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AN EXAMPLE OF ANATOLIAN SELJUG'S MULTI-SUPPORTED MOSQUES: SIVRIHISAR GREAT MOSQUE AND ITS STRUCTURAL PROPERTIES

Hasan AYDIN*
Z. Sevgen PERKER**

Abstract

This study aims to describe the Great Mosque of Sivrihisar, an example of multi-timbered mosques of Anatolian Seljuks, and its structural features so that the building itself and similar buildings can be preserved with their surrounding in a holistic manner; and a contribution can be made to raise awareness and consciousness of bringing them to future. As a result of a literature review and investigations in the relevant field, historical characteristics of the building, which is a significant example of Islamic architecture, have been summarized and its structural features have been described based on spatial setup, bearing system, component characteristics, and building materials used.

Keywords: Mosque Architecture, Multi-Supported Mosque, Wooden Mosque, Anatolian Seljuks, Sivrihisar Great Mosque.

Introduction

Currently, Sivrihisar is the largest district of Eskisehir in Turkey and approximately 100 km away from Eskisehir city center (Figure 1 and 2) (Google Earth, 2015; Web 1, 2015). The economy of the district is particularly based on agriculture and stockbreeding, and its total population is currently 27.712 (Web 2, 2015).



Figure 1. Location of Sivrihisar (Google Earth, 2015)



Figure 2. General View of Sivrihisar (Web 1, 2015)

It is known that Sivrihisar has been located at where important transportation centers are intersected since very old times and it was previously an important center of trade and art. Sivrihisar is a significant Anatolian settlement in our day as well through both its historical process and cultural elements it has (Figure 3 and 4) (Demberel, 2012:10).

* Graduate Student of Architecture, University of Uludag, Bursa.

** Main Author, Assoc. Prof., University of Uludag, Faculty of Architecture, Department of Architecture, Bursa, e-mail: zsparker@uludag.edu.tr



Figure 3. Historical Houses of Sivrihisar (Authors' Archive, 2014)



Figure 4. An Example of Famous Rugs of Sivrihisar (Web 3, 2015)

In the historical process, the initial settlement in the region is known to be near Ballıhisar village, which is approximately 16 km away from current center of Sivrihisar and the region is referred to as “Pessinus” in historical sources. The “Tolistoags”, a tribe of Galatia, changed the region into a center of religion and trade in the mid3rd century BC. In the byzantine period, because of its substantial location in terms of military and trade, many settlements were built near Sivrihisar and Arabs settled in the region in the early 8th century (Demberel, 2012: 8-9). Upon conquest of Iznik by Seljugs, Sivrihisar and its vicinity became important to Seljugs. The region appears to be affected by combats of Seljugs - Mongolians; Ottomans - Germiyans, and Ottomans - Karamanids and was fully incorporated into Ottoman Empire’s territory during the period of Sultan Murat 1 (Demberel, 2012: 9-10). The historical process of Sivrihisar has paved the way for Sivrihisar to contain a multi-layer architectural wealth in terms of culture. In this cultural layer, Seljugs has a substantial influence on Islamic architecture.

Sivrihisar currently has many valuable architectural buildings of Seljug and Ottoman periods in particular. However, the Great Mosque of Sivrihisar is the building that first comes in mind when the name of Sivrihisar is mentioned. This building is one of the original works of Islamic architecture. The Great Mosque incorporates very important features of Islamic art and architecture and is also one of the largest mosques with poles in the Central Anatolia. In view of Anatolian Turkish architecture, poles sometimes appear to support an interior earth roof and sometimes sustain a porch of narthex of a mosque (Kuran, 2012: 35). Besides small-scale and modest buildings in the historical process, we do not usually encounter wood materials as a bearing element, but they have been chosen in the architecture because their tension strength is superior, and they are lighter than stone and easy to process. Anatolian Seljug’s architecture is known to present major innovations in terms of Islamic art and to give a new impulse to architecture through method of use of building materials such as stones, bricks, wood and glazed tiles in particular (Öney, 1988: 8). Important examples of buildings are “multi-supported mosques” using poles as a bearing system, which started with Anatolian Selcugs, survived in religious architecture of Ottoman principality, and display an original style in terms of wood building materials. With regard to layout, the building describes a specific setup suitable for religious service and is supported by many interior poles, therefore it is referred to as “multi-supported building” (Gündüz Küskü, 2014: 149). There are many examples of such setup in Anatolian Seljugs’ architecture where it implemented by poles, and one particular example would be the Great Mosque of Sivrihisar.

The Great Mosque of Sivrihisar is located in the bazaar and within the quarter of Camii Kebir to the west of an area called “Kağrı Pazarı”. The oldest tables of the building dates back to 629 in Islamic Calendar / 1231-1232 in Gregorian Calendar, which indicate the Seljug period. This tablet tells that Emir Celaledin Ali Bey built the mosque as an “imaret”. The building underwent modifications and repairs in various periods and was added some extension. The tablet is not located on the mosque but on the minaret that was built in 1409, which is important to point out such modifications (Altınsapan, 1997: 34; Aytakin, 2013: 8-9; Boz, 2013).

Emir Celaledin Bey, who is mentioned in the tablet of Great Mosque of Sivrihisar, is assumed to be Ali Bahadır, one of commanders of İzzeddin Keykavus II (Özalp, 1960; Boz, 2013: 24). Some sources tell that the imaret that was built by Emir Celaledin Bey was completely destroyed and replaced by the mosque that was rebuilt. The current form of the building was given in 1274 by the effort of Emir Mikail who was a close friend and follower of Hz. Mevlana (Boz, 2013: 17; Boz, 2013: 29; Web 4, 2015).

The Great Mosque of Sivrihisar and Its Structural Feature

Materials of the region, traditions and craftsmanship, political and economic conditions are principal factors that shape the structural features of Anatolian Seljug's architecture. Although stones and bricks are known to be building materials commonly used for architecture of that period, the original style using wood materials was presented again by Anatolian Seljugs. In this period, wood materials were especially used for religious buildings such as mosques and prayer rooms (small mosques), and mainly for bearing systems and covering. In addition, wood materials were used craftsmanly and chosen for important elements of interior architecture such as profiles and minbar in the period of wooden architecture.

The Great Mosque of Sivrihisar is one of the important examples of buildings supported by a large number of poles, which is a rare example in Anatolia in terms of bearing system setup. The main place of the building has a near-rectangular plan that transversely extends from east to west and consists of six naves in parallel to the wall of mihrab (Figure 5). The building has a gathering-place for women that fully encircles the north and west directions. The mosque is joined with a section referred to as Sölpük Mescidi, the prayer room, to the east of the Mosque (Altinsapan, 1988: 17; Hayes, 2010:108).

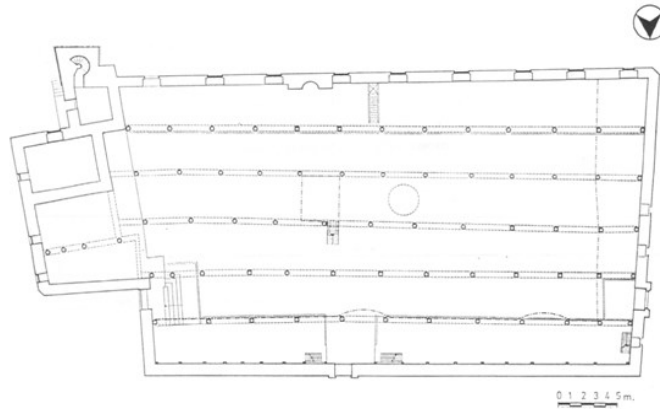


Figure 5. Layout of Mosque (Altinsapan, 1999: Drawing 1)

The outer dimension of the building is 26.50m x 52.60m, and inner dimension is 24.60m x 50.40m (Altinsapan, 1997: 35). In view of this information, thickness of building walls is estimated to be around 1 m. The building stands by means of poles that separate naves making up the sanctuary as well as main walls with bonding timbers constructed using face stones and rubble stones (Figures 6, 7 and 8). The main walls end with hedgehog eave in two rows and the building is covered by a hipped roof which can be seen on all faces of the building.

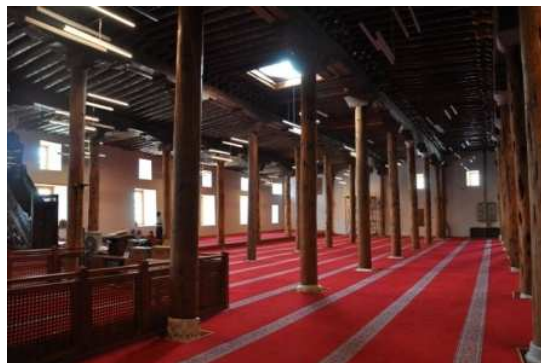


Figure 6. Poles (Authors' Archive, 2015)



Figure 7. Poles (Authors' Archive, 2015)



Figure 8. Use of Rubble Stone and Bonding Timber on the Main Wall (Authors' Archive, 2014)

Of poles that support the main place of the mosque, 63 are located inside the mosque and 4 are used in "Sölpük Mescidi" that integrated with the mosque. There are 13 poles each on the first two rows in parallel to the wall of mihrab and perpendicular to the Kiblah (the direction of Mecca), and other rows have 12 poles each (Altınsapan, 1997: 36; Altınsapan & Parla, 2004: 301). Two poles located in front of the mihrab are especially different from others. These two poles have special color relief and ornaments and their bolster are made of spolia marble (Figures 9, 10, 11 and 12)(Öney, 1988: 121; Altınsapan, 1999; Web 5, 2015).



Figure 9. Poles and Use of Spolia Material (Web 5, 2015)



Figure 10. An Example of Poles (Öney, 1988: 121)



Figure 11. Use of Spolia Material on the Pole Bolster (Altınsapan, 1999: Figure 23)



Figure 12. Use of Spolia Material on the Pole Plate (Web 5, 2015)

Poles of the building bear the main girders which support auxiliary girders perpendicular to the wall of mihrab (Figure 13) (Hayes, 2010: 123). Main girders extend from east to west and auxiliary girders extend from north to south. Wood materials make up bolsters at where main girders join with poles to facilitate load transfer (Figure 14). Auxiliary girders are covered with wooden elements on the outer side.



Figure 13. Bearing System Setup in the Main Place (Hayes, 2010: 123)



Figure 14. Joining Detail of Poles and Wood Girders (Authors' Archive, 2015)

The load of poles that support the building to stand is transferred to the floor through stones on which they are seated. There is a gap of 1 m between the floor boards and the floor in order to protect the mosque against humidity (Web 4, 2015).

The mihrab's niche made of gypsum is encircled by a circular niche on the southern wall of the mosque (Figure 15). The mihrab is surrounded on three sides by verses of the Quran and geometric - plant shaped ornaments (Altinsapan, 1988: 16). Because the mihrab is located on the longest wall of the Great Mosque of Sivrihisar, the number of naves is pretty higher than the number of naves of mosques of similar size. The Great Mosque of Sivrihisar is a rare example of Anatolian Seljug's mosques due to transverse layout of naves (Figure 1) (Altinsapan, 1999: 134).



Figure 15. View of Mihrab (Authors' Archive, 2015)

There is a unique ventilation / lighting lantern on the ceiling of the mosque, which was made to aspirate lampblack of oil lamps that were lit in the sanctuary (Figures 16 and 17) (Web 4, 2015). This lantern constitutes a very significant detail for protecting wooden elements of the mosques from humidity and lampblack. Again, the wooden ceiling of the mosque includes a pulley system installed to move oil lamps; this system can also be used today. The northern and western walls of the mosque sanctuary contain the wood railing gathering-place for women (Figure 18).



Figure 16. Outer View of Lighting Lantern (Web 4, 2015)



Figure 17. Inner View of Lighting Lantern (Authors' Archive, 2015)



Figure 18. View of Place for Women (Authors' Archive, 2015)

The minbar of the Great Mosque of Sivrihisar is highly valuable for hand-workmanship of wood and was brought from the Small Mosque of Kılıç in 1924 to place in the sanctuary of the building (Figures 19 and 20). The tablet of the minbar tells that the minbar was constructed approximately 30 years before the mosque had been built, and contains the name of person who had it built. The minbar is accessed through 11 steps. The top of the minbar is covered by a pyramidal cone. The minbar is fully made of walnut tree and its body and door wings are made by real künde-kârî technique (joinery work for decoration). The “Âyet'ül - Kürsî” (a verse from the Quran) is carved on the doorframe of the double-wing wooden door with a space of lancet arch (Altınsapan, 1988: 16). The wooden door wings have three rectangular plates and are encircled by plant ornaments peculiar to Anatolian Seljuks (Web 4, 2015). The minbar railing is made of wooden material and has geometric motives.



Figure 19. View of Minbar (Authors' Archive, 2015)



Figure 20. Details of Minbar (Authors' Archive, 2015)

The marble crown gate with wooden porch located to the west of the mosque is considered to be the oldest gate of the building (Figures 21, 22 and 23) (Altınsapan, 1988: 14). The double-wing wooden door completed with a depressed arch is very plain, and its tablet and bosses on each side of the tablet give a rich appearance to the door. There two small windows with wood profile on each side of the door, which are positioned with respect to the level of gathering-place for women. Lack of window opening at the lower level of this façade prevents daylight from entering into the interior, which allows the interior mosque to have a dim environment.

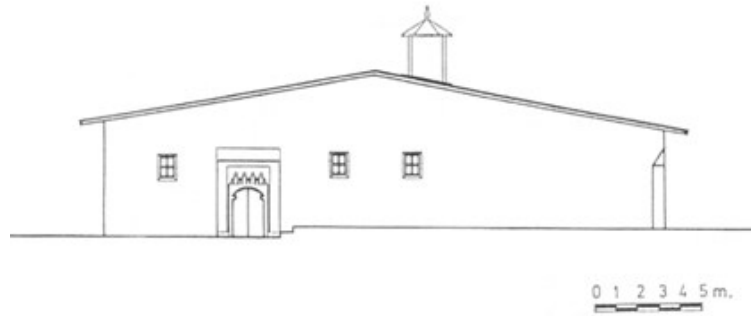


Figure 21. Western Wall (Altınsapan, 1999: Drawing 5)



Figure 22. General View of Western Wall (Authors' Archive, 2015)



Figure 23. Entry Door of Western Wall (Authors' Archive, 2014)

The section called “Sölpük Mescidi” on the eastern face of the mosque is protruded (Figures 24 and 25) (Altınsapan & Parla, 2004: 298). This section includes two doors with wood profile at the lower level to the east direction and one window with wood profiler, three windows at upper level, and two windows with wood profile, one at the lower level and the other at upper level to the south direction. The northern door on the wall of Sölpük Mescidi is larger than the door located to the south.

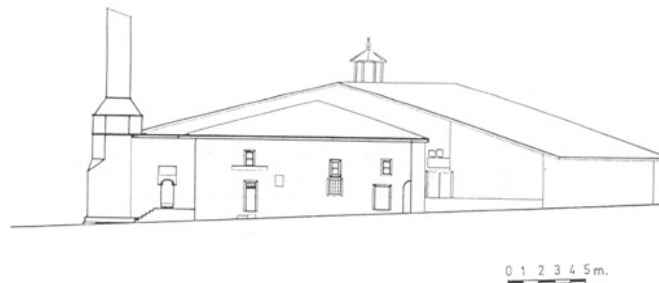


Figure 24. Eastern Wall (Altınsapan, 1999: Drawing 3)



Figure 25. General View of Eastern Wall (Authors' Archive, 2015)

There are two tablets of repair in four lines above the double-wing wood entry door on the eastern face of the mosque (Figure 26). The upper tablet is in square shape and the lower tablet is in rectangular shape. The spolia material with figure was used to the north of the upper tablet (Figure 27)(Altinsapan, 1997: 35). There are two windows with wood profile at the upper level to the north of the door. The minaret is located to the south of eastern wall.



Figure 26. Door of Eastern Wall (Authors' Archive, 2015)



Figure 27. Tablets Above the Eastern Wall's Door(Authors' Archive, 2014)

There are no windows on the northern wall of the mosque (Figures 28 and 29). There is an entry door with depressed arch in the mid of northern wall of the building. The door contains a transverse rectangular-shaped tablet in three lines and bosses on either side of the tablet. The wings of the double-wing door are wooden (Figure 30 and 31).

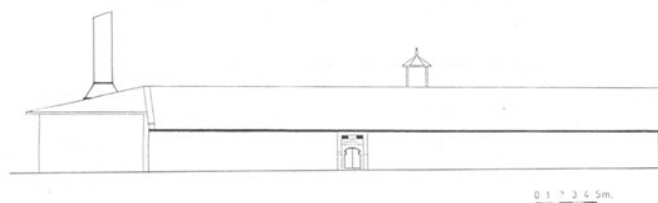


Figure 28. Northern Wall (Altinsapan, 1999: Drawing 2)



Figure 29. General View of Northern Wall (Authors' Archive, 2014)



Figure 30. Door of Northern Wall (Authors' Archive, 2015)



Figure 31. Tablet Above Northern Wall's Door (Authors' Archive, 2015)

The southern wall of the mosque has seventeen windows (Figures 32 and 33). Eight of them are located at the lower part and nine are located at the upper part, which are relatively smaller. The southeast wall contains the base of minaret. There is a one-wing wood entry door where the base ends (Altinsapan, 1988: 13).

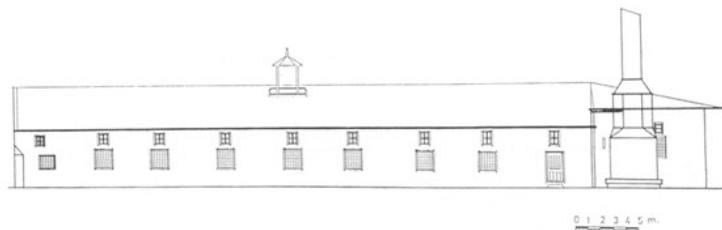


Figure 32. Southern Wall (Altinsapan, 1999: Drawing 4)



Figure 33. General View of Southern Wall (Authors' Archive, 2015)

The minaret of the Great Mosque of Sivrihisar was built by Hacı Habib from Taymisogulları, Sivrihisar in 1413 in Gregorian Calendar, 139 years after the mosque had been built (Figure 34). The base of the minaret with pyramidal lead cone, one minaret balcony, cylindrical body located to the southeast corner of the mosque is made of face stones and seated on the marble blocks. The brickwork of the minaret is important (Figure 35). The tablet in two lines located on the eastern face of the minaret base contains the name of the person who had it built (Altınsapan, 1988: 15; Altınsapan, 1999: 44).



Figure 34. The Minaret (Authors' Archive, 2014)



Figure 35. Use of Bricks on the Minaret (Authors' Archive, 2014)

Conclusion

The Great Mosque of Sivrihisar, a rare example of multi-supported wood base mosques, is a significant work of Anatolian Seljugs' building tradition with its transverse nave design that determines the original layout; original wood bearing elements such as poles, main girders and auxiliary girders; door and

window profiles and gathering-place railing made of wood materials; the minbar made of walnut tree using real “kündekâri” technique; and the minaret, an original example of brickworks.

During the time of investigation, the Great Mosque of Sivrihisar was under restoration. The building is known to originally have naked walls, and main walls and the minaret were once coated with a poor plaster, however this poor plaster is being removed by current restoration process (Figures 36 and 37). In consideration of studies performed, the density of mortar on the bonding timber rubble walls should be noted. Once again this suggests the problem with qualified workmanship in restoration which is often encountered in restoration practice in the country.



Figure 36. Poor Plaster applied on Walls (Altınsapan, 1999: Figure 6)



Figure 37. Restoration Implementation (Authors' Archive, 2014)

The minaret of the Great Mosque of Sivrihisar is particularly important for displaying original brickworks that plays a substantial role in heritage of Anatolian Seljugs' architecture. In examinations performed, the minaret body, balcony and “petek” (the section below the cone up to the balcony), which are known to be covered with a poor plaster before the restoration, appear to be presented again through restoration works.

With each passing day, Anatolian cities acquire a new look with influence of rapid urbanization. Sivrihisar has had its share of this change (Figure 38 and 39). This, once again, indicates the necessity for discussing decisions as a whole on new structuring, particularly preservation and repair of historical buildings.



Figure 38. Influence of Urbanization (Authors' Archive, 2014)



Figure 39. Influence of Urbanization (Authors' Archive, 2015)

Preservation does not only mean to repair the building that is considered a cultural heritage, but now the entire world considers the necessity for restoration and bringing to the future the historical environment without losing their physical characteristics and qualities. Addressing cultural heritage together with its environment as a whole, maintaining and preserving it, improving and carrying into future depend on embracing such heritage and raising a strong awareness in this regard. It is very important to identify cultural heritage for noticing and embracing its original features in today's world where local identities become more important in the globalization world. This study aims to introduce original structural features of the Great Mosque of Sivrihisar, a significant example of Anatolian Seljuks' architecture and Islamic architecture, and is believed to contribute to preserving this building and similar buildings together with their environment in a holistic understanding and carrying them into future as well as raising universal awareness and consciousness.

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