Istanbul was the scene of great urban and architectural development during the 16th century, which was a period of climax in every aspect of life for the Ottoman Empire. The city extended its hinterland well beyond the walls of old Constantinople, and grew to be a metropolis with a population nearing half a million inhabitants by middle of the century, even so it still retained the typical characteristics of an Ottoman town: a green, open-ended and unplanned city with an irregular and narrow road network ending mostly in cul-de-sacs. The building complexes or külliye2 with their geometric siting, monumentality, domed structures and different building materials, created a contrast with the irregular fabric of the city composed of low wooden houses with tiled roofs amidst greenery. Therefore, the decision for the siting of a külliye within the geographical and topographical environment of the city was of utmost importance. The choice for siting was not arbitrary but was subject to certain conditions.

From the beginning, külliye fulfilled part of the Ottoman settlement policy, acting as the nuclei of urban redevelopment schemes. The traditional belief that “a külliye starts a new district”, was also valid for the 16th century Istanbul. Külliye appeared as the seeds of new Turkish settlements along both sides of the Golden Horn, the Bosphorus and across, at Scutari (Üsküdar).

Areas of special significance, such as the attribution of holiness, as in the case of Eyoub (Eyüp) on the northwestern shore of the Golden Horn, or boasting the presence of a certain institution, were chosen to become sites for külliye. For instance, Kasimpasa, Ayazkapi and Kadırga (Portus Novus) as the seats of arsenals and Beshiktash where the navy was stationed acquired their building complexes which were named after their donors: Piyle Pasha, Sokollu Mehmet Pasha and Sinan Pasha respectively.

For some külliye the strategic spots at the entrance and exit of the city were chosen. For instance, the route between Rumelia and Anatolia along which travelled pilgrims, caravans and the army were met with two elegant külliye donated by Mihrimah Sultan, daughter of Süleyman the Magnificent.

Vacant spots were preferred for the siting of a külliye, if that was not available, less populated areas that would cause the least amount of expropriation, demolition and trouble to the neighbouring people, were sought.3

And above all else, sites on hilltops were preferred for Royal külliye as prestigious locations which would moreover contribute positively to the city silhouette as one approached from the sea.

Once the site was decided on by the donor, who might be the Sultan, other Royals or high government officials, the following factors guided Sinan in giving shape to his külliye organization: topography, special locational conditions, formal and functional considerations and tradition.

Hilltop Külliye

They are mostly in old Istanbul which was dotted with hills. In the history of this triangular peninsula, some hilltops had already been occupied during the Byzantine era and then by the earlier Ottomans. The Church of Santa Sophia and the Royal külliye of Mehmet the Conqueror and Beyazıt II are three such examples. The 16th-century royal külliye occupied the other hilltops on the two rows running parallel to the Golden Horn, thus determining the characteristic silhouette of the city. The Külliye of Sultan Selim (1520’s), once reached by forty steps from the shore, is an early example; it occupies the fifth hill on the first row.4 The Süleymaniye külliye (1550-57), sits on the third hill in the same row. The second row of hills are topped by middle-sized mosques, thus forming the Beyazıt-Mihrimah (Edirnekapi) axis.5

Hilltops were preferred so the monuments could be seen as the crowns of the city when viewed from the sea. The mosque at the highest spot never disturbed the silhouette but by heightening the hill, became part of the natural topography. In the relationship between building and site, Ottomans showed respect for natural contours, maintaining harmony with nature and never violating it. The hierarchical mass arrangement of the great mosques followed the tetrahedral formation of a hill.

Siting külliye on a high position may also be seen as a sign of the political power of the governing class. The Süleymaniye Külliye on urban scale dominates the city. Furthermore, hilltop siting provided a commanding view of the surrounding area. That was why the sites of both Süleymaniye and Selimiye in Edirne originally were chosen as the sites for Royal palaces. The Süleymaniye lies on an area of ten hectares which was part of the site of the Old Palace.6 Here, Sinan met the great challenge to adapt a strictly geometrical scheme to a site which sloped down in dif-
ferent directions. He placed the mosque and the tombs centrally on the plateau of the hill, in separate courts, which then were situated within a greater outer courtyard. This area, described by Eviyiya Chelebi as an enormous space long enough on one side to allow horseback riding, is surrounded by walls punctured with windows on three sides, but left open on the fourth side, making it possible to enjoy the magnificent view of the Golden Horn.

Sinan made use of the advantages of the slope by gaining storeys under some of the buildings.

A long row of shops (Tiryaki Çarsi) was placed under the medical school (tibb madrasa) and the two adjacent madrasa. Another row of shops lies under the long side of the great court sloping towards the sea. This row turns the corner and extends under the daru’l-hadis, the highest level of education among madrasa. A row of small rooms is inserted underneath the hospital (daru’l-sifâ), and a caravanseray was placed below the public kitchen (imaret). A row of "müätzim" rooms extends under the Halîç (Golden Horn) madrasa for which Sinan found an ingenious solution. He designed them on a terraced arrangement, so that each student's room sits on a different level with its own patio in front defined by steps.

Siting on Slopes

Külliye built on a slope in two important examples, found their solution on two or more-level arrangements. The külliye of Zâl Mahmut Pasha, in Eyüp (1566-68) is designed around two courtyards on two different levels. On the upper level is the mosque and the madrasa sharing the same courtyard; on the lower level, a tomb and a second madrasa surrounding the court on two sides. Both courtyards have separate entrances from streets at different levels. The külliye of Sokollu Mehmet Pasha in Kadırca (1571-72), is situated on a steep slope running in a East-West direction, with its buildings arranged on different levels. The ablution courtyard joining the mosque and the madrasa is five meters higher than the level of the main entrance on the qibla axis. The classroom is situated at an intermediate level such that, it sits on the vaulted entrance and is reached by steps from the courtyard. Behind the mosque there is the tekke complex (convent) arranged on a higher platform.

Siting by the sea

The külliye of Shemsi Pasha in Üskûdar (1580), composed of the mosque, the mausoleum attached to it and an L-shaped madrasa, is situated by the sea. Along the shore there was once an array of residential buildings, one of which belonged to the donor, Shemsi Pasha. He probably wanted his külliye and tomb next to where he lived.

It is a modest külliye, yet embodies skillful ideas in its siting and is harmonious in its proportions. Here, the qibla direction affected the disposition of the mosque which is placed on a diagonal axis in relation to the madrasa. The building group forms an introverted arrangement, the fourth side of the courtyard being the edge of sea, the complex is at the same time extraverted. The wall bordering the sea is punctuated with windows, thus allowing a view of the sea from the courtyard.

The külliye of Mihrimâh Sultan (Iskele-quay Mosque) is a monumental complex in Üskûdar (1547). Ereyma Chelebi writes that the mosque used to be right on the sea before the filling up of the open space in front.

The külliye of Kîlîç Ali Pasha (1583) in Tophane was once close to the sea as depicted in a 19th-century engraving.

Siting along the sea started a new tradition for mosques which began to appear in the late 18th century on both sides of the Bosphorus.

Siting in a densely-built area

The külliye of Rûstem Pasha (1561-62) in Tahtakale near Eminönü, consisting of a mosque, commercial buildings (han) and a bath-house (hamam) was built in the midst of an active harbour area with commercial and trading activities surrounding and supporting this pious foundation. Sinan's solution for the mosque was a scheme elevated on a vaulted substructure containing a large cellar, depots and in front, a row of shops. Thus, a twofold aim was achieved: a storey was gained in an area where the land was valuable and scarce, and the elevated (fevkanî) mosque would not be dominated among a maze of buildings, but could be seen from a distance.

Existing Urban Pattern

Sinan carefully considered and respected the existing urban pattern. In the külliye of Atik
Valide in Uskudar and in the Sehzade Kulliye, some of the buildings followed the street pattern as their shapes and disposition show. In the first case, the madrasa touches the courtyard of the mosque or the shape of the adjacent building. Likewise, in the Sehzade Kulliye, the placement of the public kitchen does not follow the order of the rest of the buildings because of the presence of a street.

Formal Factors

Right-angled geometrical relationship between buildings, search for balance in composing them, axiality in one or more directions, or sometimes symmetry and the qibla direction as a religious requirement, are among the formal determinants influential in the siting of Ottoman building complexes. Yet sometimes a kulliye is not bound by these formal factors. In the Sehzade Kulliye, situated on a large flat area, the disposition of buildings brings to mind the random organization of early Ottoman building complexes with no concern for symmetry, yet in the organization of buildings, the logical grouping of related functions is maintained. The kulliye of both Zal Mahmut Pasha and Kiliç Ali Pasha are also schemes freed from symmetrical arrangement, although both display a geometric rigour in the relationship of buildings to one another. The site arrangement of the Süleymaniye Kulliye presents a geometric balance where there is no strict axial symmetry; double madrasa on either side are not on the same axis. Qibla direction influenced the placement of the mosque only, little effecting the other functions: the Kulliye of Shemsi Pasha is a typical case of this.

Organization according to Function

A dominating function may determine the overall design. The original general practice beginning had been the central location of the mosque with other functions surrounding it. The Süleymaniye Mosque with its central and higher position is the dominating function in the kulliye, symbolizing imperial power. Almost of equal importance are the madrasa of different types and ranks, showing the importance of the learned corporation (ulema) in the 16th Century. Grouping related functions together such as a mosque-madrasa combination where both share a common courtyard, displays the closeness of religious and educational institutions (Sokollu Mehmet Pasha, Mihrimah Sultan, Zal Mahmud Pasha.) A mosque with mausoleum (Sehzade and Süleymaniye), the location of social welfare buildings in close proximity (Süleymaniye and Atik Valide), a hospital-medical school next to each other (Süleymaniye), and usually the bath-house at a distance, dictated to some extent the siting organization in Sinan's building complexes too.

Impact of Tradition

Hilltop siting, the idea of the elevated mosque, and all the above functional relations reflected early Ottoman practice and thus a continuum tradition in Sinan's kulliye, who surpassed the past in new syntheses.

Conclusion

In the early stages of the development of the Ottoman Empire, cities grew around külliyes freely because of the unlimited land at hand. But the Istanbul Peninsula presented different problems; it was densely-populated and had an already established urban pattern. Sinan had to work with its restrictions; he had to solve problems presented by the condition of the terrain, size limitations, a predetermined street network, etc. Furthermore, he had to safeguard the wellbeing of the neighbouring residents, respect their property rights and the urban tissue. For each kulliye Sinan presents a unique solution for its particular spot. The rich variety of his solutions, his skillful use of the terrain, his concern for ties with nature and his successful handling of outdoor spaces are what distinguish Sinan as a designer on the urban scale.

Sinan's position as Head Architect (ser Mimaran-i Hassa) required supervision of many tasks in addition to designing buildings, and engineering works. He must have been involved in the important decisions on urban welfare, such as the formulation of municipal regulations, measures taken to limit the population by checking migration from the countryside, and his attention was also given to the immediate surroundings of historic buildings. Sinan's uniqueness is not only his expertise as an architect, but his sensitivity to urban texture and its problems.

Inci N. Aslanoglu
2 F. Braudel states that the population of Istanbul was 400,000 between 1520 and 1535; 700,000 according to westerners at the end of the century; Fernand Braudel, The Mediterranean and The Mediterranean World in the Age of Philip II, vol. I, Fontana/Collins, 1976, pp. 347-348, note 375.
3 A building complex, known as külliye in Turkish, is a group of religious and public buildings: mosque, mausoleum of the donor, school for higher education (madrasa), sometimes a primary school (süleyman mektebi), public kitchen (imaret), hospital (darü'l-sifa), hotel (tabhane) bathhouse (hamam), caravanseray, a covered or open street with shops on both sides (arasta), etc.
5 P.G. Inciçiyano, XVIII. Asırda İstanbul, İstanbul: İstanbul Matbaası, 1956, pp. 36-37.
7 Çelebi, ibid., p. 160.
8 The rooms were originally meant for poor, old and wise men, later they were given to the mülazim who occupied a rank among the learned corporation.