-plan mosques, *tabhane* mosques) seen in Beyliks and Early Ottoman architecture, is a new version using the iwan. (Figure 4). The most important building type in the first period of Ottoman architecture, between the reigns of Orhan Bey and Murad II, the sultan imaret with *zawiya* function shows the existence of a relationship between the sultans and the people of the *tariqa* [81]. As the madrasa structuring gained power in the Ottoman Empire, *tariqa* facilities started to lose importance from the 16th century onwards [82]. Therefore, examples of imaret-*zawiyas*, also defined as mosques with an inverted T-plan, are not seen after this century. When analyzed, it is seen that these buildings respond to two types of functions. The first is a meeting or ceremony, and the second is a private use. Bursa Murad Hüdavendigâr Imaret, which has no other example in the history of Ottoman architecture, has a plan analyzed as a *zawiya* and a *masjid* on the lower floor and a madrasa on the upper floor. The structure consists of a main and two side iwans and a central dome. The iwans are covered with vaults and can be considered as an early example. Nilüfer Hatun Imaret is a continuation of the iwan-domed central space layout of the Anatolian Seljuk *zawiyas*. While the central space has a single iwan, the side iwans were replaced by domed rooms. In the main iwan, the vault cover was replaced by two small domes with ornaments. According to Kuban, the use of domes in this building points to a fashion of an era in which the vault cover, which gradually lost its importance in the Ottoman era, and the dome, which would replace it, gained a symbolic role [81]. Unlike the Milas Firuz Bey Imaret-*Zawiya*, the main iwan, covered with a dome, has a larger area than the central space. While the main iwan is the prayer area, there are domed *tabhanes* (hospice for travellers) on both sides of the central hall. In the Bursa Yeşil Imaret, the dome's spans of the central space and the main iwan, the place of worship, are almost identical. There is a pool in the heart of the central domed space and smaller-sized domed iwans on either side. Another example similar to the Bursa Yeşil Mosque is the Bursa Yıldırım Imaret. Edirne Beylerbeyi and Tire Yeşil Imaret are unique examples where the plan scheme consisting of a domed central space and an iwan opening to it is used and the corners of the main iwan with mihrab are beveled.

There are a considerable number of examples of lodges and zawiya belonging to different tariqas in this period, the central domed iwan scheme is a widely used type. Manisa İshak Paşa Mawlawikhana, one of the sect buildings of the Beylik period, has a plan scheme of four-iwan with a covered court. The central space serves as a *sama'khana* with a domed upper cover. The southern iwan serves as a prayer hall and is larger than the other iwans. Çorum Elvan Çelebi Zawiya dates to the middle of the 14th century and draws attention to its plan scheme. The building has three adjoining sections consisting of a mosque, tomb and zawiya. The tomb has a central domed four-iwan and a cruciform plan scheme. Although the covered courtyard of the zawiya opens to three iwan, the fourth iwan was replaced by the mosque. In 1412 dated the *Halveti* sect building, Amasya Yakup Pasha Tekke, the central space-iwan relationship is constructed differently. The first entrance to the building, the passageway, divides the building into two groups and breaks the central space-iwan relation. Unlike in this building, the iwan is not the masjid opening to the central space, but the space facing the masjid and serves as a *tawhid'khana*.

During the Beyliks period, madrasas continued the scheme developed by the Anatolian Seljuks. In early Ottoman architecture, madrasas have changed and the iwan has been transformed into a domed space. In madrasas, which were generally built with courtyards, the spatial setup was completed with the cells arranged around the arcaded courtyard and the iwan at the end of the entrance axis. The mihrab iwan, which protruded in mosques during this period, was repeated in madrasas, and the main iwan and the side iwans, if any, protruded from the building mass. Yıldırım Madrasa is the first example of covering the iwan with a dome in the madrasas of Bursa [81]. Muradiye Madrasa has a transverse plan with an open courtyard and the domed iwan is the dominant element of the building. Çelebi Sultan Mehmed Madrasa in Merzifon is a square-plan building with domed spaces in four directions overhanging the mass, arcaded and an open courtyard with a central pool. In the building where the four-iwan scheme was reinterpreted with a domed iwan, the entrance iwan disappeared and turned into a domed room. Gümüş Hacı Halil Pasha Madrasa, the only covered madrasa in its original form in Ottoman architecture, is a new interpretation of the four-iwan scheme. It was formed by two iwan on the entrance axis and the domed rooms on the axis perpendicular to them replacing the iwan. In the 15th century, during the transitional process between the early and classical periods, the iwan and domed room were planned in pairs, as in the samples of Edirne Peykler and Afyon Gedik Ahmet Pasha madrasas. During the classical period, we observe that the iwan was replaced by an enclosed classroom overhanging from the building and this hall started to be located opposite the entrance. In the Rüstem Pasha Madrasa in Istanbul, which has a different plan type, there is an iwan at the entrance to the octagonal court. In the plan, which is a combination of an octagonal courtyard and a square form, the iwan has shown itself in a different use by opening to the spaces in the four corners. When we look at the examples of healing centers (*darusshifa*) in the Classical Period, there are iwans at the two corners of the octagonal courtyard in the *darusshifa* in the Haseki Complex. Three sides of the domed iwans are supported by half domes and open to the rooms. In the courtyard of the Manisa Hafsa Sultan Complex, two iwans are not located opposite each other. The iwans are located in the middle of two rooms, but they do not open to the rooms. The *darusshifa* in the complex built by Bayezid II in Edirne has three sections, and the first courtyard leads to the second courtyard with an iwan. The second section has two iwans and the fact that there are benches inside the iwans shows that they were designed for sitting in appropriate seasons [83]. The third part of the building is hexagonal in plan and has six iwans. While the entrance iwan connects with the second section, the opposite iwan forms a circular projection from the building. There are opinions that the iwan here served as a place for therapeutic music or was reserved for prayer. We see that some of the Sıbyan schools, another educational institution in the Ottomans, consisted of a domed room and an iwan, as in the examples of Bursa Sitti Hatun, Üsküdar Mihrimah Sultan, Kara Ahmet Pasha. These iwan-shaped semi-open spaces were used as classrooms and recess areas in summer [84], [85].

While the Ottomans maintained the basic scheme of the Seljuk period in their bath facilities, they also used the old Roman baths by repairing them and also developed new plan types [81], [86]. The main typology of the Ottoman baths is determined by the *sıcaklık* (caldarium) space. Consisting of *halvet* cells arranged around the central marble table (*göbektası*), it was mostly designed in a cruciform or radial arrangement. In between the *halvet* cells are iwans with a drying basin. One of the first baths built by the Ottomans in Bursa, Orhan Gazi Bath, which was constructed as a double bath, has four-iwan and four-corner *halvet* cells in the men's section. Mahkeme Hammam in Bursa is an example of two non-opposite

iwān caldarium units. The Edirne Tahtakale Bath is also in the double bath typology and the women's section consists of a *sıcaklık* with two iwāns and three *halvets*. The men's section, on the other hand, has tepidarium (*ılıklık*) with an iwān and the caldarium unit with four iwāns and four *halvets*. In the 15th century Mahmud Pasha Hammam, there are two iwāns and two *halvet* cells in the tepidarium, while the caldarium is a unit with four *halvets*, two large side iwāns, and five small iwāns spread around the circular center. The Haseki, Süleymaniye and Edirnekapı Mihrimah Sultan baths built by Mimar Sinan are also in the classical scheme with four-iwān and corner halvets. One of the innovations Sinan brought to the architecture of the baths is that in order to obtain a large space in the caldarium section, he experimented with different forms of iwāns and used wider and deeper iwāns [87]. For example, in Kılıç Ali Pasha Hammam, a hexagonal plan consisting of two deep iwāns and four iwāns on the sides can be seen in the radially organized caldarium. Dating to the 18th century, the Çağaloğlu Hammam is a late-period building with four-iwān schemes.

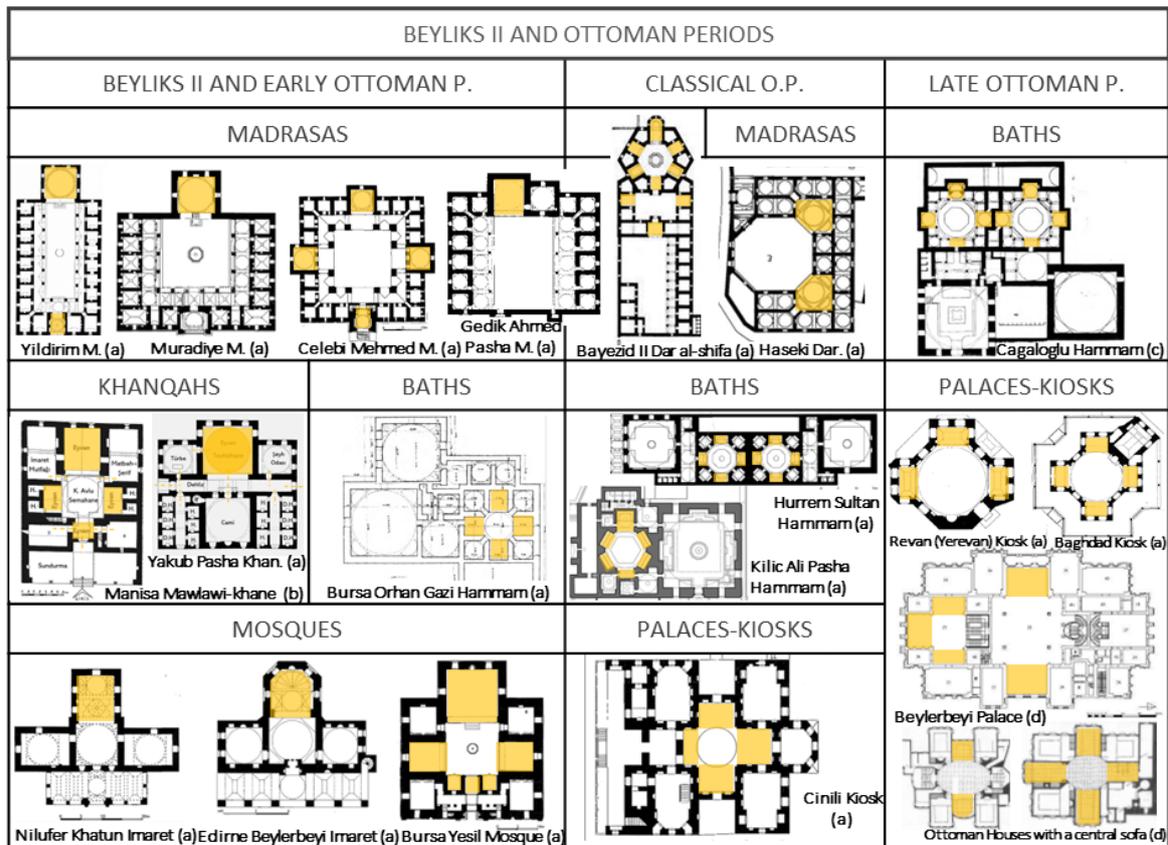


Figure 4. The use of iwān in Ottoman architecture (a. [81], b. [88], c. [89], d. [90])

In Ottoman civil architecture, the iwān was used as single, double and quadruple in houses with outer sofas, between the rooms and in houses with central sofas, opening to the sofas. In cases where the iwān was used in triple, the space opposite was positioned by the quadruple arrangement to meet the iwān. Dating to the 15th century, the Çinili Kiosk is an essential building that proves the presence of Eastern influences and is a practice of the Iranian and Central Asian architectural style imported to Istanbul [81]. In the kiosk, which was planned as a center hall with four-iwān, the iwān opposite the entrance protrudes from the building and serves as a pavilion. According to Goodwin, the Çinili Köşk is an early example of a type of four-iwān house with a central sofa [91]. However, it has been pointed out that the periodic gap between the Çinili Köşk and the central sofa type was filled by *divanhane*s [59], [92]. In the *divanhane*s, which are located on the symmetry axes of the central space and are usually organized with three iwāns, the iwāns overhanging from the building and are called *şahnişin* [13], [59]. Among this group of buildings, the Revan and Baghdad Pavilions in Topkapı Palace, built in the 17th century, consist of iwāns arranged around a central hall. In the Revan Pavilion, cedar iwāns are on three sides of the octagonal central hall. In the Baghdad Kiosk, the axes leading in four directions from the central domed space end with iwāns with cedars. From the 18th century onwards, it is observed that the central sofa plan type was

widely used in Ottoman residential architecture, especially in the capital. This type, which was used until the last periods of the Ottoman Empire, was tried in different variations under the influence of the West. The square and rectangular planned central *sofa* sometimes turned into an oval plan and the iwans overhang from the building and were used as *şahnişin*. In some examples, a staircase replaced one of the iwans. This trend also manifested itself in the last palace buildings of the Ottoman Empire. While the *selamlık* unit of Dolmabahçe Palace was constructed with the addition of four-iwan halls side by side, various late-period palaces such as Çırağan and Beylerbeyi have a central *sofa* type with iwans.

4. EVALUATION OF ANATOLIAN IWAN BUILDINGS

Post-Islamic Turkish architecture is interpreted as a synthesis of the Central Asian belief system and Islamic mysticism, as the influence of ancient Iranian culture is positioned between these two phenomena. From this point of view, the architectural production, starting with the Karakhanids and extending to the Ottomans, can be viewed as the imagination of these three elements. It can be stated that the use of the iwan, which originated in Mesopotamia-Iran, in various buildings such as madrasas, khanqahs, caravanserais, mosques and baths in the 10th and 12th centuries in the Khorasan region, especially with the four-iwan setup, started with the Turkish-Islamic period. The tradition of four-iwan central space, which we can see as a design principle, has been transferred to Anatolia and has found different uses here. At this point, the change in the use of iwan in buildings with diverse functions in Anatolia was examined, and the following situations were determined.

- Madrasas: In the Anatolian Seljuks, the iwan was used more flexibly in the madrasas, but with the Ilkhanid influence, the four-iwan scheme gained weight again. In the early Ottoman madrasas, the covering of the iwan changed and the vault was replaced by a dome. With the change in the roof, the iwan turned into a square block, often protruding from the building. Except for the madrasa in Gümüşhacıköy, madrasas were built with open courtyards from this period onwards. The four-iwan arrangement weakened and was replaced by a closed and domed classroom opposite the entrance axis. It is noteworthy that the iwan was used in different variations in the Early and Classical periods, especially in the *shifa'khanas* (healing facilities).
- Mosques: Although the four-iwan tradition did not continue in Anatolian Seljuk mosques, in some of the buildings examined above, the iwan symbolically existed in front of the *maqsura* dome and opened into an emblematic courtyard. In early Ottoman *zawiya* mosques, on the other hand, the main iwan opening to the central space was transformed into the primary prayer area in some examples, it was supported by side iwans.
- Caravanserais: The four-iwan scheme centered on the courtyard is not seen in Anatolian Seljuks except for Emdir Han. The use of an iwan as a functional semi-open space rather than a monumental building element is more prominent. While the iwan is seen at the entrance in most caravanserais, in some examples, it is located on opposite sides of the courtyard. In the Ottoman period, however, iwan usage in caravanserais and hans in Anatolia was not encountered on a significant scale except for the entrance.
- Tariqa Buildings: In the Anatolian interpretation of Central Asian-Iranian khanqahs, there are usually four-iwan or different numbers of iwan opening to the central dome. The number, function and spatial relations of the iwan varied according to the specific rituals of the Sufis. From the 16th century onwards, with the change in the plans of the tariqa buildings, it is observed that the iwan lost its usage area and was replaced by arcaded lodges.
- Palaces, Kiosks, Divanhanes: The southern iwan with *salsabil* of the Artuqid palace with four-iwan courtyards is a unique interpretation of the iwan-water relationship. Looking at the Anatolian Seljuk palaces that have survived and for which excavations have begun, single iwan draws attention. The throne iwan, considered the seat of the sultan, reflects the traces of the ancient tradition. Although we cannot see the formation of the throne iwan in the Ottoman palaces that have survived to the present day, the iwan appears with a *şahnişin*, referring to the old tradition. The Çinili Kiosk was the early representative of the four-iwan center hall pavilion tradition in the Ottoman Empire, followed by *divanhanes* with three iwans.

Later, in the 18th century, the iwaned *central sofa* scheme seen in residences was blended with Western influences and became a widely used plan type until the end of the 19th century.

- Baths: The cruciform four-iwan scheme was transmitted to Anatolia from the Qarakhanids and Great Seljuks. While the classical four-iwan *sıcaklık* (caldarium) plan is commonly seen, there are also two and three-iwan designs. In addition, there are more iwans in the radial-planned *sıcaklıks* seen in Roman extensions. In the Ottoman period, apart from residential architecture, the building group in which the iwan was used the most was the baths. The use of four-iwan with cruciform *sıcaklık* continued until the Late Ottoman period.

- Tombs: During the Anatolian Seljuk period, put a new complexion on the tomb architecture with the iwan used alone. While iwan tombs were seen in the Seljuk period, they were not seen in the Ottoman period, and the narrowing of the area of iwan usage in architecture was reflected in the tomb architecture.

The monumental iwan has gradually lost its influence in Anatolia. While its most intensive use was in the Anatolian Seljuk period, its usage and semantic dimension varied with the Early Ottoman period. From the Classical period onwards, the use of the iwan in monumental buildings in Anatolia began to disappear. After this period, it was determined that the tradition of the iwan in baths, palaces and mansions continued with four-iwan opening to the central space. At this point, the iwan in these buildings indicates the continuation of functional use rather than a symbolic meaning.

5. CONCLUSION

When the role of the iwan in the semantic and spatial organization in different periods, geographies and building types in the historical process is examined, it can be seen from Figure 5 and 6 that it is most associated with the central space and takes place in different numbers and arrangements. In Asian architecture, the tradition of central space and four directions has transformed over time into the use of four-iwan. At the intersection of the axes of the iwan opening to the central space, a pool was often located and the representation of the microcosm was strengthened. Apart from the four-directional plan, the iwan was used as single, double, triple and sometimes multiple without specifying a direction. The iwan, which is usually associated with a central space, has appeared in different periods by opening to the central dome in building types such as khanqahs, madrasas, mosques with zawiyas, baths and kiosks, as well as being a space opening to the courtyard.

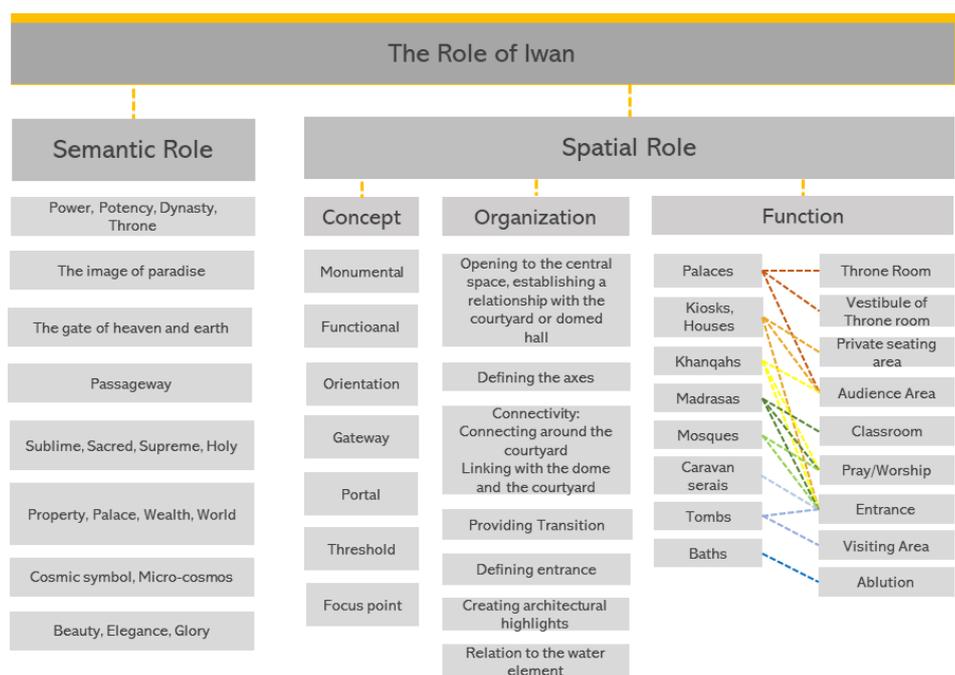


Figure 5. Spatial and semantic role of the iwan

The iwan is also associated with the entrance of the building. The entrance iwan marks the beginning, while the main iwan, which opens to the central space at the end of this axis, represents the end. Another defining role of the iwan in spatial organization is that it is an element that connects the courtyard and the domed space. This configuration is first seen in palaces, then in caravanserai masjids and later in mosques with four-iwan. This semi-open space between the open and closed area is a preparatory architectural element that provides a gradual transition. This situation extends from the Great Seljuks to the Anatolian Seljuks as the iwan in front of the maqsura dome in mosques. When the relationships between the spatial uses of the iwan and its semantic dimension are analyzed, the iwan is associated with earthly and otherworldly meanings such as power, supremacy, paradise, world, and beauty. In the architectural work that constitutes the microcosm, the iwan, which represents the transition space in the abstract and concrete sense by expressing symbols such as threshold and gate, has also defined the boundaries of the microcosm. Especially in Turkish Islamic architecture during the Middle Ages, the iwan has been one of the indispensable elements of architectural design due to its meaning and functional benefits. However, with the end of the Middle Ages in the Ottoman world, it can be said that the monumental use of the iwan was replaced by other elements in the empire's architectural creation. This is a question for another study and is expected to be evaluated in future research, and this study is also hoped to contribute to them.

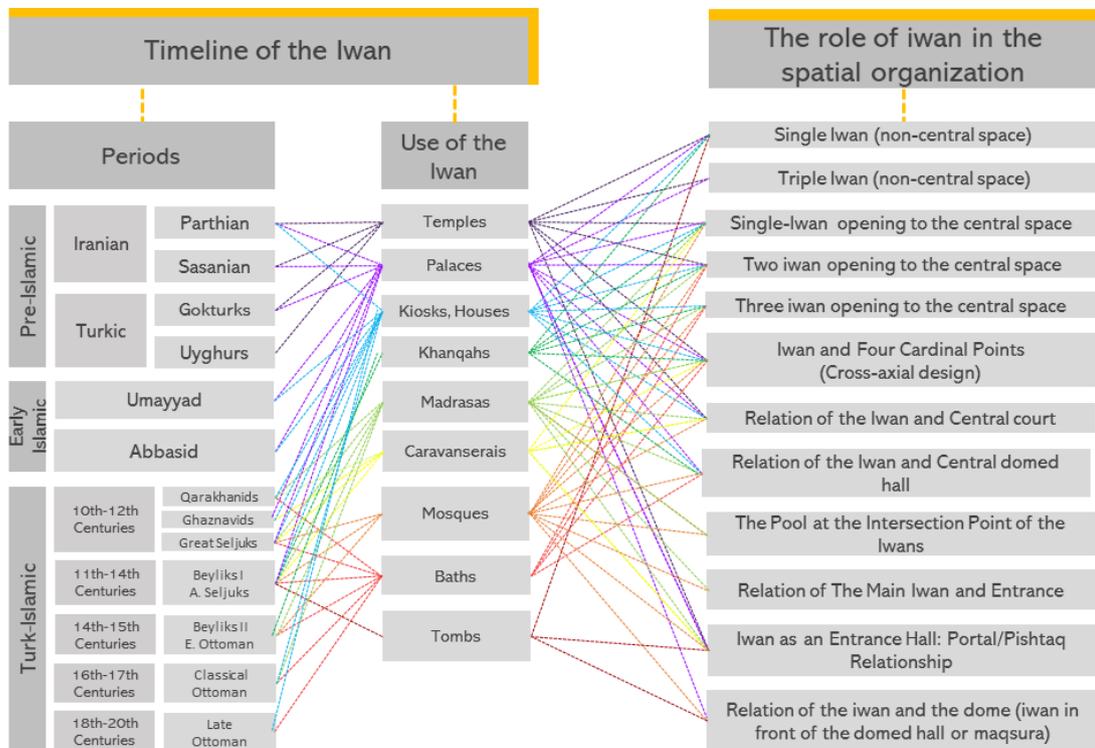


Figure 6. The role of the iwan in spatial organization in different periods and building types

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