THE COMPLEXES BUILT BY SINAN

Sinan had an incredibly long and prolific career. As Chief Royal Architect for 50 years until his death in 1588, he had absolute control over all phases of building activities of the Ottoman Empire. He could not have overseen personally all the constructions attributed to him scattered throughout the Empire. Many of these constructions were part of various complexes or small settlement units, and thus each one presented Sinan with an urban problem to solve.

The creation of a complex (*külliye*) of interrelated public buildings around a mosque was a Ottoman innovation. Earlier Islamic architecture used the mosque and *medrese* (theological school) combination quite often. However adding other public buildings, a hospital (*darüssifa*), alms-kitchen (*imaret*), caravanseray, hospice (*tabhane*), school of interpretation of koran (*darülkurra*), koranic school for small boys (*sibyan mektebi*), bath (*hamam*), etc., was a uniquely Ottoman tradition. From the very beginning of the Empire, Ottoman complexes were institutions dedicated to education and public welfare and thus small urban settlements.

In the earliest Ottoman complexes the buildings were spontaneously placed together without any plan, it can be clearly seen in the best surviving examples in Bursa, the Hüdavendigâr (1361-89) of Murat I, the Yildirim (1398-1403) of Beyazit I, the Yesil (began in 1403) of Mehmet I, and the Muradiye (1430) of Murat II even if the buildings were erected in close proximity to each other, the effect is very loose, and they are not compounds in the any sense of the word.

After the conquest of Istanbul (1453) the haphazard attitude to the planimetric scheme of complexes changed drastically. The first group of educational and public buildings, the Fatih complex (1463-70), commissioned by Mehmet II was strictly symmetrical, in contrast to the earlier Bursa complexes. The sixteen *medrese* were grouped geometrically and symmetrically on each side of the Fatih mosque. The strict geometrical plan was given more emphasis by the public buildings erected at the back of the mosque: a hospital on one side, and caravanseray and hospice group on the other, balance the whole complex. Thus, it was planned independently of any regard for the environs of the city.

The complexes constructed after Mehmet II and before Sinan were not as symmetrical as this. A rigourously geometrical ground plan, however, was always observed. The most impressive example of this period is the complex of Beyazit II in Edirne (1484-1486). Built on flat ground near the river Tunca, this complex was not symmetrically planned. Nevertheless, architect Hayrettin laid it out with definite geometry and balance. The mosque was placed at the centre, with the mental asylum and its octagonal hall and the medical *medrese* on one side and on the other an alms-kitchen, store and bakery. The ground plan was geometrical, the buildings either parallel or at right angles to each other.

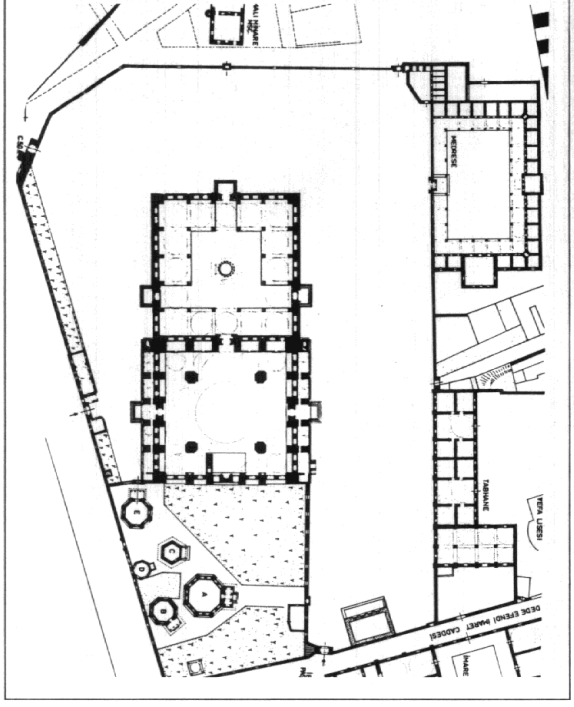
From the beginning of his career as Chief Architect, Sinan's plans for complexes were neither as haphazard as those in Bursa nor as symmetrically planned as the Fatih Complex. Sinan, always conscious of the city in which he was building and the topography of the site, planned accordingly. His attitude in this respect is almost identical with the 20th-century philosophy of organic architecture: indeed, examined from the perspective of Wright's ideas, Sinan's complexes fit almost to the letter.

Wright never fully defined, but quite often described, his philosophy of organic architecture, stating, "An organic structure is built according to nature's principles: harmonious in all its parts and with the environment, it expresses and unifies all the factors calling it into being- site, materials, client needs and architect's philosophy, construction methods, its culture and the nature of the problem, ... by including everything necessary and nothing unnecessary it is as unified and economical as nature itself."[1] In other words, organic building and town planning should be in harmony with their environment. This was exactly what Sinan did in his work.

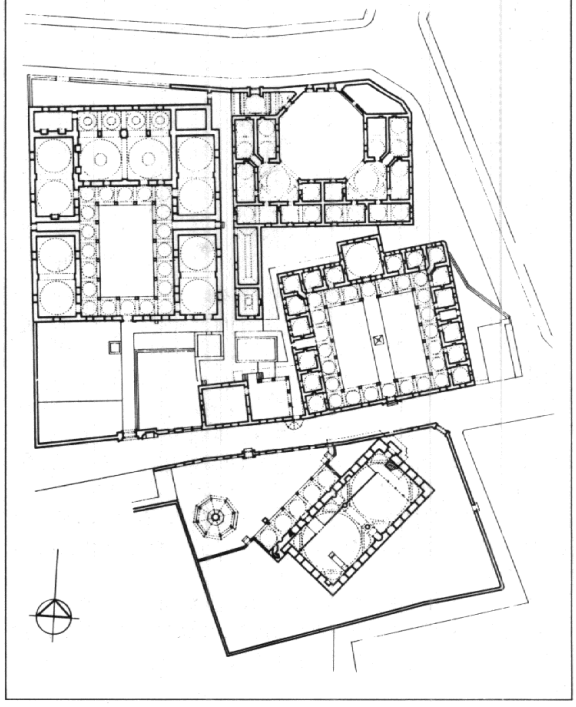
The complexes built by Sinan always fit organically into their site. Since most of his complexes are in Istanbul, the 16th-century plan of this city must be considered in order to understand them. In the 16th-century Istanbul, like all traditional Ottoman cities, was a diachronically built, unplanned city. In other words, it was spontaneous rather than planned. The16th-century miniatures by Nasuh al-Silahî al-Matrâqî (1537-38) or plans of Istanbul such as that of Vavassore (c. 1520) prove this fact. Therefore, completely symmetrical and geometrical complexes like the Fatih clash drastically with the city. A contemporary engraving of Istanbul by Lorichs shows this contrast strikingly. There is no harmony between the completely planned complex and the completely unplanned city. It was only natural that an architect of Sinan's vision

would perceive this conflict and would take measures against it in his buildings.
The first complex Sinan built was Haseki. The mosque, *madrese*, hospital and the koranic school were all planned in 1538-39, the alms-kitchen was added in 1550. Since this later building is not mentioned in any of the contemporary lists of Sinan's works, there are some doubts as to who was the architect; however, it does not seem possible that Sinan would not have the last word about an addition to a complex commissioned by Süleyman's wife. Therefore, it can be safely deduced that the plan of the whole Haseki complex is by Sinan. The buildings were so arranged that the rich urban experiences of the city were reflected in the grounds of the complex. Rather than following a pattern of their own, the buildings merge with the road scheme of the site.
The Sehzade (c. 1548) and the Mihrimah (c. 1548) at Üsküdar are two other constructions which Sinan fit organically into their sites. In the Sehzade, a mosque, *medrese*, hospice, alms-kitchen, and Prince Mehmet's tomb were placed so they did not violate the irregular shape of the plot but in perfect harmony with it. The Mihrimah was made up of a mosque, *medrese*, koranic school, hospice and an alms-kitchen. Unfortunately, the latter two buildings have not survived. Erected directly on the shore of the Bosphorus at Üsküdar, it was oriented toward the sea. The buildings were linearly situated between the hill behind them and the sea. Again by refraining from too much planning, Sinan achieved an organic unity with the site. Complex construction on hilly sites was Sinan's most striking example of organic architecture. As Wright aptly puts it, "A building should not be on a hill, but of a hill, it should grow out of the earth." He added that it should be difficult to determine where the ground leaves off and the building begins.[2] This was the philosophy used by Sinan four centuries before Wright.
Sinan's most extensive and impressive complex on a hill is the Süleymaniye (1550-57).Made up of four *medrese*, one medical *medrese*, hospital, alms-kitchen, hospice, bath, school for *hadith* (*darrülhadis*), a koranic school and the tombs of Süleyman, his wife Hürrem, and of Sinan himself. The centre of the complex is the great mosque of

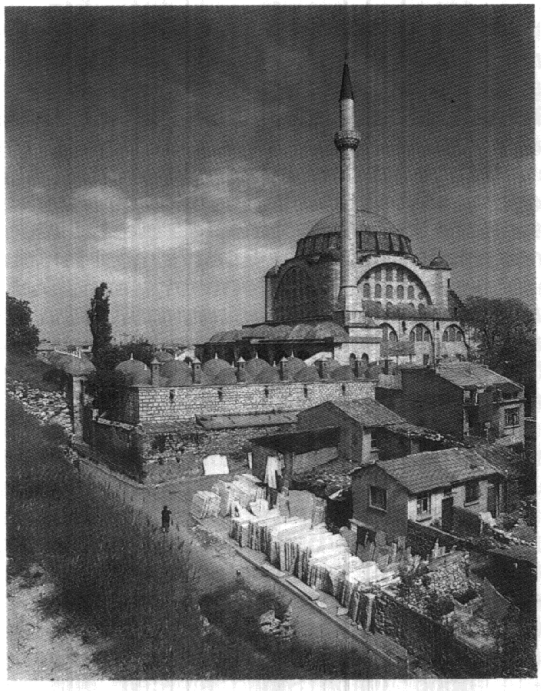
THE SEHZADE COMPLEX (FROM MÜLLER-WIENER)



THE HASEKI SULTAN COMPLEX (FROM KURAN)



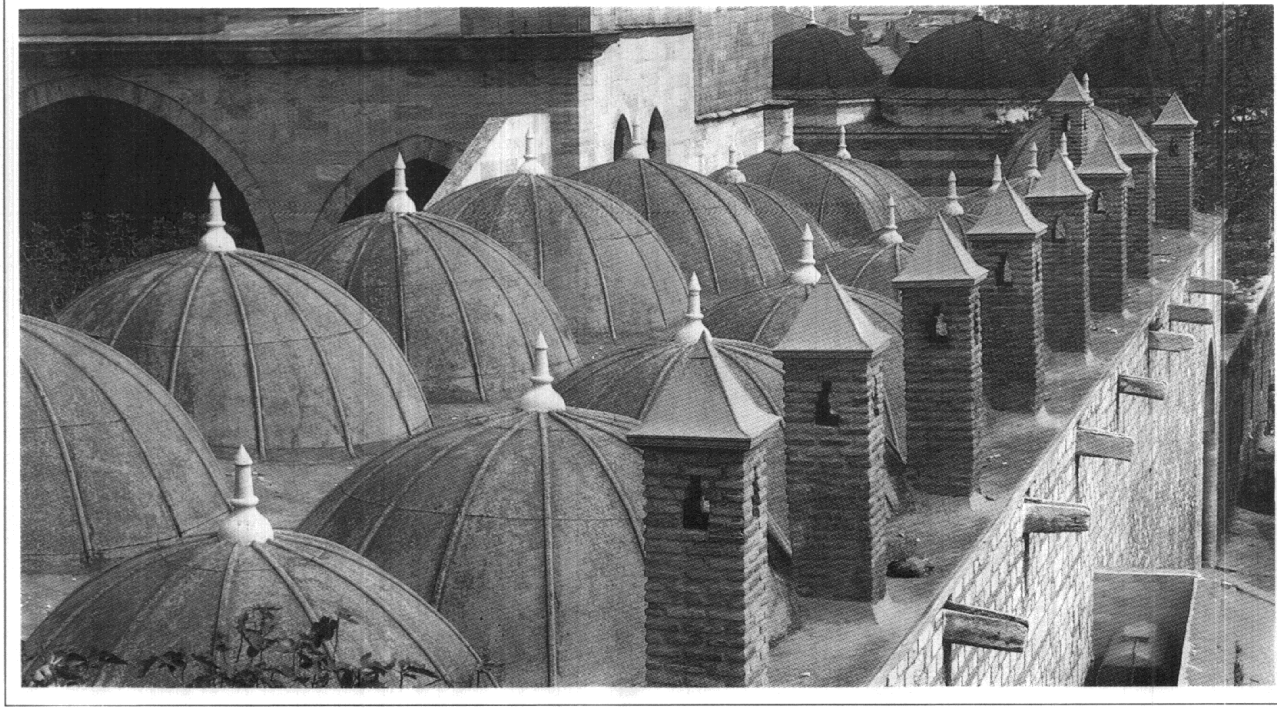
THE WALLS OF ISTANBUL AND THE MIHRIMAH MOSQUE (FROM ALLOM)



A VIEW OF THE MIHRIMAH MOSQUE (FROM A. PETRUCCIOLI)

THE ISKELE CAMI AT ÜSKÜDAR

THE TOP OF THE MIHRIMAH COMPLEX (FROM A. PETRUCCIOLI)



Süleyman, with its own courtyard. Although the mosque and the programme of the complex is huge, the buildings blend with the topography, unlike the earlier Fatih Complex, which dominates the hill. On two sides of the Süleymaniye, there is a distinct drop in the land. The drop on the northern side is reflected by a drop in the height of the minarets. The two northern minarets next to the mosque are taller, with three *serefes* (balconies) while the southern ones, at the end of the mosque court, are shorter, and have only two *serefes*. The hospital, alms-kitchen and hospice were placed at the northern end: because of the drop in the land Sinan could utilize the entire space under hospice and part of the alms-kitchen as stables. Since the land on the western side is flat, the koranic school, the first and second *medrese* and the medical *medrese* were built on level ground. However, since the second drop in the topography is on the Golden Horn side of the precinct, the third and fourth *medrese* were constructed on terraces. Furthermore, the bath and the *hadith medrese* located at the southest corner of the precinct were not aligned at right angles to the complex. The integration of the Süleymaniye with the hill is so perfect that it is hard to determine where the ground leaves off and the buildings begin.

Since Istanbul is a city built on hills, Sinan had other opportunities to meet the challenge of dealing with irregular topography. Without exception, instead of levelling the ground, he let the buildings merge with the terrain. Sinan's most famous hill complexes after Süleymaniye are Sokollu Mehmet Pasha in Kadirga (1571-72), Zal Mahmud Pasha (c. 1580) and Atik Valide (finished in 1583). All of these were in perfect harmony with both the hill and the site's street scheme.

Another aspect of organic architecture is to always take nature and the scenery into consideration. Sinan was aware of the exquisite views around his buildings. The small complex he built at the water's edge in Üsküdar is a fine example of this (1580). Instead of surrounding the courtyard on the usual three sides, the *medrese* is L-shaped, baring one side along which Sinan pierced windows through the sea wall. A person walking in the courtyard, thus perceives different scenes of

THE KILIÇ ALI PASHA CAMI (PHOTO P. CUNEO)

the Bosphorus through these large openings in the wall.
When the terrain was not sufficiently interesting, Wright created an artificial setting; so did Sinan. His masterpiece, the Selimiye in Edirne (1572-75), is a remarkable example of this. It has a central mosque with two *medrese* placed on each corner of the southern end of the precinct. Since there is a 5.5 m drop on the western side Sinan constructed a terrace to place the mosque and the *medrese* on level ground. This construction was hidden by building a covered market along the whole length of the terrace.
There is some controversy as to whether Sinan or his successor Davut Aga planned this market. While it was Davut Aga who actually finished the project, it does stand to reason that Sinan himself did plan the whole complex. Moreover, during the recent restorations of the mosque complex, it was indisputably proved that part of the market was constructed during Sinan's life.[3] One can safely deduce that the covered market was planned by Sinan and finished under the direction of his successor.
Since Edirne is a very flat city, Sinan erected a deliberately monumental mosque. The equal minarets at the four corners of the mosque heighten the monumental effect; the mosque is inescapably visible from every corner of the city. As a result of this visibility, there was a danger that the mosque might become a commonplace. Sinan avoided this by making the entrances into the complex devious. The market entrance and the back entrance, especially, are quite striking. The only access to the mosque precinct from the covered market side is through the market itself. The back entrance, on the other hand, is through a narrow open passageway, from which only a fraction of the mosque building is visible.One has to turn the corner and enter into the mosque's courtyard in order to see this all-too-familiar building again. By making the entrance devious, Sinan wanted to make the visitors rediscover the mosque.
Another aspect of organic architecture also found in Sinan is functionalism. Wright emphasized that all his buildings united form and function, that they all expressed and sustained the internal nature of the social group or activity they served. He further stressed

THE SULEYMANIYE MOSQUE FROM AN OLD ENGRAVING (c. 1840)

that "form and function are one" and that a building is shaped by what it does.[4] So it was with Sinan's architecture. The complexes he erected outside cities on main highways are excellent examples of his conscious functionalism. In all of these complexes, instead of the mosque or the *medrese*, the dominant feature is the caravanseray. The reason for this is obvious. The traveller's needs and comfort is the most important function here. Therefore religious and educational buildings play a minor role in these compounds. The surviving examples of this kind of complex, striking proof of Sinan's conscious functionalism, are the Sokollu Mehmet Pasha in Lüleburgaz (1564-70), the Sultan Selim II/Sokollu Mehmet Pasha in Payas (1574-75) and the Lala Mustafa Pasha in Ilgin (1574-84).

Inherent in organic functionalism is "including everything necessary and nothing unnecessary" for the purpose of the building. It should be stressed that this is precisely what Sinan did in his small complexes. A good many of his complexes were commissioned by princesses, or viziers and grand viziers. Since such complexes were paid for from the donor's private funds, the programme could not be as extensive as for those commissioned by the sultan himself. In almost all of these complexes, instead of building an expensive separate *medrese*, Sinan used the space around the court of the mosques to place the student cubicles and the school rooms. In fact, in some of the complexes such as Sinan Pasha (1555), Kara Ahmet Pasha (c. 1558) and Mihrimah in Edirnekapi (c. 1565), Sinan restricted the programme only to mosque and a *medrese* around its court.

It is not surprising that there are other striking similarities between Sinan's buildings and organic architecture. For instance Wright always tried to unite the indoors and outdoors of a building by making them part of each other. One of the strong points of Sinan's buildings, likewise, was simultaneity between the interior and exterior spaces. It can not be argued that Sinan was the first to achieve this kind of simultaneity. It has been argued effectively that this was one of the dominant aspects of Ottoman civil and religious architecture before and after Sinan.[5] However, Sinan was the architect who made great use of this aspect of Ottoman architecture. His buildings and complexes were never sealed off. In the case of his complexes the outer walls and the walls separating different parts of the complexes were always broken by windows. As was pointed out above, when an outstanding view was in question, such as in the case of the Semsi Pasha Complex, Sinan tried even more consciously to achieve simultaneity by making the windows of the outer walls larger than usual. In a religious or civil building of Sinan, we can perceive what is outside at all times. The upper galleries of the Selimiye mosque give a clear example of this kind of unity between inner and outer spaces. In the upper gallery a passageway leads to an area where we would face a blank wall. Sinan has pierced an extra archway in the wall so that as we gaze through the opening we see birds flying beneath the underside of the courtyard domes.

Another aspect of organic architecture emphasized by Wright was that materials must be left in their natural state, never covered or twisted out of shape. Furthermore, when ornament was used it should be geometric, and be "of the surface not on the surface", resulting directly from the construction.[6] This was exactly Sinan's attitude: his materials were never concealed and usually geometric ornament was used as a transitional element. In passing from a column capital to a wall, or in making the interior of a niche more interesting, Sinan applied different geometrical ornaments.

According to the philosophy of organic architecture, a building should create its own climate. In other words, as much as possible, for problems such as heating, cooling, ventilation, and lighting, the architect must find a natural solution. Sinan produced outstanding examples in this area. He is especially innovative in ventilation. For instance, he ingeniously placed the soot room of the Süleymaniye Mosque above the main entrance of the building. By drawing air from inside the mosque into this room and transmitting it back most of the soot was trapped on the walls of this room. Consequently, the air inside the mosque was kept clean. Furthermore, the trapped soot was not wasted, but used for making ink.

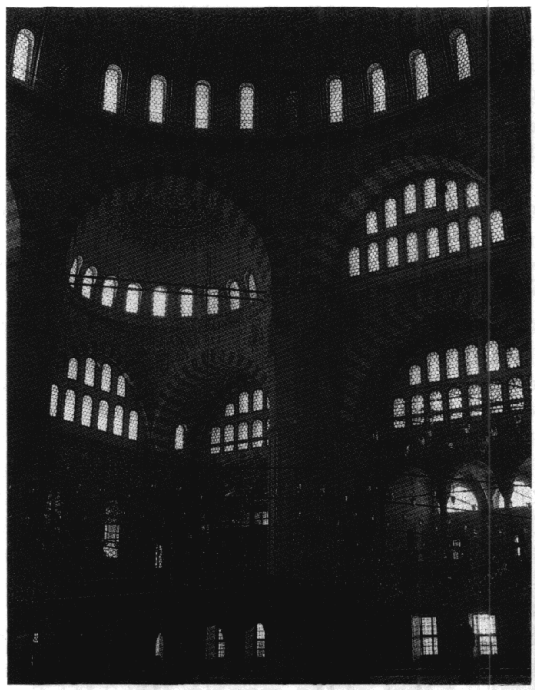
As a conclusion, it can be pointed out that since Sinan's approach to architecture was organic, his complexes can not be classified either according to typology or development. He always designed most rationally with the particular environment and function of the building in mind. The only generalization that

can be made of Sinan's work is that because the determining factor was always site and the urban pattern, each and every one his complexes is unique.

Filiz Özer

THE PORCH OF THE SELYMIYE AT EDIRNE

THE INTERIOR OF THE SELYMIYE AT EDIRNE



[1] R.C. Twombly, *Frank Lloyd Wright*, New York, John Wiley and Sons, 1979, p. 319.
[2] "Organic Architecture", *Encyclopedia of Modern Architecture*, London, Thames and Hudson, 1963, p. 221.
[3] Kuruyazici, H., "Edirne Selimiye Külliyesindeki Arastanin Bir Bölümünün Mimar Sinan'in Yapiti Oldugu Konusunda Kanitlar", *Mimar Sinan*, Istanbul Teknik Üniversitesi Insaat Fakültesi Matbaasi, 1986; International Congress on the History of Turkish and Islamic Science and Technology, Proceedings, Vol. II, p. 150.
[4] Twombly, pp. 315-316.
[5] Ögel, S., "Die Beziehung Zwischen Innenraum und Aussenraum in der osmanischen Architektur", *Anatolica* IX 1982, pp. 123-132.
[6] C. Jencks, *Modern Movements in Architecture*, New York, Penguin Books, 1977, p. 125.