Mimar Sinan Era Kulliyes in the Ottoman Urban Landscape

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Abstract

The Master Ottoman Architect Sinan, known as Mimar Sinan, produced numerous works of different character, among these, mosques, madrasahs, masjids (prayer rooms), khans (inns), caravanserais, covered bazaars, hammams (bath-houses), darüşşifa (hospitals), imarets (hospices), darülkurra (Koranic schools), sibyan mektebi (primary schools), tekke (lodges), waterways, aqueducts, fountains and palaces. Sinan is an architect that imprinted his mark upon his era by not repeating himself in any of the structures he created. Appointed the head of the Sultan's Society of Architects in 1538, Sinan created a great number of architectural works.

Throughout the years of his long career in Ottoman architecture, in which time he produced an expansive typology of works, Architect Sinan also made a major contribution to urban planning. As Chief Architect, Sinan was responsible for many urban activities having to do with wastewater, fire prevention and the repair of many public buildings in Istanbul. Although documentation pertaining to Sinan's concept of the urban environment is scant, an analysis of all his structures suggests the existence of a delicate notion of city planning. Looking into the placement of the structures, their functional distribution within the city, the special roles they play in the general urban landscape, as well as their relationships to each other, it is not difficult to witness the rational conceptualization of a city.

This article will attempt to examine the works of Architect Sinan in terms of his perspective on kulliye architecture, analyzing the contributions he made to these structures within the urban fabric, and to review his major kulliyes as intrinsic parts of the entirety of the city.

Keywords: Architect Sinan, urbanism, kulliyas, Ottoman urban.

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Osmanlı Kent Peyzajında Mimar Sinan Dönemi Külliyeleri

Öz

Cami, medrese, mescit, han, kervansaray, bedesten, hamam, darüşşifa, imaret, darülkurra, sıbyan mektebi, tekke, köprü, su yolları, su kemeri, sebil ve saray gibi farklı çeşitlilikte çok sayıda eseri bulunan Mimar Sinan, hiçbir yapısında kendisini tekrar etmeyen yaşadığı çağa damgasını vurmuş bir mimardır. 1538 yılında Hassa Mimarlar Ocağı'nın başına getirilen Sinan o tarihten itibaren çok sayıda mimari eser yaratmıştır.

Mimar Sinan'ın çok geniş tipolojide eserler verdiği uzun mimarlık kariyerinde Osmanlı mimarlığına en büyük katkılarından biri de kentsel planlama alanıyla ilgilidir. Sinan, mimarbaşı olarak İstanbul'da atık su, yangın düzenleme, kamu yapılarının onarımı gibi çok sayıda kentsel aktiviten sorumluydu. Sinan'ın kentsel çevre kavramıyla ilgili belgeler az olmakla birlikte tüm yapıları analiz edildiğinde ince bir kentsel planlama fikrinin varlığı hissedilmektedir. Yine tüm yapılarının yerleştirilmesinde, yapıların kent içindeki fonksiyonel dağılımlarında, onların genel kentsel peyzaj içindeki özel rolleri ve birbirleriyle ilişkilerine bakıldığında rasyonel bir kent konseptini görmek mümkündür.

Bu makalede Mimar Sinan'ın kent dokusu içerisinde, külliye mimarisine bakışı ve külliye mimarisine getirdiği katkılar, onun önemli külliyelerinin kent bütünü içerisinde incelenmesiyle ortaya konulmaya çalışılacaktır.

Anahtar Kelimeler: Mimar Sinan, şehircilik, külliye, Osmanlı şehirciliği.

Introduction

The Master Ottoman Architect Sinan, known as Mimar Sinan, produced numerous works of different character, among these, mosques, madrasahs, masjids (prayer rooms), khans (inns), caravanserais, covered bazaars, hammams (bath-houses), darüşşifa (hospitals), imarets (hospices), darülkurra (Koranic schools), sibyan mektebi (primary schools), tekke (lodges), waterways, aqueducts, fountains and palace. Appointed the head of the Sultan's Society of Architects in 1538, Sinan created a great number of architectural works.

Throughout the years of his long career in Ottoman architecture, in which time he produced an expansive typology of works, Architect Sinan also made a

major contribution to urban planning. As Chief Architect, Sinan was responsible for many urban activities having to do with wastewater, fire prevention and the repair of many public buildings in Istanbul. Although documentation pertaining to Sinan's concept of the urban environment is scant, an analysis of all his structures suggests the existence of a delicate notion of city planning. Looking into the placement of the structures, their functional distribution within the city, the special roles they play in the general urban landscape, as well as their relationships to each other, it is not difficult to witness the rational conceptualization of a city.

Master Architect Sinan built scores of structures to make Istanbul the symbol of the Ottoman Turk. The miniature of Istanbul in the work written in 1537 by Nasuh as-Silahi al-Matraki entitled *Mecmu-ı Menazil*, which describes Istanbul before Sinan was made Chief Architect, provides a view of the boundaries of the city, its building complexes and its harbor. In the maps of that period, the prominent elements of the city silhouette stand out as the Hagia Sophia, Bayazit and Fatih mosques. The group of structures that represent Sinan's most emphatic symbolism in the urban development and planning of Istanbul, the components that shape the Ottoman city, taking on the role of social catalyst, comprising units of different functional and structural units, and recognized as major extensions of the urban fabric, is the group of building complexes called kulliyes. Accepted as the nucleus of Ottoman urban design and the center of social and religious life, the kulliyes occupy a significant place in the urban physiognomy of pre-Sinan 15th-century Istanbul. The most outstanding of these kulliyes, which were planted on strategic roads and intersections, are Fatih Kulliye (1470); Mahmut Pasa Kulliye (1462), located in the area of the Covered Bazaar, the center of trade in the period; Murat Pasa Kulliye (1471) at the junction close to the Bayram Pasa Stream; Şeyh Muslihiddin ebul Vefa Kulliye (1476), a part of the fabric inside the city walls; Eyüp Sultan Kulliye (1459), located outside of the city walls; Firuz Agha Kulliye (1491) in Sultanahmet, and Davut Pasa Kulliye (1485) in the old fabric of the southern part of Istanbul[1]. The first kulliye to be built after the conquest of Istanbul was constructed around Fatih Mosque, right in the middle of Byzantine Istanbul and in place of the Holy Apostles Church. Possessing all the elements of an *"imaret"* or hospice, the structure inscribed a Turkish stamp in the center of a city that was Turkifying and becoming Islamic. Around the mosque and the türbe

1 Doğan Kuban, "Kentin Gelişmesi", *Dünden Bugüne İstanbul Ansiklopedisi IV,* 1994, p. 533; Çiğdem Kafesçioğlu, *Constantinopolis/Istanbul: Cultural Encounter, Imperial Vision and the Construction of the Ottoman Capital,* Pennsylvania State University Press, 2009, p. 67

(tomb) that is situated directly in front of it stand madrasahs, a tabhane (guest room), a darüşşifa, all arranged in a geometrical layout that is in perfect symmetry yet standing out as separate, individual structures[2].

These kulliyes maintained their significance throughout the time of Architect Sinan and afterwards and additions were subsequently made to their number with the construction of the Kulliye of Bayazid II (1505) to the north of the main road at the beginning of the 16th century and of Yavuz Sultan Selim Kulliye (1522) that was built on the flatland overlooking the Golden Horn and characterized the city silhouette on that side of the city[3]. The Bayazıd Kulliye, built at the beginning of the 16th century in 1505, is one of the major kulliyes of the city before Sinan. Here, guest rooms have been placed at the two wings of the mosque and, with the minarets towering up at the far corners, the monumental appearance of the structure is even more emphasized. The other elements comprising the kulliye—the madrasah, primary school, hammam, imaret and caravanserai—have been scattered around this basic nucleus.

This article will attempt to examine the works of Architect Sinan in terms of his perspective on kulliye architecture, analyzing the contributions he made to these structures within the urban fabric, and to review his major kulliyes as intrinsic parts of the entirety of the city landscape.

Sinan and the Kulliye

The most outstanding examples of Sinan's symbolism in the urbanization of Istanbul were the kulliyes, major structures that shaped the Ottoman city. It can be said that kulliye architecture matured in Sinan's hands. Sinan introduced some significant accents to the urban fabric of 16th century Istanbul with these kulliyes, of which most were built at the physically and aesthetically key points of the city[4]. A study of the kulliyes that provided the impetus for the development of the phenomenon of urbanization shows that within these structures lie many of the clues needed to read the imprints of the city. In selecting and designing the kulliyes, which are structures that are the most visible of the works that demonstrate the urban construct, Sinan attached great importance to making

2 Gönül Cantay, "16. Yüzyıl Küliyelerinin Şehirlerin Tarihi Topografyasını Belirlemesi," *Prof. Dr. Yılmaz Önge Armağan Kitabı*, Selçuk Üniversitesi Yayınları, Konya 1993, pp. 75-76.

3 Godfrey Goodwin, *Sinan: Ottoman Architecture and Its Values Today*, Saqi Book, London 1993, p. 121.

4 Cantay, *a.g.e.*, p. 77.

the kulliye visible from afar and turning it into a symbol of its location. For Sinan, what was important was not to leave an impression that relied on a single perspective, but to obtain a series of views that would be perceived from different angles[5]. These buildings were placed on the higher points of the city and, due to its position as the center of the essential design, the stronger mass of the mosque stood as the dominant feature of the city's silhouette and panorama when viewed from different vantage points. In each of his kulliyes, Sinan produced a unique solution for nestling the buildings within the fabric of the old city. Sinan's most significant city planning concept of creating a relationship between neighboring structures finds its expression best in the buildings of his kulliyes. In designing his kulliyes, Sinan took into consideration the structure of the land, exterior aesthetic features, as well as the general fabric of the city itself.

When examining Sinan's identity as a city planner, it can be seen that his choice of location during the design phase of his work was centered around creating an integrated composition that improved upon the image of the entire city, an element he considered the most important in a city's development. Sinan created functional urban pockets that harbored the architectural details of the urban space, making no distinction between the city and its architecture[6]. When deciding on where a structure would be built, his emphasis on the position of the new building with respect to neighboring structures and its relationship with these were the elements of his greatest innovation in city planning. Worrying about making buildings conform to their environment was a notion that had not as yet found its way into 16th century Europe.

The entirety of the building complexes that represented the symbolic language motifs of Sinan's urban vision were not organic extensions of the locations in which they were located[7]. Every new mosque or kulliye, along with its annexes, was like a gift to the city, with each one embodying and representing a new visual asset. In this cross-section of history, the monumental framework of the Ottoman city was created with the building of some of the largest kulliyes such as Sehzade and Süleymaniye.

5 Zeynep Ahunbay, "Mimar Sinan'ın Şehirci Yönü," *VI. Vakıf Haftası. Türk Vakıf Medeniyeti Çerçevesinde Mimar Sinan ve Dönemi Sempozyumu, 5-8 Aralık 1988*, Istanbul 1988, p. 134; Godfrey Goodwin, *A History of Ottoman Architecture*, London 1971, p. 59.

6 Rabah Saoud, "Sinan: A Great Ottoman Architect and Urban Designer," *Foundation for Science Technology and Civilization*, X (2007), p. 9.

7 Sema Doğan, "Haseki Külliyesi," *TDV İslam Ansiklopedisi* XVI, 1997, p. 247.

Selatin Kulliyes

Sinan's kulliyes can be analyzed under three headings: the "selatin kulliyes", the "menzil (halting station) kulliyes" and the "vizier kulliyes" (Figure 1). The first of this group, the "selatin kulliyes," constitute the most important groups of structures created by Sinan; they are large kulliyes that were built for the Ottoman sultans, their mothers, wives and children.

Comprising a mosque, madrasah, primary school, fountains, an imaret and a hospital, the Haseki Hürrem Sultan Kulliye is Sinan's first selatin kulliye. The structure was built in 1539 upon the request of Haseki Hürrem Sultan and it is also the first work of Sinan to be erected after his appointment as Chief Architect. In this structure, Sinan's goal is to reflect the dynamism of the city. The mosque was the first unit of the kulliye to be built and it was followed by the madrasah and the primary school in the next year, and by the imaret and hospital twelve years later. This is an indication that the kulliye had not been planned as an entirety but had been designed as separate structures at different times. Haseki Street is a thoroughfare that runs through the center of the kulliye. The mosque, madrasah, school and imaret were constructed on either side of Haseki Street (Figure 2). In this first stage, the kulliye was designed around the avenue and its buildings were connected either directly or indirectly to this road. The madrasah and primary school that were erected a year later were built adjacent to the road, forming a direct connection to it. Accessing the entrance to the madrasah directly from the street reinforced this connection[8].

The mosque was built on the south edge of Haseki Street, while the madrasah, primary school, imaret and hospital were constructed on a plot of land to the rear of the north edge of the road[9]. The entrances to the mosque, madrasah, school and imaret were from Haseki Caddesi, while the entrance to the hospital is from Cevdet Bey Street. Researcher Apdullah Kuran interprets the scattered nature of the arrangement of the kulliye as the result of the kulliye not being designed as a entirety but rather according to a plan that positioned the structures around the avenue. Indeed, the positioning of the structures of the kulliye does not offer a predesigned geometrical orderliness[10]. Analytical reasoning

8 Doğan, *a.g.e.*, s. 77. p. 372.

9 Fisun Alioğlu and Olcay Aydemir, "Haseki Hürrem Sultan Külliyesi. Külliyenin Konumlanma Özellikleri," *Vakıf Restorasyon Yıllığı*, II, 2011, p. 6.

10 Abdullah Kuran, "Mimar Sinan Külliyeleri," ed. S. Bayram, *Mimar Başı Koca Sinan. Yaşadığı Çağ ve*

suggests that the structures were designed by taking into account the boundaries of the environment, the areas suitable for construction, and the limitations of a direction-ascribed layout[11]. The entire unit is indicative of construction activity amid the old fabric of the city and is important because it was planned in a manner that remained loyal to the two directions of the road and the parcellation of the land[12]. This structure that was installed into the city fabric of Istanbul, with its mosque on one side of Haseki Street and the rest of the buildings on the other side, was not planned to stand on the same axis and in addition, the geometrical relationships between the components are also weak. The rigidity of the geometrical composition here stems from the tightness of space and it is why the structures of the kulliye have been squeezed in together. And so it is that the positioning of the buildings are dependent upon the invariable givens of the avenue[13].

The initial design of the single-domed mosque, which was the first structure of the kulliye to be built, drew the building back from the border of the avenue, just enough to permit construction. In the first design, because of the angle with Haseki Street, the south wall of the mosque was not parallel to Haseki Street but was angled so as to create an open area with an uneven edge. This open area between the road and the mosque was used as a courtyard. With the adding on of a second dome, a second open area was created between Tekke cul-de-sac on the eastern side of Haseki Mosque and the building. A gate leading to the second courtyard was built at the intersection of Haseki Street and Tekke Cul-de-sac[14].

Across from the mosque, a madrasah was built contiguous to the north edge of Haseki Street. The structural orientation of the madrasah has no similarity with the general orientation of the design. To the contrary, as with the mosque, there is an arrangement here that is dependent on Haseki Street. The Sibyan mektebi (primary school) too is adjacent to the northern edge of Haseki Street for the length of its longer side. However, although the two structures are situated on the same side of Haseki Street, their orientations are not parallel. While the school

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Eserleri, Vakıflar Genel Müdürlüğü, Ankara 1988, p. 173.

11 Alioğlu and Aydemir, *a.g.e.*, p. 6.

12 Denny, B. Walter, "A Sixteenth Century Architectural Plan of Istanbul", *JSTOR* 8, (1970), pp. 49-62.

13 Kuran, *a.g.e.*, p. 86.

14 Goodwin, Godfrey: *A History of Ottoman Architecture*, Thames & Hudson, London 1971, p. 123.

is situated very close to the madrasah, its structural orientation conforms not to the madrasah but to the avenue[15].

The most unique structure in the kulliye is the hospital, which appears in the kulliye as a major building in its own right. The north facade of the structure, with its octagonal courtyard, was designed to fit in with the street. Haseki Hospital is located at the point where Cevdet Bey Street meets Sami Pasa Street. Here, the configuration is matched to the approximately 90-degree turn of the street. This turn has been completed with a third angled orientation. The break here is directly reflected in the design of the hospital, as seen in the brokenness on its northeastern corner[16]. In other words, the configuration of all kulliye buildings are tied to the street.

As a city planner, Sinan also shapes the exterior space between buildings. He places importance on the relationship between the structural focus and its environment when seeking to give the city an identity of its own and therefore his structures occupy a field that are parts of the symbol of a universal city[17]. Architect Sinan Agha's shaping of the exterior environment can be read very clearly in Sehzade Mehmet Kulliye (1548). The level area between the Fatih and Bayazid kulliyes where Sehzade Mehmet Kulliye is found is what Evliya Celebi described as the center of the city, looking over both the Marmara and the Golden Horn[18]. To increase the significance of the kulliye, Sinan constructed the Pertev and Ali Pasha palaces behind it, also heightening the prestige of the neighborhood[19]. As for the column of green porphyry at the corner of the mosque courtyard wall, it is believed that Sinan placed this here to emphasize that this was the navel-stone of the city. To increase the visibility of the kulliye, Sinan made the outer courtyard of the mosque and the burial area of the tomb more conspicuous by incorporating in them a network of wrought iron windows. Sinan separated the mosque from the street only by an outer courtyard wall while at the same time situating the annexes of the tabhane and imaret on the Golden Horn side, supporting the visibility of the

15 Alioğlu and Aydemir, *a.g.e.*, p. 8.

16 Alioğlu and Aydemir, *a.g.e.*, p. 9.

17 Alain Borie, "Sinan'a Külliyes: Architectural Composition," ed. A. Petruccioli, *Environmental Design: Journal of the Islamic Environmental Design Research Centre*, Carucci Editions, Rome 1987, p. 112.

18 Doğan Kuban, "Şehzade Külliyesi", *Dünden Bugüne İstanbul Ansiklopedisi* VII, 1994b, p. 152.

19 Cantay, *a.g.e.*, p. 77.

mosque from the Golden Horn[20]. The madrasah, tabhane, caravanserai, mosque and the türbe or tombs of Sehzade Mehmet and Rustem Pasha are located within the confines of a common courtyard wall, while the primary school and hospice are surrounded by a separate wall at the south of the kulliye (Figure 3). By beveling the northwestern corner of the mosque's surrounding wall, the mosque has been designed to offer an ideal diagonal perspective. The asymmetrical arrangement of the kulliye has resulted in providing the magnificent west facades of the tomb and mosque with more visibility from the main public road[21].

When Sinan constructed his kulliyes, which he considered important points of design in the organization of the city, he was forced to have his structures adapt to the challenges of terrain that Istanbul presented. When kulliyes were built on expansive spaces, the general layout was based on a Cartesian coordinate system based on the direction of the Kiblah; in more restricted spaces, Sinan had to position the components of the kulliye without depending upon a defined arrangement and in this case, the configuration of the buildings was determined by the fabric of the street and the topography. Sinan's creativity was apparent in the solutions hedevised as he turned topographical disadvantages into benefit[22]. The most beautiful example of this can be seen in the Süleymaniye Kulliye (1557). This kulliye was built in the district of Süleymaniye, on the north of the axis stretching out over from Beyazıt to Edirnekapı, on the most suitable piece of land to be found on the slope dropping down into the Golden Horn. Its situation constitutes the most impressive part of the city silhouette. Süleymaniye's position in the city, representing the concept of a kulliye at its mightiest, together with its functionality and the prestige for which it is recognized, is the city's fundamental indicator of Sinan's understanding of urban design. The kulliye crowns the Istanbul silhouette as a seal of the Empire as it sprawls over the slopes above the Golden Horn amidst a section of the gardens of the Old Palace. It is localized in a place that is a considerable distance away from the main artery leading to

20 Semavi Eyice, "Mimar Sinan'ın Külliyeleri," *VI. Vakıf Haftası. Türk Vakıf Medeniyeti Çerçevesinde Mimar Sinan ve Dönemi Sempozyumu, 5-8 Aralık 1988,* Vakıflar Genel Müdürlüğü Yayınları, İstanbul 1988, p. 170.

21 Coşkun Yılmaz, "Atik Valide Nurbanu Sultan Külliyesi," *Yeni Bir Turizm Rotası. Büyük Usta Mimar Sinan*, Çekül Vakfı, Istanbul 2015, p. 29.

22 Pierre Pinon, "Sinan's Külliyes: Inscriptions into the Urban Fabric," ed. A. Petruccioli, *Environmental Design: Journal of the Islamic Environmental Design Research Centre,* Carucci Editions, Rome 1987, p. 110.

the city center[23]. The complex, however, which occupies an area of 5.5 hectares, creates its own substance and centrality, carrying traces of a conscious concern over announcing itself to the world[24]. The constricted area it is situated on and its slant downward toward the Golden Horn made it difficult to erect but Sinan created terraces of large buttresses in an effort to expand the construction site, thus designing a masterful layout. The complex reflects the mastery of Sinan in positioning the units of the kulliye on the sloping land as can be seen by the structures surrounding the large courtyard that have been built on different graduated elevations. Paths have been placed between the structures and the courtyard, thus creating a hierarchy between the central buildings and the others. The buildings of the kulliye have been given emphasis with a surrounding organic network of main roads and streets. The units of the kulliye have been integrated with the topography and the city fabric, spreading out over a large expanse with interwoven streets that tie the units together[25].

The main axis of the kulliye is turned toward the Kiblah, presenting a right-angled composition due to the lay of the land. Because of the slope, in the construction flow, Sinan planted the architectural components of this symbolic kulliye on terraces of different elevations that progressively leaned down toward the Golden Horn[26]. The terraces were created with large retaining walls that were arranged around the natural elevation that made up the constructive molecule of the mosque and tomb. Almost all of the structures rise above high pieces of infrastructure. Sinan connected the mosque and the topography by positioning the kulliye's main axis on the contour line[27]. The shorter madrasah and other buildings were positioned to fit the slant of the slope, creating a tiered effect (Figure 4). The Evvel and Sani madrasahs, the Medical Madrasah, and the Darulhadis, situated on the flatland on the hill that constitutes the center of the mosque and türbe, balanced out the difference in height on two sides with a single-story basement or a vaulted substructure[28]. While the darüşşifa, imaret and tabhane complexes were built on

23 Doğan Kuban, *İstanbul Bir Kent Tarihi,* Tarih Vakfı Yurt Yayınları 98, İstanbul 1996, p. 534.

24 Doğan Kuban, "Süleymaniye and 16th Century İstanbul," ed. A. Petruccioli, *Environmental Design: Journal of the Islamic Environmental Design Research Centre,* Rome: Carucci Editions, 1987, p. 65; Kuban, *Kent Tarihi,* p. 534.

25 Yılmaz, *a.g.e.*, p. 30.

26 Doğan Kuban, "Süleymaniye Külliyesi," *Dünden Bugüne İstanbul Ansiklopedisi* VII, 1994a, p. 98.

27 Ahunbay, *a.g.e.*, p. 137.

28 Gülay Alkan, "İstanbul Mimar Sinan Dönemi Külliyeleri İçinde Medreselerin Yeri ve 'Edirnekapı

a terrace, the Salis and Rabi madrasahs were positioned in tiers on the ground as an annex to the elevated substructure[29]. Sinan laid out numerous madrasahs around the mosque, positioning these not in a strictly geometrical arrangement but integrating them with the mosque and scattering them in appropriate places as complementary elements[30]. Darüşşifa, darüzziyafe and tabhane were placed in the same row but as structures independent of each other. The hospital, hospice and guest room were complementary annexes to the kulliye and were arranged in the form of a horseshoe. Sinan placed the hammam at the farthest end, and in places where the slope of the land would be an advantage, he positioned a bazaar (arasta) and a caravanserai beneath the madrasahs, hospital and guestroom. In this way, the entirety took on the form of a statuesque and tiered outer mass and Sinan displayed his skill of using the land at the peak point of the complex. Sinan left the fourth direction of the courtyard open to the magnificent view of the Golden Horn[31]. There is a physical continuity between the kulliye and its surroundings.

Sinan called the Selimiye Kulliye (1575) his masterpiece and the structure, which carries features that the architect found to be important in the organization of the city, perfectly reflects the connection between the topography and the environment. At the heart of this kulliye, one of the most important of the city's cultural symbols, is the mosque with madrasahs positioned on each corners on the south. Here, Sinan built a terrace in order to place the mosque and madrasah on the same elevation, as there is a 5.5 m. slant on the west side of the complex. Rising up at the apex of the Ottoman center of trade and providing a view of the city from all sides, the mosque, with its access to the city units surrounding it, benefits from a darülhadis and darülkurra facing the Kiblah and from an arasta, or bazaar, on the southwest[32] (Figure 5). The harmony between the structure and the environment is close to what is witnessed at Eski Cami (Old Mosque) and Üç Şerefeli Camii (Mosque of Three Minarets), in terms of the spatial dialogue it presents to the viewer's eye. As a kulliye, this one contains a very limited number of structures (mosque, madrasah, darülkurra) but it is significant in that it has been

Mihrimah Sultan Medresesi" (doktoral dissertation), Yıldız Teknik Üniversitesi, Fen Bilimleri Enstitüsü, 2007, p. 61.

29 Pinon, *a.g.e.*, p. 107.

30 Eyice, *a.g.e.*, p. 170.

31 Filiz Özer, "The Complexes Built By Sinan," ed. A. Petruccioli, *Environmental Design: Journal of the Islamic Environmental Design Research Centre,* Carucci Editions, Rome 1987, p. 20.

32 Ahunbay, *a.g.e.*, p. 137.

positioned in a completely symmetrical axial system. The madrasahs on the right and left and the arasta are the kulliye's main components[33]. Sinan built a very large worshipping area here and with the revenues provided by the congregation also gave importance to establishing an arasta (market) in the complex. The kulliye was integrated with a sizable center of trade[34].

One of the most handsome examples of the harmonious relationship Sinan created between the topography and his buildings can be seen in Üsküdar Mihrimah Sultan Kulliye, which was completed in 1548. With a clearly geometrical arrangement that symbolized the start of the road leading into Anatolia, this constitutes one of the triangulation points of the Anatolian quarter of the city[35]. This is a picturesque monument that was planted on the banks of the Bosphorus at Üsküdar and is one of the leading symbols of the region. Sinan leaned the structure on a steep slope and built the complex on narrow bands of land. It is because of this that when observed from a close vantage point, the front facade of the building seems compressed[36]. The structures that are integrated into the kulliye have been built in a linear fashion, between the hills behind it and the sea. The mosque of the kulliye, which consists also of a madrasah, primary school and a fountain, is situated on a hillside overlooking the sea (Figure 6). Sinan positioned the front part of the mosque toward the sea and in this way, made it possible for a person walking toward the şadırvan (fountain) to perform his ablutions with a full view of the Bosphorus[37]. Another indication that Sinan based his urban designs on the environmental fabric can be seen here in the way he turned the front of the mosque into a U shape, avoiding a design that would recall a madrasah and leaving this sector of the architecture open[38]. Sinan also avoided a geometrical arrangement here.

Another striking example of the way Sinan shaped the building masses with an eye toward the plot of land they were situated on is Üsküdar Atik Valide Kulliye (1579), his last large kulliye that he built in Üsküdar for Nurbanu

33 Uğur Tanyeli, "Sinan Mimarlığında Dış Mekan Biçimlendirilmesi," *Mimarlık*, XC/II, 1994, p. 74.

34 Eyice, *a.g.e.*, p. 171.

35 Kuban, *Kent Tarihi*, p. 256.

36 Ahunbay, *a.g.e.*, p. 137.

37 Adnan Turani, *Dünya Sanat Tarihi*, Remzi Kitabevi, Istanbul 1997, p. 413.

38 Turani, *a.g.e.*, p. 413.

Valide Sultan, the mother of Murat III. This complex, which is the largest in the city after Süleymaniye and Fatih, was positioned on a hill overlooking the Bosphorus in the district of Toptaşı and comprises a mosque, madrasah, tekke (Islamic lodge), sıbyan mektep (primary school), darülhadis, darülkurra, tabhane, caravanserai, imaret, darüşşifa and hammam[39]. The kulliye was built to stress the increasing importance of Üsküdar and, together with the Karacaahmet Cemetery, it constituted the border to Üsküdar on this side of the city up until the end of the 19th century. The various components of the kulliye were built on tiers along a slope descending into Çavuş Stream on the north. The structures were arranged in a four-tier design. The mosque stood at the top, with the hankâh (dervish meeting room), madrasah, school, darülhadis and darülkurra on the next tier below, and below these, the darüzziyâfe (kitchen), tabhane (guest room) and darüşşşifa. On the very bottom tier was the caravanserai (Figure 7). As can also be seen in other kulliyes, the hammam, or bathhouse, was kept outside of this group of structures[40]. The mosque and madrasah group, which comprised the central part of the kulliye, was in the middle and to the north of the mosque, the şadırvan (fountain) courtyard stood on the same elevation as the mosque, and this was followed by a madrasah that was adjacent to the courtyard but a little lower in elevation[41]. The darülkurra, darülhadis, darüşşifa and aşhane (soup kitchen), tabhane and the caravanserai with its imaret were constructed side by side on an island of land to the west but each were separate and independent structures. Sinan produced a harmonious and balanced monumental complex here, having to abide by the topographical features of the land to create the kulliye's madrasah and tekke, which he designed on a skewed angle, keeping the madrasah at a high elevation with a one-story substructure beneath it[42]. The axis of the kulliye's tekke looked toward the urban surroundings (Valide Kahyası Street).

The kulliye's organic design was arranged on a horizontally asymmetrical plan along the west-east axis and it was positioned around a hillside in rising tiers of terraces. The tiered pattern of the structures along the hill sloping downward to the north and west not only merged architecture with the landscape but also emphasized the hierarchical arrangement between the components of the kulliye.

39 Kuban, *Kent Tarihi,* p. 256.

40 Kuran, *a.g.e.*, p. 170.

41 Baha Tanman, "Atik Valide Külliyesi," *Dünden Bugüne İstanbul Ansiklopedisi* I, 1994, p. 407.

42 Alkan, *a.g.e.*, p. 61.

The mosque and school at the top with the madrasah, darülhadis and darülkurra one story below and the imaret and darüşşifa beneath that ended at the bottom with the caravanserai[43]. As in the other kulliyes, the hammam was placed outside the main group of structures. Viewing the kulliye from a general perspective, it can be seen that there is no common spatial design that suggests relationships even between the buildings. The relationships are limited to the gates that open out into the streets in-between them. In this kulliye in which Sinan fitted a crowded group of structures, he did not look for an integrating space. Although constructed on a narrow and sloping piece of land such as at Süleymaniye, the orderly arrangement to be found in Süleymaniye and the relationship between structures can not be seen here. As with the madrasah and tekke, the buildings have been constructed on an irregular geometry because of the narrow and slanted nature of the land.

Menzil (Halting Station) Kulliyes

The Menzil Kulliyes were built on roads, passes, thoroughfares, mountain passes and in these locations, on major routes where pedestrians, the military, postal units, merchants and caravans passed. Starting from the 15th century, the menzil kulliyes were built on the major roads of Anatolia and Rumelia and their numbers increased after the conquests in Rumelia and the campaigns made into Europe, especially in the 16th century, along the routes that tied Thrace to Europe[44]. The menzil kulliyes had significant ties to the roads and their main components comprised lodgings and spaces for commercial activities. Because the populations living at these stations were lesser in number than in the cities, the mosques were built on a smaller scale and consequently, the primary structure in these kulliyes was the caravanserai. The station road reaches the caravanserais from inside the arasta, which forms the axis of the kulliye[45].

In the kulliyes Sinan built along the caravan and campaign routes, in the halting stations, the arasta (marketplace), hammam and caravanserais occupy important places. The Lüleburgaz Sokullu Mehmed Pasha Kulliye, dated to 1569-1570, has at its spine an arasta with 59 shops that was built on two sides of the road that marked the Istanbul-Edirne-Central Europe route[46]. To the south of

43 Yılmaz, *a.g.e.*, p. 32.

44 Özer, *a.g.e.*, p.203.

45 Ahunbay, *a.g.e.*, p. 137.

46 Cantay, *a.g.e.*, p. 77.

the arasta are the mosque, madrasah and primary school, and on the north, the caravanserai and tabhane (guest house) (Figure 8). Here, Sinan creates wholeness by tying together the blocks of structures on the north and south by means of a prayer dome. Sinan has given this town kulliye the identity of a major city work of architecture. Overlapping the road, the axis of the kulliye is the arasta. The prayer dome, which is perpendicular to the arasta, on the Kiblah axis, dominates the kulliye more than the mosque[47]. The prayer dome is an important and central part of the entirety of the kulliye. The mosque, madrasah and primary school on the south comprise a structural whole. The madrasah surrounds the mosque courtyard on three sides. As it surrounds the mosque and its fountained courtyard, only the north facade of the madrasah is integrated with the arasta and Prayer Dome as a separate block. In terms of the layout, the outer portico separates the mosque from the whole of the madrasah-courtyard, and this effect is strengthened by the voluminous domed entrances on the two sides of the courtyard[48]. The design of the kulliye is the most interesting of the urban-scale planning concepts implemented by Sinan. In this concept, the units comprising the kulliye are placed successively on one or two axes and are lined up and joined together. In other words, the units have not only lost their independence but have also gone beyond forming a geometrical pattern by being placed in the direction of the axis or axes they are situated upon. The closest typological examples of axial planning are the mosques integrated with the madrasah that is positioned around the courtyard[49].

The kulliye built in Gebze by Çoban Mustafa Pasha for his wife, the daughter of Yavuz Sultan Selim, is Sinan's best halting station kulliye. The caravans heading toward Anatolia and Iran, the passage through this area of hadji candidates and military battalions toward the east called for a kulliye on the hills to the northwest of Gebze that would meet the needs of these masses and therefore this kulliye was built on a considerably large scale[50]. Besides the mosque, the kulliye consists of a madrasah, türbe, imaret, tekke, library, darüşşifa, caravanserai and a hammam inside an arasta, all of these units surrounding the mosque in the center in a U-formation. Sinan used a balanced geometrical arrangement here (Figure 9). By arranging the structural units of the kulliye according to their functions, a central

47 Şükrü Sönmezer and Semra Ögel, "Lüleburgaz Sokullu Mehmed Paşa Camii'nde Oran-Strüktür İlişkisi," *itüdergisi/a mimarlık, planlama, tasarım,* III/I, 2004, p. 75.

48 Sönmezer and Ögel, *a.g.e.*, p. 75.

49 Tanyeli, "Sinan Mimarlığında Dış Mekan," p. 70.

50 Kuban, "*Süleymaniye and 16th Century",* p. 65.

area was formed with one side open and three sides with structures grouped in U-formation. There are roads on all four sides of Çoban Mustafa Pasha Kulliye. Toward the north is situated a part of the guest room, the lavatories, the caravansarai and the tekke. On the edge of the road toward the east stand the guesthouse and madrasah[51]. On the road leading west, there is the guestroom, the main entrance to the mosque courtyard, the library, the imaret building and the kitchens. On the road to the south stand the wall and entrance to the imaret courtyard, the türbe courtyard wall, the entrance to the mosque courtyard, the outer courtyard wall and entrance of the madrasah. This area is made up two spaces--the mosque courtyard and the türbe courtyard[52]. The mosque is situated at a central position on the north-south axis. The fountain is on the north and the türbe on the south.

Another halting station kulliye of Sinan is the Damascus Süleymaniye Kulliye (1567) that was built for Sultan Suleyman the Magnificent, where the architect used a strictly symmetrical arrangement. Selim I constructed the kulliye in his own name in 1518 and Sinan implemented a symmetrical plan on a longitudinal axis for this complex. The mosque rises on one side of an expansive courtyard and has cells on two sides, directly across which the main body of the tekke and its adjoining rooms extend. On two sides of the courtyard are large caravanserais. In place of the guest rooms placed adjacent to the mosque in previous periods, Sinan innovates by situating the cells of the tekke across from the courtyard as units that will take on the duties of the guest rooms[53]. The symmetrical and rectangular scheme of the mosque and imaret placed inside the rectangular courtyard brings the area a unique and usable two-axis arrangement[54]. This arrangement, however, later in the era of Selim II, when the second phase of the construction was in process, was spoiled with the addition of a madrasah and arasta by another architect, who turned the plan into a three-axis arrangement. The axial arrangement is implemented here on a large scale.

51 Ismail A. Öz, "Çoban Mustafa Paşa Külliyesi" (master thesis), Mimar Sinan Güzel Sanatlar Üniversitesi, Sosyal Bilimler Enstitüsü, 2015, p. 6.

52 Kuban, "*Süleymaniye and 16th Century,*" p. 65.

53 Eyice, *a.g.e.*, p. 171.

54 Neriman Güçhan Şahin, Esin Kuleli, *Şam Süleymaniye Külliyesi ve Koruma Sorunları,* Vakıflar Genel Müdürlüğü Yayınları, Ankara 2009, p. 45.

As in similar examples, the main artery passes through the kulliye in this one as well[55].

The Payas Sokollu Mehmet Pasha Kulliye, commissioned to Sinan in 1574 by Sokollu Mehmet Pasa, was built as a menzil kulliye at the point of intersection of the Haj and Silk Road caravans on the Istanbul, Aleppo, Damascus, Hejaz route. Payas was the location where goods coming into Aleppo via the Silk Road would be sent to Cyprus and the countries of the Mediterranean. The Kulliye was constructed during the time of Selim II in order to secure the safety of and provide accommodations for the Hadjis and merchant caravans, the port and the military brigades that used this route. It is the largest kulliye in Anatolia. Occupying an area of 13,000 m^2, its main spine consists of a 48-shop arasta on its north-south axis. The arasta opens out onto the inn, the guest house and the imaret on the east, while opening out to the mosque inside the madrasah, the primary school and the fortress on the west. The "Prayer Dome" found right in the middle of the arasta is the architectural element that joins all of the structures together on the north-south and east-west axes. All of the elements of the kulliye, such as the khan, hammam and mosque, are connected to the arasta, which lies on a southeastern-northwestern axis. Like a spine, the arasta has taken on the function of being a load-carrier for the kulliye[56]. As in Lüleburgaz, here too the arasta defines the two sections of the complex, with the mosque, madrasah, school and hammam on one side of it and on the other, the caravanserai, manhane and darüzziyâfe (Figure 10). There is a prayer dome in the center of the arasta here too and it is through the portal beneath this prayer dome that the caravanserai is accessed. The darüzziyâfe that is adjacent to the south wall of the caravanserai is connected to the large courtyard of the caravanserai by a narrow passageway. This arrangement is reminiscent of the Lüleburgaz Sokollu Kulliye[57].

Another halting station kulliye is located between Konya and Adana and dated to 1560. This is Konya Karapınar Soltan Selim Kulliye, which comprises a mosque, two caravanserais, a hammam, imaret, guest room, arasta, primary school, the muvakkit chamber (the muvakkit determined the times of the azan) and a fountain. The guest room and the caravanserai have been designed as two wings on the right and left of a path that includes the mosque on the south end

55 Eyice, *a.g.e.*, p. 171.

56 Tanyeli, "Sinan Mimarlığında Dış Mekan," p. 69.

57 Kuran, *a.g.e.*, p. 170.

and the fountain on the north end. The hammam is on the east side of this group, standing as an independent structure[58]. The guest room in front of the mosque is made up of domed rooms and iwans on two sides of the central path while on the north side, the caravanserai consists of a rectangular stone floor with wings attached to it on two sides. The caravanserai was built in the form of a double-inn on the Konya Ereğli road to the north of the mosque.

Vizier Kulliyes

In order to understand Architect Sinan's approach to planning, his other kulliyes must also be mentioned. These smaller complexes were built by or for grand viziers or viziers.

Kadırga Sokullu Mehmet Pasha Kulliye, commissioned to Architect Sinan in 1571 by the wife of Sokullu Mehmet Pasa, one of the most outstanding grand viziers of the era of Sultan Suleyman the Magnificent, stands on a hill stretching out from east to west at the former center of the city, on an uneven piece of land. The kulliye consists of a mosque, a madrasah and a tekke (Islamic lodge) and Sinan used the effective method of terracing to cope with this problematic terrain in his urban spatial organization, positioning the units of the kulliye on different elevations. The structures are situated on different platforms spreading out over the terrain that slopes from south to north and from east to west (Figure 11). All of the surrounding roads here are on a slope and the distance between the kulliye's principal entrance and the courtyard elevation is 5 m. The distance between the courtyard elevation and the elevation of the tekke courtyard behind the mosque is 4 m. Despite these shortcomings, however, Sinan placed the structure quite masterfully[59]. The structure is accessed via stairs that are situated beneath the classroom of the madrasah, which is at the lowest elevation, claiming a view of the courtyard portico and fountain[60]. Again, Sinan used an immensely creative formula in the madrasah by placing a vaulted passageway in such a way as to balance out the elevations of the courtyard and road[61]. The courtyard has two side entrances positioned in line with the different elevations of the roads. The

58 Kuran, *a.g.e.*, p. 170.

59 İnci N. Aslanoğlu, "Siting of Sinan's Külliyes in İstanbul," ed. A. Petruccioli, *Environmental Design: Journal of the Islamic Environmental Design Research Centre,* Carucci Editions, Rome 1987, p. 196.

60 Doğan Kuban, "Sokollu Mehmed Paşa Külliyesi", *Dünden Bugüne İstanbul Ansiklopedisi* VII, 1994e, p. 32.

61 Alkan, *a.g.e.*, p. 62.

tekke at the north of the mosque is separated from the rest of the kulliye by an intermediate wall positioned between it and the mosque. These entrances point to the spatial planning skills of a master urban architect who knows how to use the land and responds to the challenge of the topography. The entrances at the same time do not spoil the absolute symmetry of the main courtyard[62]. Built on slanting land, the kulliye is organically integrated with the city fabric.

Eyüp Zal Mahmud Pasha Kulliye, commissioned to Architect Sinan in 1577 by Zal Mahmut Pasha, one of the viziers of the era of Suleyman, is also a striking example of Sinan's mastery of the terrain through his use of a two-tiered plan arrangement. Because of the uneven spread of the land, the kulliye, made up of the mosque, madrasah, tomb and fountain, was constructed in two tiers. Since the land slants down toward the Golden Horn, the mosque was planted on a terrace and tiers were built to make use of the land efficiently. Shops were built in the area to the north of the mosque (Figure 12). There are two madrasahs on the two different tiers of the kulliye. One of these tiers is on the elevation of the mosque and it forms the fountained courtyard of the mosque with an entrance on Zal Mahmud Pasha Street. The other madrasah situated on the lower elevation forms a courtyard surrounding the tombs of Zal Mahmud Pasha and his wife Esma Soltan[63]. Zal Pasha Street, which lies adjacent to the second madrasah on the higher elevation, affected the madrasah's geometry and as a solution, Sinan arranged the madrasah's rooms asymmetrically along steps leading in the direction of the avenue and, pushing the classroom into a corner, he placed porticos in front of only two of the rooms in the group. The other rooms on the southwest were arranged in irregular rectangular patterns and covered with cavetto vaults in order to conform to the crooked boundaries of the land and porticos were not placed in front of these[64]. Sinan connected the upper and lower courtyards that were positioned at different elevations by stairs, creating a flow in the outdoor space. This plan of a double-terrace on two different levels created a three-story madrasah standing in front of the mosque in a U-shape and allowed the mosque and the madrasah to benefit from the same fountained courtyard. The connection between the upper and lower courtyard was made on a free plan and

62 Çiğdem Kafesçioğlu, *Constantinopolis/Istanbul: Cultural Encounter, Imperial Vision, and the Construction of the Ottoman Capital*, University Park, Pa: Pennsylvania State University Press, 2009, p. 54.

63 Doğan Kuban, "Zal Mahmud Paşa Külliyesi," *Dünden Bugüne İstanbul Ansiklopedisi*, 1994d, VII, p. 542.

64 Kuban, "Zal Mahmud Paşa Külliyesi," p. 542.

this is important in that it is an indication of Sinan's emphasis on the concept of free-flowing space. The group of structures in the kulliye were designed on steeply inclined land in an organic and asymmetrical fashion. Two separate centers were created in the kulliye—one around the fountain and the other around the tomb[65].

At Tahtakale Rüstem Pasha (1561) mosque, another one of the major trademarks of the Istanbul side of the harbor, Sinan once again made professional and efficient use of the topographical conditions in the area and on this very valuable tract of land built two commercial buildings in close proximity to each other, organically positioning the mosque and equipping it with shops underneath. Here, Sinan raised the floor of the mosque on a vaulted platform, bringing the structure one story above the elevation of the marketplace below in its location on Istanbul's oldest street in the busy market region of Uzunçarşı Street, which slopes down to the shore. Shops were arranged on the street elevation underneath the mosque. The stairs on two sides of the mosque's facade are 6 meters high and these lead to an uncovered, narrow and long terrace[66]. Sinan raises the elevation of the structure here, opening space for shops and also making way for a magnificent view of the sea at this point, while at the same time creating an urban motif of rescuing the mosque from the bustling noises of the market below. In its position here, the structure dominates the shoreline perspective. Designed as a kulliye, the structure is the home of Large and Small Rüstem Pasha Khans otherwise known as Large Cukurhan and Small Cukurhan, and also has a fountain. While the Süleymaniye Mosque takes a dominating place in the city silhouette on the hills, Rüstem Pasha mosque is positioned below it, as if to create a sense of hierarchy.

Another example of Sinan Agha's prowess as an urban planner creating architectural compositions according to the shape of the land is Topkapı Kara Ahmet Pasha Kulliye, which was commissioned to Architect Sinan in 1558 by Gazi Kara Ahmet Pasa, Grand Vizier to Sultan Süleyman the Magnificent and according to its endowment, should have comprised a mosque, primary school, madrasah, an Islamic monastery and a hospice but ultimately was built in the form of a mosque, madrasah, tomb and primary school. Sinan shaped this kulliye's courtyard walls according to the street fabric and the geometry of the land. Across

65 Pinon, *a.g.e.*, p. 111.

66 Turani, *a.g.e.*, p. 424.

from the mosque, rising on one side of an expansive courtyard stand madrasah cells, positioned in a geometrical arrangement[67].

Another kulliye, a miniaturized one composed of a mosque, tomb and madrasah, Şemsi Ahmed Pasha Kulliye on the coasts of Üsküdar was built in 1580 and also exhibits Sinan's skill in placing structures on the land in harmony with the local topography. Sinan placed the mosque and tomb right next to each other on the northeast of the courtyard, on a 37° angle to the southeast relative to the madrasah's arm that is perpendicular to the Bosphorus[68]. The direction of the Kiblah influenced the positioning of the mosque here and Sinan placed the mosque on a transverse plan. The madrasah, which was in turn positioned relative to the mosque, was arranged with two extensions on two sides of the courtyard in an L-shape (Figure 13). The courtyard, which lies between the madrasah and the mosque, opens out toward the Bosphorus at an angle from the entrance, an example of a consciously planned asymmetry. The kulliye's courtyard wall on the side of the sea was designed with a window to enable a view of the seascape[69]. The part of the mosque overlooking the sea has been left open on the sea side. Although the madrasah partially occupies the space of the courtyard, it does not continue in the direction of the shore[70]. This kulliye of small dimensions is an organic mixture of architecture and the natural environment. While Sinan planted the mosque and the tomb in the direction of the Kiblah, the madrasah was positioned parallel to the shoreline. By keeping one extension of the madrasah short, an L-shaped asymmetrical structure with a view of the Bosphorus has been achieved. Parallel to the two extensions of the madrasah are surrounding walls that envelop the kulliye. The complex is a clear reflection of Sinan's sensitivity to scenery, the urban fabric and conforming to the lay of the land[71].

Sinan and the Urban Perspective

Sinan's aim in creating his kulliyes is not actually planning a part of a city so much as it is designing a complex of structures. In doing this, however, he never neglects the urban fabric. Sinan's goal with his kulliyes is to provide the city with

67 Eyice, *a.g.e.*, p. 169.

68 Gültekin Günay, "Şemsi Paşa Külliyesi," *Dünden Bugüne İstanbul Ansiklopedisi* VI, 1994, p. 157.

69 Aslanoğlu, *a.g.e.*, p. 193.

70 Eyice, *a.g.e.*, p. 172.

71 Doğan Kuban, "Rüstem Paşa Camii," *Dünden Bugüne İstanbul Ansiklopedisi* VI, 1994c, p. 371.

a new course and perspective. By enriching the shoreline with his works, Sinan provided the city with three important structures that he designed within the urban motif. One of these is the Üsküdar Mihrimah Sultan kulliye mosque; the second is Sadrazam Rüstem Pasa mosque in Tahtakale, and the third is again in Üsküdar, Sinan's smallest kulliye, Şemsi Ahmet Pasa Kulliye. With these structures, Sinan carried the city's contours out beyond its walls At the same time, Sinan created a set of multiple viewpoints rather than a single perspective[72].

Sinan's kulliyes took the magnificence of Istanbul's beauty beyond its already dramatic patterns. Making the biggest contribution to the city after Fatih, Sinan created splendid mosque complexes across the hills of Istanbul for Süleyman, Şehzade Mehmet and Mihrimah Sultan. His mosques are in close harmony with Istanbul's topographic features. None of them stand as entities by and of themselves as they lie in close proximity with other structures. In this structured relationship, they act as the *genius loci* of the urban fabric[73]. Sinan reshaped the entire look of the city in the 1580's. Over the sixteenth century, impressive architectural accentuations were added to a developing cityscape that blended with the natural topography. Sinan molded a city that looked beyond its confines, perpetuating a concept of city planning where massive and defined sites accented the urban vista in separate increments and were identified by domed mosque complexes. These complexes were self-centered entities that expanded as urban spaces that flowed out into their organic peripheries, closely connecting with the surrounding architecture and the city fabric[74].

Sinan manipulated hilltops by adjusting elevations, connected with neighborhoods, mixed diagonal streets with rectilinear compositions to soften the monotony. Corners were enhanced with open spaces to provide perfect spots to enjoy the scenery at major street entrances. These vantage points provide oblique perspectives of the mosques, softening the effect of the central axis to promote diagonal panoramas[75].

He regarded the kulliyes an important semiotic feature of the urban scene and chose their locations accordingly, being particularly meticulous in his selection

72 Gülru Necipoğlu, *The Age of Sinan: Architectural Culture in the Ottoman Empire*, Princeton University Press, Princeton and Oxford 2005, p. 111.

73 Necipoğlu, *a.g.e.*, p. 111.

74 Necipoğlu, *a.g.e.*, pp. 108-109.

75 Necipoğlu, *a.g.e.*, *a.g.e.*, p. 110.

of sultan kulliyes. To direct the people who would be moving around in these kulliyes, all of them reflections of a spatial planning genius, Sinan felt the need for various symbols and toward this aim, he positioned the various structures of a domed entrance, a fountain, a classroom and a prayer dome on defined axes[76]. In the kulliye courtyards, he designed viewing points from where the city could be enjoyed. In this context, the outer courtyard of Süleymaniye looks over the Golden Horn and the Bosphorus and Mihrimah Sultan mosque looks over the historical peninsula and the European side of the Bosphorus.

Sinan injected an Ottoman identity into a Byzantine city and this approach can be seen in another three of the structures that he consciously positioned along the Galata shore, contributing to the shape of the shoreline silhouette. One of the buildings in this area, which is a region that Sinan tried to enrich with an Ottoman image, using a formal narrative to define the urban organization, dominated the region as a structure that was central to the coastline[77]. This was Rüstem Pasa Caravanserai (1550). This is joined by Azapkapı Mosque (1577) in the south corner of the Golden Horn and by Kılıç Ali Paşa Kulliye (1580) on the north corner of this same area. The two mosques at Tophane and Azapkapı comprise the elements of an urban aesthetic that defines the two boundaries of Galata.

Sinan also built structures that represented images of the Ottoman-Turk character on the major artery networks surrounding the city. The kulliyes of Hadim İbrahim Pasha at Silivrikapı, Kara Ahmet Pasha at Topkapı and Mihrimah Sultan at Edirnekapı became symbolic structures standing over the gates of the city on these major arteries[78]. Sinan paid particular attention to organically integrating these buildings with the roads.

He used vertical elements as a structural means of striking a balance and in this context, he considered minarets significant urban vistas and placed importance on them in their roles of creating an urban vision[79]. The minarets spoiled the horizontal geometry of Sinan's urban scheme but they served as an articulation of the relationship between sky and earth. The location where the aesthetic balance

76 Godfrey Goodwin, *A History of Ottoman Architecture*, Thames & Hudson, London 1971, 87.

77 Kuban, *Kent Tarihi*, p. 254.

78 İlknur Aktuğ-Kolay, "Mimar ve Mühendis Olarak Mimar Sinan", ed. Coşkun Yılmaz, *Yeni Bir Turizm Rotası. Büyük Usta Mimar Sinan,* İstanbul: Çekül Vakfi, 2015, p. 114.

79 Hüsrev Tayla, "Sinan Minarelerinin Mimaride ve Şehircilikteki Yeri," *Uluslararası Mimar Sinan Sempozyumu Bildirileri, 24-27 Ocak*, Ankara: TTK Yay., Ankara 1996, p. 62.

set between minaret and mosque can best be seen is at Süleymaniye, where the minarets in the direction of the courtyard are lower and have 2 balconies whereas the one on the wing of the mosque is higher and has 3 balconies. This design provides the city with a graded panorama. The four tall minarets at Selimiye are located at the corners of the main dome, emphasizing the massive nature of the structure. Attentive to the harmony between dome and minaret, Sinan raised the minarets at Selimiye to the height he wanted without creating a visual disturbance while also capturing very harmonious proportions.

Architect Sinan created a new urban fabric and in doing this, another instrument he used was the dome. Sinan's domes constitute the epitome of the development of the domed space and the splendid silhouettes of the kulliyes signify the attempt to create different areas inside the main mass of the structure, a particular spatial element on which Sinan places great importance. The geometrical physiognomy formed by the cylindrical minarets and spherical domes are significant parts of the urban scale.

Conclusions

Mimar Sinan led kulliye architecture into an ultimate maturation, establishing most of these complexes at key points of the city and creating major accents in its physical and aesthetic fabric. In selecting and designing the kulliyes, which are structures that are the most visible of the works of Sinan that demonstrate the urban construct, Sinan attached great importance to making the kulliye visible from afar and turning it into a symbol of its location. Instead of leaving an impression of only a single perspective, the master architect's aim was to manifest a series of views that could be embraced from different angles.

Sinan took into consideration the structure of the land, exterior aesthetic features, as well as the general fabric of the city itself. Every new kulliye, together with its annexes, gifted the city with a new visual asset. The complexes were placed on the higher points of the city and, at their center, representing a strong and massive feature of the kulliye design, stood the mosque, dominating over the city's silhouette and panorama when viewed from different vantage points.

In designing a kulliye, Sinan attempted to create a composition that would be integrated into the city. Sinan created functional urban pockets that harbored the architectural details of the urban space, never separating the city from its architecture. When deciding on where a structure would be built, it was

important to him that the emphasis would be on the relationship and harmony with neighboring structures. There is a physical continuity between the kulliye and its surroundings. Sinan adapted the kulliye to the topography and created a harmonious relationship between the terrain and the buildings. The structures within the kulliye are balanced and in accord with each other. The kulliye buildings have been emphasized with a surrounding organic network of main roads and streets. Sinan also places importance on a harmonious relationship between the kulliyes and the scenery. The kulliyes are organically integrated with the city fabric and their purpose is to offer direction and perspective to the city itself. In this context, Sinan designed scenic viewpoints in the kulliye courtyards that would offer the opportunity to enjoy the city.

Sinan more prominently accented or gave monumental stature to structures that served commercial (khans, arasta, shops) and social purposes (tabhanes, imarets, hammams) while in the case of the halting station (*menzil*) kulliyes, where functionality was of the essence, the architect's planning highlighted the arastas, caravansarais, prayer domes and the streets. One of the halting station kulliyes that was established around the axis of the arasta was Lüleburgaz Sokullu Mehmed Pasha; another is the Payas Sokollu Mehmet Pasha Kulliye. In Lüleburgaz, the arasta, like a spine, has taken on the function of being a load-carrier for the kulliye. At Payas again, the main spine of the kulliye is the arasta on the north-south axis.

Sinan uses different arrangements in this group of kulliyes. For example, the symmetry of the layout of the Damascus Süleymaniye Kulleye, where the caravansarai is of large proportions, is implemented rigidly. Sometimes, stemming from the requirements of the city fabric, the structures of Sinan's kulliyes are placed on a different axis. The units comprising the Lüleburgaz Sokullu Mehmed Pasha kulliye have been placed on an axial layout. While sometimes a balanced geometrical arrangement has been used, at other times the layout diverges from a geometrical design.

Another concept of planning that Mimar Sinan implements in his halting station kulliyes is to include the main street road in the layout, having it cross through the kulliye itself. Indeed, the road does pass through the Lüleburgaz Sokullu Mehmed Pasha Kulliye. There are in fact roads coming in from four directions surrounding the Çoban Mustafa Pasha kulliye. Sinan's kulliye structures have been placed on north, south, east and west roadways.

A new element that Sinan has used in this group of structures is the "prayer dome." The prayer dome at Lüleburgaz Sokullu Mehmed Pasha Kulliye occupies a central place within the entirety of the kulliye. The mosque, madrasah and arasta have been integrated with the prayer dome. In the Payas Sokullu Mehmet Pasha Kulliye, the prayer dome is situated in the exact center of the arasta, standing as an element that joins together all of the structures on a north-south and east-west axis.

As can be seen, for Sinan, who bestowed upon Ottoman Istanbul the silhouette that dominated and characterized the city, urban design was a composition of buildings, environment, terrain and aesthetics; the city was a living organism that needed to be rationally constructed. When the distribution of Sinan's buildings are considered within the whole of the city, it is observed that he worked with criteria that could be perceived within the entirety of the urban fabric, and with an interpretation of the city that was his own composition. Not seeing buildings and building complexes as independent entities, Sinan designed his structures as massive individual entities that together shaped and defined the city. Sinan's kulliyes made major contributions to the urban countenance of Istanbul.

BIBLIOGRAPHY

Ahunbay, Zeynep, "Mimar Sinan'ın Şehirci Yönü", *VI. Vakıf Haftası. Türk Vakıf Medeniyeti Çerçevesinde Mimar Sinan ve Dönemi Sempozyumu, 5-8 Aralık 1988,* İstanbul Vakıflar Genel Müdürlüğü Yayınları, Istanbul 1988, pp. 134-52.

Aktuğ-Kolay, İlknur, "Mimar ve Mühendis Olarak Mimar Sinan", ed. Coşkun Yılmaz, *Yeni Bir Turizm Rotası. Büyük Usta Mimar Sinan,* Çekül Vakfı, İstanbul 2015, pp. 107-115.

Alioğlu, Fisun and Aydemir, Olcay, "Haseki Hürrem Sultan Külliyesi. Külliyenin Konumlanma Özellikleri", *Vakıf Restorasyon Yıllığı* Sayı 2, 2011, 6-18.

Alkan, Gülay, "İstanbul Mimar Sinan Dönemi Külliyeleri İçinde Medreselerin Yeri ve 'Edirnekapı Mihrimah Sultan Medresesi", (Unpublished MA thesis), Yıldız Teknik Üniversitesi, 2007.

Aslanoğlu, N. Inci, "Siting of Sinan's Külliyes in İstanbul", ed. A. Petruccioli, *Environmental Design: Journal of the Islamic Environmental Design Research Centre,* Carucci Editions, Rome 1987, pp. 193-199.

Borie, Alain, "Sinan's Külliyes: Architectural Compositions", ed. A. Petruccioli, *Environmental Design: Journal of the Islamic Environmental Design Research Centre,* Carucci Editions, Rome 1987, pp. 112-123.

Cantay, Gönül,"16. Yüzyıl Küliyelerinin Şehirlerin Tarihi Topografyasını Belirlemesi", *Prof. Dr. Yılmaz Önge Armağan Kitabı*, Konya: Selçuklu Araştırmaları Merkezi, 1993, pp. 75-85.

Denny, B. Walter, "A Sixteenth Century Architectural Plan of Istanbul", *JSTOR* 8, 1970, pp. 49-62.

Doğan, Sema, "Haseki Külliyesi", *TDV İslam Ansiklopedisi,* 16, 1997, pp. 370-372.

Erarslan, Alev, "Mimar Sinan'ın Şehirciliği Üzerine Panoramik Bir Bakış", *Toplumsal Tarih,* Sayı 213, Eylül 2011, pp. 86-92.

Eyice, Semavi, "Mimar Sinan'ın Külliyeleri", *VI. Vakıf Haftası. Türk Vakıf Medeniyeti Çerçevesinde Mimar Sinan ve Dönemi Sempozyumu, 5-8 Aralık 1988,* İstanbul Vakıflar Genel Müdürlüğü Yayınları, Istanbul 1988, pp. 169-200.

Goodwin, Godfrey, *A History of Ottoman Architecture*, Thames & Hudson, London 1971.

————, *Sinan: Ottoman Architecture and Its Values Today,* London: Saqi Book, 1993.

Güçhan-Şahin and Neriman Kuleli, Esin, *Şam Süleymaniye Külliyesi ve Koruma Sorunları,* Vakıflar Genel Müdürlüğü Yayınları, Ankara 2009.

Gültekin, Günay, "Şemsi Paşa Külliyesi", *Dünden Bugüne İstanbul Ansiklopedisi 7,* 1994, p. 157.

Johnston, J. Norman, "The Urban World of the Matraki Manuscript", *Near Eastern Studies Journal* 30, 1971, pp. 159-169.

Kafesçioğlu, Çiğdem, *Constantinopolis/Istanbul: Cultural Encounter, Imperial Vision, and the Construction of the Ottoman Capital,* University Park, Pa: Pennsylvania State University Press, 2009.

Kuban, Doğan, "Süleymaniye and 16th Century İstanbul", ed. A. Petruccioli, *Environmental Design: Journal of the Islamic Environmental Design Research Centre,* Carucci Editions, Rome 1987, pp. 62-69.

————, "Mimar Sinan Külliyeleri", ed. S. Bayram, *Mimar Başı Koca Sinan. Yaşadığı Çağ ve Eserleri,* Vakıflar Genel Müdürlüğü, Istanbul 1988, pp. 167-173.

————, "Kentin Gelişmesi", *Dünden Bugüne İstanbul Ansiklopedisi* 4, 1994, pp. 533545.

————, "Süleymaniye Külliyesi", *Dünden Bugüne İstanbul Ansiklopedisi* 7, 1994a, pp. 98-103.

————, "Şehzade Külliyesi", *Dünden Bugüne İstanbul Ansiklopedisi* 7, 1994b, pp. 152156.

————, "Rüstem Paşa Camii", *Dünden Bugüne İstanbul Ansiklopedisi* 6, 1994c, pp. 371-374.

————, "Zal Mahmud Paşa Külliyesi", *Dünden Bugüne İstanbul Ansiklopedisi* 7, 1994d, pp. 542-544.

————, "Sokollu Mehmed Paşa Külliyesi", *Dünden Bugüne İstanbul Ansiklopedisi* 7, 1994e, pp. 32-36.

————, *İstanbul Bir Kent Tarihi,* Tarih Vakfı Yurt Yayınları 98, Istanbul 1996.

Köksal, Seyhan, "Çoban Mustafa Paşa Külliyesi", *TDV Islam Ansiklopedisi,* 8, 1993, pp. 351-354.

Kuran, Abdullah, *Mimar Sinan,* İstanbul: Hürriyet Vakfi Yayınları 1986.

Müderrisoglu, M. Fatih, *16. yüzyılda Osmanlı İmparatorluğu'nda İnşa Edilen Menzil Külliyeleri,* (doctarete dissertation) Hacettepe Üniversitesi 1993.

————, "Lüleburgaz Sokullu Mehmed Paşa Külliyesi", *TDV Islam Ansiklopedisi,* Cilt 37, 1993, pp. 363-364.

Necipoğlu, Gülru, *The Age of Sinan: Architectural Culture in the Ottoman Empire,* Princeton and Oxford: Princeton University Press, 2005.

Öz, A.İsmail, *Çoban Mustafa Paşa Külliyesi,* (unpublished MS thesis) Mimar Sinan Güzel Sanatlar Üniversitesi 2015.

Özer, Filiz, "The Complexes Built By Sinan", ed. A. Petruccioli, *Environmental Design: Journal of the Islamic Environmental Design Research Centre,* Carucci Editions, Rome 1987, pp. 203.

Pinon, Pierre, "Sinan's Külliyes: Inscriptions into the Urban Fabric", ed. A. Petruccioli, *Environmental Design: Journal of the Islamic Environmental Design Research Centre,* Carucci Editions, Rome 1987, pp. 110-119.

Reyhanlı, Tülay, *Osmanlılarda Külliye Mimarisinin Gelişmesi*, (doctaral dissertation), İstanbul Universitesi 1974.

Rogers, J. Michael, "Itineraries and Town Views in Ottoman Histories", ed. J. B. Harley, David Woodward, *History of Cartography, vol.2.book 1,* The University of Chicago Press, Chicago 1992, pp. 237-238.

Saoud, Rabah, "Sinan: A Great Ottoman Architect and Urban Designer", *Foundation for Science Technology and Civilization,* 2007, pp. 2-15.

Sönmezer, Şükrü and Ögel, Semra, "Lüleburgaz Sokullu Mehmed Paşa Camii'nde Oran-Strüktür İlişkisi", *itüdergisi/a mimarlık, planlama, tasarım,* Cilt:3, Sayı:1, 2004, pp. 75-79.

Sözen, Metin, *Türk Mimarisinin Gelişimi ve Mimar Sinan*, Istanbul: Türkiye İş Bankası Kültür Yayınları 1975.

Tanman, Baha, "Atik Valide Külliyesi", *Dünden Bugüne İstanbul Ansiklopedisi,* 1, 1994, pp. 407-408.

Tanyeli, Uğur, "Sinan Mimarlığında Dış Mekan Biçimlendirilmesi", *Mimarlık,* 90/2, 1994, pp. 68-71.

Tayla, Hüsrev, "Sinan Minarelerinin Mimaride ve Şehircilikteki Yeri", *Uluslararası Mimar Sinan Sempozyumu Bildirileri, 24-27 Ocak,* TTK Yay., Ankara 1996, pp. 62-70.

Turani, Adnan, *Dünya Sanat Tarihi,* Remzi Kitabevi, Istanbul 1997.

Yılmaz, Coşkun, "Atik Valide Nurbanu Sultan Külliyesi", ed. Coşkun Yılmaz, *Yeni Bir Turizm Rotası. Büyük Usta Mimar Sinan,* Çekül Vakfı, İstanbul 2015, pp. 28-31.

APPENDICES

SELATIN KULLIYES	MENZIL (HALTING STATION) KULLIYES	VIZIER KULLIYES
Haseki Hürrem Soltan (1539)	Lüleburgaz Sokullu Mehmed Pasha Kulliye (1570)	Kadırga Sokullu Mehmet Pasha Kulliye (1571)
Sehzade Mehmet Kulliye (1548)	Çoban Mustafa Pasha Kulliye (?)	Eyüp Zal Mahmud Pasha Kulliye (1577)
Süleymaniye Kulliye (1557)	Damascus Süleymaniye Kulliye (1567)	Tahtakale Rüstem Pasha (1561)
Edirne Selimiye Kulliye (1575)	Payas Sokollu Mehmet Pasha Kulliye (1574)	Topkapı Kara Ahmet Pasha Kulliye (1558)
Üsküdar Mihrimah Sultan Kulliye (1548)	Konya Karapınar Soltan Selim Kulliye (1560)	Üsküdar Şemsi Ahmed Pasha Kulliye (1580)
Üsküdar Atik Valide Kulliye (1579)		

Figure 1: Mimar Sinan Era Kulliyes.

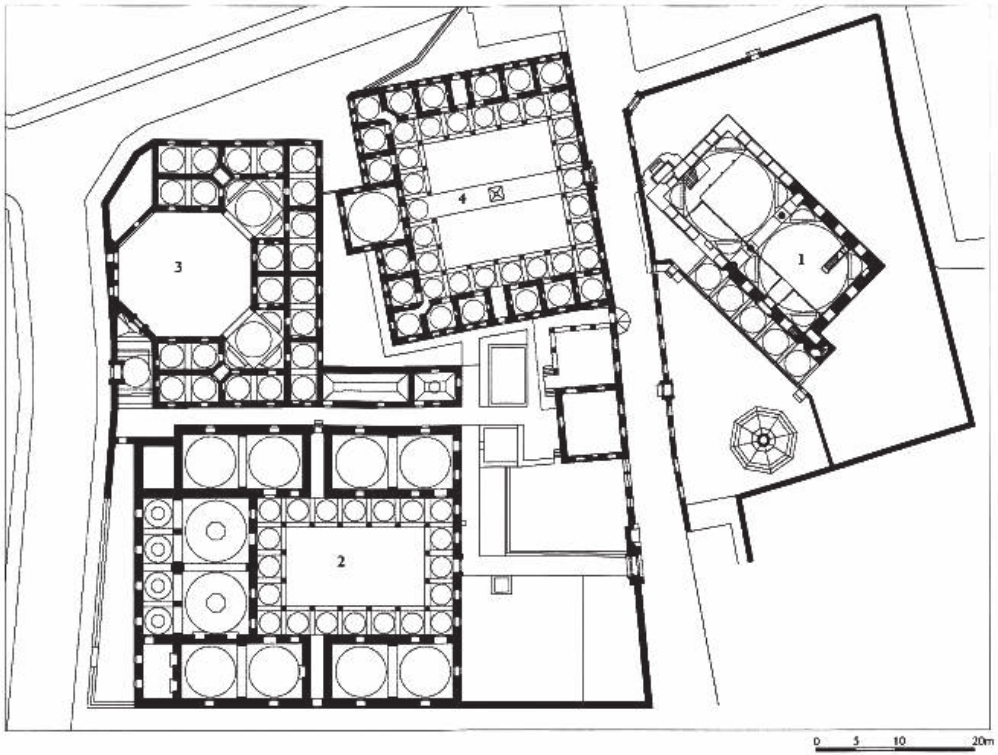

Figure 2: Haseki Hürrem Sultan Kulliye.

(1) Mosque (2) Imaret (guest rooms) (3) Darussifa (Hospital) (4) Madrasa
(**Source:** Doğan Kuban, *Osmanlı Mimarisi*, YEM Yayınları, Istanbul 2007).

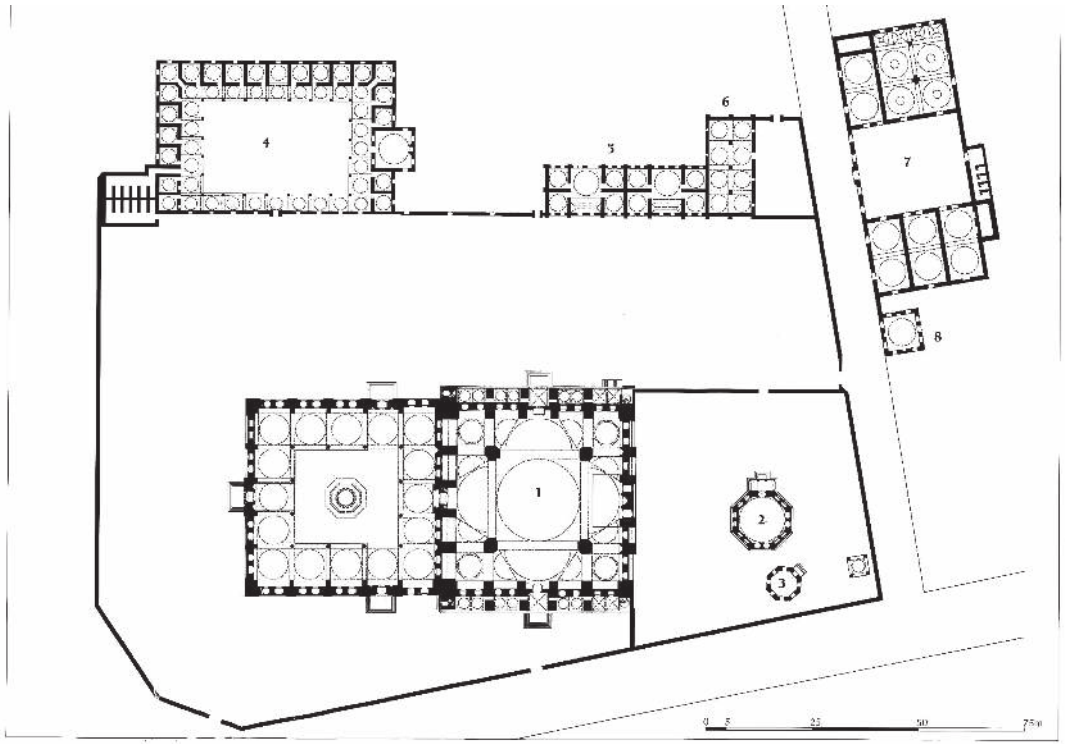

Figure 3. Sehzade Mehmet Kulliye.

(1) mosque (2) tomb of Sehzade Mehmet (3) tomb of Rüstem Pasha (4) madrasa (5) tabhane (guest room) (6) caravanserai with stables (7) imaret/hospice (8) Sıbyan Mektep (elementary school).
(**Source:** Doğan Kuban, *Osmanlı Mimarisi*, YEM Yayınları, Istanbul 2007).

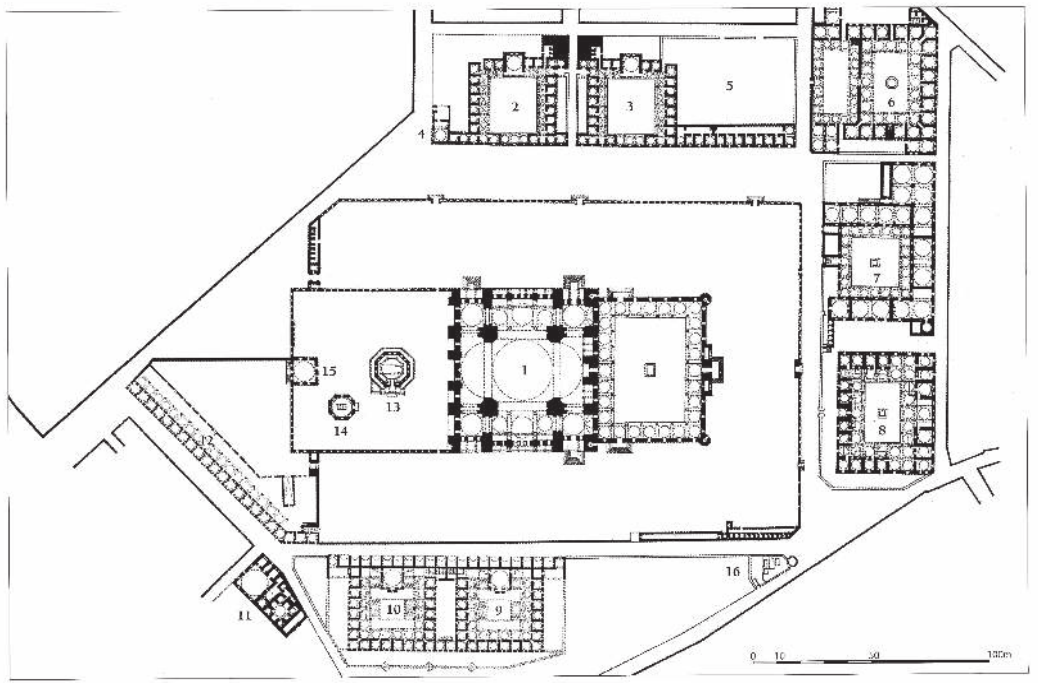

Figure 4. Süleymaniye Kulliye.

(1) mosque (2)) first (evvel) madrasa (3) sani madrasa (4) Sıbyan Mektep (elementary school (5) medical school (6) bimarhane (mental hospital) (7) darüzziyafe (kitchen) (8) tabhane (guesthouse) (9) third (salis) madrasa (10) fourth (rabi) madrasa (11) hammam (12) hadith madrasa (13) tomb of Süleyman (14) tomb of Hürrem (15) dārülkurra (16) Sinan's tomb
(**Source:** Doğan Kuban, *Osmanlı Mimarisi,* YEM Yayınları, Istanbul 2007).

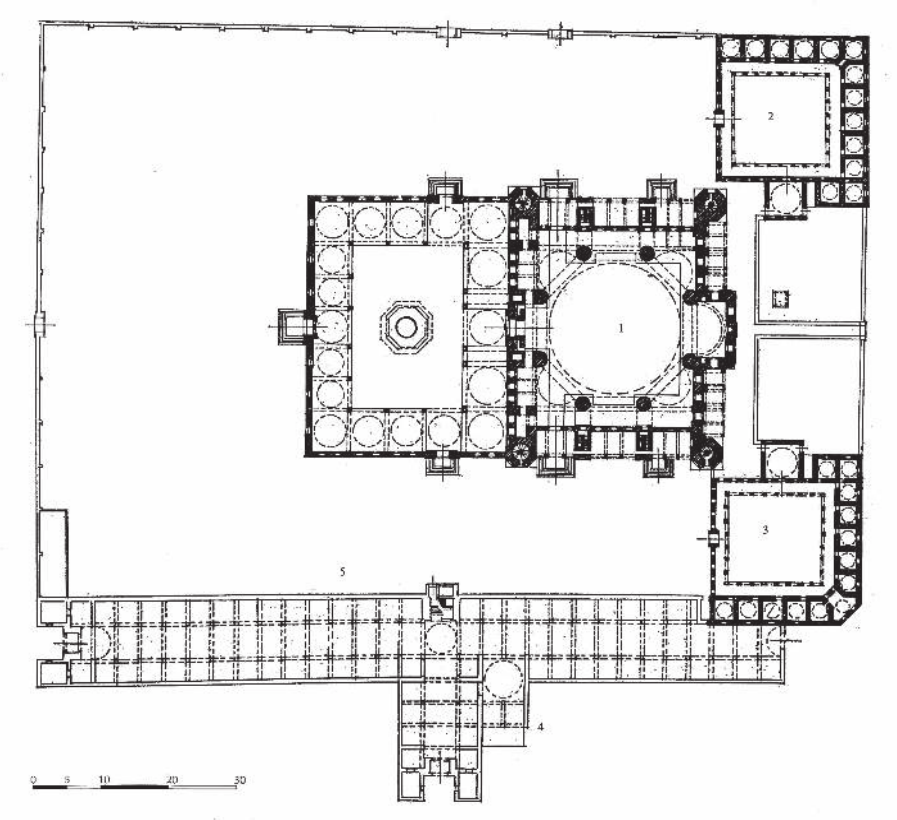

Figure 5. Edirne Selimiye Kulliye.

(1) mosque (2) madrasa (hadith college) (3) madrasa (4) Sıbyan Mektep (elementary school) (5) bazaar (arasta).
(**Source:** Oktay Aslanapa, *Türk Sanatı*, Remzi Kitapevi, İstanbul 1993).

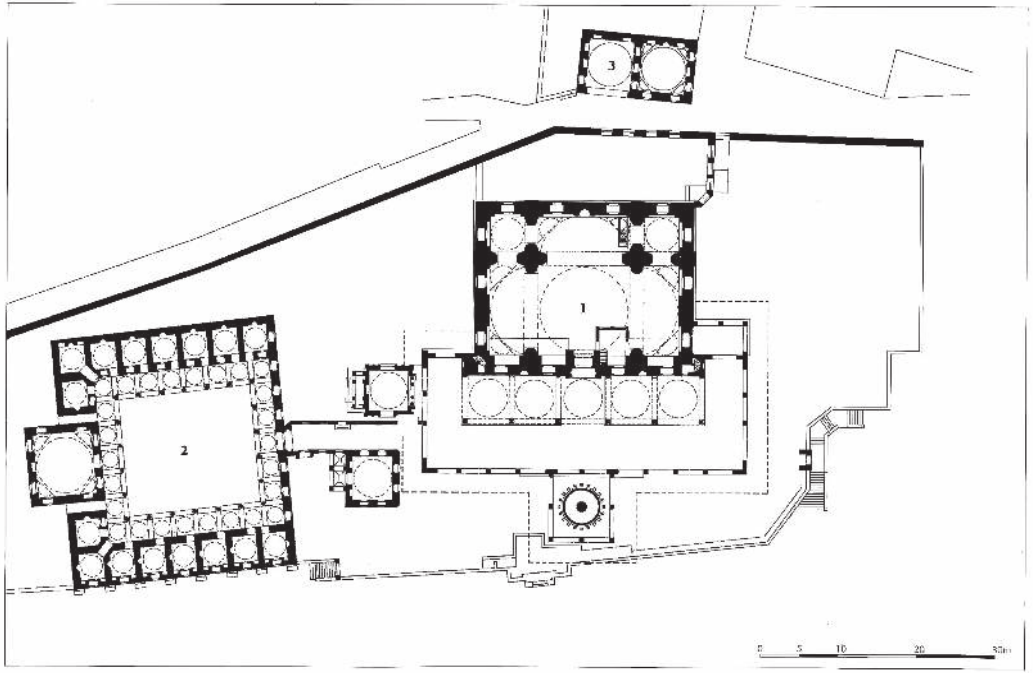

Figure 6. Üsküdar Mihrimah Sultan Kulliye.

(1) mosque (2) madrasa (3) Sıbyan Mektep (elementary school).
(**Source:** Doğan Kuban, *Osmanlı Mimarisi*, YEM Yayınları, Istanbul 2007).

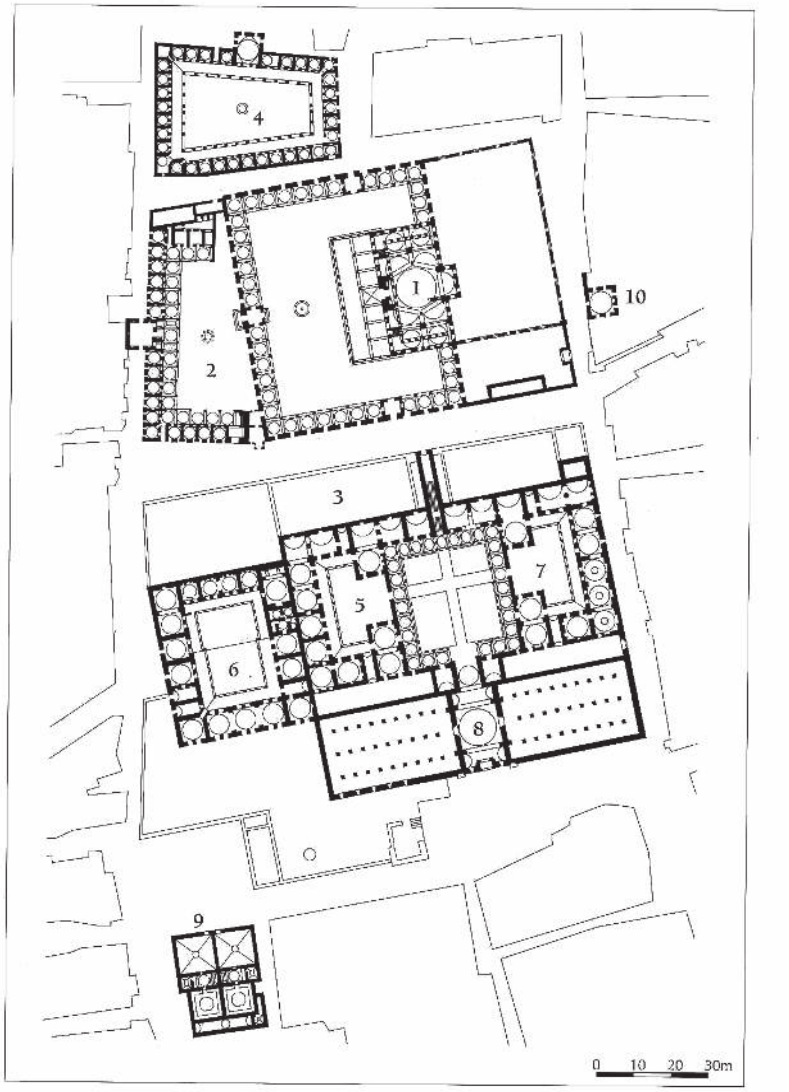

Figure 7. Üsküdar Atik Valide Kulliye.

(1) mosque (2) madrasa (3) darülhadis (Koran course) (4) tekke (5) tabhane (guesthouse) (6) darüşşifa (hospital) (7) imaret (8) cervansarai (9) hamman (10) sıbyan mektep (elementary school)
(**Source:** Doğan Kuban, *Osmanlı Mimarisi,* YEM Yayınları, Istanbul 2007).

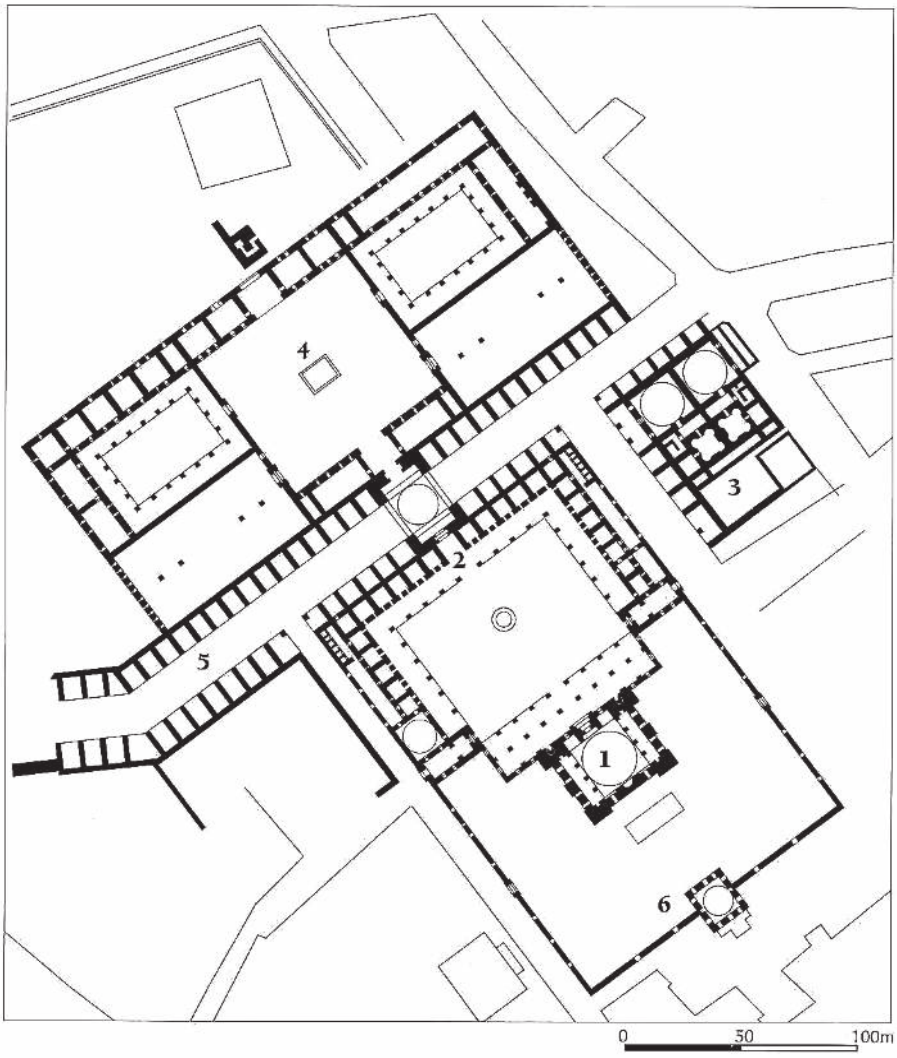

Figure 8. Lüleburgaz Sokullu Mehmed Pasha Kulliye.

(1) mosque (2) madrasa (3) hammam (4) cervansarai (5) Arasta (bazaar)
(6) sibyan mekteb (elementary school)
(**Source:** Doğan Kuban, *Osmanlı Mimarisi*, YEM Yayınları, Istanbul 2007).

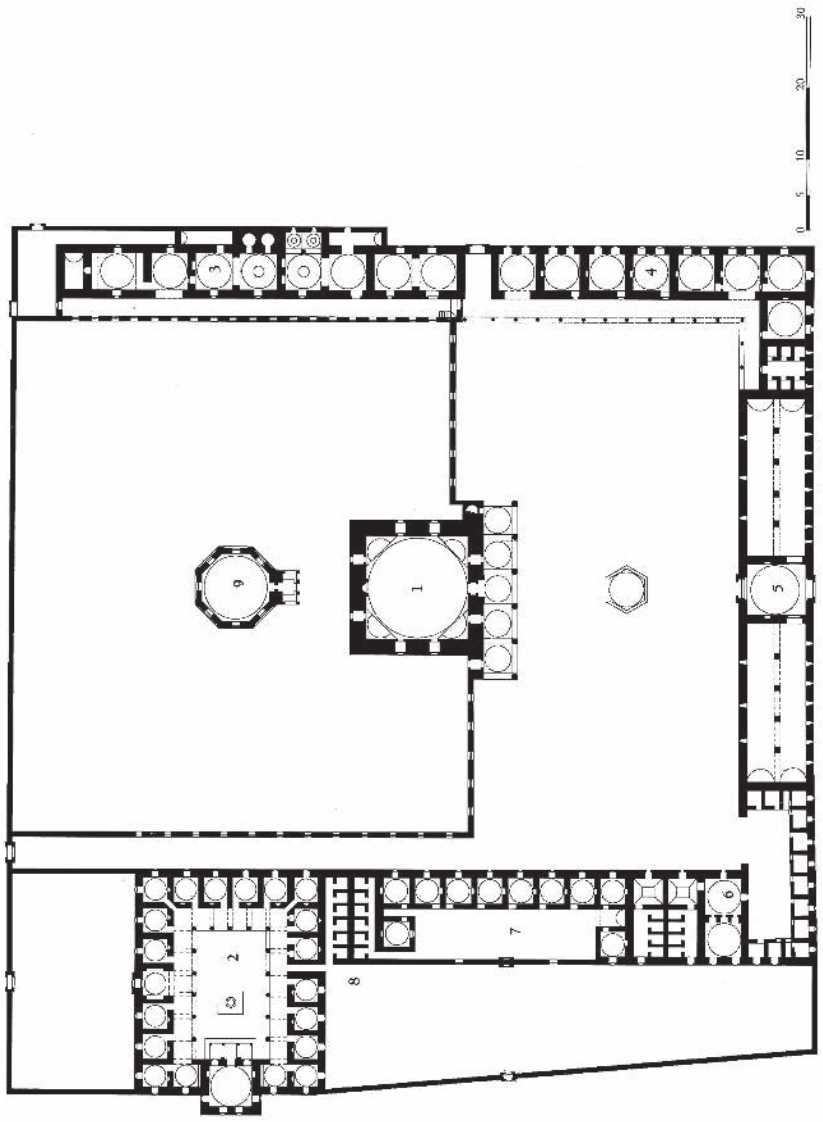

Figure 9. Çoban Mustafa Pasha Kulliye.

(1) mosque (2) madrasa (3) imaret (4) guest rooms (5) cervansarai (6) semahane (7) tekke (8) toilet (9) tomb
(**Source:** Doğan Kuban, *Osmanlı Mimarisi,* YEM Yayınları, Istanbul 2007).

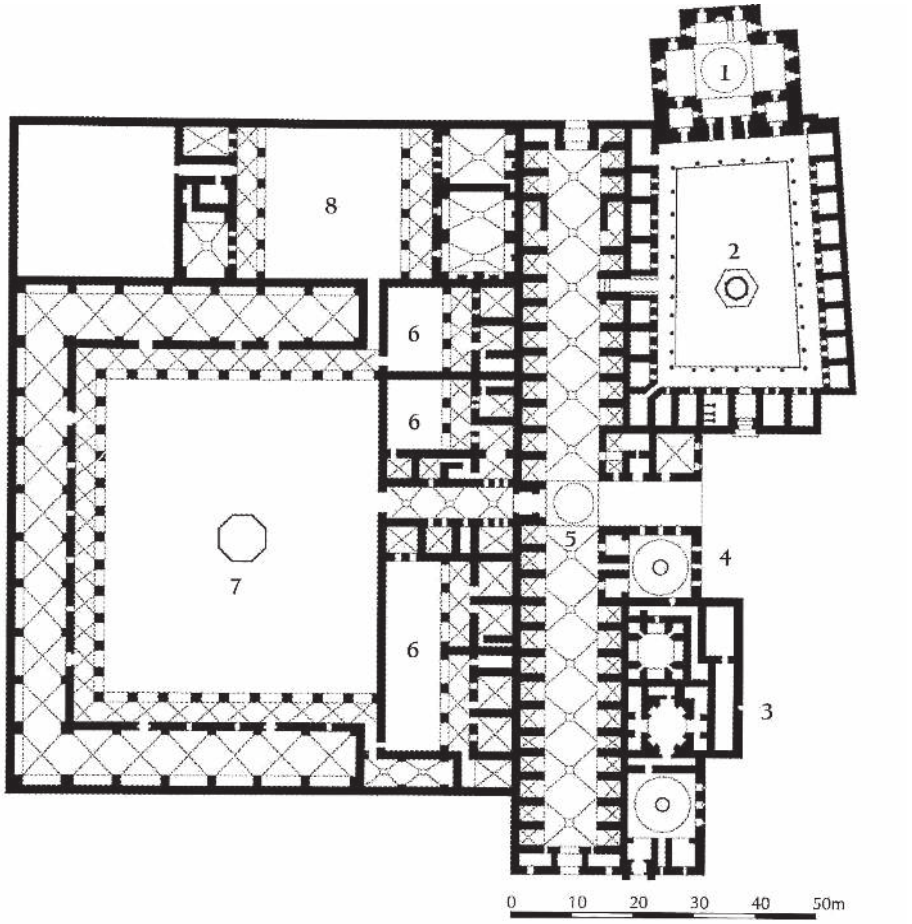

Figure 10. Payas Sokollu Mehmet Pasha Kulliye.

(1) mosque (2) convent/tekke (3) hammam (4) sibyan mekteb (elementary school) (5) Arasta (bazaar) (6) tabhane (guesthouse) (7) caravanserai with stables (8) imaret
(**Source:** Doğan Kuban, *Osmanlı Mimarisi,* YEM Yayınları, Istanbul 2007).

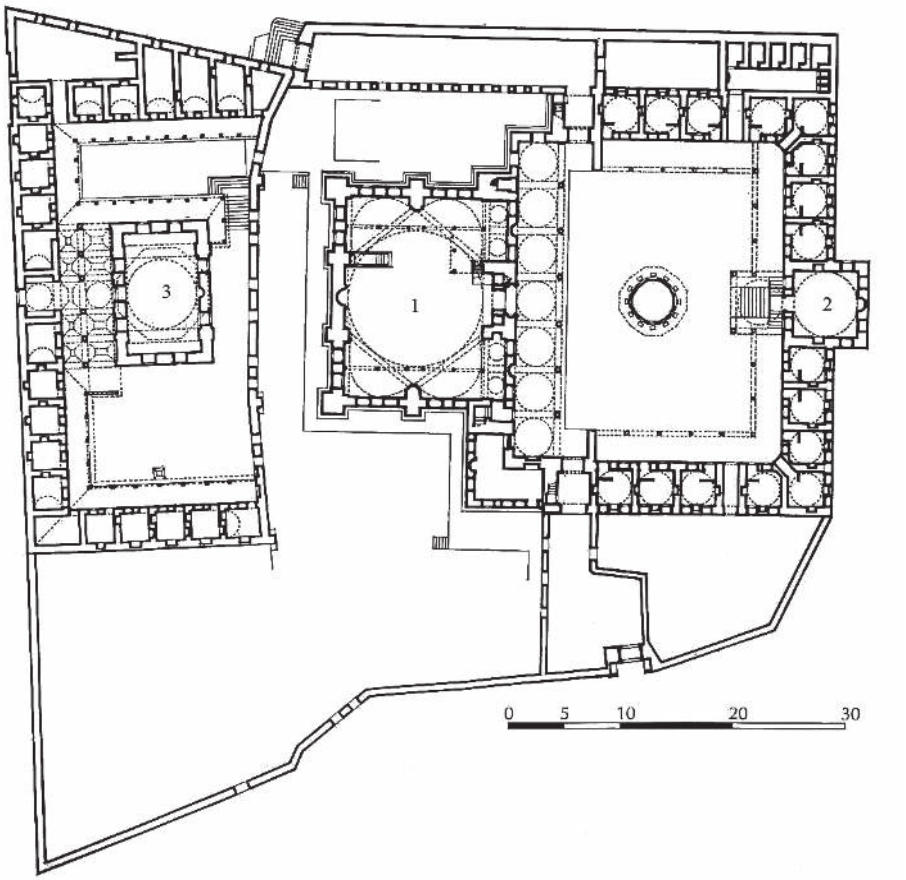

Figure 11. Kadırga Sokullu Mehmet Pasha Kulliye.

(1) mosque (2) madrasa (3) convent.
(**Source:** Doğan Kuban, "Sokollu Mehmed Paşa Külliyesi" *Dünden Bugüne İstanbul Ansiklopedisi 7,* pp. 32-34).

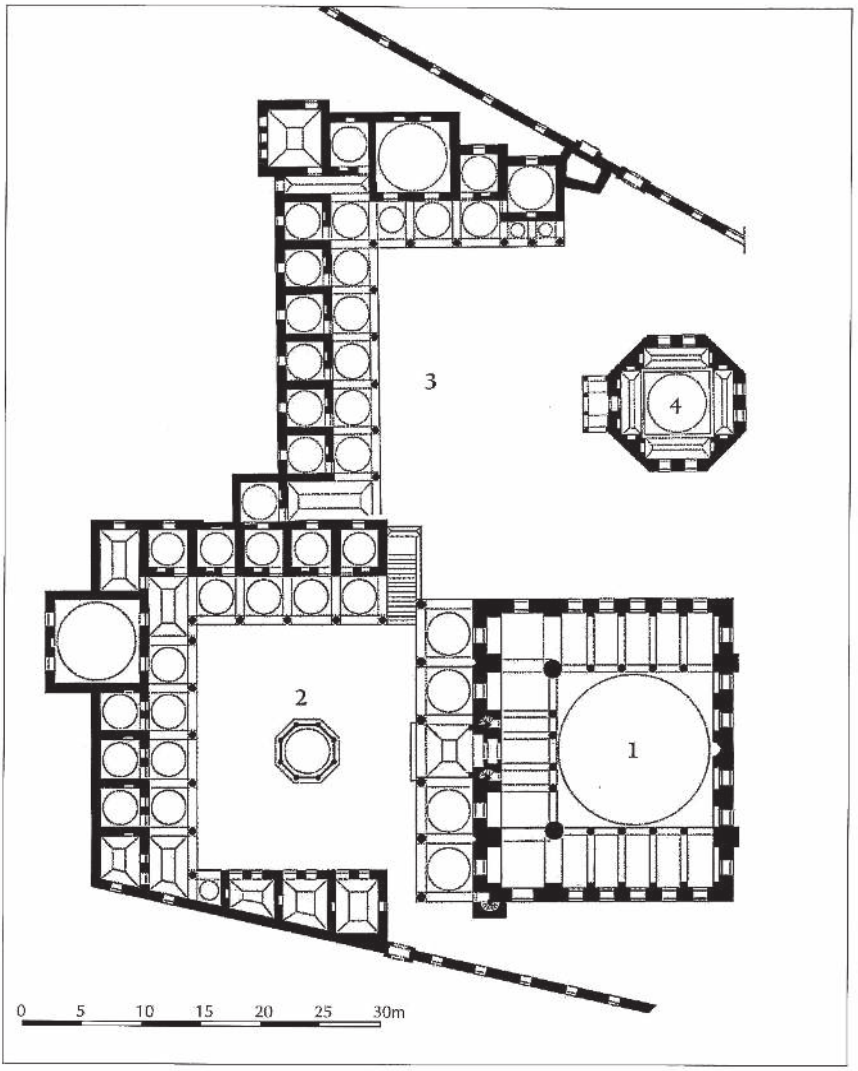

Figure 12. Eyüp Zal Mahmud Pasha Kulliye.

(1) mosque (2) madrasa of Sah Sultan (3) madrasa of Zal Pasha (4) tomb.
(**Source:** Doğan Kuban, *Osmanlı Mimarisi*, YEM Yayınları, Istanbul 2007).

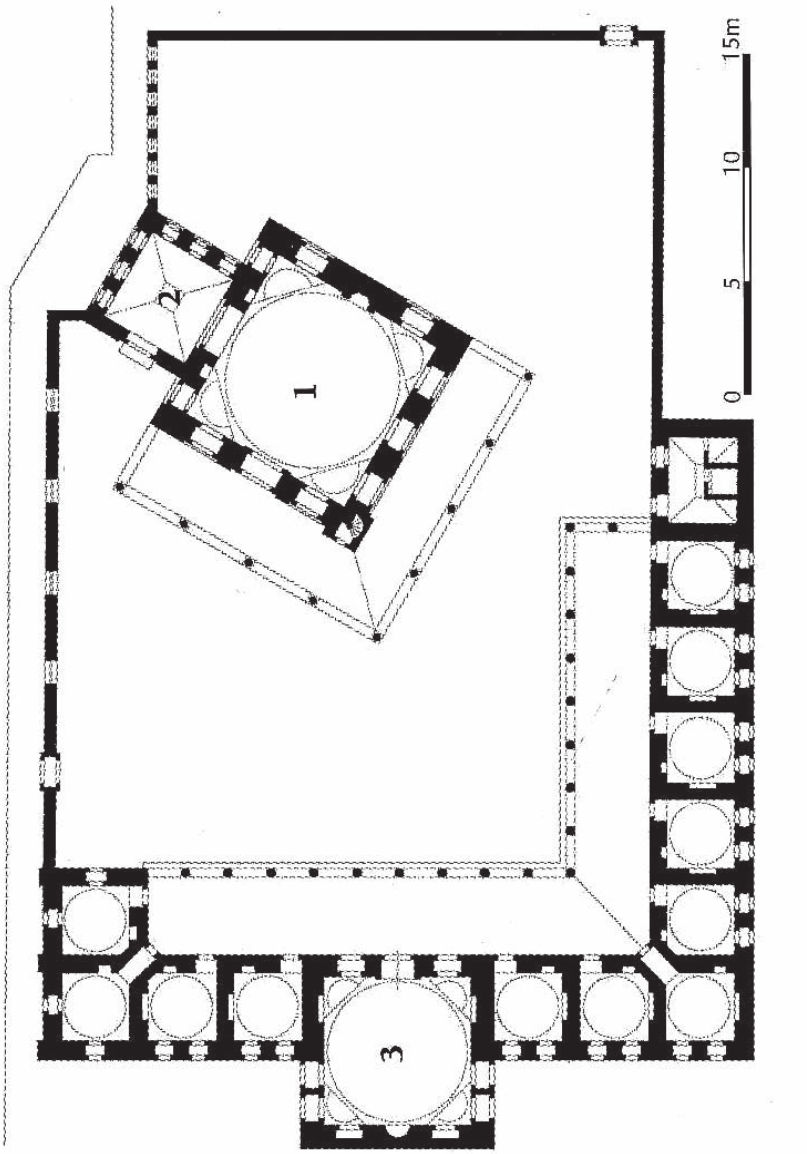

Figure 13. Üsküdar Şemsi Ahmed Pasha Kulliye.

(1) mosque (2) tomb (3) madrasa.
(**Source:** Doğan Kuban, *Osmanlı Mimarisi,* YEM Yayınları, Istanbul 2007).