THE OTTOMAN KÜLLIYE BETWEEN THE 14TH AND 17TH CENTURIES:

ITS URBAN SETTING AND SPATIAL COMPOSITION

by

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(ABSTRACT)

In order to serve the Muslim community, the Ottomans built nuclei which included educational and social services around the mosque. A nucleus of these was called a 'külliye'. Facilities in külliyes can be categorized under four main areas: religious, educational, social, and private. This research project attempted to examine the Ottoman külliye from an urban design point of view. It explored the külliye through two main questions: firstly, what was the relationship between the külliye and its surroundings, and secondly, how the külliye was designed. In order to answer these two questions, the külliye was studied at five scales: the state, the city, the immediate surroundings, the külliye itself, and finally the individual open spaces in the külliye. This research work is basically a morphological study; however, when possible and appropriate the meaning behind the form is addressed.

At the state scale it was found that a good level of sensitivity was utilized when planning for new külliyes. Larger cities had a larger number of külliyes and more complex programs for these külliyes. Külliyes in small cities were programmed so as to serve the small community adequately without being oversized. Külliyes in cities had more educational facilities while külliyes in the country were more oriented towards serving travellers. Within the city itself, central areas housed larger külliyes; while residential neighborhoods had smaller külliyes since they were intended to serve only that particular neighborhood. The number and kind of facilities were affected by the particular period during which külliyes were built. During the fifteenth and sixteenth centuries külliyes were large and

housed a large variety of services. That period was a period of growth and prosperity. Later centuries exhibited a different trend where külliyes became smaller and included simpler programs. Reasons for this new trend could be the existence of enough services and the economic deterioration of the state.

The külliye had four different types of relationship with its surroundings: It was meshed with its surrounding; it was separated but not isolated; it was partly isolated; or it was completely isolated. The külliye followed two languages of design here referred to as "vernacular" and "geometric". In both cases, a full respect to topography and existing urban fabric was maintained. In the case of the geometric külliye, more order was given to the külliye through the use of geometric relationships between the structures. The külliye itself was classified according to the open space which surrounded the mosque. Four types were identified: Külliye with no special space for the mosque, külliye with a shared space between the mosque and other facilities, külliye with a shared space for the mosque and medrese, and külliye with a special space for the mosque.

The Ottomans utilized design principles which seem to be consistent and effective. These principles can be categorized under *visual* principles and *scale* principles. The visual principles add richness and excitement to the spatial composition of the külliye; they also provide a stage for mental concentration and contemplation. These principles are: centrality, compartmentalization and enclosure, transparency, sequential spatial arrangement and continuous visual changes, and framed and directed views. The scale principles were used in order to bring the massive structures of the külliye into a more human scale in such a way that their monumental appearance would not be disturbed. These principles are: layering, stepping, monumentality and scale, and three levels of design. It is not safe to suggest any linear development of these typologies or principles across time. More than one type of külliye was used during the same period; however, it is possible to say that with the move from the Bursa period (c. 1390-1450) to the Istanbul period (c. 1450-1700), the Ottoman kulliye became more geometric, more separated from its surroundings, and observed more of the design principles identified in the study.

بسم الله الرحمن الرحيم

TO THE SPIRITS OF THE GREAT OTTOMAN ARCHITECTS

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TURKISH CHARACTERS ▼

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TURKISH CHARACTERS USED IN THE DISSERTATION

The modern Turkish alphabet is basically very similar to the English one. There are, however, a few letters which are written and pronounced differently. The following is a list of these letters:

- **c** pronounced as **j** in **jam**
- **ç** pronounced **ch** as in **church**
- **e** pronounced **e** as in **bell**
- **ğ** lengthens a preceding vowel
- **ö** pronounced as in the German word **könig**
- **ş** pronounced **sh** as in **shall**
- **ü** pronounced as in the French word **tu**

No distinction is made in this study between the dotted and the undotted **ı**.

A WORD ON PLANS

All plans in the dissertation are drawn to the same scale for better appreciation of sizes. Unless credit is given at the caption, plans are roughly measured and drawn by the author.

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I - INTRODUCTION

1.1. THE OTTOMANS IN HISTORY

The Ottomans were originally Turkish nomadic tribes who migrated from Central Asia to the Middle East region. They wended their way through Asia Minor westward, and like many other Turkish tribes, they worked as gazis or march-warriors. The Turks were known to have had their own powerful empire in Central Asia during the sixth century; however, this empire did not last long. The Turks had their first encounter with Islam and Muslims during the ninth century when they were brought to the Muslim lands as enslaved warriors. It was not very long until these newcomers became powerful in the Muslim state. By the eleventh century, they were able to establish their own state in the Middle East through their control of the army. They were called Seljuks, after their earliest leader Seljuk ibn Dukak.

The great Seljuk state was afterwards divided into small states around the year 1092. Asia Minor had its share from these smaller states, but it also had the gazis who continued pushing westward. One distinguished gazi tribe was the Osmanli, or as they are called in English, Ottomans, named after its first ruler, Osman. He ruled between 1299 and 1326 in a small principality very close to Constantinople. The Osmanlis were able to gain several battles against the Byzantines. By the time when Osman was dying in 1326 his army, under the leadership of his son Orhan, was able to conquer Bursa. The Osmanlis were on their way to establishing a new powerful Muslim state. Bursa was their first

major capital. In 1361, Murad I conquered Edirne which became the capital until the fall of Constantinople in 1453 to the hands of Fatih Mehmet (the conqueror) and his army. The Byzantine capital Constantinople became Istanbul, the seat of the Ottoman Empire. Until the end of the fifteenth century, Ottomans were expanding westward in Europe. By the second decade of the sixteenth century they showed interest in the Arab lands. Selim I conquered Syria in 1516 and Egypt in 1517. By that time the empire was expanding in Europe, North Africa, and Iraq. During the seventeenth century, most of Eastern Europe, the Middle East, and North Africa were parts of the Empire. The Black Sea was an Ottoman sea, and good parts of the Caspian Sea's western shores were also under the Ottomans' dominance (plan 1-1).

With the end of the seventeenth century, this situation started to change drastically. Many parts of Eastern Europe were to gain their independence from the Ottoman empire. The Treaty of Karlowitz in 1699 was a historical turning point in the decline of the Ottoman dominance. From that time onwards the empire was loosing more territories externally while internal corruption at all levels of government was speeding the deterioration process. There was a brief period during the seventeenth century when the Köprülü viziers[1] were able to partially remedy the situation and slow the decline; there were no such strong viziers in later periods. Some of the sultans, such as Selim III (1789-1807), tried to reestablish a stronger administration through a reform process. Both Mahmut II, who reigned between 1808 and 1839, as well as Abdülhamit II, who reigned between 1876 and 1909, tried to save the rapidly deteriorating empire; however, their efforts were of marginal effect. In 1924 the Ottoman family was deported from the new Turkey which became a republic.[2]

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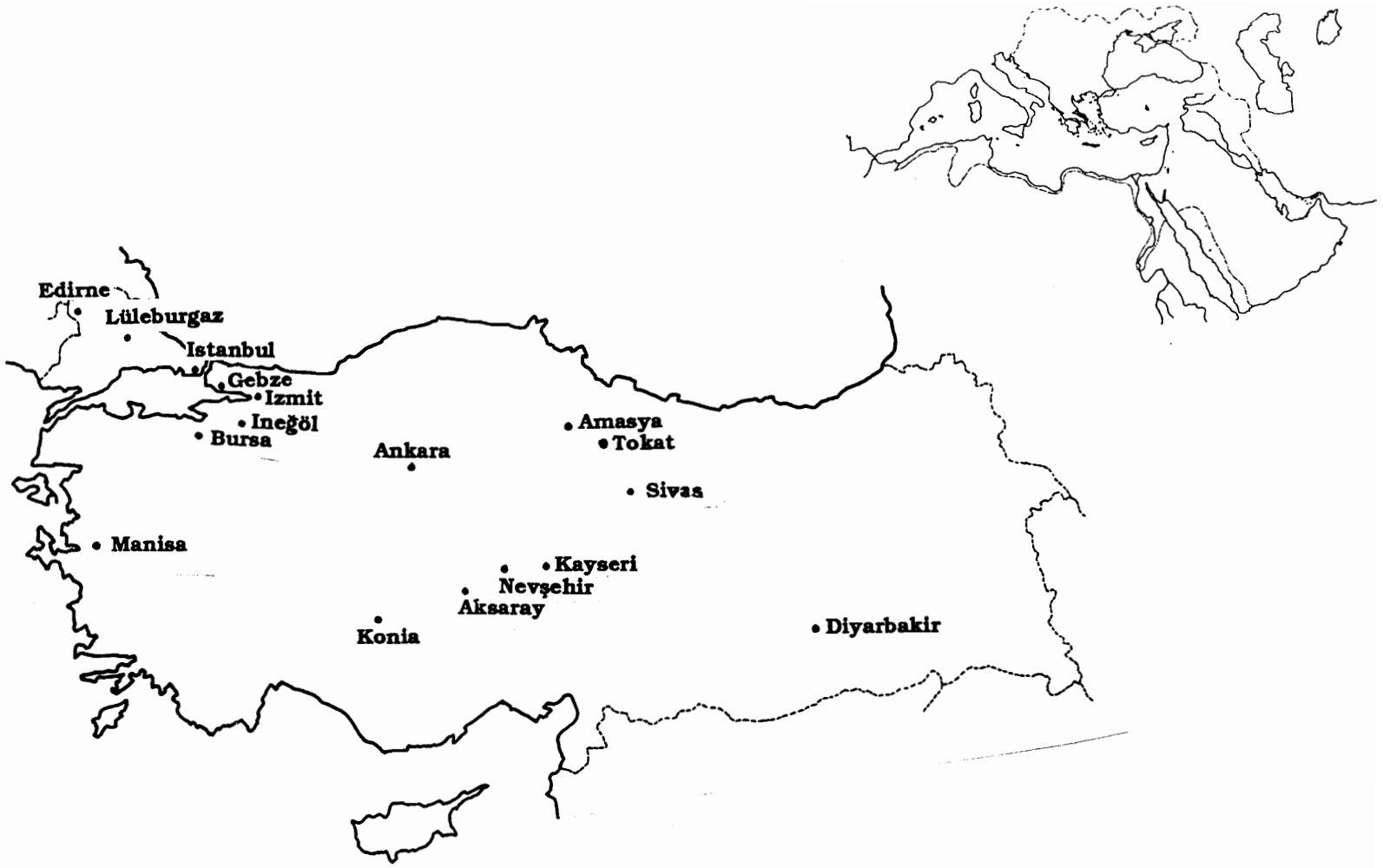
[1] Turkish terminology and pronunciation is used throughout this study for all names of places, buildings, and individuals. See the preface for pronunciations.

[2] This short account of the Ottomans' political history is based on the following two volumes: Berbard Lewis. Istanbul and the Civilization of the Ottoman Empire, University of Oklahoma Press, 1972; and Sydney Fisher and William Ochsenwald, The Middle East: A History, Fourth Edition, McGraw-Hill Publishing Company, 1990.



Plan 1-1: The Ottoman state during the time of Süleyman the Magnificent (middle of the sixteenth century) and the studied cities in modern Turkey

The great days of the Ottomans brought prosperity and grandeur. The might of the empire was reflected in all aspects of life. The influence on architecture in particular was easily recognized. Istanbul, Bursa, Edirne, as well as many other major cities in the empire were stages for architectural masterpieces. The empire had its own distinguished and well refined architectural language which was manifested in the rich architectural heritage of Ottoman cities. The political decline affected architecture as it affected all other sides of life. Ottoman architecture during the eighteenth century lost its splendor and its purity. The later works lacked originality and greatness, and were strongly influenced by contemporary European architecture.[1]

1.2. THE OTTOMAN KÜLLIYE

1.2.1. AN OVERVIEW

The külliye was an Ottoman institution which housed a variety of religious, educational, social, as well as commercial services. These services were grouped around a mosque. The roots of the külliye as a concept go back to "the earliest form of the mosque or djāmi' where one building housed the place of prayer and teaching as well as serving as a hostel."[2] The community mosque or the cami[3] continued to act as a center around which other civic activities were located. The mosque and its surrounding activities became centers for the Muslim communities. While in the early Islamic states these centers were built through a lengthy period of time and by different people, it was the Ottomans who

[1] For a brief account of Ottoman architecture in Istanbul see Zeynep Çelik, The Remaking of Istanbul, University of Washington Press, Seattle and London, 1986, pp. 22-29.

[2] Goodwin, "Külliyye", The Encyclopaedia of Islam, New Edition, Vol. 5, Leiden, 1986, p. 366.

[3] Cami is the Turkish term for the Arabic djami'. Djami' is the largest mosque in town where a Friday prayer is performed. The Turkish term will be used in this study. Likewise the term medrese will be used instead of madrasa. In general, the terminology used will be Turkish even if the origin of the term is Arabic.

built complete centers of this kind as comprehensive projects.[1] It is perhaps because of this fact that any of these centers was called külliye; a term which literally means 'a whole or an entirety.'[2]

The Turkish gazis moved from one area to another across Asia Minor. A small group of warriors used to settle in every conquered town. The mission of this group was to establish an Islamic society. In order to house and serve this new society, new neighborhoods were built outside the city walls. These new neighborhoods were established around a service center which included a mosque, medrese, hamam, and zâviye, among other facilities. In other words, the need to house and provide services for the Muslim community was the reason behind the birth of the Ottoman külliye.[3]

Almost every Ottoman sultan built a külliye during his reign. The early külliyes were small and modest.[4] It was in Bursa that some of the first great külliyes were built. When Bursa was named as the seat of the government, it became the most important city in the Ottoman state. The sultans built their külliyes around eyvan mosques[5] in different sections of the city. One of these earliest külliyes was built by Yildirim Beyazit outside the old city limits. The külliye was of a good size housing a rich program which included a mosque, medrese, imaret, hamam, and turbe. Other large külliyes in Bursa were built by Murad I, (the Yeşil, or green külliye) and Murad II. By the time Fatih Mehmet took

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[1] See Chapter 3 for the historical roots of the külliye.

[2] The term külliye comes from the Arabic term "kull" which means whole.

[3] Aptullah Kuran, The Mosque in Early Ottoman Architecture, The University of Chicago Press, 1968, p. 16.

[4] A few centers were built before the time of Bursa such as the center of Ertuğrul at Söğüt which was built towards the end of the thirteenth century. This center consisted of a mosque, medrese, and the builder's türbe. Such a collection of facilities is called a center and not külliye in this study because it has less than three services (see section 1.2.2. Defining the külliye). However, what is important about such a center is the fact that two services or more are grouped together. Actual külliyes were to be built in Bursa.

[5] Also called reverse T mosque and Bursa type mosque. See Aptullah Kuran, The Mosque in Early Ottoman Architecture, pp. 72-7.

Constantinople, the külliye was reaching its full development. While the Fatih and Beyazit II külliyes were the early experiments, külliyes following their design scheme were erected one after the other.[1]

Külliyes in Bursa were built with respect for existing topography. They appear as if they did not have any other overall design concept which governed their layout. Yildirim Beyazit's külliye is a good example to illustrate this point. Each building is seated on a different platform over the sloping site (fig. 1-1, 1-2). The scale of the külliyes was still relatively modest. The mosques in the sultans' külliyes of Bursa were larger and more monumental than those which were erected in the earlier years of the state. However, they were still limited in size because of the construction constraints of the time.

The new design concepts which were used in Istanbul were based on geometrical relationships between the different structures. Monumentality and grandeur were skillfully pronounced and more evident. The Ottoman architect had gained a long experience by the time he was practicing in Istanbul. Besides his experience which he had been acquiring during the previous 150 years, he was able to learn from the Byzantine architecture in Istanbul as well as from the earlier Islamic architecture in the Middle East.[2] It was in Istanbul that the Ottoman architect was able to construct the largest and highest domes in the history of Ottoman architecture. And it was in Istanbul that he was able to handle complex programs and express them in comprehensive architectural forms. By the end of the eighteenth century and during the nineteenth century, the European influence on the Ottoman architecture was very evident. European forms and motives were used frequently in all buildings including mosques. By that time the Ottomans were also building much humbler külliyes because of the economic situation, amongst other reasons.

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[1] An extended discussion of the külliye's design can be seen in chapter 5.

[2] Zeynep Çelik, The Remaking of Istanbul, University of Washington Press, Seattle and London, 1986, p. 26.

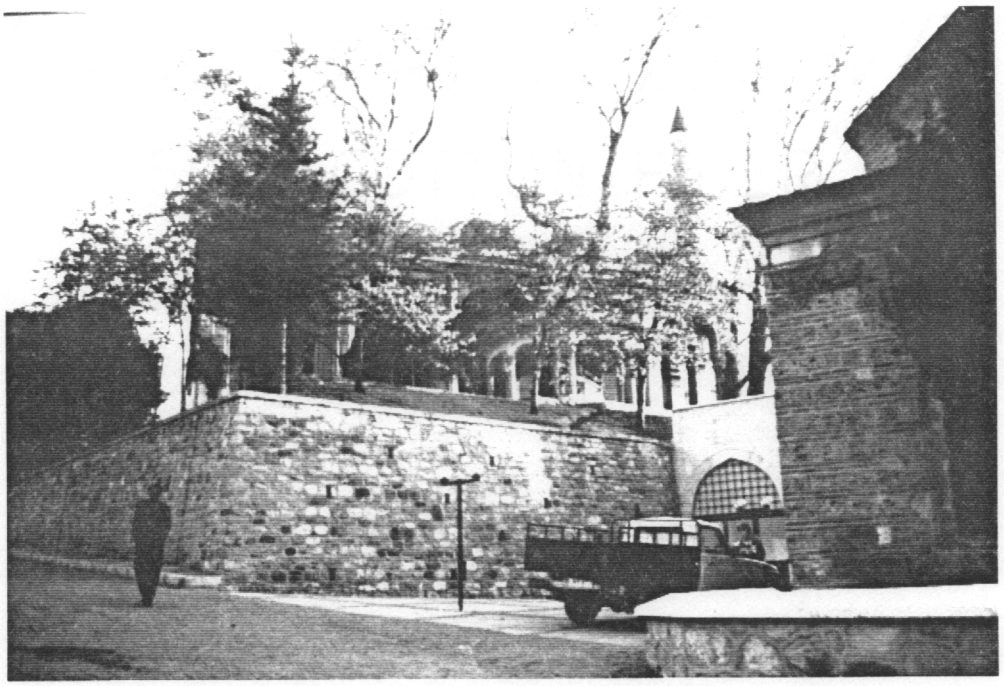

Figure 1-1: Yildrim Beyazit Külliye, Bursa; at the level of the medrese, the mosque appears at a higher elevation

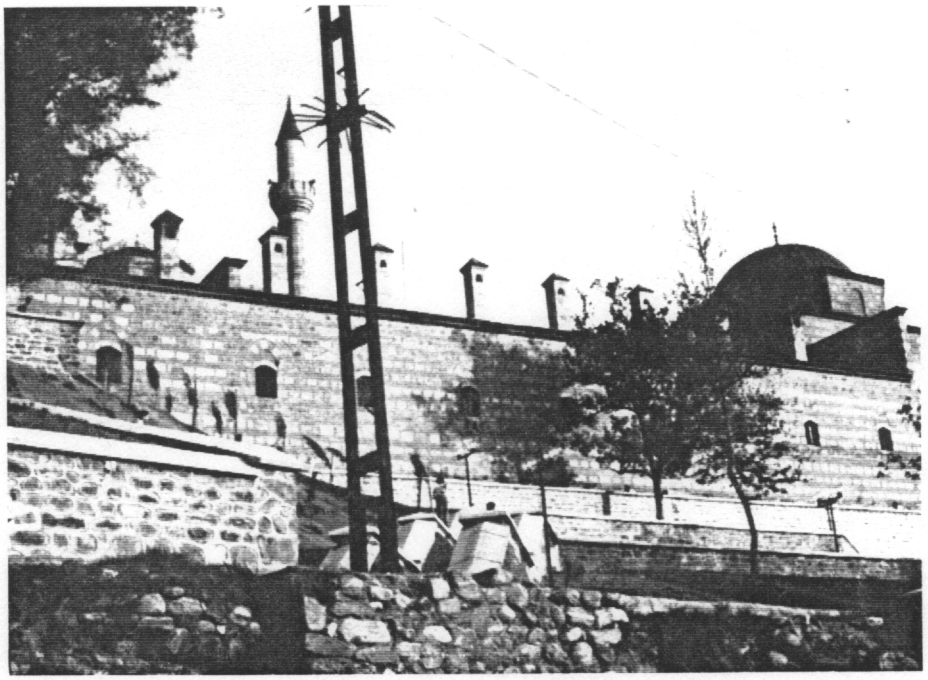

Figure 1-2: Yildrim Beyazit külliye, Bursa; the different platforms of the külliye

1.2.2. DEFINING THE KÜLLIYE

A precise definition to the külliye appears to have eluded most architectural historians. In many cases, the külliye is defined in books' glossaries and is not considered by itself as a subject of discussion. As a way of examining the külliye's definition, The Encyclopaedia of Islam can provide a point of departure. The külliye, according to the encyclopaedia, is "the complex of buildings with varying purposes centered round a mosque."[1] In the glossary of his book A History of Ottoman Architecture, Goodwin defines the külliye as "(e)ducational and charitable dependencies of a mosque."[2] In these two definitions, which are both written by Goodwin, it appears as if the mosque is not part of the külliye. It is the other functions around the mosque which constitute the külliye. Kuran's definition of the külliye is more general. In the glossaries for his two books, The Mosque in Early Ottoman Architecture and Sinan, he states that the külliye is a "complex of buildings."[3] The term *complex* in this definition, as well as in the definition presented by the encyclopedia, means a compound; and it is this term, complex, that is used in the English language to denote külliye.[4]

Other more specific definitions were advanced by different authors. The facts that the mosque was the center of the külliye, and that the külliye provided religious as well as

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[1] Goodwin, "Külliyye", The Encyclopaedia of Islam, New Edition, vol. 5, Leiden, 1986, p. 366.

[2] Goodwin, A History of Ottoman Architecture, Thames and Hudson, London, England, 1971, p. 459. It is worth noting that according to this definition the mosque is not considered part of the külliye.

[3] Kuran, The Mosque in Early Ottoman Architecture, p. 223. Kuran has also a detailed discussion about the külliye, see pp. 15-23.

[4] In his brief discussion about the külliye, Spiro Kostof considers it "(t)he chief device of Ottoman city-making." He continues "The word derives from the Arabic word meaning 'the whole.' A külliye was the functional center of a well-defined neighborhood... It consisted of an interrelated group of buildings around a mosque." See Spiro Kostof, A History of Architecture: Setting and Rituals, Oxford University Press, New York and Oxford, 1985, p. 457.

social and educational services are emphasized. Ülkü Bates,[1] James Dikie,[2] Ekrem Akurgal,[3] John Hoag,[4] and Oktay Aslanapa give similar definitions for the külliye in which they note the different facilities which surround the mosque. The most comprehensive definition is given by Aslanapa; he wrote that the külliye is:

> (a) complex foundation, consisting normally of a Great Mosque (*jāmi'*), one or more *madrasas*, a hospital, khans, covered markets (*bedestens*), a tomb, a guest house (*tabhane*) and a soup kitchen or *imaret*. Although such complex foundations are known from 14th century Egypt and may, indeed, have originated in Seljuk Khurāsān, the type is essentially characteristic of the Ottoman period in Istanbul.[5]

Sumner-Boyd and Freely have a similar definition with one important addition: these külliyes were pious foundations.[6] Kuran explains that külliyes were the centers around which new neighborhoods grew. Since Ottomans practiced the policy of tolerance with other religions, they did not disturb the old settlements which existed in the conquered cities. They usually built their own neighborhoods outside the walls of the city. In order to establish a community spirit in the new settlements they erected centers which provided all civic services.[7] Such centers became the heart of the new communities around which residential areas grew.

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[1] "Architecture" in Turkish Art, Esin Atil (ed.), Smithsonian Institute Press, Washington and Harry Abrams, Inc., New York, 1980, p. 98.

[2] Architecture of the Islamic World, Thames and Hudson, 1987, p. 281.

[3] Ekrem Akurgal (ed.), The Art and Architecture of Turkey, Rizzoli, New York, 1980, p. 260.

[4] Islamic Architecture, Harry Abrams, Inc., New York, 1977, p. 405.

[5] Oktay Aslanapa, Turkish Art and Architecture, Praeger Publishers, New York and Washington, 1971, p. 337.

[6] Strolling Through Istanbul, Redhouse Press, 1989, p. 513.

[7] Kuran, The Mosque in Early Ottoman Architecture, p. 16.

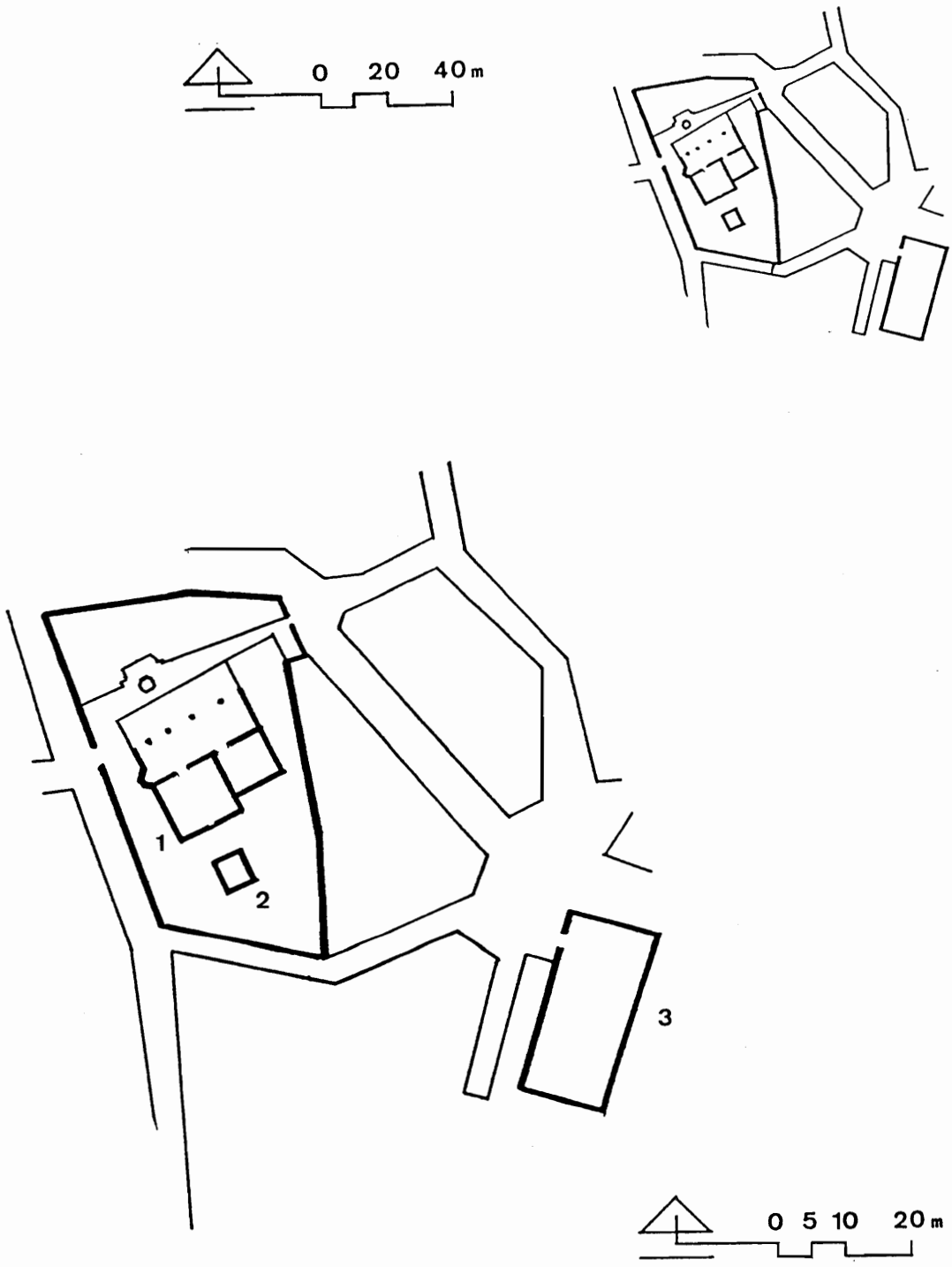
Two kinds of grouping are distinguished in this study: center and külliye. A center is a grouping of facilities which can fall under one of the two following cases: either that the grouping has no more than two kinds of services including the mosque, or that the grouping was built by different builders in different times. An example of the first case would be Omur Bey (1454) in Bursa: it consists of a mosque and a hamam (plan 1-2). Any combination of two facilities will qualify as a center, such as mosque and medrese, mosque and mekteb, or mosque and tekke. An example of the second case can be seen in Tokat; the main square of the town is the house of the Khatuniye medrese and the Gök medrese, both built in the twelfth century, a mosque built in 1383, and a han built in 1631 (plan 1-3). All these services constitute a center for the town; they, however, do not make a külliye.

A külliye, as defined in this study, is a set of three or more facilities of religious, educational, social, and commercial nature, built by one patron as a pious foundation for the benefit of a community. Külliyes were mostly built by the royal family and high officials in the government. The greatest külliyes were built by the sultans themselves who financed the buildings of the Ottoman master architects. Two basic kinds of külliyes existed: urban külliyes and countryside külliyes. Urban külliyes were built in cities and were more oriented towards educational objectives; while countryside külliyes were usually built to serve travellers.[1] This study is concerned primarily with the urban külliye, but a few case studies of countryside külliyes are included for comparative purposes. The term külliye is used in the writing to denote the urban külliye unless otherwise specified as a countryside külliye.

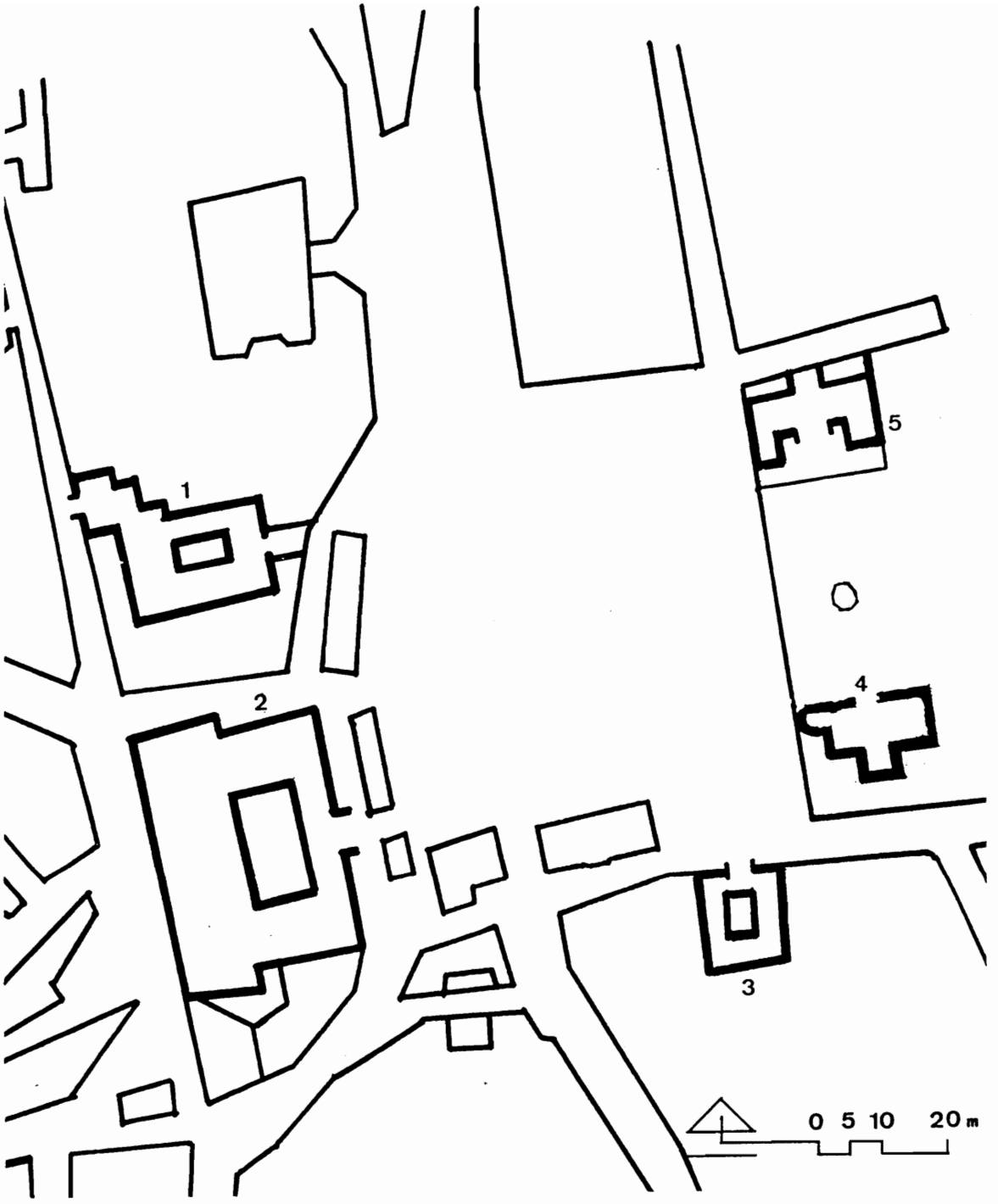
1.2.3. FACILITIES IN THE KÜLLIYE

The size of külliyes differed greatly according to their location, time and builder. Thus, the number of facilities differed from one külliye to another. These facilities can be grouped

[1] Aptullah Kuran, Sinan, p. 81.



Plan 1-2: Omur Bey center, Bursa; 1. mosque, 2. türbe, 3. hamam (after Gabriel, 1958)



Plan 1-3: The main square in Tokat exhibits a case of a center; 1. Gök medrese, 2. Voyvoda khan, 3. Khorozoglu han, 4. khatuniye cami, 5. khatuniye medrese (after Gabriel, 1934)

in five main categories: religious, educational, community-service related, commercial, and private.

Religious Facilities:

Mosque: (Arabic: Jāmi'; Turkish: Cami) The Muslim place of worship. The term mosque is taken from the French "Mosqué" which is a corrupted term derived from the Arabic "Masjid". A masjid is a place for prayer; if it is the main one in a community then it is called "Masjid Jāmi" or the "collective mosque." The mosque was the center of the külliye around which other facilities were grouped. In the time of the Prophet Muhammad, the mosque housed all other services of the community.

Educational Facilities:

Medrese: (Arabic: Madrasa) An institution for the teaching of Muslim theology (Qur'an, Hadith, Tradition). Architecturally, it usually consisted of rooms for students arranged around an open court; a special room for lecturing was also included. During the Ottoman period a medrese was an equivalent to a modern university; it was an institution for higher education.

Mekteb: Primary school especially for teaching Qur'an.

Darü'l-hadis: School for the study of Hadith.

Darü'l-kurra: School for Qur'anic studies.

Darü'l-tib: or tib medrese. Medical school.

Darü'l-kutub: Library.

Social Facilities:

Imaret: or darü'l-it'am. A soup kitchen which provided meals for the poor.

Tabhane: Guest house for travellers.

Tekke: Lodge for a dervish or Sufi order.

Hamam: Public bath.

Mehkeme: Public court.

Sebil: Public fountain providing drinking water. It is not an independent structure but an attachment to a wall, especially, that of the mosque.

Darü'ş-şifa: Hospital.

Commercial Facilities:

Shops: Built mostly at the outskirts of the külliye for the purpose of providing services to the residents of the külliye and the neighborhood, and to generate income to support the külliye.

Arasta: An open or covered shopping street.

Private Facilities:

Türbe: Tomb; it was built for the patron of the külliye. In the space around the main tomb other people were also buried.

Royal Pavilion: A small structure which was usually attached to the mosque and was used by the patron for rest and worship.[1]

There were other less significant facilities such as the muvakethane which was the time keeper's room as well as the astrologer's. Other facilities include open space for training and latrines. There was no külliye which housed all of the listed facilities; however, the larger külliyes had a good number of them.

1.3. A PROTOTYPE KÜLLIYE

The külliye took a variety of forms throughout its time of development and refinement.[2] However, an overall scheme for the külliye's design is evident. This scheme can be presented in a conceptual plan for an ideal külliye. Although such a külliye does not exist, a conceptual plan for it would help in presenting the different ideas proposed in this study (plan 1-4).

An ideal location for a külliye would be on a high elevation in the center of a community; a location close to a water body would also be opted. Wherever the külliye is located, it would respect the topography of the site and the urban fabric around it. A multi level design and an accommodation of the existing fabric would be two aspects to be respected in the design (plan 1-5). The design of such a külliye would be based on a highly developed system of geometry. This system would be mostly based on two basic forms: the square and the circle. These two forms would be used because of their symbolic values. They possess particular sacred meanings that would make them specifically preferred to act as a basis for the whole design. Especially important design principle which would be widely used is centrality. The design of the whole külliye would emerge around a central

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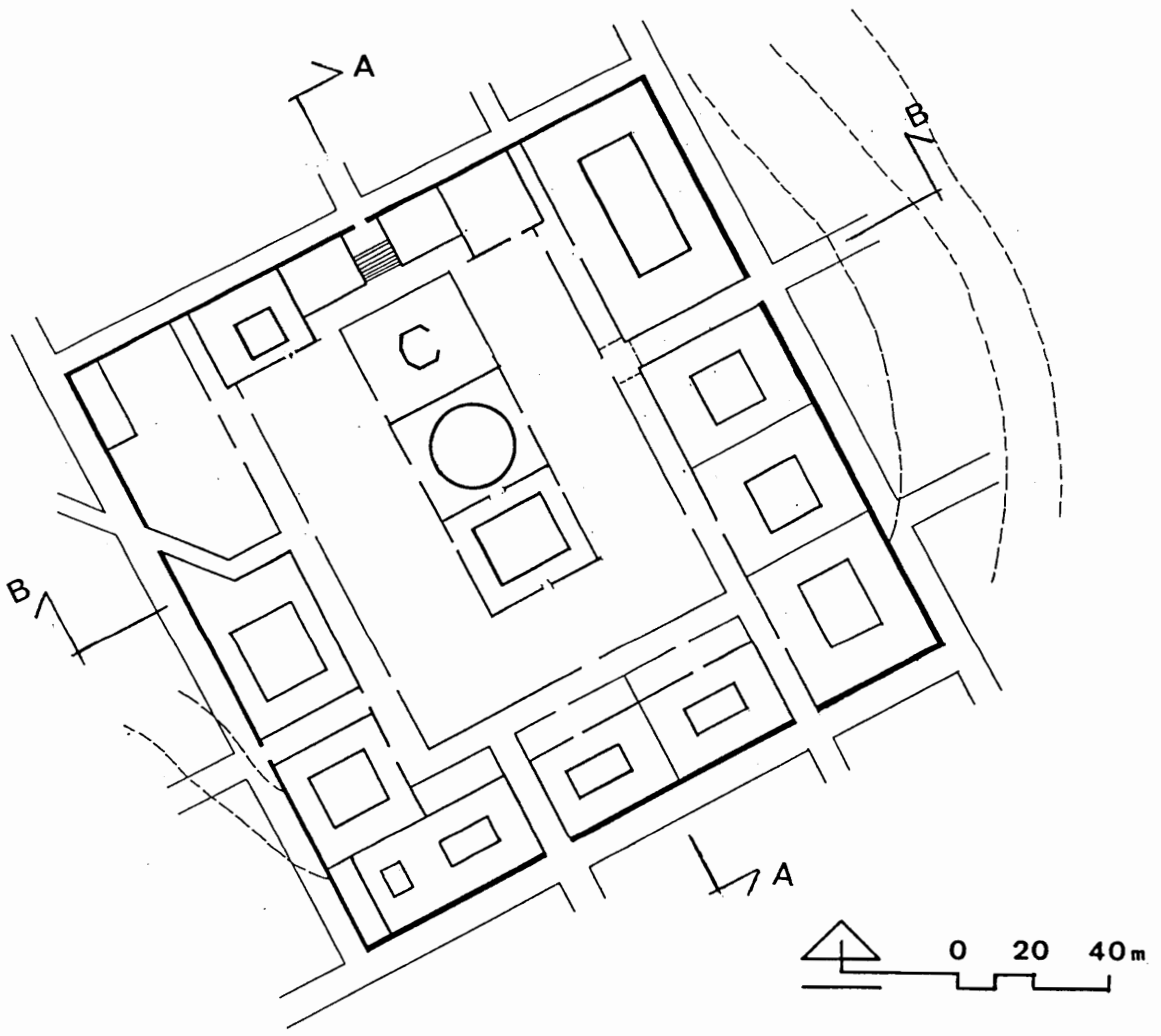
[1] Definitions are mostly based on the following two sources: Aslanapa, Turkish Art and Architecture, pp. 333-45. Kuran, Sinan, pp. 302-3.

[2] For a typology of the külliye see section 5.3. (A typology for the külliye).



Plan 1-4: A prototype design for a külliye; 1. mosque, 2. medreses, 3, social services, 4. market, 5. türbe

Plan 1-5: A prototype design for a külliye, sections

point which would be the center of a square or a circle. Such a circle or a square would encompass the whole design and dictate the proportion of the whole külliye.

The mosque would be at the center of the whole composition. A critical point of the mosque would be the center of the encompassing circle or square. The entrance to the covered part of the mosque from the courtyard or the center of the dome could be that critical point. The mosque could be surrounded by a larger space which acts as a platform for the most sacred building in the whole composition; this space can be called the central space because of its location and the fact that it would act as the social center of the community. The central space can be defined by the other buildings of the külliye or by a series of walls. A series of passageways would run around the central space and act as a public road since it would be connected and in alignment with the street system of the urban fabric around the külliye. Most of the facilities would open up into these passageways or directly to the central space. Along with the passageways system which is directly connected to the road system, entrances to the külliye would be located in carefully chosen locations so as to allow direct relationship with the urban fabric and the külliye. In particular, the central space would be in direct connection with the urban fabric through entrances which open up directly to that fabric. Educational facilities would be located in the close proximity of the mosque; social services, such as the imaret and the hamam, may exhibit a level of autonomy, at least in terms of entrances and orientations.

The mosque would be the highest structure in the külliye; other buildings would be closer in the height to regular buildings of the urban fabric. The türbe would be one of the buildings whose height would be somewhat in between. There would be enough differences in elevations and heights that a hierarchial order would be very apparent. The highest unit in the composition, which is the mosque, would be in the center; everything else would step down around it towards the peripheries where the height of the külliyes' structures would be compatible with that of the regular residential buildings.

At a more detailed level, facilities in the külliye might be grouped in smaller compartments so as to give identity and privacy. Movement through the külliye would be directed towards the central element, the mosque; however, this movement is not direct. The visitor would change his or her direction several times along his trip through the külliye. The visitor would go through a series of spaces which are rich in their character and qualities. Along the trip through the külliye, the visitor would encounter certain views of symbolic importance such as the dome, the minaret, or a gate (plan 1-6).

1.4. THE VAKIF SYSTEM

Vakif is a Turkish term derived from the Arabic "waqf." Literally, the term means "to prevent" or "to restrain"; "in Muslim legal terminology it means primarily "to protect a thing, to prevent it from becoming the property of a third person.[1]" The idea behind vakif is to have a property's benefits used for pious purposes. Hence, an owner of a mill can make his or her mill a vakif by declaring its profit to belong to a named beneficiary. Ottomans used the system of vakif as an institution which supported all urban activities. Religious, educational, and social services were provided through the vakif system. The vakif, moreover, supplied the necessary means to keep these services in operation after they were built.[2]

The different Muslim legal schools have several conceptions regarding the ownership of the vakif; one view sees that the original owner retains his right of ownership but ceases the right to exercise it. Another view takes the right of ownership from the owner completely; the vakif is considered to belong to God. A third opinion considers the beneficarie as the the owners. In all cases, however, the benefits of the vakif should go to the beneficiaries.[3]

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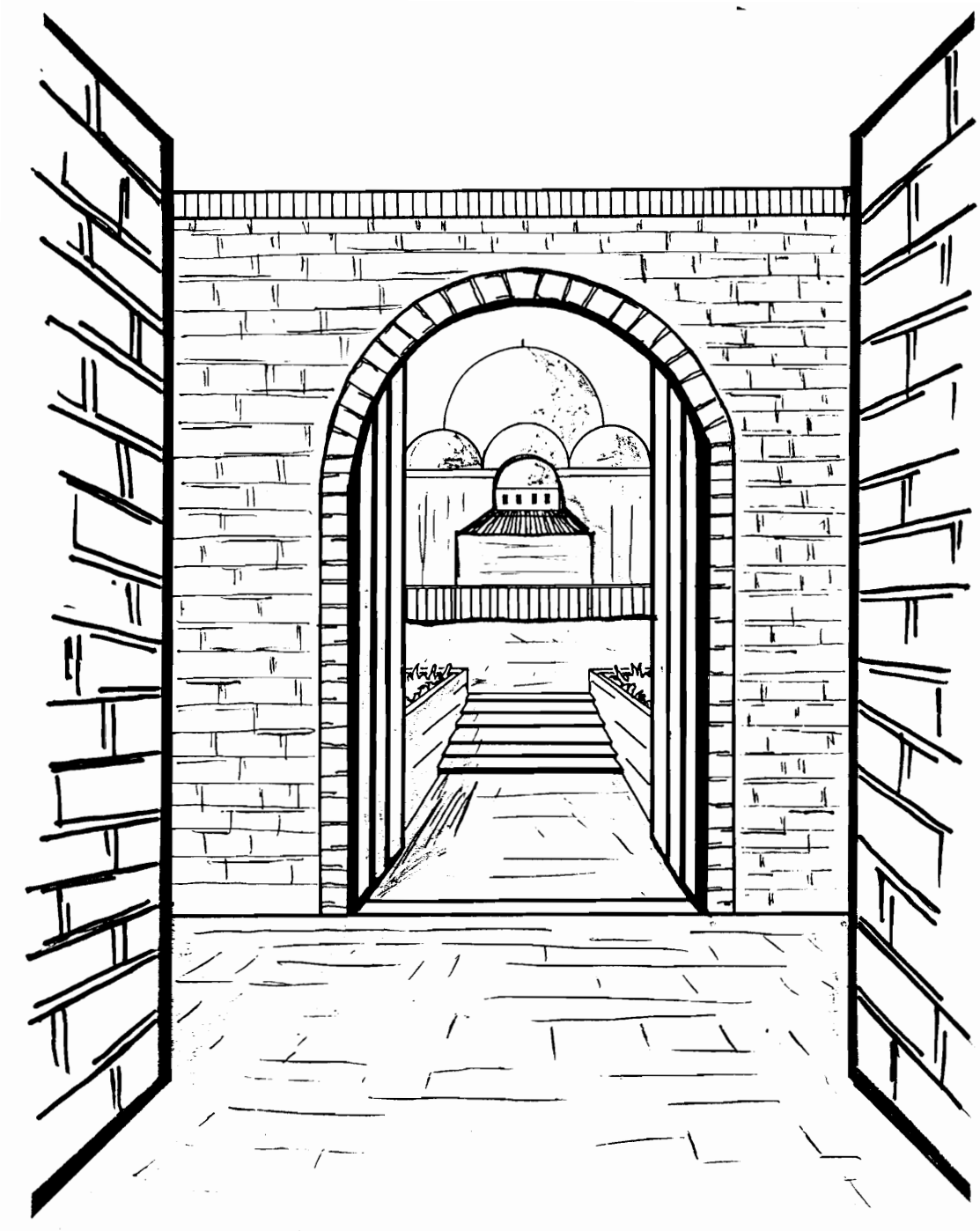
[1] "Wakf" in Shorter Encyclopaedia of Islam, pp. 624-8.

[2] Mustafa Cezar, "Principles and Regulations of Construction and Restoration During the Ottoman Period", Fifth International Congress of Turkish Art, 1978, p. 205.

[3] "Waqf", Shorter Encyclopaedia of Islam, p. 625.



Plan 1-6: A prototype design for a külliye, a detail showing focal points and directed views

Some historians believe that Muslims adopted the vakif system from a similar system they found in the conquered lands. Foundations built during the Byzantine period provided public services to the community and had an administrative system similar to that used for vakif. However, there are incidents in the tradition of the Prophet which were considered by Muslim scholars as the roots of the vakif system. One of the incidents happened when the Prophet wanted to buy a piece of land to build the mosque in Al-Madina. The owner of the land refused to sell it and donated it for the sake of God. Another incident is related to 'Umar ibn Al-Khattab',[1] who became the second caliph, when he asked the Prophet whether he should give away a piece of land. The Prophet instructed him to keep it as his property but to devote its fruits to pious purposes. Other similar incidents allow the assumption that the idea of vakif was originated during the time of the Prophet; however, it took its detailed legal form during the later periods.

The legal conditions for endowing a vakif consist of the following: the founder of a vakif must have full right over the property he or she wants to make vakif, he must be in full possession of his mental faculties; he also must be past puberty, and a free man.[2] A vakif is made in perpetuity, and goes into effect the moment the founder declares it as such. His declaration does not need to be in writing, however that was usually the case. The document which describes the vakif is called "vakfiye" (Arabic: waqfiyya). The administration of the vakif is assigned to an administrator "mütevelli" (Arabic: nāzir) who is supervised by a judge. The revenue of the vakif is used for its maintenance while the surplus is distributed to the beneficiaries.

The Ottomans used the system of vakif for the building of public services, and especially for külliyes. Such huge institutions required a very meticulous account of all expenses at the time of construction and during their operation. A vakfiye then was a legal document

[1] One of the most famous companions of the Prophet. He became the second Caliph of the Prophet after Abu Baker As-Siddik. He ruled between 634 and 644 A.D.

[2] "Waqf", Shorter Encyclopaedia of Islam, p. 624.

which explained precisely how moneys must be used for the benefit of the vakif. A typical vakfiye starts with an introductory section which includes a special prayer to God and a statement related to the importance of giving.[1] The second section describes in detail the properties that constitute the vakif. This section also appoints the administrator of the vakif who usually is the owner and is often succeeded by his descendants. When no child is left in the family, the owner usually demands in the vakfiye that the judge appoint the most honest and learned man in town as the administrator. The third section of the vakfiye lists the people who are to be employed in the vakif, their duties and salaries. It also mentions the stipend to be given to the students or the amount of food to be served for the needy or the residents (e.g. students, patients, travellers, etc.). The final section concludes the vakfiye with a reminder to the reader of the fact that no person should attempt to change any part of the vakfiye since it is a permanent legal document. The vakfiye is concluded by the signatures of witnesses who testify to the validity of the vakfiye's content and the sanity of the owner.[2]

The vakfiye was a detailed account of the vakif which dictated to the administrator in a very precise way as to how he should administer the vakif. A specific and detailed description was needed in order to insure a smooth operation of the vakif, especially since the number of employees and beneficiaries can be considerably large. The Süleymaniye, for instance, employed 366 people[3] who were to be paid along with a large number of students; moreover, patients, travellers, and needy people were to be fed daily. Each employee's job was prescribed in the vakfiye and the salary was fixed. Similarly, every meal offered in every day of the week was documented. Any missuse of the property or the monies of the vakif was considered a major sin. Writers of vakfiyes did not hesitate to state their anger on those who may attempt to take advantage of the vakif.

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[1] The outline described here is taken from vakfiyes kept in volume 608 of the "Vakiflar Genel Müdürlüğü" (General Directory of Vakifs) in Ankara, Turkey.

[2] See Appendix B for samples of vakfiyes.

[3] Goodwin, A History of Ottoman Architecture, p. 456.

In order to support a vakif, whether it was one facility or a whole külliye, the patron used to insure certain income through the establishment of commercial facilities whose income was used for the sole purpose of maintaining the vakif. A few shops, at the least, would be built as part of the külliye for financial support. In many cases an arasta was included in the külliye's program. The Süleymaniye, Selimiye, and Sultan Ahmet have arastas while Yeni Valide, Eminönü and Laleli have complete markets. In addition to the shopping facilities which were part of the külliye, patrons also used to make other properties of theirs part of the vakif in order to support the külliyes. Kara Ahmet Paşa's Vakif, for instance, contained a palace in Topkapi with two courtyards and stables, agricultural lands, more than a hundred shops, over twenty mills and watermills, three complete villages with all their slaves and animals, a bakery, a soap factory, and nine thousand sheep, among other items.[1] All of the income which was earned from this vakif was used for the upkeep and expenditure of the külliye that the sultan or the paşa had built.

1.4. SUMMARY

Osman Bey founded the early Ottoman state around the last years of the thirteenth century. The new state saw a constant growth during the following three centuries during which the Ottomans built a great empire encompassing significant parts of the old world's three continents. In every city the Ottomans entered they established a nucleus for the new Muslim community. This nucleus included a mosque, hamam, medrese, sebil, and han, among other facilities. The nuclei became the heart of the Muslim communities around which the rest of the urban fabric grew. Ottoman rulers competed in building these nuclei which were called külliyes. Külliyes included a wide range of facilities which can be classified in four areas: religious, educational, social, and private. The külliyes were supported by the vakif system which provided funding for building and maintaining the facilities.

[1] Ibid, p. 457.

Although individual buildings in the külliye were surveyed, documented, analyzed, and classified, there seems to be a lack of comprehensive studies which consider the külliye as a whole. The study at hand examines this particular aspect of the külliye; namely, its overall design. The research looks at the külliye from an urban design point of view. It addresses two questions within this perspective: first, what was the relationship between the külliye and its surroundings, and second, how was the külliye designed. The following chapter tries to locate the külliye within its historical framework, while the fourth, fifth, and sixth chapters attempt to answer the main two questions of the dissertation.

II - THE PROPOSED STUDY: ITS SCOPE AND METHODS

2.1. STUDIES RELATED TO THE KÜLLIYE

Ottoman külliyes have been well documented by a large number of architectural historians. However, their documentation was concerned with each külliye on an individual basis. A comprehensive study of the development of the külliye as a core for urban development is lacking. The studies of these külliyes are usually architectural in nature. Individual structures are documented and discussed thoroughly; however, the overall design of the külliye is not. The layout of the külliye might be mentioned as an introduction to the main subject which is usually the architectural analysis of individual buildings. It is to be noted, however, that the rich documentation of külliyes, especially their site plans, provides an excellent base for the study of the Ottoman külliye from an urban design perspective.

One of the most celebrated scholars who studied Ottoman architecture is Albert Gabriel. He documented a huge number of Ottoman monuments in different cities of modern Turkey.[1] His work is mostly archaeological in nature. His visual materials can be considered as excellent sources; in fact, they are used by many other researchers as a

[1] Gabriel, Une Capitale Turque: Brousse, E. de Boccard, Paris, 1958; Monuments Turcs d'Anatolie, E. de Boccard, Paris, 1931; Monuments Turcs d'Anatolie, E. de Boccard, Paris, 1934; Les Mosquées de Constantinople, Librairie Orientaliste Paul Geuthner, Paris, 1926; and Voyages Archeologiques Dans la Turquie Orientale, E. De Boggard, 1940.

point of reference. He provides site plans for most of the külliyes he studied; these plans are used in this study as a base for the analysis. Istanbul's külliyes are not documented by Gabriel; he studied only its mosques. In his several books documenting the Ottoman cities and their monuments, he introduces the city and discusses its location, climate, and history.

Another work by Gabriel is his classification of the mosques of Istanbul.[1] In this study, he searched for the origins of the different types of mosques built in Istanbul. He looked at three aspects: the development of the plan, the modes of structure, and the decoration of the mosques. The importance of the study is the classification itself which led him to differentiate six types of mosques.

Kuran also studied the Ottoman mosque and provided a somewhat similar classification.[2] While Gabriel classified the mosque only in Istanbul, Kuran covers the development of the Ottoman mosque in the whole of modern Turkey between the thirteenth and fifteenth centuries. Kuran's introduction to this book is also valuable since in it he discussed the Ottoman külliye and its physical configuration in general terms. The visual materials complementing the text can be supportive to any study concerned with the külliye.

The other important work by Kuran is his book about the Ottoman architect Sinan.[3] In this book Kuran discusses issues related to the Ottoman külliye such as its formal organization, the relationship between the mosque and the medrese, and the architectural forms of the different facilities in the külliye. Kuran, in this study, examines the overall layout of the külliyes before dealing with the individual buildings. The book, however, does not attempt to develop a comprehensive analysis of the külliye as an urban center since

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[1] Gabriel, Les Mosquées de Constantinople, Librairie Orientaliste Paul Geulhner, Paris, 1926.

[2] Kuran, The Mosque in Early Ottoman Architecture, The University of Chicago Press, Chicago and London, 1968.

[3] Kuran, Sinan, Institute of Turkish Studies, Inc., Washington D.C. and ADA Press Publishers, Istanbul, 1987.

its objective was to study the architectural development of Sinan's works. The study is also limited to the works of Sinan since, again, it is Sinan's works that the author was studying.

Goodwin's documentation of Ottoman architectural history is a unique source book[1] for it covers the whole history of the Ottoman architectural experience. In his presentation of the külliyes, Goodwin also focuses on the architectural side of the monuments and does not attempt to look at the whole composition of the külliyes. There are cases where the author discusses the layout of some of the külliyes; nevertheless, his discussions are lost within the lengthy descriptions of the many details of the work in hand. It is, therefore, difficult to come up with any kind of conclusions related to an understanding of the urban nature of the külliyes. The book is very rich with visual materials for a wide variety of Ottoman monuments.

Another good book as a guide to the monuments of Istanbul is Strolling Through Istanbul.[2] It gives detailed descriptions of a large number of Istanbul's külliyes. The discussions extend to cover the social and political lives of the patrons of these monuments, and thus provide useful insights about the works. Although the book describes the külliyes at length, it does not attempt to establish any systematic analysis for their layouts.

Other studies of Ottoman architecture are very valuable from an architectural point of view; however, from an urban design perspective they fall short of comprehensive examination of the subject. The overall design of the külliye is usually dealt with as a side issue. Nonetheless, these studies provide an excellent background for any examination of the urban design perspective in the design of külliyes. Examples of such studies

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[1] Goodwin, A History of Ottoman Architecture, Thames and Hudson, New York, 1987.

[2] H. Sumner-Boyd and J. Freely, Strolling Through Istanbul: A Guide to the City, Redhouse Press, Istanbul, 1989.

include Atil's Turkish Art[1] which provides a good summary of the political history of the Turks. It also briefly discusses Ottoman architecture. Aslanapa's Turkish Art and Architecture[2] gives a very good summary of the arts of the Turks from their early days until the classical period of the Ottomans. It covers the pre-Islamic art of the Turks as well as their arts after they became Muslims throughout their different dynasties until the Ottomans. The Art and Architecture of Turkey[3] includes a chapter by Doğan Kuban about Ottoman architecture. The chapter is rich with its axonometric perspectives which make the monuments much easier to understand. Kuban briefly discusses some of the most important külliyes and examines their architectural qualities.

There is an abundance of published research done on individual külliyes.[4] However, these studies are mostly architectural in nature and do not consider the urban character of the külliye. The pieces of architecture are well documented and studied, while the overall design of the külliye is not addressed. It is this angle in particular that this research examines: the külliye as an urban center.

2.2. SIGNIFICANCE OF THE STUDY

This study derives its importance from the fact that no comprehensive analysis of the külliye as a whole has been developed. The individual investigation of each piece of

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[1] E. Atil, Turkish Art, Smithsonian Institute Press, Washington, D.C. and Harry W. Abrams, Inc., New York, 1980.

[2] Oktay Aslanapa, Turkish Art and Architecture, Faber and Faber Limited, London, 1971.

[3] Doğan Kuban, "Architecture of the Ottoman Period," in Ekrem Akurgal (ed.), The Art and Architecture of Turkey, Rizzoli, New York, 1980.

[4] Examples are: Ago-Oglu, "The Fatih Mosque at Constantinople," Art Bulliten, vol. xii, no. 4, December, 1930; Ayverdi, "Yeni Fatih Camii," Istanbul Universitesi Edibiyat Fakultesi Tarih Dergisi, 7 (10), Istanbul, September 1954; Charles, "Haghia Sophia and the Great Imperial Mosques," Art Bulletin, vol. xii, 1930, pp. 321-44; Kuban, "Atik Valide Külliyesi," Mimarlik ve Sanat, no. 1, 1961, pp. 33-36, no. 2, 1961, pp. 59-63; Kuban, "An Ottoman Building Complex of the Sixteenth Century: The Sokollu Mosque and its Dependencies in Istanbul, Ars Orientalis, no. 7, 1968, pp. 19-39; and Kuran, "Zal Mahmud Paşa Kulliyesi," Bogazici Universitesi Dergisi: Humanitier Bilimler, vol. 1, 1973, pp. 65-81.

architecture in the külliye serves a critical role in the process of understanding Ottoman architecture. However, such an investigation looks at each building in a narrow perspective away from its urban setting. The Ottoman külliye was composed of a number of architectural units which were built together as a complex. Furthermore, the külliye had a strong relation with the urban fabric around it. It is for these reasons that the külliye cannot be seen as a series of individual buildings; rather, it has to be addressed and studied as a complete system.

The Ottoman külliye is a unique phenomenon in the history of urban design. Its uniqueness comes from many factors. Firstly, it is a place where a variety of functions related to different aspects of life existed harmoniously together. Secondly, although it was originally a religious institution, it was by no means isolated from the daily life of the city; on the contrary, it was the center for civic activities. Thirdly, it was in many cases the generator of urban life. The erection of a külliye meant that an urban development would grow around it. Because of these facts, the külliye presents a fine case study of the Islamic city and its urban fabric.

This research addresses the urban aspect of the külliye; it does not examine individual buildings for their architectural significance or their functional aspects. Buildings are discussed only in their relation to the urban environment. Thus, elevations of buildings are examined as enclosure elements of the open spaces; they are presented as the generators of these spaces and, hence, the influential factor in creating the characters of these spaces. The study gains its significance from this particular fact: addressing the urban aspect of the külliye. The urban aspect of the külliye is examined at the following levels:

1. The regional level.
2. The relationship between the külliye and its surroundings.
3. The overall layout of the külliye.
4. The formal organization of the külliye.
5. The design principles used in the külliye.

The research project explores the külliye at a regional scale; it discusses the külliyes' locations, sizes, and facilities within the context of the Ottoman state. The study also presents an understanding of the design principles which were used in the creation of the visual experience in the külliye. Furthermore, the study provides three classifications of the külliye: the first addresses the different types of relations which existed between the külliye and its surroundings; the second presents the different languages used in the design of the külliye; and, the third classifies the Ottoman külliye according to its spatial organization.

A study of the Ottoman külliye is critical and informative for several reasons. At the academic level, such a study explores a unique urban environment which has not been explored before. Thus, the knowledge of urban design in Islamic societies, and in particular in Ottoman society, will be expanded. The findings of the study will add a new segment to the understanding of Ottoman architectural history. From a practical perspective, this knowledge can be very useful, especially in this time when a tremendous amount of restoration and rehabitalization is practiced on the Ottoman külliye. A better understanding of the külliye will definitely aid in the decision making process regarding the future shape and use of the different külliyes. Alterations have been applied to a good number of külliyes; in many cases these alterations or changes took away from the original design and destroyed the spirit of the place. Examples of such cases include the enclosing of many of the colonnades with glass in the courtyards of medreses, a process which takes away from the visual quality of the space. Another example is the additions to Beyazit külliye in Amasya which do not fit with the rest of the project. A small structure added behind the türbe in Sultan Ahmet külliye also appears to be very awkward. A possible advantage of this study is that if such changes are to be applied, they can be more sensitive to the character of the Ottoman külliye. Another benefit from this study is related to the fact that through understanding the Ottoman külliye at an urban scale, a better understanding of the problems of our time can be achieved and thus, hopefully, more appropriate solutions can be introduced. The study of the külliye's role in the city explores issues related to the relation between residential zones and services, urban life

in Muslim societies, and the visual qualities of open spaces. Such issues are very problematic for the modern urban designer and an historical perspective can definitely be useful.

2.3. DIMENSIONS OF THE STUDY

This study covers the period between the fourteenth and the seventeenth centuries (A.D.) of the Ottoman history. It was in 1299 when Osman became the ruler of the Ottoman tribes and founded the Ottoman dynasty. By the end of the seventeenth century, the European influence on Ottoman architecture had surfaced; and thus, new architectural trends began to appear. Two distinct periods are emphasized in the study: the Pre-Istanbul and the Post-Istanbul. Bursa in particular was the most important city in the Pre-Istanbul period, while Istanbul was the center of all architectural development in the second period.

Although the research concentrates on Istanbul and Bursa as the two main case studies, it also explores külliyes in different cities within the borders of modern Turkey. Külliyes in the following cities are included in the study: Amasya, Edirne, Gebze, Inegöl, Lüleburgaz, Manisa, and Nevşehir.[1] The main factor which influenced the selection of the case studies for the project was the availability of data. In particular, the ability to visit the külliyes was a major concern. The availability of architectural plans for the case studies was another factor. However, it was not a determining one; many of the külliyes which are included in the project did not have plans. Preliminary plans were developed to assist in the analysis. These plans were drawn on site; although they might not be accurate, they are sufficient for the kind of analysis conducted. Around sixty külliyes were included in the study; forty-four of them were analyzed in more detail for the development of the different classifications.

[1] Nevşehir (litterally means: New City) was a city built by Ibrahim Paşa, one of Sultan Mahmut I viziers, around 1730's.

The külliye is addressed from two main perspectives:

1. The relation between the külliye and its urban setting: the külliye here is studied at three levels: the state, the city, and the immediate surroundings.
2. The spatial composition of the külliye: three aspects are examined: the overall layout of the külliye, the spatial composition of the külliye and its open spaces, and the design principles which were used in the külliye.

The study concerns itself with the formal aspect of the külliye; however, it relates the formal study to other issues whenever possible. Several hints were included to explain political, social, or religious influences on the form of the külliye. Issues related to the meaning and symbolism behind the form of the külliye are also considered. However, a more in depth analysis of the factors which helped shape the form, as well as the meanings behind these forms, is definitely needed. This research project provides a background or a point of departure for such studies.

2.4. THE THESES OF THE RESEARCH

The study of the külliye in this project is built around three main theses:

1. The Ottoman külliye was built as an answer to the needs of the locality where it was built, and with sensitivity to planning issues.
2. The Ottoman külliye exhibited different forms in terms of its relation to the surrounding urban fabric and its spatial composition. These forms can be categories in typologies.
3. The Ottoman külliye enjoyed a set of design principles which:
   a. made the külliye more human in scale,
   b. provided the külliye with unique visual experiences, and
   c. introduced through the külliye symbolic meanings at an urban scale.

2.5. METHODS OF RESEARCH

The research is a morphological study; it concentrates on the form of the külliye and its classification. The overall approach to the study is based on a process of examining the largest scale around the külliye first and then focusing on a smaller context. Five scales are addressed:

1. The state scale.
2. The city scale.
3. The immediate surrounding.
4. The külliye itself.
5. The individual open spaces in the külliye.

This approach seems to be appropriate for such a study since it relates the külliye to its largest context and then it zooms in on it. Such an approach was used previously; Kubler's study of the religious architecture of New Mexico adopted a similar approach although not with the same details. Kubler began with a general background about the area's religious architecture. He then looked at the works which he studied at an urban scale where he examined their distribution, location in relation to the residential areas, and orientation. He afterwards presented the construction materials; then he discussed the architectural plans, the structural systems, the masses, the optical effects, and finally smaller structures around the main cathedral or church.[1]

The analysis at the state and city level is related to the numbers, locations, and sizes of the külliyes. The objective of the analysis at that level is to establish an understanding of the relationship between these issues and the time, the area, and the commissioner of the külliye. Therefore, the method used here is simple census analyses. On the other

[1] See George Kubler, The Religious Architecture of New Mexico, Albuquerque, University of New Mexico Press, 1972.

hand, the study of the following three scales (immediate surroundings, the külliye itself, and the individual open space) is based on the comparative analysis method. Külliyes are compared and contrasted in order to reach meaningful conclusions which can be used for the establishment of the different classifications and typologies.

The comparative analysis method has been used by many art and architectural historians. Perhaps the most famous comparative study is Wolfflin's comparison between the Renaissance and Baroque arts. Wolfflin in this study established the comparative analysis as a method of analysis for art works. He established a number of polarities contrasting the two periods; he applied these polarities to painting, sculpture, and architecture.[1] Paul Frankl used the same method of analysis in order to study the artistic styles in the period between 1420 and 1900. He established four distinguished artistic phases in this period: the Renaissance phase between 1420 and 1550, the Baroque phase between 1550 and 1700, the Rococo during the eighteenth century, and Neoclassicism during the nineteenth century.[2] Both Wolfflin and Frankl present the different periods they studied in a contrasting manner. The study of the külliye uses the comparative analysis method but it does not attempt to concentrate on pointing out contrasts between the types. The analyzed külliyes seem to have so many similarities (in terms of their planning, overall design, and even specific detailing) that it would be misleading to advance quick generalizations. The comparative method is used only to establish a classification for the külliye. Although any classification would be based on the identification of differences, a classification does not necessarily mean a complete contrast between the classes. Classification or typology is used here on the premise that külliyes have a set of elements which are common to all of them; however, there are other elements which can be

[1] Wolfflin introduced the following transformations in the works of art from Renaissance to Baroque: from linear to painterly, from plain to recession, from closed to open form, from multiplicity to unity, and absolute and relative clarity of the subject. See Heinrich Wolfflin, Renaissance and Baroque, Ithaca, Cornell University Press, 1964.

[2] See Paul Frankl, Principles of Architectural History, Cambridge, The MIT Press, 1968.

observed in smaller groups. Such special elements qualify the külliyes which share them to be in one type.

The tools of analysis are basically architectural drawings; plans in particular are used the most. Since forms of spaces and the relationships between masses and open spaces are the subject, plans seem to be the most helpful. These plans are taken from previous studies about Ottoman architecture. Gabriel, Kuran, and Goodwin[1] are the main three sources for such plans. In cases when plans were not available they were drawn at the site. The accuracy of these plans is not very high; however, from an urban design perspective they are sufficient. Besides the plans, all studied külliyes were visited and examined on site.

The last aspect of the study is the visual analysis of the open spaces in the külliye. The objective of this analysis is to understand the design principles which helped generate the visual experience. The visual analysis is conducted in order to examine the validity of the third thesis in the project which asserts that there were a set of design principles which brought a more humanly scaled külliye, created a unique visual experience, and presented symbolic meanings. The design principles are based on studies of the horizontal as well as the vertical planes of the külliye. More importantly, a visual analysis was performed during the visits to the külliyes. The actual experience in the spaces of the külliyes was the only way to observe, compare, draw parallels, and finally formulate conclusions which took the shape of common design principles.

There are many studies which served as a point of departure and provided guidance for the visual analysis presented in this research work. The Image of the City by Kevin Lynch[2] and Townscape by Gordon Cullen were influential on the overall scale of the

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[1] See section 2.1 (Studies Related to the Külliye) for the works of these authors.

[2] Kevin Lynch, The Image of the City, Cambridge, the MIT Press, 1985.

külliye.[1] The visual experience through movement was inspired by works such as Design of Cities by Edmund Bacon[2] and Architecture And The Urban Experience by Raymond Curran.[3] The particular studies of the spaces and buildings in an urban context were also influenced by many works including Curran's work,[4] Kurt Rowland's The Shape of Towns,[5] and Rasmussen's Experiencing Architecture.[6]

A final point is related to the conditions under which the külliyes are studied. It is not possible to predict the shape of the urban fabric around the külliyes. The urban fabric was under such constant changes and modifications that the original relation between the külliye and the fabric cannot be known. For this reason, the study is based on the existing conditions of the külliye and its surroundings. Caution and common sense are used in order to determine the possibilities of whether the existing conditions can actually be representative of the original forms. Cases such as Beyazit külliye in Istanbul and Hafsa Sultan külliye in Manisa show a complete change from the original urban fabric. On the other hand, Süleymaniye külliye and Atik Valide külliye in Istanbul can be considered to have maintained their original surroundings.

2.6. THE OUTLINE OF THE STUDY

The first chapter has served as an introduction to the külliye and has presented the direction of the research. This second chapter introduced the research problem in detail and explained the theses and the methodologies of the research. The third chapter reviews

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[1] Gordon Cullen, The Concise Townscape, New York, Van Nostrand Reinhold Company, 1986.

[2] Edmund Bacon, Design of Cities, Penguin Books, 1985.

[3] Raymond Curran, Architecture and the Urban Experience, New York, Van Nostrand Reinhold Company, 1983.

[4] Ibid.

[5] Kurt Rowland, The Shape of Town, England, Ginn and Company Ltd., 1981.

[6] Steen Rasmussen, Experiencing Architecture, Cambridge, The MIT Press, 1982.

the historical roots of the külliye. It presents the role of the mosque as the first center for Muslim communities. It then discusses the development of urban centers in early Islamic cities. The third chapter is concluded with a brief presentation of Seljuks' influence on Ottoman architecture. The historical introduction confirms the idea that the concept of külliye as a center for Muslim communities is as old as the days of the Prophet in al-Madina. The Ottomans adopted the concept, organized it, and used it as the basis for their urban development.

The main body of the study examines the külliye at two levels: first, the relation between the külliye and its urban setting; second, the spatial composition of the külliye. The fourth chapter explores the külliye within its urban setting. It first looks at the distribution of the külliye in Turkey in an attempt to establish a relationship between the külliye and the growth of the state as well as the size and importance of the individual cities. The second point this chapter reviews is the relationship between the functions included in the külliye and the time, place, and commissioner of the külliye. In conjunction with the study of facilities, this chapter relates the size of the külliye to the same factors; namely, time, place, and commissioner of the külliye. The chapter then examines the location of the külliye within the city. It observes the location of the külliye in relation to topography, water, the city's functional zones, and other külliyes. Finally, this chapter focuses closer on the külliye and examines its relation to its immediate surroundings.

The analysis in the fourth chapter shows clear sensitivity to all issues addressed. The size of the külliye followed a clear trend affected largely by the political and social life of the Ottoman state. Locating the külliye took into consideration the issue of visibility as a main factor. Another factor was the actual need for külliyes in a city or neighborhood. The relation between the külliye and its surroundings varied from complete separation to complete interpenetration between the two.

The fifth chapter concentrates on the spatial composition of the külliye itself. It examines its physical layout with an attempt to present the following two issues: first, the design

language used in the külliye; second, the overall layout of the külliye. This chapter concludes with the development of a typology for the Ottoman külliye. The analysis in the fifth chapter shows that two languages were used in the design of the külliye: one was sensitive to the site and existing urban fabric and the second was based more on geometry. While the first was used before and influenced the second, both developed their own sets of design principles which dictated the layout of the külliye. The typology which is developed is based on the main open space in front of the mosque. The development of this space had a major role in shaping the külliye which is classified in this study in four types: külliye with no special space for the mosque; külliye with a shared space between the mosque and other facilities; külliye with a shared space between the mosque and medrese; and, külliye with a special space for the mosque.

The sixth chapter introduces design principles which were used by the Ottoman architect in order to create a particular visual experience. These principles are: centrality, compartmentalization, transparency, sequential spatial arrangement with continuous visual change, framed and directed views, layering, stepping, monumentality and scale, and three levels of design. These principles had their roots in the earlier külliyes but took full shape and power in what is considered the classical period of Ottoman architecture during the sixteenth century. The principles were influential in the creation of a spiritual environment in the külliye and aided in bringing a human scale to its spaces while providing an exciting visual experience. The seventh chapter concludes the study with an overview of the whole research along with an attempt to bring about a more comprehensive look at all of the factors which shaped the külliye. A study of the mosque's courtyard and a formal analysis of the Fatih külliye are among the appendices to the study.

2.7. SUMMARY

Osman Bey founded the early Ottoman state around the last years of the thirteenth century. The new state saw a constant growth during the following three centuries during which the Ottomans built a great empire encompassing significant parts of the old world's

three continents. In every city the Ottomans entered they established a nucleus for the new Muslim community. This nucleus included a mosque, hamam, medrese, sebil, and han among other facilities. The nuclei became the heart of the Muslim communities around which the rest of the urban fabric grew. Ottoman rulers competed in building these nuclei which were called külliyes. Külliyes included a wide range of facilities which can be classified in four areas: religious, educational, social, and private. The külliyes were supported by the vakif system which provided funding for building and maintaining the facilities.

Although individual buildings in the külliye were surveyed, documented, analyzed, and classified, there seems to be a lack of comprehensive studies which consider the külliye as a whole. The study at hand examines this particular aspect of the külliye; namely, its overall design. The research looks at the külliye from an urban design point of view. It addresses two questions within this perspective: first, what was the relationship between the külliye and its surroundings, and second, how was the külliye designed? The following chapter tries to locate the külliye within its historical framework, while the fourth, fifth, and sixth chapters attempt to answer the main two questions of the dissertation.

III - THE HISTORICAL ROOTS OF THE KÜLLIYE

Every Islamic community has a center which serves its different religious, educational, and social needs. In the early days of the Islamic civilization, the mosque fulfilled this role; it was the place for all religious as well as civic activities around which the Muslim community grew. The increased level of sophistication in Muslim society required more complex and specialized architectural forms; thus, the medrese, the han, the zaviye, and other facilities started to appear as independent structures. At an urban scale, however, these new facilities, which were architecturally independent, continued to be dependent on the mosque; they were located around it as supporting services. The mosque and these services acted as centers for Muslim communities; they maintained a close relationship amongst each other until they became one unified urban unit during the Ottoman period. This unit was the Ottoman külliye which provided services for the whole society. This chapter presents briefly the evolution of the mosque through the different Islamic periods to become a comprehensive institution under the Ottomans.

3.1. THE MOSQUE AS A CENTER

The first Islamic social and political structure was established in al-Madina, the city to which Prophet Muhammad migrated in 622 A.D. The first action the Prophet took was to

build a mosque which became the center of the whole new Muslim community.[1] The mosque's role was not limited to religious affairs; it was the social, political, and cultural center of the community. The traditions of the Prophet and the early caliphs present an abundance of events and activities which demonstrate the multi functional character of the mosque. The Prophet used the mosque as the seat of government; in it he discussed with his companions the different matters of the state, and in it most of his political or

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[1] Some writers suggest that the Prophet built his own home first and used its courtyard as a mosque. Creswell in his book A Short Account of Early Muslim Architecture (Lebanon Bookshop, Beirut, 1968) wrote: "he (the Prophet) built a house for himself and his family" (p. 3). Creswell added, in his discussion about the development of the Prophet's house, that "(n)o further change had taken place in Muhammad's house at the time of his death on 8 June 632. His house had not yet become a mosque and its transformation to such was by no means a rapid process." (p. 5). In his paper for the "Symposium on Ancient, Islamic, and Contemporary Middle Eastern Urbanism" (Lapidus, Ira. M., ed., The Middle Eastern Cities, University of California Press, Berkeley and Los Angeles, California, 1969), Oleg Grabar mentioned that:

> ...The choice of Friday as the main day of gathering, or the appointment of specific hours for formal prayer and the growth of a ceremony of the call to prayer. These are the features which permitted the slow transformation of the Prophet's house in Medina into a sanctuary, a phenomenon for which there is no evidence in the Prophet's own time. (p. 29)

S.J.C. Saarda in his article "Origins of the Mosque 622-650" The Muslim World, vol. 28, Oct. 1938, p. 336.) John D. Hoag,in Islamic Architecture, Harry N. Abrams, Inc., Publishers, New York, 1977. p. 13.). Doğan Kuban,in Muslim Religious Architecture, Volume 1: The Mosque and its Early Development, (Leiden: E. J. Brill, 1974, p. 12.) Papadopoulo in, Islam and Muslim Art, (Harry N. Abrams Inc. New York, 1979, p. 217.) as well as Alexander, all considered the mosque in al-Madina as the Prophet's house and not a mosque.

None of the above mentioned writers provided a reference to support the fact that the Prophet built a house for himself and not a mosque. On the other hand, all Islamic sources dealing with the tradition of the Prophet state that the Prophet built a mosque and attached to it his house which consisted of nine rooms at the time of his death. Al-Bukhari who wrote the most authentic documentation of the Prophet's tradition mentions the hadith which relates the events of buying the land for the mosque from the two young owners (Muhammad Muhsin Khan, Sahih Al-Bukhāri, Dar al-Fikr, Lebanon, vol. 5, p. 166). Other Muslim historians confirm the same story with no doubt in relation to the intention of the Prophet to start the new era in al-Madina by building a mosque; examples of such historians include Ibn Sa'd in his Al-Tabakat, and Az-Zarkashi in his I'lam Al-Sajid fi Ahkam Al-Masajid (Informing the prostrater about the rules of the mosques) p. 223.

It is critical to state that the Prophet's first action was the building of the mosque and not his house. It is equally important to state that the Prophet has done that with full intention to establish a center for the new Muslim society. The significance of such an action stems from the fact that the Prophet was aware of the importance of establishing a physical center in which the Muslims could meet for their religious as well as secular affairs. His establishment of such a center became a tradition by itself which was followed in all conquered or established cities. Had the Prophet built his own home when he entered Al-Madina, Muslim commanders would have built a home for themselves before building a mosque in the cities which they conquered.

military decisions were made. The famous discussion in relation to whether Muslims should go out of al-Madina to fight Quraish or to wait until the army of the enemies reached the city took place in the mosque. Commanders of the armies were appointed in the mosque, and from the mosque the armies departed to the battlefield.

The mosque was the center for information and communication; in many incidents the Prophet used to stand in the mosque and inform the believers about their religion. One of these incidents was when some people asked the Prophet not to administer punishment on a person who stole because he belonged to a tribe of a special status and power. The Prophet stood in the mosque and informed the believers that there is no difference between people in the eye of Allah; and if a person commits a sin he or she is to be punished. He further explained that if his beloved daughter stole anything he will not hesitate to punish her. Another incident is related to the time of the Prophet's death. The companions gathered in the mosque in order to be informed about the condition of the Prophet. Abu-Bakr stood in the mosque and explained to them that it was true that the Prophet had died and that the true believer is not to be affected by the Prophet's death because Allah is the one who does not die, and the Qur'an had clearly suggested the coming death of the Prophet.

The mosque had the important function of being the educational center of the community. The Prophet held his teaching sessions in circles in the mosque itself, where he taught the companions their religion.[1] The mosque was also the place where the Prophet met all visitors who came to ask about the new religion or to get engaged in any political agreement with the Prophet. The mosque of the Prophet was also used to host poor visitors to al-Madina; the small covered area to the north of the mosque was used for this purpose.

[1] For more about the use of the mosque in al-Madina as a school in the time of the Prophet see M. Hamidullah, "Educational System in the Time of the Prophet", Islamic Culture, January, 1939, pp. 48-59.

Mohamed Makki Sibai in his study about mosque libraries summarizes the functions of the mosque, during and after the time of the Prophet, under two main areas:[1] the mosque as a place of worship and the mosque as a community center. The mosque as a place of worship accommodated the five daily prayers, the Friday prayer, as well as other group or individual prayers. The mosque is the place of a holy status and special importance where believers come to have a direct relationship with Allah through prayers and recitation of the Qur'an. The mosque as a community center was a place for the whole community to meet and discuss its affairs. In its capacity as a community center, the mosque had three roles: a social role, a political role, and an educational role. The social role was manifested by the fact that the mosque hosted visitors from all classes of society; it was also the place where speakers, governors, and guests met with the different members of the society. The mosque was also used as a place of refuge in cases of military or natural danger. Information of importance to the public was also communicated in the mosques of all Muslim cities. The mosque was a place for the poor to find a shelter, and a place where even health care was provided. The political role was observed during the life of the Prophet and continued to be seen in later days. Caliphs used to be given the traditional oath of allegiance in the mosque; they were also the leaders of the prayer symbolizing the unity of the spiritual and secular sides of life. The rulers also led the Friday prayer in many cases. Another sign of the affiliation of political life and the mosque is the housing of the state treasury in the mosque and the use of the mosque as a court of law. The educational role was of great importance too. The mosque became the center for learning where seekers of knowledge used to meet in the mosque to learn from scholars, teach, or share information. A refined system of teaching was developed and practiced in the mosque throughout the Islamic states.

Thus the mosque was not just a religious building; it was the actual center for the Muslim community where all functions of social, political, and educational nature were housed.

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[1] Mohamed Makki Sibai, Mosque Libraries: An Historical Study, Mansell Publishing Limited, London and New York, 1987, pp. 6-34.

The simplicity and small size of the early Muslim communities allowed the mosque to successfully host all religious and secular activities. Nevertheless, with the spread of Islam and the constant increase in the size and complexity of the Muslim community, each of the traditional functions of the mosque tended to have its own structure. These new independent structures formed a nucleus of services around which the Muslim community grew.

3.2. CITY CENTERS IN EARLY ISLAMIC PERIODS

The very fact that the first action by the Prophet was to build a mosque in the newly established Muslim community became a concept to which Muslims religiously adhered. When a new city was built or a town was conquered by the Muslim armies, an area for the mosque was immediately designated. In the case of a new city, the commander built a mosque in the center of the community with the house of the commander-in-chief close by the mosque, or in some cases, attached to it. Other administrative buildings were also erected around this center. The buildings were of extreme simplicity and very similar to the Prophet's mosque in al-Madina. Cities like Basra (built around 635 A.D.), Kufa, and Mawsil (built around 641 A.D.) have such an arrangement. The mosque of Basra, as an example, was first built with reeds and then later with baked brick; it had the commander-in-chief's house in front of the mosque, and the diwan (the administration) and prison within the same area. The second caliph, Umar ibn al-Khattab, ordered that the commander-in-chief's house, which is the seat of the government, be part of the mosque and not an independent structure.

Cities which the Muslims conquered were treated in one of two ways: if the city was conquered by force, then the main place of worship used to be changed into a mosque; while if the city surrendered, the Muslims used to build their own mosque. Damascus had a unique situation since it surrendered at its northern side and was conquered from its southern side in 635 A.D. Therefore, the main church was shared between the Muslims and Christians as an indication of the way the city was taken. In all cases, the house of

the commander was adjacent to the mosque as was the case in newly built cities.[1] During the days of the first four caliphs, each city had one mosque for Friday prayer. By the time of the Umayyads, the number of Muslims increased in the different cities; thus, more than one collective mosque[2] was allowed in one city.

In all these cities, whether conquered or built, the mosque was the center of the community; it served the different functions the original mosque in al-Madina served. The introduction of more than one Friday mosque in each city reduced the centrality in the city. Each city began to have different quarters in which some kind of autonomy surfaced. The quarter had its mosque which was used for both religious and educational purposes. Other common uses of the mosque were either practiced in the mosque itself or had their own independent structure. It was very common, during the middle ages, to have in each quarter a mosque, a school, a public bath, a kitchen for the poor, as well as other facilities including a small market.[3]

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[1] For more about the history of early mosques see "Mosque", Shorter Encyclopaedia of Islam, 1961, pp. 330-348.

[2] Al-masjid al-jami' is the Arabic term for what, in English, is referred to as Friday mosque. Masjid comes from the source verb "sajada" which means to prostrate oneself, and jami' comes from the source verb "jama'a" which means to gather or to collect; thus al-masjid al-jami' can be translated as the "gathering mosque" or the "collective mosque" instead of Friday mosque. Another term which is used for al-masjid al-jami' is the "congregational mosque".

[3] G. E. Von Grunebaum explains that such an autonomy meant a lack of unity in the city. He goes further to say that hostile feelings dominated the relationships between the different quarters. (See Grunebaum, "The Muslim Town", Landscape Magazine of Human Geography, vol. 7, no. 3, Spring 1958, pp. 1-4.) Grunebaum's argument should be taken with caution; there were periods when hostility surfaced between different quarters, however, one cannot conclude that this was the typical situation. Lapidus explains that the ulema (scholars in religion) in particular played a major role in unifying the quarters as well as the populace of the city. They also unified the city with its countryside because of the fact that many of the ulema came from the villages. The ulemas' role as teachers, guides, and religious figures made their relationships with all classes of the society very strong in such a way that they played a unifying role in the city. (See Ira M. Lapidus, Muslim Cities in the Later Middle Ages, Cambridge University Press, Cambridge, 1984, pp. 79-115)

3.3. THE MADRASA[1]

The most important service rendered by the mosque, besides its role as a religious center, was education; the circle of students around a teacher was a tradition initiated by the Prophet himself in the mosque of al-Madina and practiced throughout the centuries. There were nine mosques in al-Madina at the time of the Prophet, all of which served as schools also.[2] The mosque of the Prophet had a special area which was called "şuffah";[3] it housed the visitors who came to learn from the Prophet about the new religion. It was a roofed area to the north of the mosque which opened directly to the mosque's court. The şuffah can be seen as the origin of the madrasa; it can also be seen as the origin of the hospice which was connected to the mosque[4] and housed the sufis.[5] Conceptually, then, the madrasa existed as early as the time of the Prophet; the şuffah was the place for residence and the court of the mosque was the classroom.

The development of the şuffah to become an independent structure with its own architecture cannot be easily traced. The old belief that Nizam al-Mulk (d. 1092), the vizier of the Seljuk sultans Alp Arslan (1063-72) and Malik Shah (1072-92), was the founder of the madrasa is not valid anymore. It is known now that the madrasa existed before Nizam al-Mulk; however, he is credited, though, as being the one who introduced a defined educational system for the madrasa which did not exist before him. Hillenbrand sees that

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[1] The Arabic term madrasa is used in this section as opposed to the Turkish medrese since the discussion here involves the teaching institution during the periods which preceded the Ottomans when the Arabic language was the main language used. Elsewhere in this dissertation, the term medrese is used to refer to the Ottoman educational facility.

[2] Hamidullah, "Educational System in the Time of the Prophet", Islamic Culture, vol. 13, January 1939, p. 55.

[3] The word is an Arabic one, and hence the letter "ş" is not the Turkish letter which is pronounced "sh", it is the Arabic letter "Şad" which is a heavy S.

[4] Doğan Kuban, Muslim Religious Architecture: Part I The Mosque and its Early Development, Leiden, E. J. Brill, 1974, p. 2.

[5] Sufies are a group of Muslims who concentrate on the spiritual side of Islam.

the madrasa went through three main stages in its development; it started as a part of the mosque, then the khan was added to the mosque forming a simple complex where the students lived while they continued to meet at the mosque for instruction. The third stage was at the time when an independent building appeared to be used for both teaching as well as housing the students.[1]

The origin of the madrasa's architecture is not well known either.[2] In general, the madrasa consists of a courtyard around which the students' rooms are arranged. At least one eyvan was included in the whole composition and used as a classroom. There were variations on this design; the most used of which is the four-eyvan madrasa. The origin of the four-eyvan madrasa in particular is related to the medieval house design in the Middle East which had a somewhat similar design to the four-eyvan madrasa. There is a belief that the earlier scholars used to teach and house students in their own houses whose layout was used as a model for this particular madrasa. Writers differ in their opinions about the geographical origin of the idea of the four-eyvan madrasa. Creswell thinks that it was in Egypt where the idea was generated, while Godard asserts that it was in Khurasan during the tenth century. Van Berchem, on the other hand, believes that it originated either in Syria, Mesopotamia, or Chalde.[3] Madrasas with a simpler design existed earlier in different areas; Nishapur had four madrasas during the reign of Sultan Mahmud of Gazne (997-1030), and more madrasas were built during the reign of his son,

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[1] R. Hillenbrand, "Madrasa", Encyclopaedia of Islam, vol. 5, 1985, p. 1123.

[2] Oktay Aslanapa believes that the "development of the conception and architecture of the medrese amongst the Turks is very largely due to the role which the monastic life and monastic architecture had played during the Buddhist period before their conversion to Islam." He continues: "E. Deiz has very rightly pointed out that the origin of the medrese type of architecture should be sought in the Buddhist monastery." (Oktay Aslanapa, Turkish Art and Architecture, p. 79.) It will be seen in the following discussion that although the origin of the different types of medrese is a subject which is not agreed upon by historians, there is a consensus that the medrese has already been originated within the Islamic culture. It was explained that the concept of the medrese as a place for students' residence and learning can be traced to the first days of Islam in the mosque of the Prophet. The development of that concept to become an independent structure with its own architecture is the issue in question.

[3] Kuran, The Mosque in Early Ottoman Architecture, University of Chicago, Chicago and London, 1968, p. 73.

Mes'ud I (1031-40). Similarly, Syria had at least thirteen madrasas before 1270.[1] What is important to this discussion is that at least as early as the tenth century the madrasa was an independent structure. Although prayers were performed in the madrasa, it did not take the place of the mosque; rather, it was always attached to a mosque forming a small complex or center.

The khan was another function which found its way around the mosque even earlier than the madrasa. Another element which became a part of the composition and continued to be part of it, even in the Ottoman külliyes, is the tomb. Nur al-Din's tomb was placed in his madrasa in Damascus. The arrangement was followed after him and became a tradition. The tomb, however, moved outside the madrasa and had its own independent structure later. The connection between the mosque and madrasa was the root of all future Islamic centers. The two facilities were typically built together forming a core for a larger civic center. It is almost impossible to name an Ottoman külliye which did not have at least one structure designated for educational purposes. The tomb, the tabhane, and the hamam were very quickly joined with the small mosque-madrasa center allowing experimental grounds for the more advanced institution: the Ottoman külliye.

3.4. THE SELJUK PERIOD

The contact between Turks and Islamic civilization in the Middle East started as early as the seventh century while the Muslim Arabs were moving towards the east. The Turks proved to be strong warriors, a fact which encouraged the Abbasids to employ them in their armies and their palaces. They replaced the Persian soldiers in the Abbasid army and were able to quickly establish themselves as a military and political power. In the meantime, different Turkish tribes were establishing their own states in Anatolia after they

[1] For more about the history and origin of the madrasa see R. Hillenbrand, "Madrasa", Encyclopaedia of Islam, vol. 5, 1985, pp. 1123-54; and A. Kuran, The Mosque in Early Ottoman Architecture, pp. 72-6. Both authors present an in depth discussion of the madrasa's history; neither one of them, though, specifically concluded how and when the madrasa was originated.

embraced Islam. One of these states was founded around 1037 and took the name of its first founder, Seljuk. Seljuk became a Muslim towards the end of the tenth century, and declared jihad against the pagan Turkish tribes in Anatolia.[1] The Seljuks expanded their territories towards the east, and during the time of Tughrul, Isfahan was annexed; and five years later, in 1055, the Seljuks entered Baghdad, and Tughrul was named Sultan al-Mashrik w'al-Maghrib (the holder of power in the East and West). He was given the mission to conquer all Muslim territories to bring them under the Abbasid caliphate. The Seljuks conquered Anatolia with no major difficulties after they defeated the armies of Byzantine Emperor Romanos IV Diogenes in 1071. The Seljuk state thus included Iran, Iraq, and Anatolia, and had its greatest period during the reign of Malik Shah (who reigned between 1072-1092) and his vizier Nizam al-Mulk. This state was to be divided not very long after the great days of Malik Shah. Officially, what is called the Great Seljuk state ceased to exist after 1157. Smaller Seljuk states took its place; such states included the Seljuk state in Baghdad which survived until 1194. The Seljuks ruled Syria until 1117, and Kirmān until 1187. The important Seljuk state for this study, however, is that which ruled Anatolia (the Seljuks of Rum). The Seljuks of Rum governed Anatolia as an independent state until 1307.[2] Although this year is considered the end of the Anatolian Seljuk state politically, the Seljuks left behind them great arts and architecture which had its influence especially on the Ottomans.

The Seljuks were mostly influenced by Iranian and Syrian art and architecture because of their direct contact with both areas. Architectural solutions, as well as decoration, and architectural elements were borrowed from Iran and Syria.[3] The Umayyad Mosque in Damascus is seen as a source of inspiration for the layout of many Seljuk mosques such as the Ulu Cami in Diyarbakir (the seventh century A.D.) which shows a clear resemblance

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[1] Aptullah Kuran, "Anatolian-Seljuk Architecture", in The Art and Architecture of Turkey, Ekrem Akurgal (ed.), Rizzoli, New York, 1980, p. 80.

[2] For more detailed dates related to these states see Jere L. Bacharach, A Middle East Studies Handbook, Seattle and London, University of Washington, Press, 1984, pp. 34-7.

[3] Ülkü Bates, "Architecture", in Turkish Art, Esin Atil (ed.), p. 47 and p. 55.

to the Damascene mosque.[1] The Iranian influence was more present in the decoration and methods of construction. The Ulu Cami in Malatya (1224) has a brick dome which exhibits construction and ornamentation ideas of Iranian origins.[2] The Seljuks adapted the ideas which they learned from earlier Muslim states to fit their own environment. One of these adaptations was the idea of enclosing the courtyard because of the cold climate in Anatolia.[3]

The Seljuks were very careful to provide all necessary services for their cities. Besides the mosque, which was at all times the center of the community, the medrese enjoyed special attention. The Seljuks built the first state medreses, four of which are known to be located in Ghazne and built during the time of Sultan Mahmud around the beginning of the eleventh century.[4] What is most important, though, in relation to the Seljuks, is their effort to establish a grouping of services. The early shapes of such a grouping can be seen in the mosque-medrese structures where the medrese occupies the northern side of the composition. Gök mosque-medrese in Amasya is one example (plan 5-6); it was built around 1266, and included, besides the mosque and medrese, a tomb.[5] Another example is the mosque-medrese of Huand Hatun in Kayseri (1237); it also has a türbe located in between the two structures. In this example the medrese is almost an independent entity; only partially attached to the mosque through the türbe (plan 5-7). A hamam is erected close to the complex adding another vital service for the community.

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[1] Many types of mosques were used during the Seljuk period besides the one which is derived from the Umayyad mosque. In fact, after the Seljuks and during the period of the emirates, other types were more preferred. See Oluş Arik, "Turkish Architecture in Asia Minor in the Period of the Turkish Emirates", The Art and Architecture of Turkey, Ekrem Akurhal (ed.), Rizzoli, New York, 1980, pp. 111-36.

[2] Ülkü Bates, "Architecture", in Turkish Art, Esin Atil (ed.), 1980, p. 55.

[3] Godfrey Goodwin, "Turkey", in Architecture of the Islamic World, George Michell, (ed.), Thames and Hudson, London, 1978, p.238.

[4] Oktay Aslanapa, Turkish Art and Architecture, p.78. The four medreses were: the Baykhāqiye, the Sa'idiye, medrese of Abu Sa'd al-Astārābādi, and medrese of Abu Ishāq al-Isfarayni.

[5] Albert Gabriel, Monuments Turcs D'Anatolie: Amasya,, Tokat, Sivas, E. de Boccard, 1934, p. 25.

Attaching the türbe of the founder of such services became a common practice. These services were pious foundations supported by vakfiyes and in many cases they included more than just a mosque and a medrese. Divriği had one of these small complexes which consisted of a mosque and a hospital; it was built by the Mengücük Ahmet Şah and his wife, Malike Turan, in 1228-29.[1] Thus, the idea of a complex of facilities which was generated in earlier days continued to be implemented by the Seljuks; they had around their mosques medreses, türbes, hans, and hospitals. The idea of one vakif to support the complex was utilized also; hence, the seed for the idea of a financially unified complex and a comprehensive service center was well planted by the Seljuks.

The Ottomans inherited the lands of the Seljuks after the period of principalities. Architecturally, the Seljuks' influence on the Ottomans was the strongest if compared with other principalities even though the Great Seljuk State had disappeared more than eighty years before.[2] The contact between the Seljuks and the Ottomans was established through language and culture; it was also established through Islam. The fact that the Ottomans were ultimately to occupy the Seljuk lands in Anatolia also played a role in the process of benefiting the Ottomans from the Seljuk experience. The Seljuks' influence on the Ottomans was also due to the fact that the former established the most powerful state amongst the other Turkish tribes. The Seljuks were able to last for a relatively long period and cover a wide geographic area. Therefore, their architectural monuments were influential on the different principalities which acted as a liaison, chronologically as well as geographically, between the Seljuks and the Ottomans.

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[1] Ülkü Bates, "Architecture", in Turkish Art, Esin Atil, (ed.), 1980, p.50.

[2] It is difficult to precisely indicate the period between the Seljuks and the Ottomans since chronologically they actually overlap: the Anatolian Seljuks' state is considered to have ended in 1307 with the death of their last sultan, Mas'ut III; the Ottomans' first leader was Osman whose reign started about 1299, the date which is considered the beginning of the Ottoman state. Geographically, however, the Seljuks of Rum were mostly in Anatolia (the middle of modern Turkey); they did not reach the western part of modern Turkey where the Ottomans established their state. Also, the Ottomans did not annex central Anatolia until the last quarter of the fourteenth century.

The Ottomans used and adapted ideas from Seljuk architecture at different levels. At the level of detailing and decoration, the early Ottoman mosques show clear similarity to the Seljuk practices. The exterior decoration of the Green mosque (Yeşil cami) at Bursa is one example of these similarities. Early Ottoman tile work shows a relation to Seljuk culture also.[1] Architecturally, the Ottomans adopted from the Seljuks the open courtyard medrese which was widely used by the latter.[2] They also adapted the type of caravanserai which has a large open central courtyard that is surrounded by arcades.[3] At a planning level, though, the Ottomans used a very critical idea; namely, the medrese as a state-organized and -administered facility. The Ottomans took this idea very seriously from the Seljuks who initiated it; and then developed this idea to generate the Ottoman külliye. In other words, the small composition of a mosque and medrese can be seen as the origin of the külliye since it is the combination of a mosque, a medrese, and a sebil which constitutes the külliye in its simplest form. Thus, if the külliye as an institution supported by the government was an Ottoman invention, it is safe to say that the idea which led to the concept of the külliye was originated by the Seljuks through their state supported pious and educational facilities. Michael Levey rightly points out that although the Ottomans benefitted greatly from Seljuk art and architecture, the most significant concept they took was "the concept of grouping them (the facilities) together...so that a large-scale medrese may adjoin a mosque, and perhaps have a hospice attached, as well as its founder's tomb nearby."[4]

3.5. SUMMARY

The mosque of the Prophet in al-Madina was the first institution which housed the different services needed by the Muslim community. The mosque was the place of worship

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[1] Michael Levey, The World of Ottoman Art, Thames and Hudson, London, 1975, p. 18.

[2] Ülkü Bates, "Architecture", in Turkish Art, p. 58.

[3] Ibid, p. 75.

[4] Levey, The World of Ottoman Art, p. 17.

as well as the place for learning. It was also the place where the Muslim community discussed its political and social affairs. It also acted as a place where travellers could rest during their visit to the city. The mosques, which were built in the different cities the Muslims conquered or built, provided the same range of services. With time, however, some of these facilities started to have their own independent structures. The han, the court of law, and the medrese, among other services, grew around the mosque which maintained its religious, social, and political status. The centers of the Islamic cities show a central mosque around which all services are located. In individual residential quarters, the local mosque continued to act as the learning center and to provide other social services. However, it was not uncommon to see a medrese and an imaret in the quarter.

The medrese in particular played a major role in the process of establishing the külliye. While it was known before the Seljuks, it was they who made it a state supported institution which had a defined program. The Seljuks annexed to the small complex of mosque and medrese other services such as an imaret, a hamam, or at least the türbe of the founder. They, in other words, established an early form of the külliye which the Ottomans adopted along with other art and architectural concepts. Thus, although the Ottomans were the ones who actually founded the külliye as an institution of pious and educational nature, its roots go back as early as the days of the Prophet who made his mosque the center of the Muslim community through which services of all kinds were provided.

Finally, it is to be mentioned here that the quick historical over view presented in this chapter did not intend to discuss the different architectural influences on Ottoman architecture. It only explored the roots of the külliye as a concept. Historians, both from the West and the East, discussed the architectural influences which played a role in the development of Islamic art and architecture in different Islamic states and periods,

including the Ottoman period.[1] Most Western historians maintain that Ottoman architecture, in particular after the conquest of Istanbul, was directly inspired by Hagia Sophia.[2] Others, however, see the issue differently; the Ottomans, they think had their own roots and conditions to develop their own architecture.[3] The issue of Beyzantine influence, or any other influence, on Ottoman architecture is a complex one and requires separate research. It is to be remembered, however, that every culture grows as a result of a process of understanding, adopting, and developing the heritage of other cultures in a way which respects, fits, and represents the new culture. Perhaps it is very appropriate to conclude by quoting David Gebhard; he wrote:

> this process of borrowing (by the Ottomans) was essentially no different from that of any other fully developed architecture of the past or present. The Ottoman architects absorbed and fully synthesized these various forms... it is the completeness of this synthesis of Ottoman architecture which has most often been ignored in the superficial statement that the Ottomans merely copied Hagia Sophia.[4]

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[1] For example, Ernst Diez wrote: "Islamic art was established on the basis of the Oriental-Hellenistic and Christian art of the seventh century A.D. In addition to these sources, the indigenous art in the various countries of Islam, notably Iran, was continued. Hence Islamic art constitutes a late phase of Oriental art with some primitive infusions." (Diez, "Simultaneity in Islamic Art", Ars Islamica, vol. 4, 1937, pp. 185-6.)

[2] See for instance Martin Charles, "Hagia Sophia and the Great Imperial Mosques", The Art Bulletin, vol. xii, no. 4, 1930, pp. 321-2. Martin wrote: "The six (mosques) in Constantinople can be satisfactory acconuted for by the direct inspiration of Hagia Sophia itself and seem to be little influenced by the older tradition of mosque building." See also Edwin Reynolds, "Imperial Mosques of Constantinople", The Architectural Review, London, vol. xxv, no. 147, Feb. 1909, p. 76.

[3] See Spncer Corbett, "Sinan", The Architectural Review, vol. 113, May 1953, p. 292 where he asserts that "the Turks were fully aware of the church's (Hagia Sohpia) characteristics long before 1453; indeed, the Greeks had employed Turkish architects to repair the building, and if they had wanted to copy it there were ample opportunities for them to do so while the Turkish capitals were at Brusa and Adrianople yet they did not. In fact, in everything except a special method of vaulting, the mosques of Constantinople are directly and obviously descended from their own ancestors, and there is no need to look for prototypes in Christian architecture." See also Mehmet Ağa-Oğlu, "The Fatih Mosque at Constintanople", The Art Bulletin, vol. xii, no. 4, Dec. 1930, p. 179.

[4] David Gebhard, "The Problem of Space in the Ottoman Mosque", The Art Bulletin, vol. 45, no. 3, Sept. 1963, p. 272.

IV - THE KÜLLIYE IN RELATION TO ITS URBAN SETTING

Every Ottoman city and town had its own nucleus which served the different cultural needs of the urban community. Throughout the years, many Ottoman külliyes were either completely or partially destroyed. An extensive listing of all Ottoman külliyes is, therefore, not possible. However, there are enough külliyes in different cities of modern Turkey that can provide a sufficient data base for the research. Most of the studied külliyes were built in Istanbul as it was the center of the whole empire; out of the sixty külliyes studied here, forty were built in Istanbul (tables 4-1 and 2).[1]

4.1. DISTRIBUTION OF KÜLLIYES ACROSS THE OTTOMAN TURKISH LAND

4.1.1. THE GROWTH OF THE STATE AND ITS EFFECT ON THE LOCATION OF KÜLLIYES

The first ruler of the Ottoman gazis, Osman Bey, reigned in Söğüt, a small town located between Istanbul and Ankara. The Ottomans pushed westward during the first century and a half of their rule. It was around the middle of the fifteenth century that they became interested and willing to expand eastward. Bursa became the capital soon after its

[1] Külliyes presented in this study were mainly gathered from the following sources: A. Gabriel, Une Capitale Turque: Brousse, 1958; Monuments Turcs d'Anatolie, 1934; Monuments Turcs d'Anatolie, 1931; A. Kuran, The Mosque in Early Ottoman Architecture, 1968; Sinan, 1987; and H. Sumner-Boyd and J. Freely, Strolling Through Istanbul, 1989.

DATE	NAME	PATRON	# OF FACIL.
1448	Eyüp	Sultan	5
1464	Mahmut	Vezier	7
1470	Fatih	Sultan	16
1485	Davut P.	Vezier	4
1496	Atik Ali P.	Vezier	4
1506	Beyazit II	Sultan	5
1522	Selim I	Sultan	6
1539	Haseki H.	Sltn's wife	5
1541	Dragman	Official	3
1548	Şehzade	Sultan	6
1548	Mihrimah	Sltn's wife	5 *
1554	Ahmet P.	Vezier	3
1557	Süleymaniye	Sultan	14
1560's	Mihrimah	Sltn's wife	5 **
1569	Sokollu M.	Vezier	2 ***
1571	Sokollu M.	Vezier	3 ****
1580	Kiliç Ali	Official	3
1581	Şemsi Paşa	Vezier	2
1581	Zal Mahmut	Vezier	4
1583	Atik Valide	Sltn's wife	10
1580's	Habşi M.	Official	5
1593	Koca Sinan	Vezier	2
1617	Sltn Ahmet	Sultan	5
1634	Bayram P.	Vezier	5

Table 4-1: Külliyes built in Istanbul and their number of facilities

DATE	NAME	PATRON	# OF FACIL.
1640	Çinili	Stn. family	4
1660	Koprülü	Vezier	2
1663	Yeni Valide	Stn's mthr.	6 *****
1690	Kara Must.	Vezier	4
1702	Amcazade	Vezier	5
1708	Ali Çorlulu	Vezier	5
1710	Yeni Valide	Sultan	4 ******
1720	Ibrahim P.	Vezier	4
1722	Ahmadiye	Official	3
1724	Ismail E.	Official	3
1734	Hakimoglu	Vezier	3
1745	Başir Aga	Official	5
1755	Nuruosman.	Sultan	4
1763	Laleli	Sultan	6
1778	Beylerbay	Sultan	2
1781	Emirgan	Sultan	2
1787	Şebsafa	Stn. family	2
1796	Mihrişah	Stn. family	4
1804	Haydar P.	Sultan	1
1825	Küçük E.	Official	4
1826	Nusratiye	Sultan	3

* Üsküdar
** Edernikapi
*** Eyüp
**** Kadirgi
***** Eminünü
****** Üsküdar

Table 4-1: Külliyes built in Istanbul and their number of facilities (continued)

DATE	NAME	LOCATION	PATRON	# FACIL
1391	Murad I	Bursa	Sultan	5
1395	Yldrm Byzt.	Bursa	Sultan	5
1400	Timurtaş	Bursa	Vezier	3
1420	Yeşil	Bursa	Sultan	4
1426	Muradiye	Bursa	Sultan	3
1447	Üç Şerefli	Edirne	Sultan	3
1481	Beyazit II	Amasya	Sultan	4
1482	Ishak P.	Inegöl	Vezier	4
1488	Beyazit II	Edirne	Sultan	5
1522	Ayşe Hafsa	Manisa	Sultan	5
1520's	Çoban Mustafa	Gebze	Vezier	8
1563	Selim	Karapinar	Sultan	4
1569	Sokollu M.	Lüleburgaz	Vezier	5
1574	Selim II	Payas	Sultan	3
1575	Selimiye	Edirne	Sultan	4
1579	Pertev P.	Izmit	Vezier	5
1592	Muradiye	Manisa	Sultan	5
1666	Kara Mustafa	Merzifon	Vezier	3
1700	Amcazade	Şehzadebeşi	Sultan	4
1726	Ibrahim Paşa	Nevşehir	Vezier	4

Table 4-2: Külliyes built outside Istanbul and their number of facilities[1]

[1] Information for tables 4-1 to 4-11 is obtained from appendix B.

conquest. The seat of the government was moved to Edirne afterward, and finally to Istanbul. The growth of the state which covered eastern, as well as western, territories kept the western part of modern Turkey in a central location. Thus, it is understandable that the capital was always a city in that region. Istanbul in particular had another advantage; it was an historically important city since it was the capital of the Byzantine state.

In general, major külliyes were built in the capital cities. The first large sultan külliyes were built in Bursa while it was the capital. Murad I (1391), Yildirim Beyazit (1395), Yeşil (1420), and Murad II (1426) served the city of Bursa and aided in the process of its growth. During the period when Edirne became the capital it witnessed the construction of the Eski Cami (1402) and Üç Şerefli (1447). Similarly, Istanbul conquered the interest of the Ottoman sultans the moment it was conquered. Mehmet the Conqueror built his great külliye there in 1470. From that date on every sultan tried his best to build a külliye in the capital.

Along with building külliyes, Ulu camis were erected to be the main mosques in the Ottoman cities. Ulu camis were usually built in the center of cities and surrounded by several facilities such as medreses, hans, and markets. Examples can be seen in Manisa's Ulu cami (1374) and Bursa's Ulu cami (1400).[1] Ulu camis and their surroundings played the same role külliyes played in the life of the cities. Hence, each city had either a külliye or an Ulu cami as a center for the community. While major külliyes were built in the capital cities, Ulu camis were built in other cities serving the same purpose.

Besides the külliyes which were built in the capitals, other külliyes were built in the different Ottoman cities. Beyazit II built a külliye in Amasya in 1481; he in particular built külliyes in several cities such as in Edirne (1488) and Istanbul (1506). Murad III built a

[1] Seljuks built Ulu camis in their cities such as in Sivas, Malatya, Konya, and Kayseri. Ottomans used the same concept of Ulu cami in the newly conquered cities. See Goodwin, A History of Ottoman Architecture, p. 51.

külliye in Manisa (1592) as a response to the residents' demand. Sokollu Mehmet Paşa built a külliye in Lüleburgaz (1569) for that important commercial city needed one. Selim II built the Selimiye in Edirne because Istanbul was overcrowded with great monuments. In other words, the Ottomans built külliyes in different cities other than the capitals for a variety of reasons, among which were the need for külliyes, residents' demands, and sultans' preferences.

Hence, most of the külliyes were built in the capital cities; Bursa had four major külliyes while it was the capital. Istanbul had more than ten great külliyes besides the small ones which were built by other members of the royal family and high officials in the state. While the majority of külliyes were built in the capitals, each Ottoman city had at least one külliye, or a center, which provided services for the community.

4.1.2. SIZES OF CITIES AND THEIR RELATION TO THE PLANNING OF THE KÜLLIYES

The previous section (4.1.1) pointed out that the more important cities enjoyed a larger number of külliyes. Bursa was the capital between the years 1326 and 1361. Edirne became the European headquarters for the sultans after its conquest in 1361. Bursa, however, maintained its role as the major city in the state. During the period between 1326 and the conquest of Istanbul, most of the külliyes were built in Bursa. Because of the special importance of Edirne, it also had several külliyes. Smaller cities had a smaller number of külliyes which were of small sizes. Istanbul was the greatest Ottoman city; the newcomers wanted to make out of it a center for the whole world. With its constant growth, more külliyes were built in it.

It seems that the Ottomans were sensitive to planning issues. They did not overcrowd any of their cities with facilities which were not needed. Selim II, as an example, decided to

build his great külliye, the Selimiye, in Edirne because Istanbul was overcrowded.[1] The Muradiye in Manisa was built only when a need for it arose. The old mosque became insufficient for the town, thus a larger mosque with some facilities were erected in the place of the old mosque. Lüleburgaz in particular had a relatively large külliye, Sokollu Mehmet Paşa (1569), because of its importance as a commercial center on the way to Edirne from Istanbul.

Hence, the size of the city influenced the number of külliyes and their sizes. Examples of the relationship between the city's size and the külliye's are many. While Beyazit II built huge külliyes in Edirne and Istanbul, he built a much smaller külliye in Amasya since it was a smaller city. The Muradiye in Manisa (1592) was a small külliye if compared with other külliyes built around the same period in Istanbul. Similarly, the Selimiye, which is the masterpiece of Ottoman architecture, is a very small külliye if compared with the Fatih or Süleymaniye. Edirne did not need a complex and elaborate program for its new külliye; the designer was able to recognize this reality and respect it in his design.

4.2. FACTORS INFLUENCING FACILITIES IN THE KÜLLIYE

Facilities in the külliye are categorized under five major types: religious, educational, community service related, commercial, and private.[2] The number of facilities and their kinds were influenced by several factors. Three of these factors are discussed here: the location of the külliye, its time, and its commissioner. All these factors were interrelated and affected each other as well as the program of the külliye. It is worth noting here that

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[1] Kuban wrote: "All the major heights of old Istanbul which dominated its silhouette were taken up by imperial complexes built before the time of Selim II... A commanding site which would provide a great mosque with sufficient urban space around and yet be in close proximity to the city core was next to impossible to obtain." Kuban considered this reason as a cause for choosing Edirne as a site for the külliye. (Doğan Kuban, "Selimiye at Edirne, Its genesis and an Evaluation of its Style", IV congres International d'Art Turc, 1976, p. 106.)

[2] See section 1.2.3. (Facilities in the külliye).

a külliye has at least three facilities as defined in this study.[1] However, külliyes vary in their sizes; some of them have three or four facilities and some have more than ten. In fact, the Fatih and Süleymaniye have as many as eighteen facilities. A distinction is made here between two sizes of külliye: a small külliye which has five or less facilities, and a large külliye which has six or more.

4.2.1. LOCATION OF THE KÜLLIYE AND ITS FACILITIES

Based on the location of the külliye, one can distinguish two kinds of külliyes: an urban külliye and a country külliye. Facilities in the urban külliye are of educational and public service nature, while country külliyes are more geared towards the service of travellers and merchants. It is difficult to draw a clear line of distinction between the two. There are cases where a country külliye has an urban flavor to it because of the educational services which it includes. Cases of this kind are Sokollu Mehmet Paşa, Lüleburgaz (1569) and Çoban Mustafa, Gebze (1520's). Both külliyes are of the country type; however, each one has a medrese as a major element in the külliye. Similarly, urban külliyes have facilities to accommodate travellers. Many of Istanbul's külliyes included lodging facilities; also central spaces were used to accommodate the visiting caravans.

Urban külliyes, which are the subject of this study, were located in cities; while country külliyes were located along the travelling routes.[2] Külliyes which were located in small towns had relatively smaller programs than those built in larger cities.[3] The location of the külliye within the city also had an effect on its size. The major külliyes were built in key locations in the city. The Fatih, Beyazit II, Süleymaniye, Sultan Ahmet, and Nuruosmaniye were all built in what can be considered business districts or downtown areas. These külliyes were built in the center of the capital city to serve the whole state;

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[1] See section 1.2.2. (Defining the külliye).

[2] The term "külliye" will be used by itself throughout the study to denote the urban külliye.

[3] See section 4.1.2. (Sizes of cities and their relation to the planning of külliyes).

in fact their medreses in particular were the state's main centers for higher education. These külliyes had to have a wide variety of functions and a complex program. Another reason for these külliyes to be of large scale was that they had a symbolic significance. They represented the religious, educational, and cultural might of the state; having a monumental and impressive architecture was part of their function.

On the other hand, külliyes which were serving the residential neighborhood were of a much smaller scale. They had a limited functional program which usually encompassed the religious and educational aspects along with a limited social component. Külliyes like Şemsi Paşa (1581), Sinan Paşa (1593), and Ahmadiye (1722) are but three examples of many neighborhood külliyes which had small programs. Şemsi Paşa, for instance, had a mosque, medrese, and türbe; Sinan Paşa included a mosque, medrese, library, and burial ground. Many of the services which might have been needed in the centers of cities were not needed at the neighborhood level. Examples of such facilities include specialized medreses, hospitals, and tabhanes. Such services usually serve a whole city and not a limited section of it; and thus they can be seen in the major külliyes in the city's center and not in the residential areas. Smaller külliyes were mostly built by viziers; the ruling family built the larger külliyes.

The fact that the location of the külliye effected its size is a phenomenon which indicates a certain level of sensitivity in Ottoman planning. Istanbul is the best case study to observe this phenomenon. Major külliyes were located far enough from each other so that each one of them would serve a defined area with no overlapping. Smaller külliyes were located in small neighborhoods or between larger külliyes in order to serve the immediate needs of the smaller communities. It is known that there were other factors influencing the location of külliyes such as prestige and visual dominance; however, it cannot be denied that the Ottoman planner considered also the planning aspect. Külliyes were built to initiate urban growth such as in the case of Yildirim Beyazit in Bursa (1395). This külliye was built to the east of the town's walls as a core for a new neighborhood. To locate it on a high elevation was just a secondary objective and not the main concern of

the patron or the designer. Beyazit II külliye in Edirne (1488) and Ulu Cami of Bursa and its dependencies are two other examples of urban centers built originally in order to serve the community. Both of these examples do not enjoy special topographical location.

4.2.2. TIME OF THE KÜLLIYE AND ITS FACILITIES

The growth of the state affected the number of külliyes built in Istanbul or outside. During the early years of the Ottomans, their külliyes were relatively small; the size and number of külliyes increased drastically especially during the fifteenth and sixteenth centuries. The seventeenth century was a slower period because of the political and economic turmoil. The eighteenth century witnessed a relative growth which had to again slow down in the following century. While during the sixteenth century twenty five külliyes were built, only seven külliyes were built during the seventeenth century (table 4-3).

A more indicative piece of information is the change in number of facilities in the külliye across time. The information presented here is based on total number of facilities per

DATE	ISTANBUL	OTHER CITIES	TOTAL
14TH CENTURY		2	2
15TH CENTURY	5	7	12
16TH CENTURY	17	8	25
17TH CENTURY	6	1	7
18TH CENTURY	14	2	16
19TH CENTURY	3		3
TOTAL	**45**	**20**	**65**

Table 4-3: Number of külliyes built per century between the 14th and 19th century

century. Such a categorization may have its problems since history cannot be read in segmentally; nevertheless, the suggested categorization sheds some light on the changes which took place. The number of facilities which were built in Istanbul was much larger than that for outside Istanbul. The city needed much more facilities than any other town for it was the center of the state and housed a large population. During the first century, Istanbul had more educational facilities than services, while the other cities seemed to have more services. Again, this fact is understandable since Istanbul was the center of knowledge for all Ottoman Muslims. Istanbul had fifty three educational facilities during the first hundred and fifty years after the conquest (table 4-4). This period of the city's history was an active one. When Sultan Mehmed entered the city it was relatively in ruins and needed revitalization and rebuilding. The decrease in the number of külliyes during

	ISTANBUL			OTHER CITIES		
DATE	**EDUC.**	**SERV.**	**TOT.**	**EDUC.**	**SERV.**	**TOT.**
14th c.				3	5	8
15th c.	16	14	30	8	11	19
16th c.	37	29	66	13	16	29
17th c.	10	9	19	1		1
18th c.	23	13	36	4	1	5
19th c.	1	3	4			
TOTAL	**87**	**68**	**155**	**29**	**33**	**62**

Table 4-4: Number of facilities built per century between the 14th and 19th century

the seventeenth century was reflected in the number of facilities erected. During the eighteenth century the number of facilities increased again. This increase can be seen outside Istanbul also.

There were changes in the kind of facilities provided in the külliye from one period to the other. Istanbul would be the best case to be examined since more information is available about it than other cities. Under social services, the following facilities are considered: imaret, caravanserai and han, hospital, hamam, tabhane, and sebil. Thirteen imarets were built during the first century and a half; while during the following three centuries only five imarets were built. Six out of the seven caravanserais which were built as part of a külliye were built during the first hundred and fifty years. Four out of the five hospitals were also built during the same period. Similarly, twelve out of the fifteen hamams, and five out of six tabhanes, were built before the seventeenth century (table 4-5).

FACILITY	15TH C.	16TH C.	17TH C.	18TH C.	19TH C.	TOTAL
IMARET	5	8	1	4		**18**
HAN	3	3		1		**7**
HOSPITAL	1	3	1			**5**
HAMAM	2	10	2	1		**15**
TABHANE	1	4	1			**6**
SEBIL	1	1	4	7	3	**16**
MEHKEME	1					**1**
TOTAL	**14**	**29**	**9**	**13**	**3**	**68**

Table 4-5: Number of individual services per century in Istanbul

The number of facilities decreased after the sixteenth century in a continuous fashion. Although it seems that the number of facilities increased in total during the eighteenth century, it is critical to observe that there is a change in the kind of facilities. Seven out of the twelve counted facilities in the eighteenth century are sebils. This facility appears to increase in its quantity in the later centuries. However, the numbers are misleading

since every külliye at all times had a sebil. In the later periods, the sebil is announced independently from other facilities only because it became the only service available in the külliye. Providing for the poor was a major concern for any person interested in serving the community. However, in the last centuries, building imarets became much more expensive. The patrons of külliyes were to accept a less ambitious service for the community; this service was a sebil.

The educational facilities show also a decline in their number in the later centuries. Facilities like darü'l-kurra, darü'l-hadis, as well as medical schools, are specialized kinds of facilities, and thus there was no need to have many of them. Subjects taught specially in the first two above mentioned medrese could be taught in the typical medrese in the smaller külliyes. It is only in the main külliyes that specialized schools for Qur'an and Hadith were needed (table 4-6).

FACILITY	15TH C.	16TH C.	17TH C.	18TH C.	19TH C.	TOTAL
DARÜL-HADIS		3		2		**5**
DARÜL-KURRA		2				**2**
MEDICAL SCH.		1				**1**
MEDRESE	12	21	4	7		**44**
MEKTEP	3	10	5	8		**26**
LIBRARY	1		1	6	1	**9**
TOTAL	**16**	**37**	**10**	**23**	**1**	**87**

Table 4-6: Number of educational facilities per century in Istanbul

Medreses and mekteps were built in all times. However, fewer medreses were built during the last two centuries. Both the medrese and mektep reflect the decline during the seventeenth century. During the eighteenth century, there were more medreses and

mekteps built than the previous century. The need for these two facilities was always so great because they became the two most important functions in any külliye after the mosque itself. The number of medreses and mekteps in any century is higher than the number of külliyes in that century. In other words, each külliye had at least one medrese or mektep and some had more than one. This ratio was kept possible although the number of medreses was declining since more mekteps were built. Libraries in külliyes became popular after the twenties of the eighteenth century. At that time, printing Arabic books became permissible; and thus old manuscripts became available in huge numbers. Each school was able to acquire its own copies of these manuscripts which were kept in the relatively new function in külliyes, namely, the library.

Thus, in general, the building of new social and educational services decreased in the later periods. A few services which required less financial support continued to exist in good numbers, such as sebils and mekteps, yet külliyes became much smaller from the seventeenth century onward. It is to be noted here that services provided by the külliyes do not present a total picture of the city's service structure. There were always cases when a patron would build only a medrese, a hamam, or an imaret. These individual facilities would be built in connection with an older mosque, and together would form a center, as defined in this dissertation, and not a külliye. These individual services played a very vital role in supporting the city and they should not be ignored if a complete study of the city's services are to be examined. In the last centuries of the Ottoman State there was a need for continuous reparation and restoration of old külliyes. Such activities, although they do not produce more külliyes physically in the city, definitely do increase the number of usable külliyes. In this discussion, however, the focus is only on newly built külliyes; although findings here can only suggest an incomplete portrait of the city's overall service structure, these findings can shed an informative light on that structure. A more detailed study of the number of facilities and their dates in each Ottoman city is needed in order to achieve a better understanding of planning in the Ottoman period.

4.2.3. COMMISSIONER OF THE KÜLLIYE AND ITS FACILITIES

Commissioners of külliyes can be categorized under two main groups: sultans and their family members and officials in the government. Besides the sultans themselves, mothers and wives of sultans also contributed in building külliyes. Among officials, it was mainly the viziers who were the builders of külliyes; nevertheless, other officials also built külliyes such as admirals, nişanci (secretary of the Imperial Council who controlled the tugra[1]), and şeyhul-Islam (the head of the hierarchy of ulema[2]).

The two sets of külliyes, which are studied here and presented in tables 4-1 and 4-2, are used as a base to examine whether patrons influenced the kind or number of facilities in their külliyes. During the fifteenth, sixteenth, and seventeenth centuries, sultans and officials built almost the same number of külliyes in Istanbul. During the eighteenth and nineteenth centuries, sultans built small külliyes or even just centers; out of the seven facilities noted as built by sultans in the eighteenth century, three were centers (see Appendix A). Belerbay (1778), Emirgan (1781), and Şebsafa (1787), all built in Istanbul, included only a mosque and one other facility (table 4-1). All of what the viziers built in the eighteenth century were külliyes. During the nineteenth century, the sultans built two more centers and the viziers built one külliye (table 4-7). Thus, during the eighteenth and nineteenth centuries officials built more külliyes than sultans did. On the other hand, most of the külliyes which were built outside Istanbul were supported by the sultans. The fact that sultans were much richer than their officials might have been the reason; sultans, such as Beyazit II, were able to build both inside and outside Istanbul.

Although the number of külliyes built by sultans and officials might have been close, the size of these külliyes differed. In Istanbul, sultans' külliyes built during the fifteenth and

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[1] Tuğra is the seal of the sultan.

[2] Ulema is the plural of *'alim*, an Arabic word which means scholar. In this context, it refers to the scholars of the Islamic religion.

	ISTANBUL		OUTSIDE ISTANBUL		TOTAL
DATE	**SULTANS**	**OFFICIALS**	**SULTANS**	**OFFICIALS**	
14TH C.			2		**2**
15TH C.	2	3	5	2	**12**
16TH C.	8	9	5	3	**25**
17TH C.	3	3		1	**7**
18TH C.	7	7		2	**16**
19TH C.	2	1			**3**
TOTAL	**22**	**23**	**12**	**8**	**65**

Table 4-7: Number of külliyes per century built by sultans and officials.

the two following centuries were, in general, larger than those built by officials. The two sultans' külliyes of the fifteenth century had twenty-one services, while the three külliyes built by officials had only fifteen (table 4-8). In the sixteenth century, fifty-six services were built by sultans, while officials built only twenty-seven services. The difference between sultans and officials became less obvious in the seventeenth century; sultans built fifteen services and officials ten. During the eighteenth century, officials and sultans built the same number of külliyes; however, the total number of facilities provided by officials was larger than that provided by sultans. While the average number of facilities per külliye built by sultans was around ten during the fifteenth century, this average dropped constantly to become as low as only three during the eighteenth and nineteenth centuries. On the other hand, the average number of facilities built by officials was maintained at around four services per külliye throughout this period. In other words, külliyes built by sultans became smaller and smaller until, during the nineteenth century, they were not külliyes anymore, only centers. Officials were able to continue building

	SULTANS		OFFICIALS	
DATE	**# FACIL.**	**AVERAGE**	**# FACIL.**	**AVERAGE**
15TH C.	21	10.5	15	5
16TH C.	56	7	27	3
17TH C.	15	5	10	3.3
18TH C.	24	3.4	26	3.7
19TH C.	4	2	3	3

Table 4-8: Number of facilities per century, including mosques, built by sultans and officials in Istanbul, and average number of facilities per külliye per century

külliyes of a relatively small size throughout the five centuries.

Külliyes outside Istanbul had very close sizes whether built by sultans or officials. Külliyes averaged four services across the board. The proximity in size among all külliyes outside Istanbul could be related to the fact that cities were generally small and did not require very complex and large programs for their külliyes. Also, sultans typically preferred to build in Istanbul because of its importance and size; it was natural, therefore, that most of their efforts were to go to their külliyes built there. In fact, based on the sample studied here, it seems that beyond the sixteenth century sultans did not built any külliyes outside Istanbul (table 4-9).

It is difficult to determine, with any accuracy, a set of facilities as preferred by either one of the two groups of patrons. Numbers of services and educational facilities seem to be very close throughout the studied period. In Istanbul, the number of educational facilities is slightly higher than that of services (table 4-10). This is true in külliyes built by both

	SULTANS		OFFICIALS	
DATE	**# FACIL.**	**AVERAGE**	**# FACIL.**	**AVERAGE**
14TH C.	12	4		
15TH C.	19	3.8	7	3.5
16TH C.	16	4	10	5
17TH C.			3	3
18TH C.			8	4
TOTAL	**50**		**34**	

Table 4-9: Number of facilities per century, including mosques, built by sultans and officials outside Istanbul, and average number of facilities per külliye per century

groups: sultans and officials. Although numbers of services in the seventeenth and eighteenth centuries indicate that more services were built during that period than educational facilities, it is to be mentioned that most of these services were only sebils. In the seventeenth century, two out of the seven facilities built by sultans were sebils, and so were three out of the nine facilities built during the eighteenth century.

Numbers of facilities outside Istanbul were also close. It was only during the sixteenth century that more services were built by officials than educational facilities (table 4-11). The sixteenth century was a time of growth and construction; the number of külliyes built both inside and outside Istanbul was more than the number for any other period of time. It seems that the large number of services built by officials is one reflection of this prosperous period of Ottoman history (table 4-11). While sultans continued to build in Istanbul until the nineteenth century, they ceased to build anything of significance outside the city.

	SULTANS		OFFICIALS	
DATE	**EDUCAT.**	**SERVICES**	**EDUCAT.**	**SERVICES**
15TH C.	11	8	5	6
16TH C.	24	24	13	5
17TH C.	5	7	5	2
18TH C.	8	9	15	4
19TH C.		2	1	1
TOTAL	**48**	**50**	**39**	**18**

Table 4-10: Number of educational facilities and services per century in külliyes built in Istanbul

Hence, although the number of külliyes built by sultans and officials was close, sultans built larger külliyes with more complex programs in Istanbul. Outside Istanbul, sultans and officials built külliyes of relatively the same size since the smaller towns did not require very articulate programs. It does not seem possible, with the information available, to suggest which services were more preferred by certain patrons. It can be noted, however, that there were three items to be seen in any külliye: the mosque, a teaching unit (medrese or mektep), and a source of water (sebil). The decrease in number of külliyes and facilities during the later centuries could be the result of the decline in the power of the state. However, it could also be the result of having enough facilities by that time that no more facilities were needed. The process of repairing and maintaining the existing facilities was costly enough and sufficient to insure the required services for the community. A final point is related to the fact that the kinds of facilities changed with time. A smaller number of larger facilities, such as hospitals and imarets, were built during the later periods, while small facilities, such as sebils and mekteps, became more popular.

	SULTANS		OFFICIALS	
DATE	**EDUCAT.**	**SERVICES**	**EDUCAT.**	**SERVICES**
14TH C.	3	5		
15TH C.	7	7	1	4
16TH C.	9	7	4	9
17TH C.			1	1
18TH C.			4	2
TOTAL	**19**	**19**	**10**	**16**

Table 4-11: Number of educational facilities and services per century in külliyes built outside Istanbul

4.3. LOCATION OF THE KÜLLIYE IN RELATION TO THE URBAN FABRIC

Several factors played a role in the process of locating a külliye at a particular site. The Ottoman architect was sensitive to these factors and used them in order to choose the best location for his client's project. These factors show a certain level of awareness to planning concerns as underlying forces in the site selection process. In this study four factors are addressed as influential in this process: topography, water, the city's functional zones, and location of other külliyes.

4.3.1. LOCATION AND TOPOGRAPHY

Modern Turkey, and especially the middle and western parts of it, is mountainous or hilly. Thus, most of the cities which the Ottomans inhabited in Turkey had a rich topography. A mountain or a series of hills either bordered or surrounded these cities as in the cases

of Bursa, Istanbul, Amasya, Manisa, and Nevşehir. The designer was able to be selective, therefore, when he was considering the location of his project. He, in most cases, looked for high elevations because of several reasons. Firstly, a higher elevation puts the mosque at a point away from daily life. It elevates, functionally as well as spiritually, the user from the daily affairs and prepares him or her for the religious experience. The separation between religious and daily affairs was a practice known to almost all civilizations.[1] Secondly, it made the mosque a visible element in the fabric of the city since it was the highest structure in that fabric. Visibility was in two ways; the mosque became visible to everybody, and thus it acted as a landmark in the city. At the same time, being on a higher elevation, the mosque became a place from where the city and what was beyond were seen. The views from the mosque were such that they evoked the senses and prepared a special setting for contemplation. Thirdly, a high elevation made the külliye appear more monumental and superior on the horizon of the city.

Examples of külliyes or mosques built on higher elevations can be seen in almost every Ottoman city. Ulu cami in Manisa (1374), as well as Ibrahim Paşa külliye in Nevşehir, (1726) are but two cases (figs 4-1, 2). The major cities can also be considered here as illustrations. Bursa had four major külliyes which were built when the city was the capital. Each of Murad I (1391), Yeşil (1420), Muradiye (1426), and Yildirim Beyazit (1395) was built atop one of the city's hills exhibiting superiority and enjoying views. Yildirim Beyazit is the best example of the use of high elevation in Bursa (fig. 4-3). The structures of the külliye are located on different levels where the mosque is at the highest elevation. The views from the space in front of the mosque are of a special quality. The whole city and the valley beyond it are clearly seen. The far mountains, along with the complete silence at that location, create a very spiritual atmosphere.

Edirne has the Selimiye located at a high point from where the whole town and its

[1] Greeks and Romans, as examples, located their temples on higher elevations than the rest of their cities.

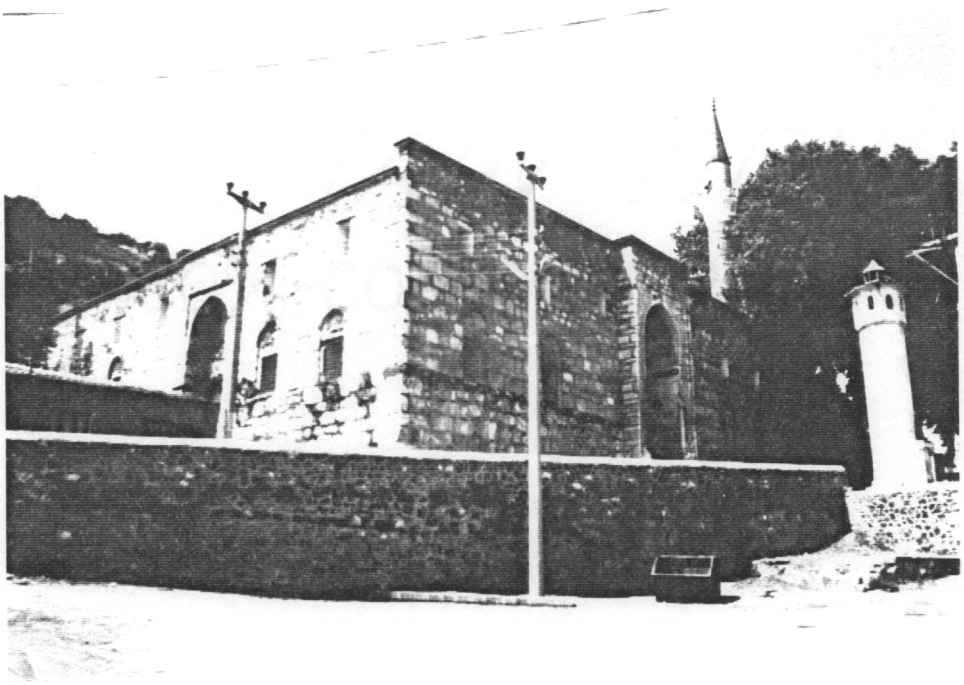

Figure 4-1: Ulu cami, Manisa; the main entrance of the mosque

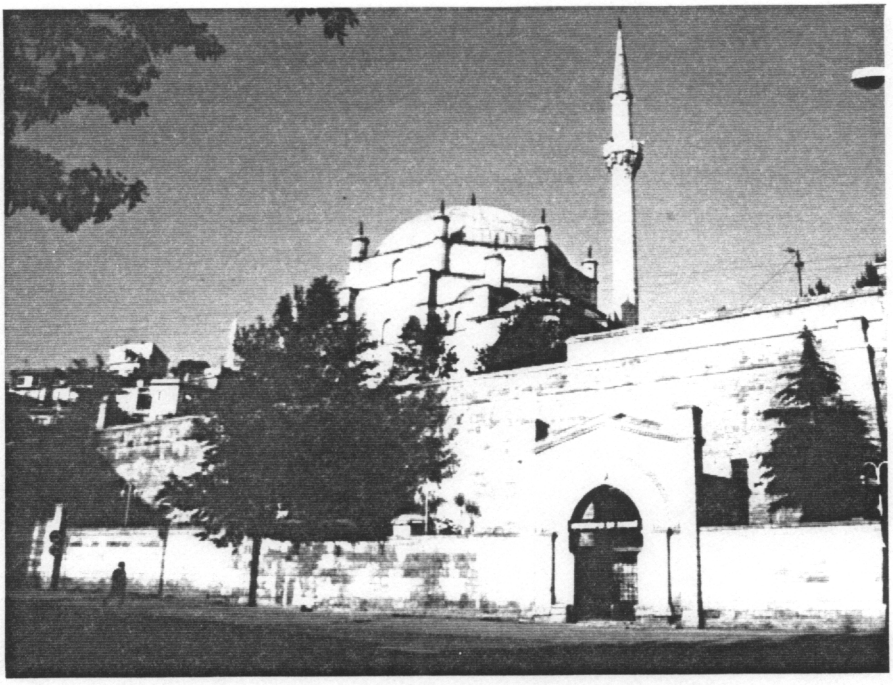

Figure 4-2: Ibrahim Paşa külliye, Nevşehir; the külliye from the east side

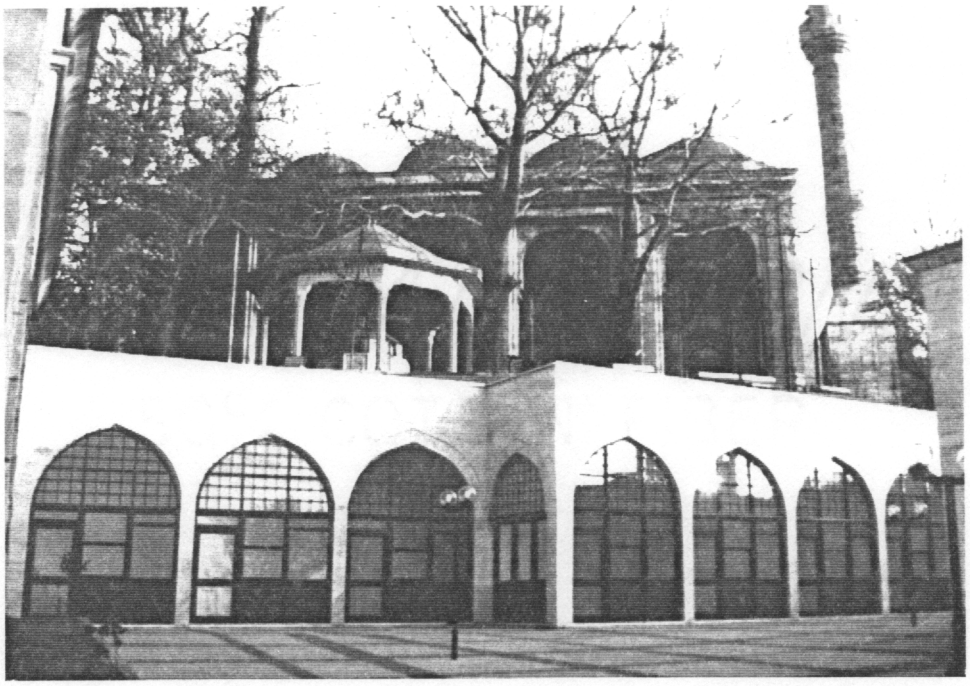

Figure 4-3: Yidrim Beyazit, Bursa; view of the mosque atop the hill

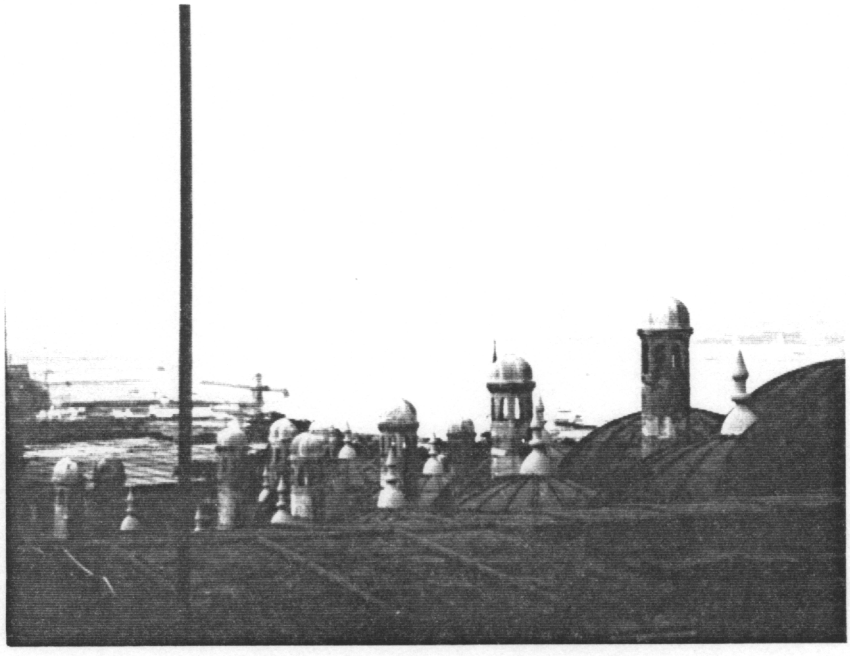

Figure 4-4: Süleymaniye, Istanbul; its elevation allows open views of the Bosphorus

surrounding landscape can be seen. Istanbul presents even a better case to observe. It has seven hills which are all occupied by külliyes. The Süleymaniye and the Fatih are the best known of them. They can be seen from different points of the city and the whole city can be observed from them. The Süleymaniye in particular has its east side open from where the whole Bosphorus can be watched (fig. 4-4). The cases in Bursa, as well as in Istanbul and other cities, allow the assumption that the Ottoman architect intentionally located the külliyes so that special views can be capitalized on.

In order to gain a high elevation for the külliye, the architect usually chose the summit of a hill as a site. He was able to use the slope to his advantage also; he, in many cases, built a flat area at the higher elevation of the slope and used the space underneath for some of the külliye's other facilities. In the case of the Fatih, the architect Atîk Sinan put one set of medreses under another one in a way to use the slope. In the Süleymaniye, the space under the platform was used for shops. Laleli külliye (1763) presents a special case of slope treatment; the külliye is located on a slope, however it is not on its summit. A huge platform was created as a base for the mosque under which a market was housed (fig. 4-5, 6). Nuruosmaniye (1755) and Sokollu Mehmet in Kadirgi are two similar examples. In cases where the külliye was to be located at a low elevation, the architect raised the mosque on a platform so that some height was given to the mosque. Yeni Valide in Eminönü (1663) is an example of such a treatment; the mosque can be reached through high sets of stairs located at all entrances (fig. 4-7).

4.3.2. LOCATION AND WATER

There are two major reasons to relate külliyes to water: visual and functional. Water bodies acted in a similar way to high elevations. They provided superior visibility for the külliyes. In many cases when high elevations were not available, the second best location was the shore of the sea. Yeni Valide, Eminönü; Şemsi Paşa, Üskudar; as well as

Figure 4-5: Laleli külliye, Istanbul; the small bazaar is located under the main platform

Figure 4-6: Laleli külliye, Istanbul; the platform and the mosque

Figure 4-7: Yeni Valide, Eminönü, Istanbul; the mosque is raised on a platform and reached through sets of stairs

Mihrimah Üskudar, are all cases in point (figs.4-8, 9).[1] The open waters allowed a special visual effect for the worshippers; at the same time, they made the külliye visible from the water as well as from the facing shores in Istanbul.

Sultan Ahmet külliye presents a special case. It was located close to the water in such a way that it utilized the visibility provided by the open flat water surface. The mosque, however, was raised on a platform like Laleli or Nuruosmaniye mosques. Elevating the mosque allowed it to become more visible from the land side (the northern side); and hence, more capable to compete with Haghia Sophia. The treatment in this case was an intelligent solution which combined the benefits of a slope as well as water surface.

The other critical relation to water is functional; water is a vital element in the operation of a külliye. At one level, the külliye was the urban center of the neighborhood. It was the place which provided the community with its major needs. Water was the most important commodity for the inhabitants which was critical for the külliye to provide. If not the külliye, then a center which consisted of a mosque and a medrese supplied water. In other words, the külliye could not have become a core for the community without water; for this reason, a sebil was a function without which no külliye could exist. The distinction and separation between the ablution fountain (şadirvan), which is used for religious purposes (self cleaning before prayer), and the sebil was a clear indication of the importance of providing water for domestic and secular purposes.

Giving water was the symbol of providing substance to the community. It was the least to be provided; and thus, when the economy of the empire was not so good and the builders of külliyes were not as affluent as their predecessors, they provided sebils. In the

[1] Ernst Egli wrote about the relation of Mihrimah külliye to water: "it is a feeling for nature, which inspired the design of the Iskele Mosque in Üsküdar (Scutari) on the water's edge. The mosque looks out over the Bosphorus toward Istanbul and the Golden Horn; omitting the customary enclosed forecourt, Sinan avoided erecting any barrier between the mosque and what is one of the most beautiful views in the world." (Ernst Egli, "Sinan the Architect", Landscape, vol. 7, no. 3, Spring 1958, p. 8.)

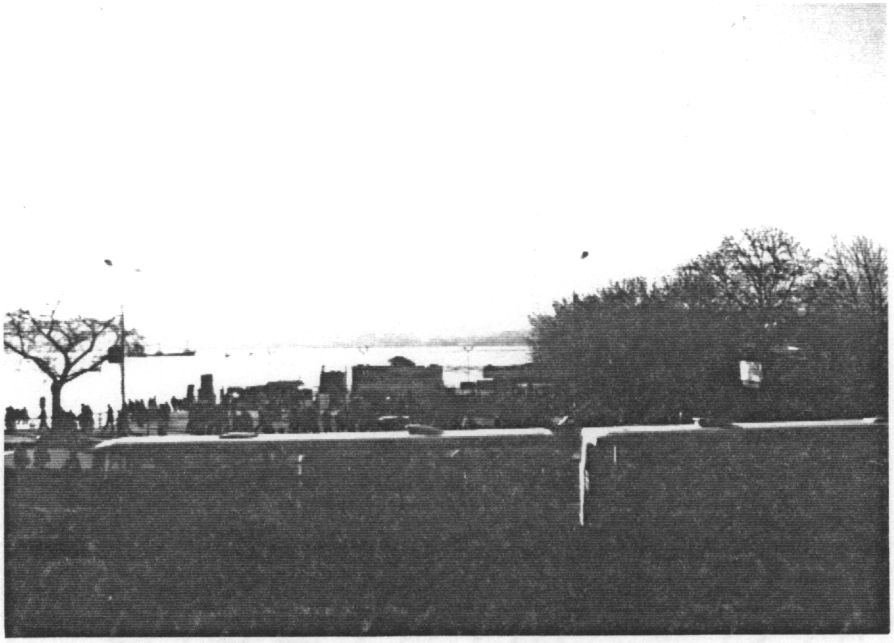

Figure 4-8: Mihrimah Sultan külliye, Üsküdar, Istanbul; view of the Bosphorus from the mosque's front open space

Figure 4-9: Şemsi Paşa külliye, Üsküdar, Istanbul; the külliye from the water

better days this form of providing took more generous forms: külliyes had imarets for food, and accommodated travellers and the sick free of charge. Water was the element which allowed the külliye to complete its role as a center for enriching the three sides of the human: his soul by the mosque, his mind by the medrese, and his body by the sebil, hamam, imaret or similar services.

4.3.3. LOCATION AND THE CITY'S FUNCTIONAL ZONES

Külliyes were originally built in order to provide a core for a new, or existing, neighborhood. A külliye then was intended to serve the adjacent community; services included the religious, educational, and social sides of daily life. The külliye, therefore, was more attached to residential areas than any other parts of the city. The idea of a core unifying the neighborhood and bringing people together was not very needed in a commercial zone of the city. People go for prayers in the mosque of the market where they work. However, their education, or their children's, was acquired in the medrese or mektep of the neighborhood. It was from their local mosque that they got their water; and it was from the local imaret that the poor got their meals. The commercial areas did not need complete külliyes; a mosque and separate services were sufficient. This did not mean that no külliye was built in commercial zones. Beyazit II (1506) as well as Nuruosmaniye (1755) were built in the commercial area of Istanbul and had medreses.

The main külliyes in Bursa were built in residential areas or were erected in order to draw residential areas around them. Murad I, Yildirim Beyazit, Yeşil, and Murad II were all in residential zones. Yildirim Beyazit in particular was built outside the walls as a core for an expansion of the original city. While in the center of town and around the bazaar area, Ulu cami was built to serve the whole community of the city. Other services, such as hans, were built around the mosque in order to serve the needs of the traveling merchants. No major külliye was built there however. The three main külliyes in Edirne, (Üç Şerifli, Beyazit II, and Selimiye), were also built away from the market place and in residential areas. Mosques and services were also provided in the center of the city but not in a

comprehensive külliye format. Istanbul is another case where the Ottoman architect located the külliye mostly in residential areas with a few exceptions. The city had many segments deserted or destroyed because of lack of proper services before the conquest[1]. Külliyes were built in order to revive the old neighborhoods and attract people.

4.3.4. LOCATION IN RELATION TO OTHER KÜLLIYES

Külliyes were originally built in order to allow a new neighborhood to grow or to provide services for an existing one. Accordingly, it was of no advantage to have two külliyes in the same area if one could provide the needed services for that particular area. Bursa provides a good example of such an awareness of this issue in the mind of the Ottoman planner. The city had four major külliyes besides the Ulu cami in the center of the commercial area. Each one of the four külliyes was built in a different section of the city. Murad I (1391) and Murad II (1426) were built in two different neighborhoods in the western part of the city, while Yildirim Beyazit (1395) and Yeşil (1420) were built in the eastern part of the city. Smaller centers were also built in between these külliyes; however, none of these centers is close enough to a külliye to compete with it (plan 4-1).

Edirne also had three major külliyes: Üç Şerefli (1447), Beyazit II (1488), and Selimiye (1575). Each one of these külliyes is built in a different neighborhood so that each serves a section of the city. What is also worth mentioning is the elapsed building time between them. There were forty years between the first two and around ninety years between the second and third. Such a long period between the building of each two külliyes can be seen as an indication of a correlation between the growth of the city and the increase of its number of facilities.[2]

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[1] Fisher and Ocshenwald, The Middle East: A History, p. 179.

[2] Selimiye in particular was a very small complex for a sultan. Its size was dictated by the fact that the city did not need services. Kuban wrote: "Selimiye, contrary to custom, was not conceived as the center for a large social complex. For, since the time of Murad II, Edirne had been endowed with an ample number of public buildings so that it was probably superfluous to construct another." (Doğan Kuban, "Selimiye in Edirne: ...", IV Congres International d'Art Turc, 1976, p. 107.)

Külliye

Center built by one person

Center built by more than one person

0 200 m

Plan 4-1: Bursa; destribution of külliyes and centers

Istanbul presents a more complex case because of its size and the number of külliyes which were built in it. In general, külliyes are evenly distributed across the city. There are, however, four areas where groupings of külliyes occur (plan 4-2). The question here is whether these clusters took place arbitrarily. One way to address this question is to examine the date of each külliye in relation to other külliyes in the cluster, as well as the sizes of these külliyes. The four clusters are located around the following külliyes: Davut Paşa, Sultan Eyüp in Eyüp, Mihrimah in Üsküdar (across the Bosphorus in Asia), and Atik Ali Paşa in Beyazit. There are four külliyes in the Davut Paşa cluster:

Davut Paşa (1485)		has 4 facilities
Haseki Hürrem (1539),	54 years after Davut Paşa,	has 5 facilities
Bayram Paşa (1634),	95 years after Haseki Hürrem,	has 5 facilities
Hakimoglu Ali (1734),	100 years after Bayram Paşa,	has 3 facilities

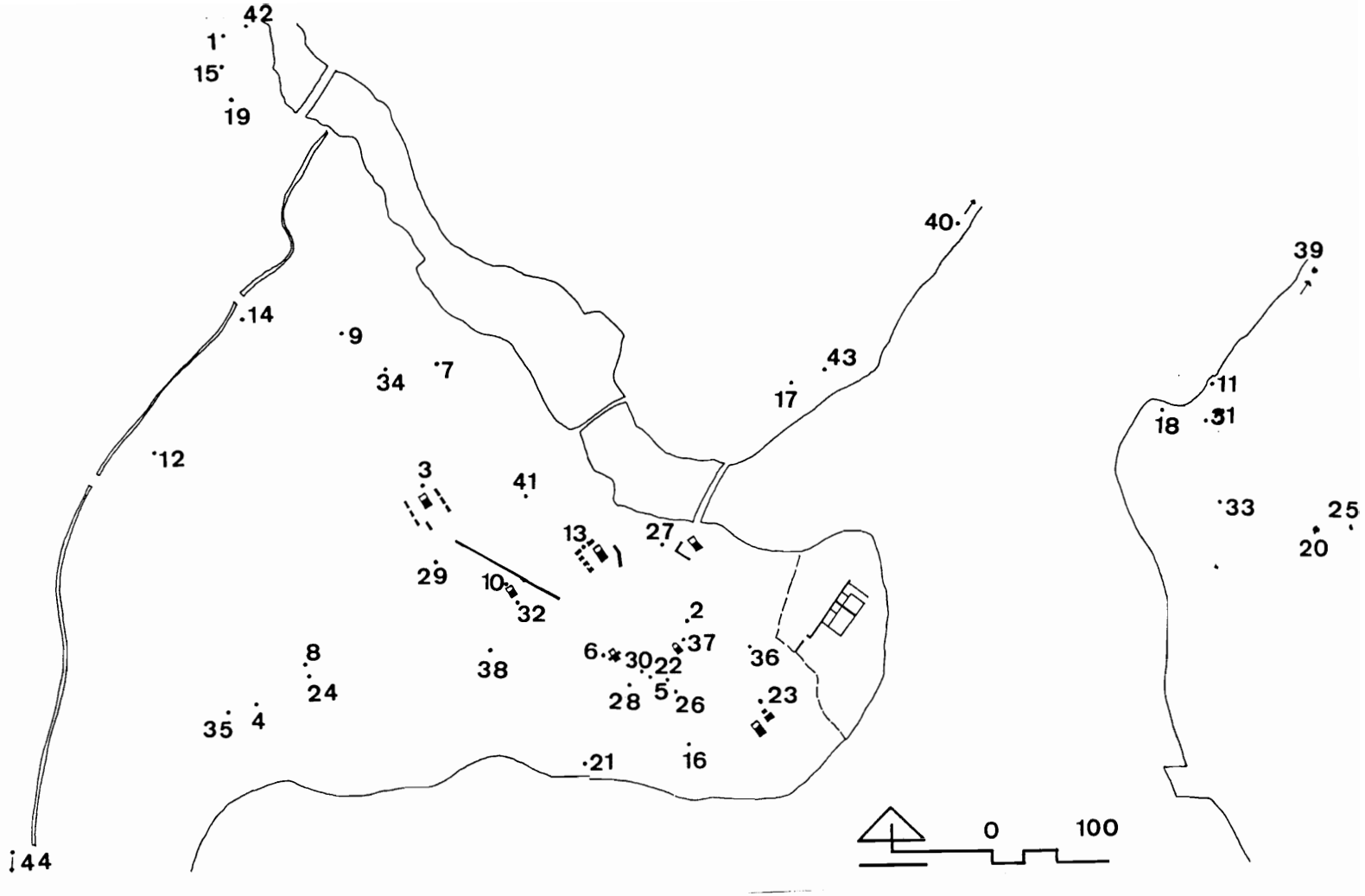
Hence, two hundred and forty nine years were needed to produce this cluster. The number of facilities was relatively small considering that some of them were only sebils. In this cluster there were three medreses, three mekteps, a library, a hospital, one imaret, and two sebils.

The sultan Eyüp cluster also consists of four külliyes:

Sultan Eyüp (1458),		has 5 facilities
Sokollu Mehmet (1569),	111 years after Sultan Eyüp,	has 2 facilities
Zal Mahmut Paşa (1581),	12 years after Sokullu M.,	has 4 facilities
Mihrişah (1796),	215 years after Zal Mahmut,	has 3 facilities

This case similarly shows that there was a long period of time between each two külliyes. Zal Mahmut was built only twelve years after Sokollu Mehemt Paşa; however, the latter was such a small külliye that building another külliye within the same period could be easily justified.

The third cluster around Mihrimah in Üsküdar presents the same picture: the number of facilities was small and külliyes were built over a long period of time. Thus, the three külliyes can be seen as if they were one large külliye.



Plan 4-2: Istanbul; distribution of külliyes, numbers denote order of building

The cluster around Mihrimah in Üsküdar included three külliyes:

Mihrimah (1548)		has 5 facilities
Şemsi Paşa (1581)	33 years after Mihrimah	has 2 facilities
Yeni Valide (1710)	129 years after Şemsi Paşa	has 4 facilities

The last cluster in the Beyazit area has the largest number of külliyes:

Mahmut Paşa (1464)		has 6 facilities
Atik Ali Paşa (1496),	32 years after Mahmut Paşa,	has 4 facilities
Koca Sinan (1599),	103 years after Atik Ali P.,	has 3 facilities
Koprülü Paşa (1660),	61 years after Koca Sinan,	has 2 facilities
Kara Mustafa P. (1690),	30 years after Koprülü Paşa,	has 4 facilities
Ali P. Çorlulu (1708),	18 years after Kara Mustafa,	has 5 facilities
Nuruosmaniye (1755),	47 years after Ali P. Çorlulu	has 4 facilities

The time lapse between two külliyes is quite long in this case also. This cluster includes five medreses, four mekteps, two libraries, three imarets, one hamam, a han, a tekke, two sebils, and one mehkeme.[1] This part of the city, the Beyazit area, was the commercial area; therefore, its growth was on the rise in all periods; it did not have one large külliye but a series of smaller ones. All together they played the role of one major külliye. Koprülü Paşa, Kara Mustafa Paşa, and Ali Paşa Çorlulu were built in a relatively short time; it is important to note, however, that between the time of Koca Sinan Paşa and Ali Paşa Çorlulu, which is a period of a hundred and nine years, only six facilities were built. Most of the facilities in this cluster were educational in nature; a fact which can explain the large number of külliyes in this cluster. The great density of people and activities in such areas made them good places for religious and educational facilities. This phenomenon can be observed in many older Islamic cities such as Damascus, Aleppo, Cairo, and Baghdad. Mosques, medreses, and libraries were relatively clustered around the commercial centers of these cities.

[1] The facilities which were housed in all of these seven külliyes were less than those housed in the Fatih or Süleymaniye.

Each cluster required a long period of time to be built; Mihrimah's cluster was developed in 162 years; Davut's cluster took 249 years; Beyazit's 291 years; and, Eyüp's 338 years. Apparently, patrons were building külliyes in all parts of the city, at all times, in a way that guaranteed enough services for each section of the city. The demand for new külliyes was the result of the constant growth in the city's population.[1] Sultans' külliyes were generally larger than külliyes built by officials of the government. Sultans located their külliyes apart from each other so that they would not compete or over-serve one section of the city while neglecting other sections (plan 4-3). Officials were also careful in this regard; the cases where they built several külliyes in the same location were very rare. In such cases one of the four clusters studied earlier was developed. These clusters did not over-serve particular areas; rather, they aimed at satisfying the demands of the continuous growth in these areas. Hence, it seems that in the process of locating külliyes, the designer considered very carefully the needs of each section of the city; külliyes were placed in such a way that equal coverage of services for all sections of the city was obtained.

4.4. THE KÜLLIYE AND ITS SURROUNDINGS

The last section examined the külliye in terms of its relation to the overall fabric of the city. It was shown that külliyes were located at high elevations in order to enjoy a certain level

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[1] Zeynep Çelik states that Istanbul's population continued to increase from 50,000 inhabitants just before the conquest to around 800,000 during the seventeenth century. Zeynep Çelik, The Remaking of Istanbul, University of Washington Press, 1986, pp. 22-8. Bernard Lewis bases his figures on several documents of the time; he asserts that in 1478 the population of Istanbul was between 70,000 to 80,000, while in 1593 it reached 1,231,207. Bernard Lewis, Istanbul and the Civilization of the Ottoman Empire, University of Oklahoma Press, 1972, pp.101-2. According to the Encyclopedia of Islam, figures like those of Lewis are exaggerated. The Encyclopedia provides the following estimations: in 1477 there were 16,326 khāne (a khāne is a household; it is estimated that a khāne did not number more than 3 to 4 persons). Thus the total population was between 50,000 to 55,000 inhabitants). Around 1535 the population had increased about five times (thus, around 250,000 to 275,000 inhabitants). Around the year 1550, the number of households was estimated to be 120,000 (around 360,000 to 480,000 persons), an increase of 50 percent in a fifteen year period. According to the Encyclopedia, modern authors estimate Istanbul's population during the sixteenth century to be around 700,000 persons. H. Inalcik, "Istanbul," Encyclopaedia of Islam, New Edition, vol. 4, 1978, pp. 243-4. Although estimates differ, it is very clear that the city witnessed an immense growth in its population during the first century after the conquest.

Plan 4-3: Istanbul; distribution of küllyes indicating patrons

of privacy, as well as to obtain visibility. For the same reasons külliyes were also built close to seashores or on river fronts. Külliyes were built in response to the needs of residential areas in the Ottoman city; therefore, they were spread across town and not concentrated in any one particular area. After examining the siting of the külliye within the urban fabric, this section addresses the relationship between the külliye and its immediate surroundings.

4.4.1. CLASSIFICATION

The relationship between the külliye and its surroundings is classified here on the basis of the külliye's degree of openness to the surrounding urban fabric. The degree of openness ranges from complete meshing between the külliye and the fabric to a complete isolation from that fabric. Between these two extremes two more categories can be identified: separated but not isolated from the surroundings and partly isolated.

4.4.1.1. KÜLLIYE MESHED WITH ITS SURROUNDINGS

Facilities of the külliye, or the center, are part of the urban fabric in this case. Facilities are not gathered in one particular area; rather, they are fitted into the fabric according to the availability of vacant lots. The mosque may be built first, then another facility such as a hamam or medrese would be built possibly one or two houses away. The connection between the different facilities takes place through the public road which exists before the erection of the different facilities and plays the role of open space for the külliye. Hence, facilities open up directly to the road which serves these facilities, as well as the rest of the urban fabric. Examples of meshed külliyes are: Yeşil (4-4) and Murad II (4-5), both of which are in Bursa. This strong connection between the public domain and the külliye in its basic form, as it can be seen in this case, was to become a design principle respected even in the most isolated külliyes. The interweaving of facilities with the urban fabric presents the uncrystallized form of the future külliye; such an arrangement can be seen in the older Islamic cities in the Middle East. The different religious, educational, and

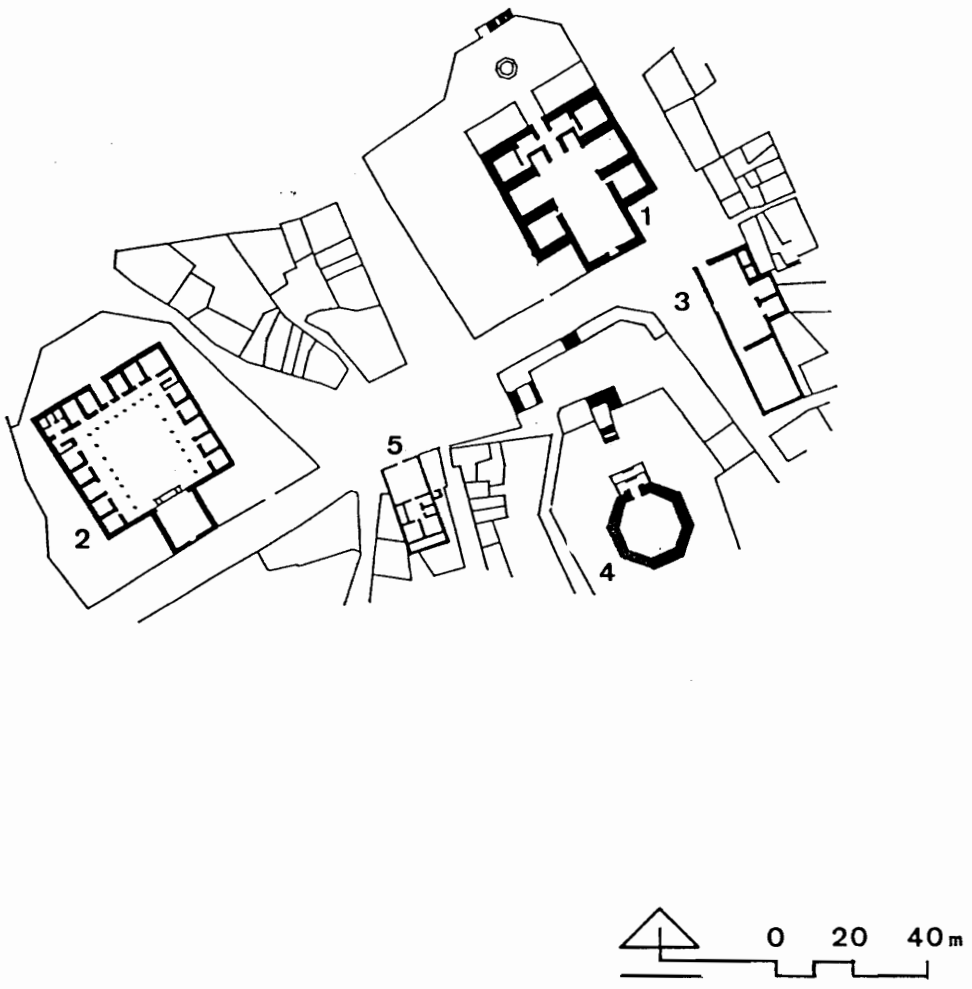
social services were located within the urban fabric close to each other without forming a real coherent unity amongst themselves. Such arrangements can be seen in Damascus, Aleppo, Cairo, and Tunis, to mention but a few examples (plan 4-6). Having the civic facilities close to each other in different sections of the city suggests that the concept of a service core was applied in previous Islamic states; however, it did not actually take the form of a unified complex until the time of the Ottomans.

The Ottomans themselves started with building such centers; in the early Ottoman settlements, the mosque was the first structure to be built followed by other needed services. Examples of this arrangement can be seen in many Ottoman cities, such as in Bursa where Yerkapi mosque, a mektep, and a sebil created a small center within the urban fabric (plan 4-7). Similarly, Ibrahim Paşa mosque and Mehkeme hamam form another center (plan 4-8). Examples can be seen in Amasya, Tokat, and Sivas also. In Amasya Beyazit Paşa mosque (1414), a han and a hamam are located close to each other creating a center (plan 4-9). Hadji Turkhan mosque and Sultan hamam in Tokat also constitute a center (plan 4-10). In Sivas, Kaikawus hospital was built in 1217; in 1271 Muzaffer Barudjiradi medrese and Çifte minaret were built close to it; and finally, the Mehmet Paşa mosque was built in 1580 (plan 4-11).[1]

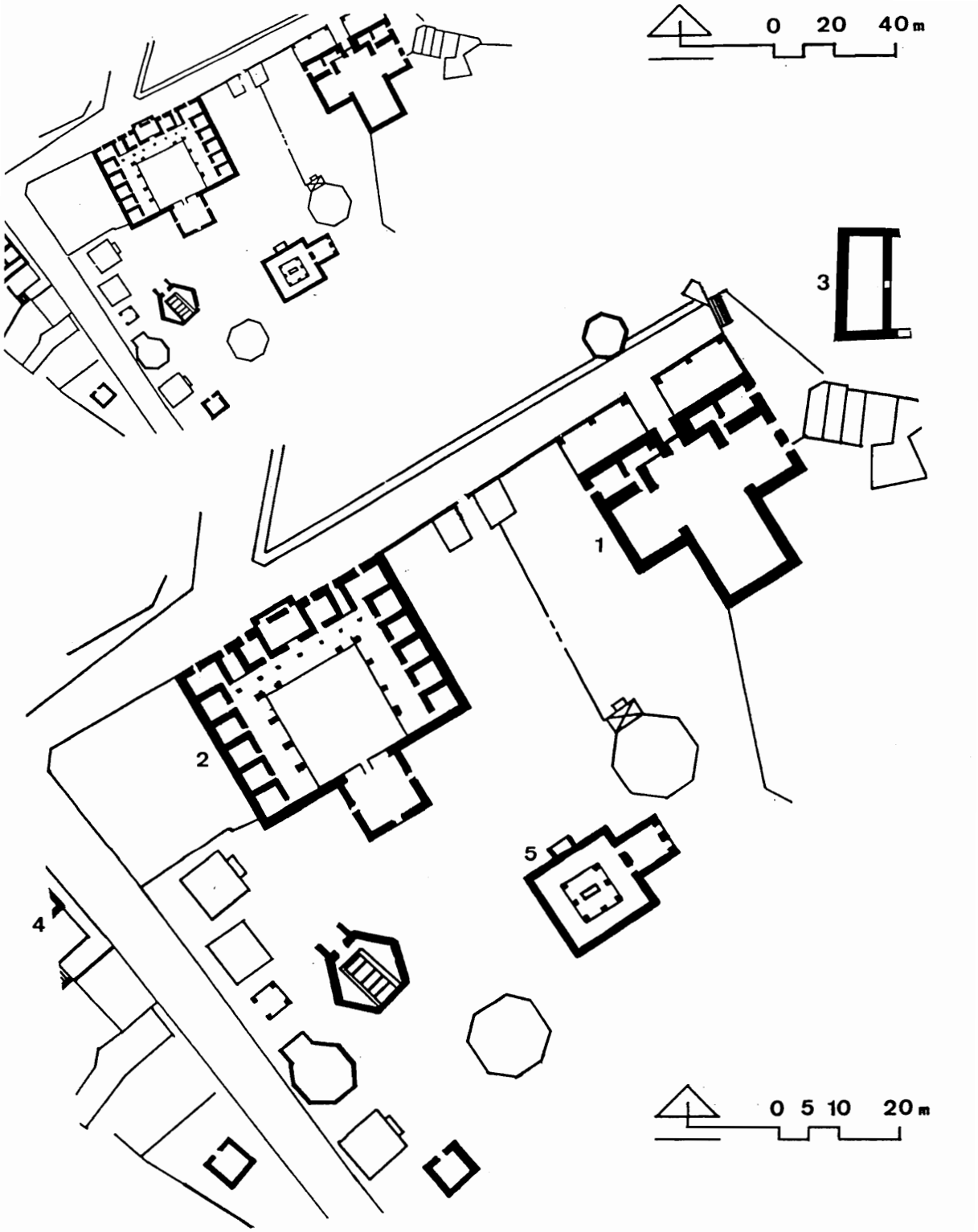
4.4.1.2. KÜLLIYE SEPARATED BUT NOT ISOLATED FROM ITS SURROUNDINGS

Facilities in this case are grouped together in one physical area; they take their places one beside the other, or facing each other, without any structure not belonging to the külliye amongst them. However, these facilities are not enclosed by any physical barrier such as a wall or a fence. Thus, the visitor will not distinguish any segregation or isolation between the külliye and its physical surroundings. He will feel that he has entered a

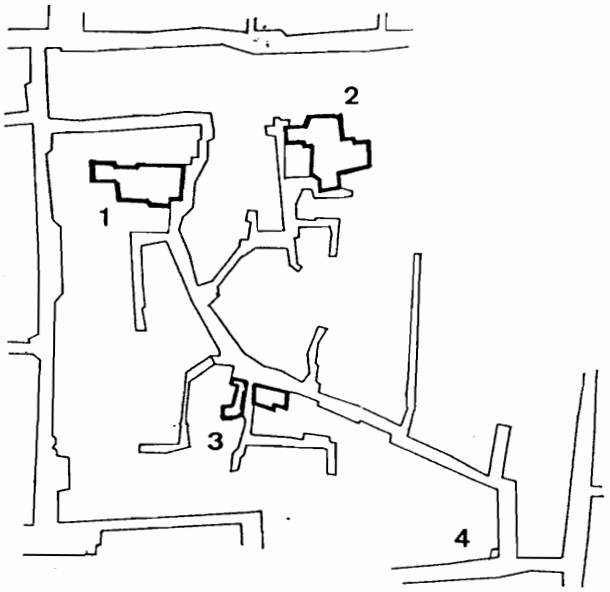
[1] Gabriel thinks that this mosque was built in place of an older one. Gabriel, Monuments Turcs D'Anatolie: Amasya - Tokat - Sivas, Paris, 1934, pp. 143-6.



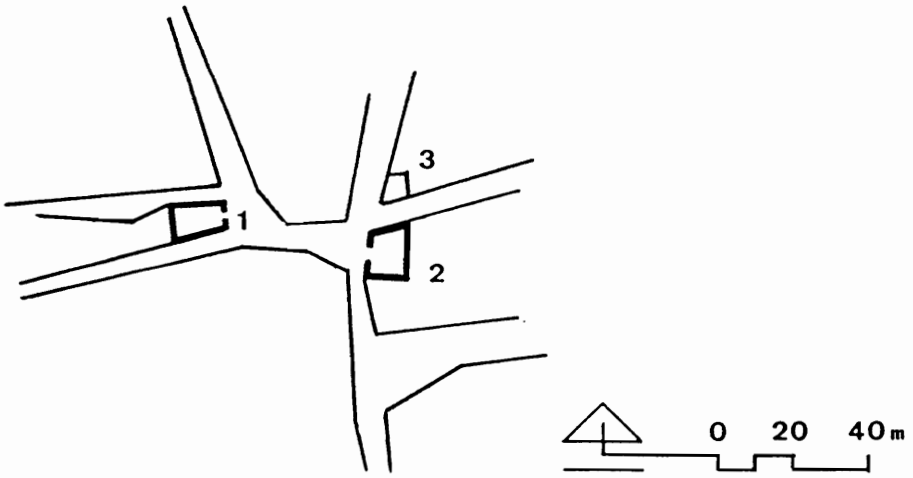
Plan 4-4: Yeşil külliye, Bursa; 1. mosque, 2. medrese, 3. imaret, 4. türbe, 5. hamam



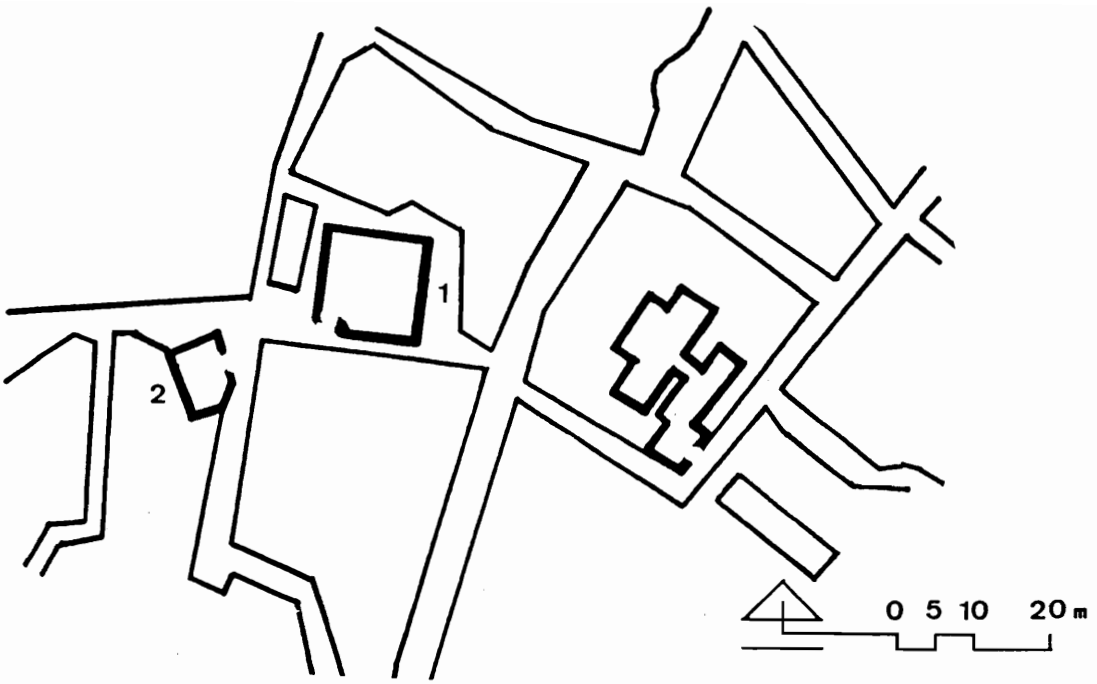
Plan 4-5: Murad II külliye, Bursa, 1. mosque, 2. medrese, 3. imaret, 4. hamam, 5. türbe



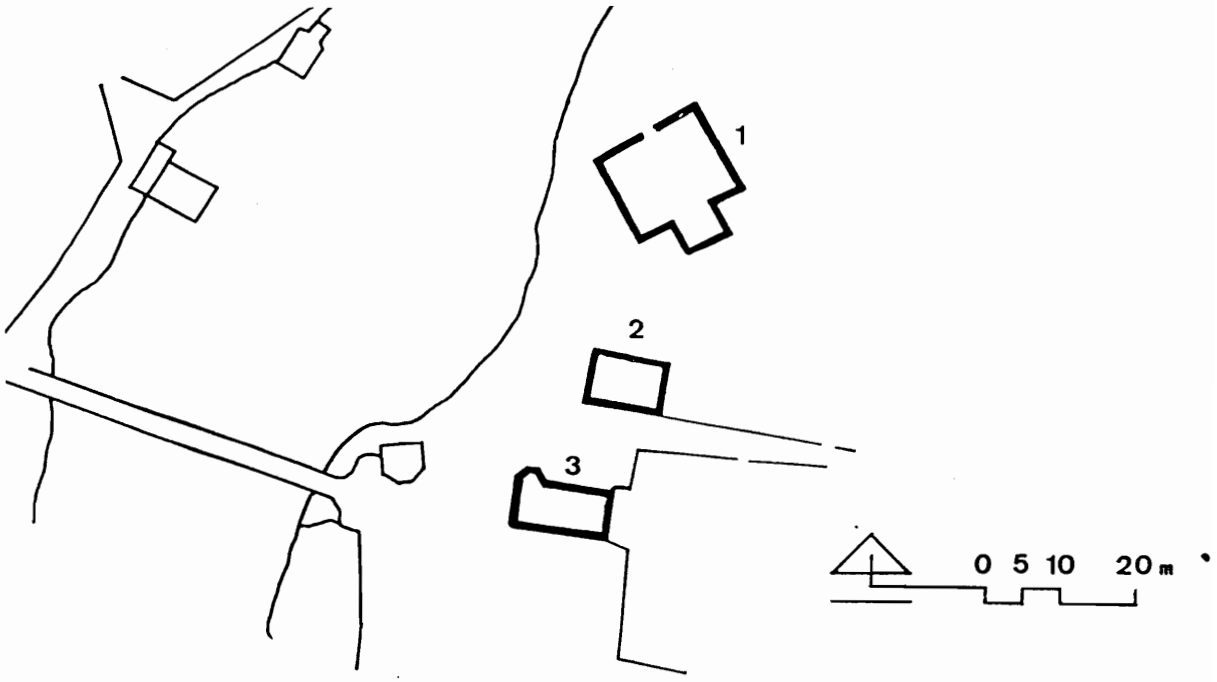
Plan 4-6: A typical hara (residential area) in Damascus, the different services are integrated with the urban fabric; 1. mosque, 2. hamam, 3. market, 4. sebil (after Sauvajet, 1936)



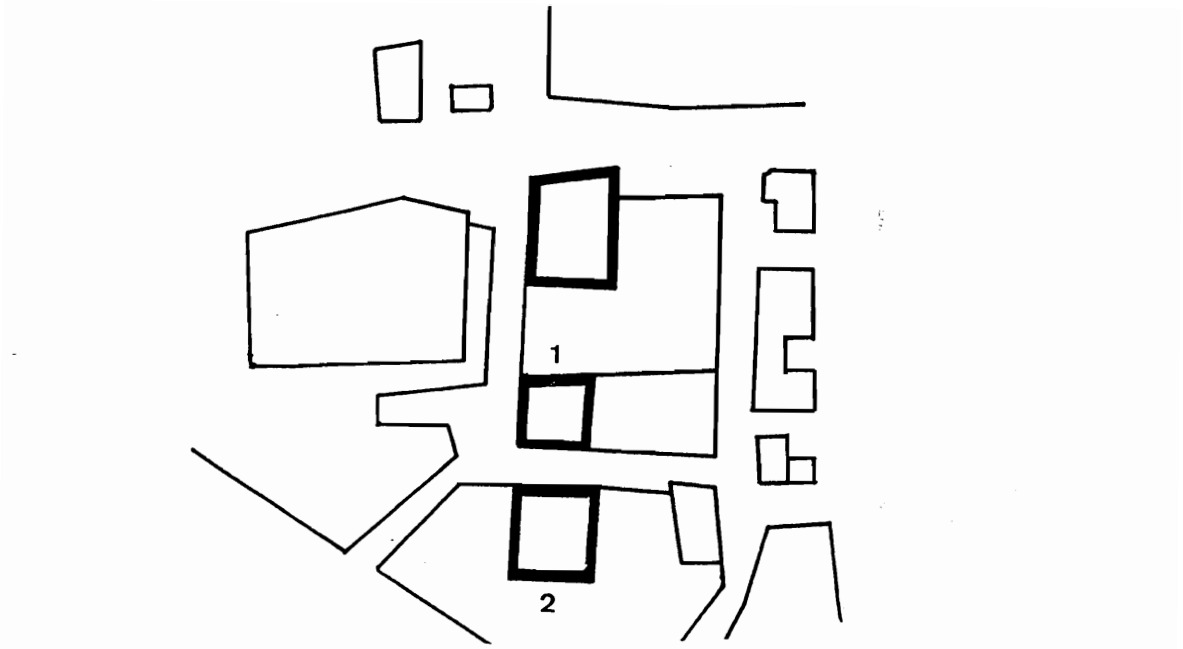
Plan 4-7: Bursa, a small center; 1. mosque, 2. mekteb, 3. sebil (after Gabriel, 1958)



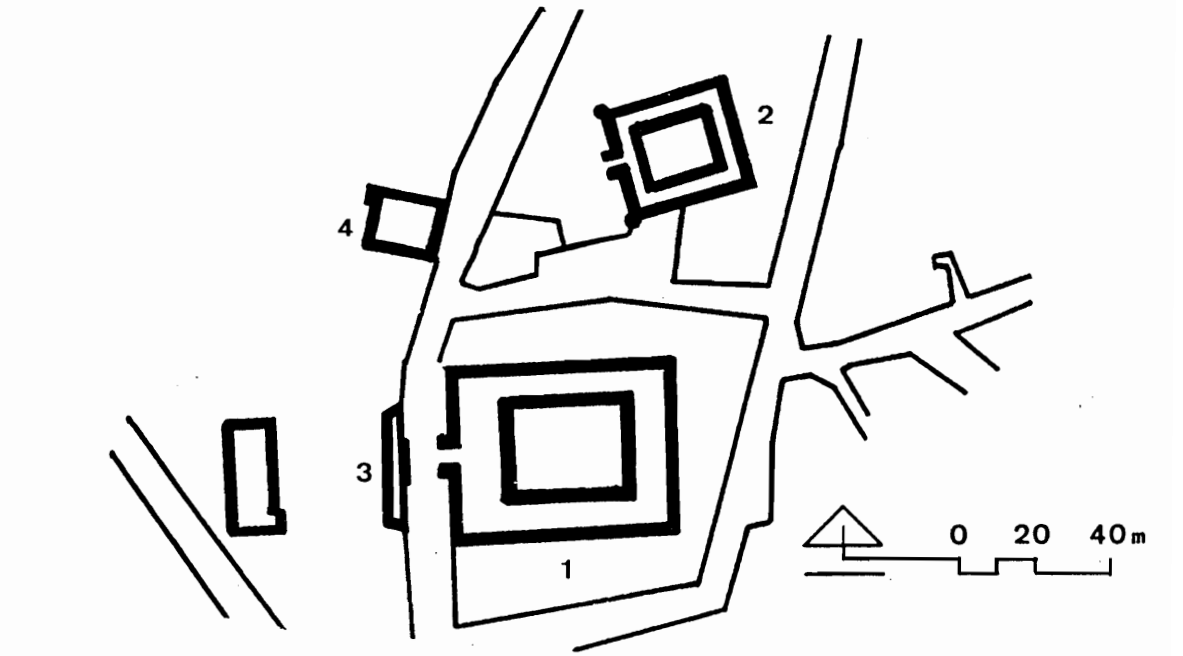
Plan 4-8: Bursa, a small center; 1. Ibrahim Paşa mosque, 2. hamam (after Gabriel, 1958)



Plan 4-9: Amasya, a small center; 1. Beyazit Paşa mosque, 2. han, 3. hamam (after Gabriel, 1934)



Plan 4-10: Tokat, a small center; 1. Hadji Turkhan mosque, 2. Sultan hamam (after Gabriel, 1934)



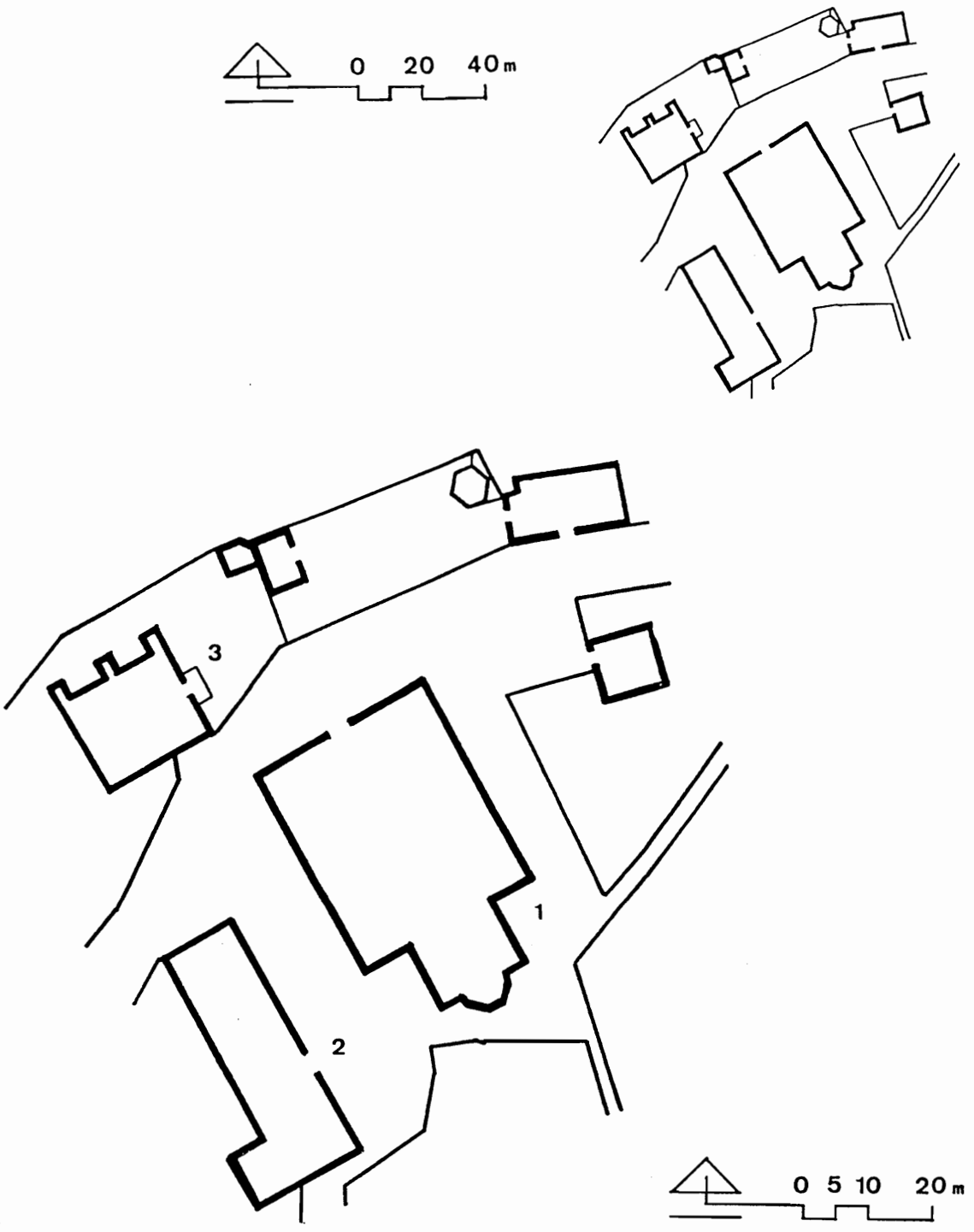
Plan 4-11: Sivas, a small center; 1. kaikawus hospital, 2. Muzaffer Barudjiradi medrese, 3. Tshifte minaret, 4. Mehmet Paşa mosque (after Gabriel, 1934)

different environment since all buildings in this new setting have different functions, as well as forms, from the rest of the residential urban fabric.

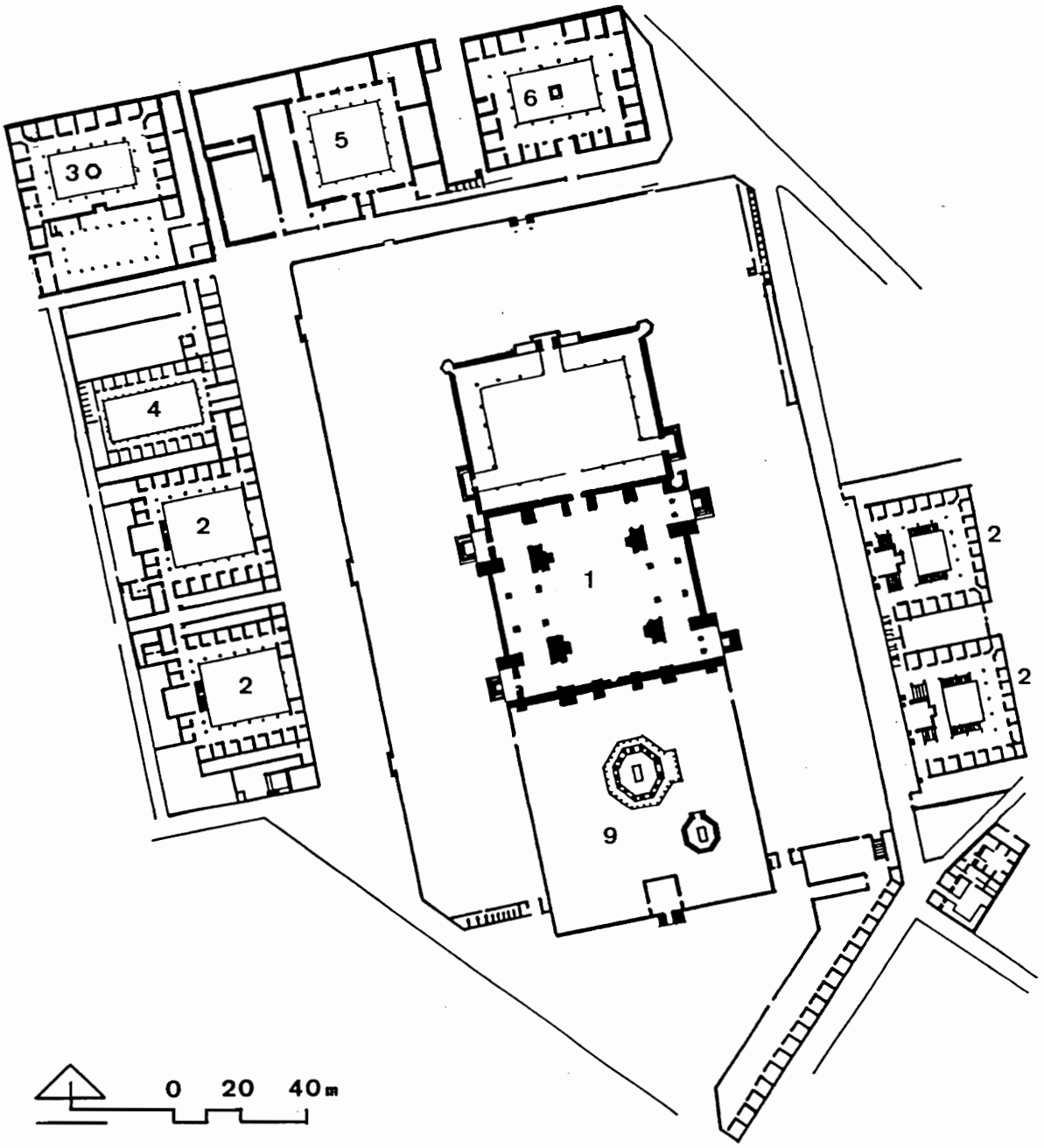
The arrangement of facilities in a way that they are separated from the rest of the fabric can be seen as an early stage in the development towards a complete isolation of the külliye. The seemingly arbitrary locating process of facilities in the meshed külliyes is substituted by a more careful placement of the facilities in such a way that they form a unified composition. The idea of separating the külliye from its surroundings without a complete isolation from the urban fabric was used in all periods of time and in different geographical locations. Murad I külliye (1391) in Bursa can be seen as an early example of such an idea (plan 4-12). The facilities are grouped around the mosque; yet, the total composition is not isolated from the residential area. Süleymaniye (1557) is a late example of this case; the whole composition is located in one particular area without a physical distinction from the rest of the urban fabric (plan 4-13). Sokollu Mehmet Paşa (1569), in Lüleburgaz, is another example where the composition of the whole külliye shows a clear order with a strong disengagement from the rest of the fabric (plan 4-14). All structures, however, can be reached directly from the public street and not through an isolated space which only belongs to the külliye.

Examples like Süleymaniye and Sokollu Mehmet bring to light the distinction between the different options of the relationship between the külliye and its surroundings and the formal development of the külliye itself. The relationship between the külliye and its surroundings took different forms which are discussed here. These forms of relationship existed at the same time; in other words, they do not present stages of development towards any particular end. On the other hand, the formal composition of the külliye can be seen as a process of development which started at one end where no strong geometrical relationship existed and ended at another end where a strong sense of formal composition can be observed.[1]

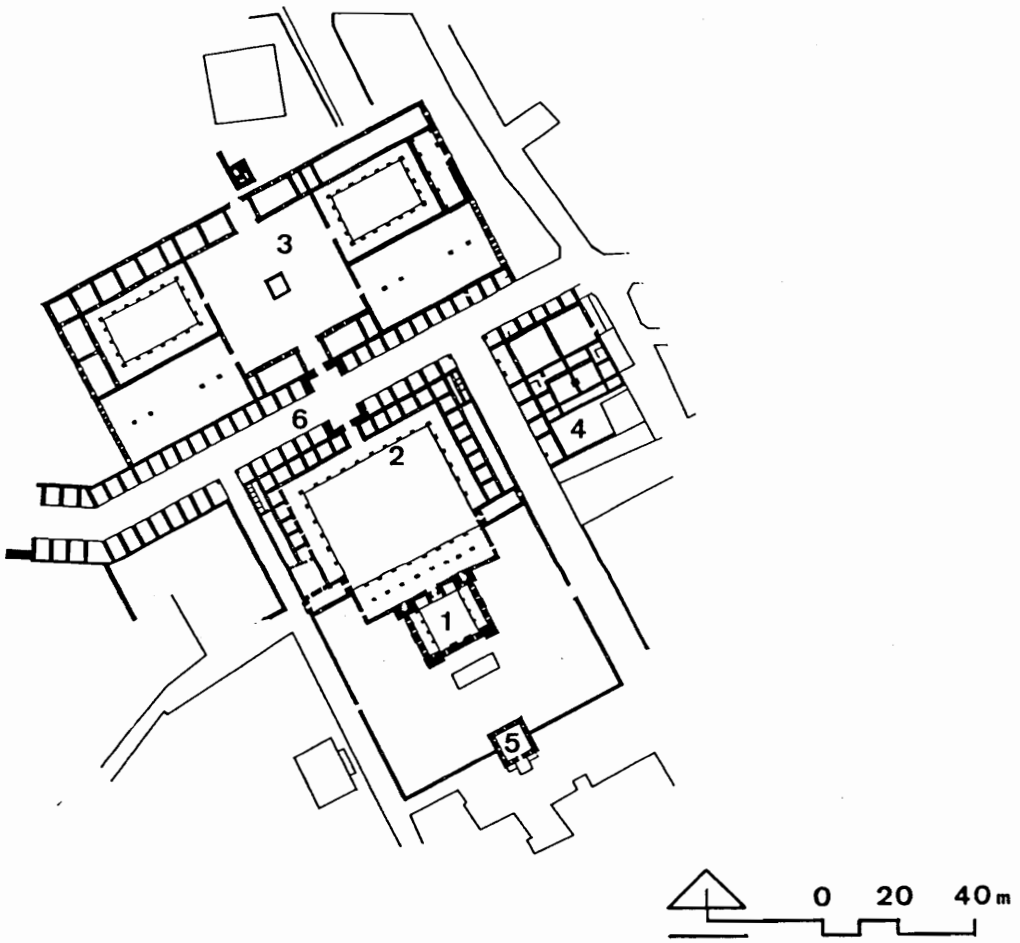
[1] The formal composition of the külliye is studied in the fifth chapter.



Plan 4-12: Murad I külliye, Bursa; 1. mosque, 2. Imaret, 3. türbe (after Gabriel, 1958)



Plan 4-13: Süleymaniye külliye, Istanbul; 1. mosque, 2. medreses, 3. daruşşifa, 4. Tib medrese, 5. imaret, 6. tabhane, 7. darül-hadis, 8. hamam, 9. türbe, 10. Sinan's tomb



Plan 4-14: Sokollu Mehmet Paşa külliye, Lüleburgaz; 1. mosque, 2. medrese, 3. caravanserai, 4. hamam, 5. mekteb, 6. arasta (after Goodwin, 1971)

4.4.1.3. KÜLLIYE PARTLY ISOLATED FROM ITS SURROUNDINGS

Some of the külliye's facilities would be grouped around a space which would be enclosed by a wall and reached through gates. The facilities can be reached only through it; and hence, a strong sense of isolation exists in that part of the külliye. Other facilities of such külliyes can be in direct connection with the rest of the urban fabric. They share the public road with the residential area in a similar manner to the case of meshed külliyes or separated but not isolated külliyes. The visitor moves from the typical residential zone to the open part of the külliye which he will be able to distinguish because of its architectural character. The open part of the külliye will lead him to the gates of the enclosed section. In general, it is the religious and educational facilities which are in isolation, while the more community oriented facilities are in closer relationship with the residential fabric.

Such an arrangement seems to be very logical. The isolation of the mosque helps in the process of preparing the worshipper psychologically for the spiritual experience which he or she is to encounter inside the mosque. In other words, while the elevation of the mosque on a platform higher than the rest of the city's structures creates a physical separation at the vertical plane, the open space encompassing the mosque creates a similar separation at the horizontal plane. From a functional point of view, educational facilities have a more direct relation with the mosque than any other facility; therefore, bringing them closer to the mosque and including them in the isolated area appears to be a logical design decision. On the other hand, social facilities such as the hamam or imaret respond to the needs of the general public; accordingly, locating them closer to the residents and with no barriers would make their use an easier task.

Yildirim Beyazit külliye (1395) in Bursa has most of its facilities located inside an encompassing wall; the hamam, however, is located outside the wall and in direct relation with the houses (plan 4-15). Fatih külliye (1470) in Istanbul has a well defined and enclosed space around which the medrese of the külliye is located (plan 4-16). Other

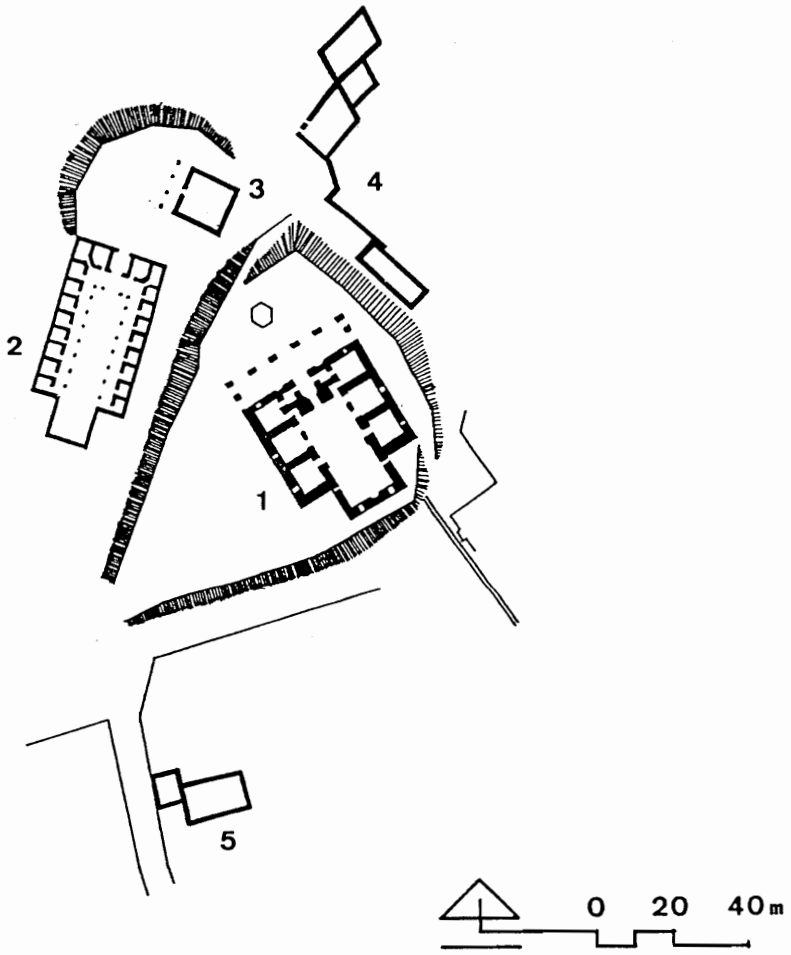
facilities, such as the hospital, have direct access to the public roads. Sultan Ahmet külliye (1617) in Istanbul has its mosque enclosed by a space which prepares the visitor for his entry to the great mosque; while the other facilities in the külliye can be reached through the public roads (plan 4-17). Koca Sinan külliye (1593) and Hekimoğlu Ali Paşa külliye (1734), both in Istanbul, have their facilities enclosed by a wall; however, their sebils, which are the only social services provided by the two külliyes, are fixed at that wall so as to be usable from the outside (plans 4-18, 19).

4.4.1.4. KÜLLIYE COMPLETELY ISOLATED FROM ITS SURROUNDINGS

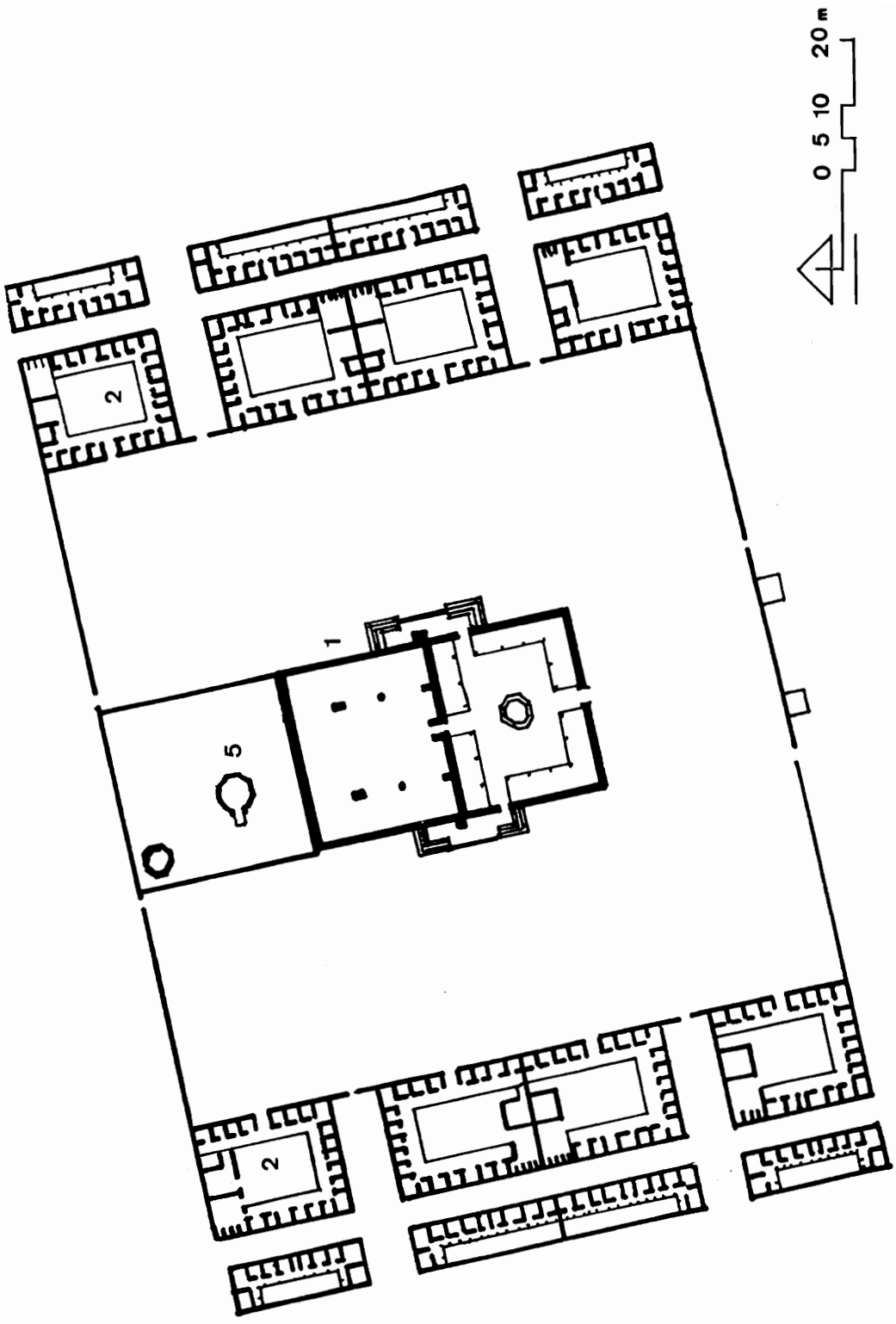
Külliyes in this case have their facilities enclosed by a wall and completely isolated from the rest of the urban fabric. It is possible to reach any facility of the külliye only through one of the gates which lead to the general open space which, in its turn, allows access to any of the külliye's facilities. Isolated külliyes have a strong sense of unity because of the fact that all their facilities are located close to each other and surrounded by a wall. Külliyes of this kind were built mostly in the later periods, when the design of the külliye reached a more refined level. Principles such as alignment and symmetry, as well as the idea of a central space which pulls all structures together, gave the isolated külliye more reasons to become a unified one.

Two possibilities can be distinguished regarding the relationship of this kind of külliye to its surroundings: a large isolated külliye and a small isolated külliye. The large isolated külliye usually has more than one entrance or gate, such as the Selimiye (1575) in Edirne, Nuruosmaniye (1755), and Laleli (1763) in Istanbul (plans 4-20, 21, 22). In all three cases the külliye has more than one gate leading to the central space.[1] In these cases the physical isolation is not strong enough to create actual isolation. In other words, although the walls and gates bring about a physical separation between the külliye and the

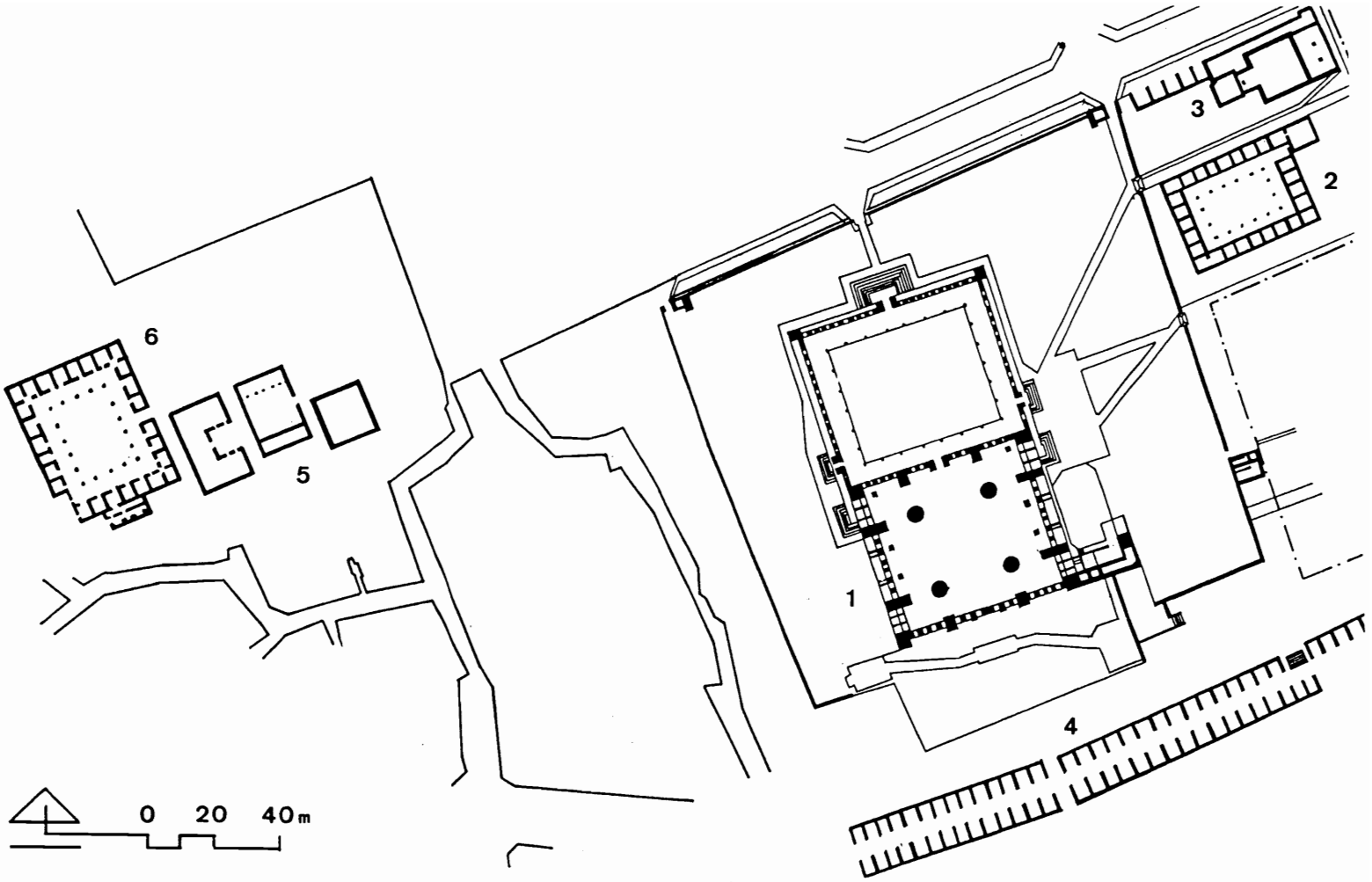
[1] See section 4.4.2.2. (the case of Istanbul) for a discussion of the "central space."



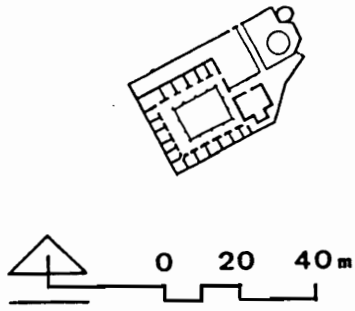
Plan 4-15: Yildrim Beyazit külliye, Bursa; 1. mosque, 2. medrese, 3. türbe, 4. imaret, 5. hamam (after Gabriel, 1958)

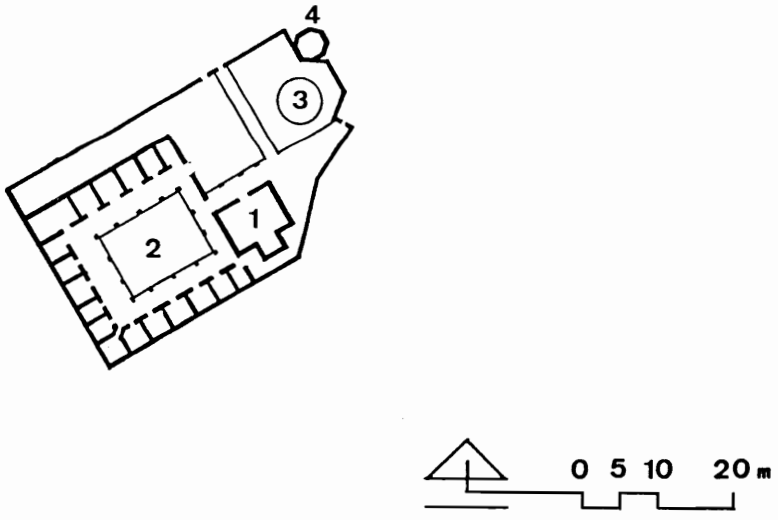


Plan 4-16: Fatih külliye, Istanbul; 1. mosque, 2. medreses, 3. darüşşifa, 4. tabhane, 5. türbe (after Goodwin, 1971)

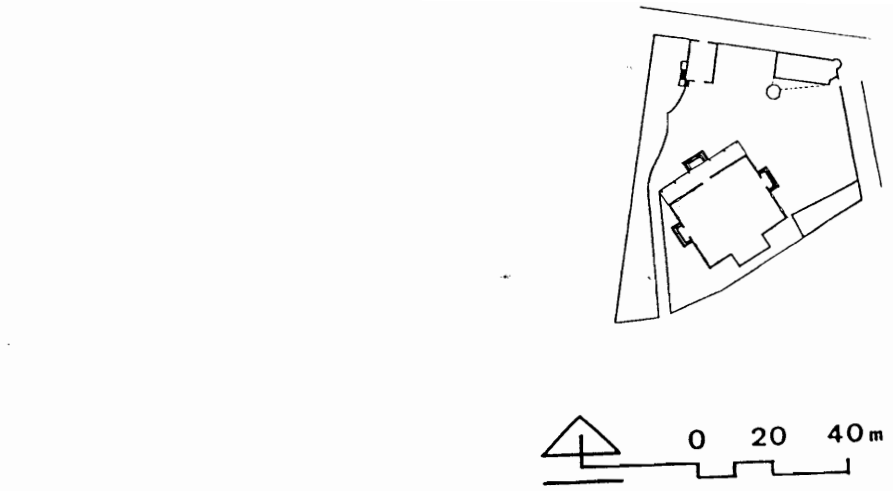


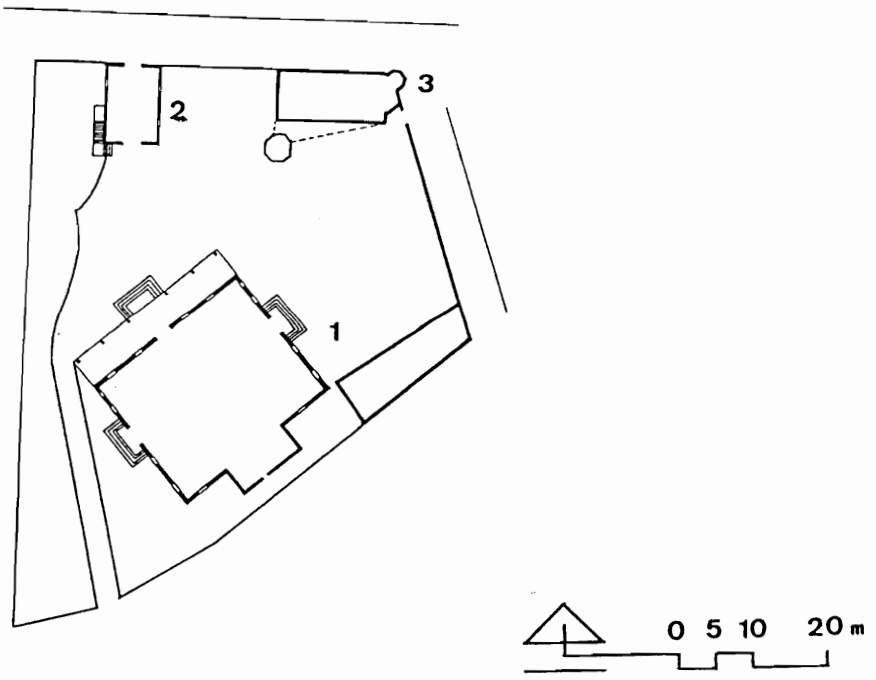
Plan 4-17: Sultan Ahmet külliye, Istanbul; 1. mosque, 2. medrese, 3. türbe, 4. arasta, 5. imaret, 6. darüşşifa (after Crane, 1991)





Plan 4-18: Koca Sinan külliye, Istanbul; 1. mosque, 2. medrese, 3. türbe, 4. sebil





Plan 4-19: Hekimoğlu Ali Paşa külliye, Istanbul; 1. mosque, 2. library over the main entrance, 3. sebil

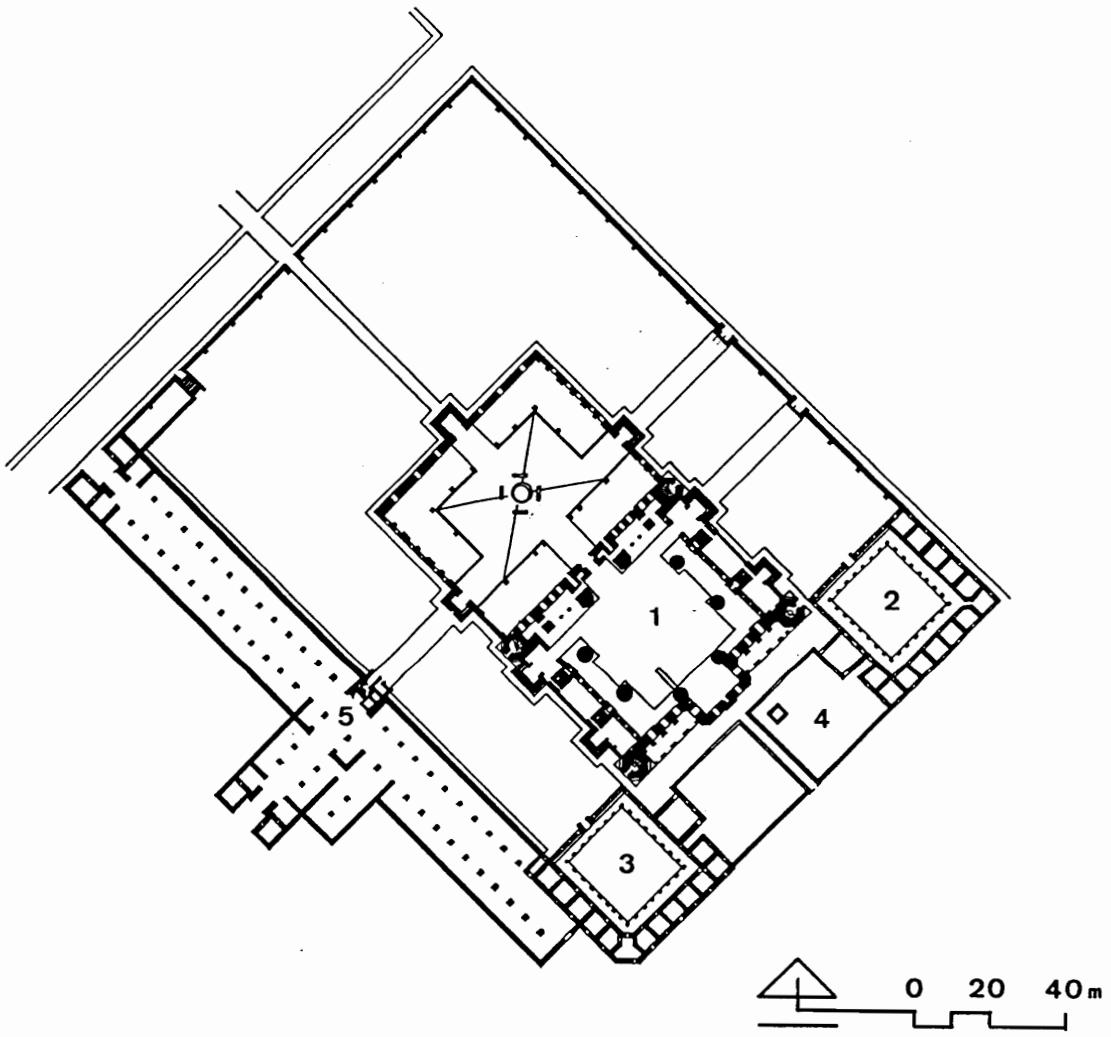
surroundings, the flow of movement from the public road to the central space and again to the public road makes the külliye part of the urban fabric.[1]

In the case of the small isolated külliyes, the physical isolation is translated to an actual isolation because of the fact that usually these külliyes have only one gate. When one enters a külliye of this kind, one is isolated from the public road since the külliye acts spatially as a dead-end unit in the overall road system. Koca Sinan (1593), Koprülü Mehmet (1660), Kara Mustafa Paşa (1690), Amcazade (1702), and Beşir Aga (1745), all in Istanbul, are examples of small külliyes which are completely isolated from their surroundings (plans 4-18, 23, 24, 25, 26). These külliyes were usually part of a larger cluster of külliyes and acted as one element of a larger system of support for a certain section of the city. Their direct connection to the outside was not very critical, for in most cases these külliyes consisted of a mosque and a medrese or a mektep. Hence, the function of these külliyes was more educational than social; and thus, their isolation from the main stream of public movement was an advantage for the students who were to live in them.

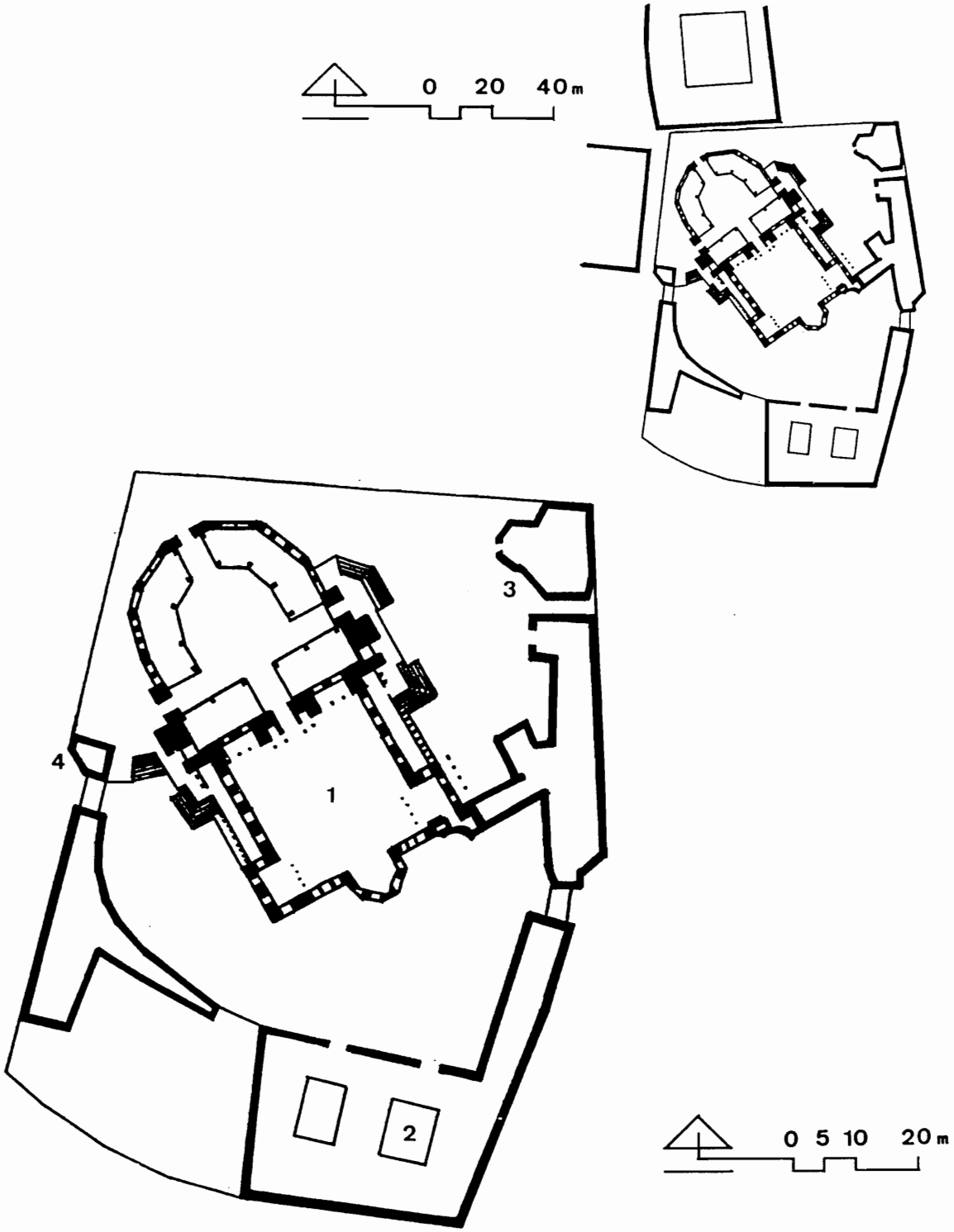
4.4.2. BURSA AND ISTANBUL: TWO CASE STUDIES

The four different categories which present the relationship between the külliye and its surroundings can be seen in all Ottoman cities. However, Bursa and Istanbul present the best two cases to observe the architectural growth of the Ottomans; for both of them were at certain periods of time the capital cities of the Ottomans. Being such, they enjoyed special attention from the sultans in particular and the government as a whole in general; they were the stages for the largest number of pious foundations of all kinds. These foundations, which ranged from a simple sebil to a monumental külliye, portray the development of architectural, as well as urban design concepts, used by the Ottoman

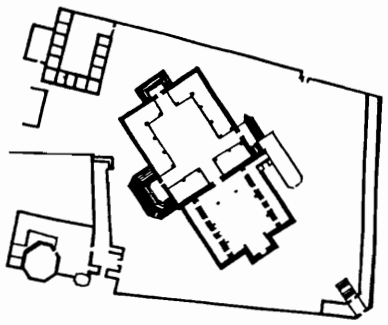
[1] See section 4.4.2.2. (The case of Istanbul) for more about the relationship between the central space and the urban fabric.

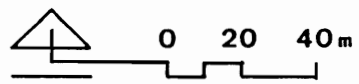


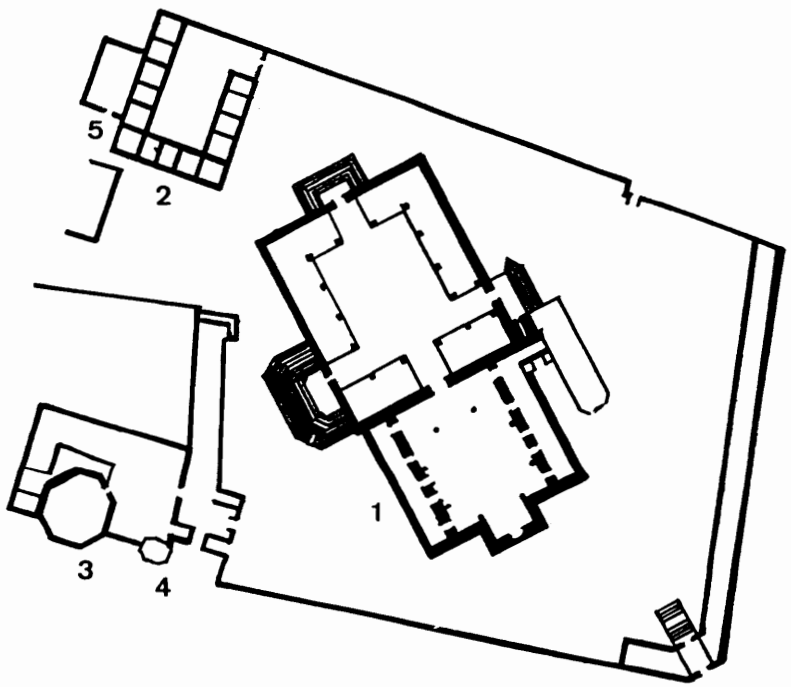
Plan 4-20: The Selimiye külliye, Edirne; 1. mosque, 2. medrese, 3. darül-kurra, 4. cemetry, 5. arasta (after Goodwin, 1971)

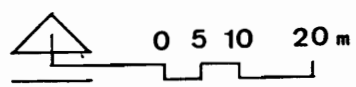


Plan 4-21: Nuruosmaniye külliye, Istanbul; 1. mosque, 2. medrese, 3. library, 4. sebil

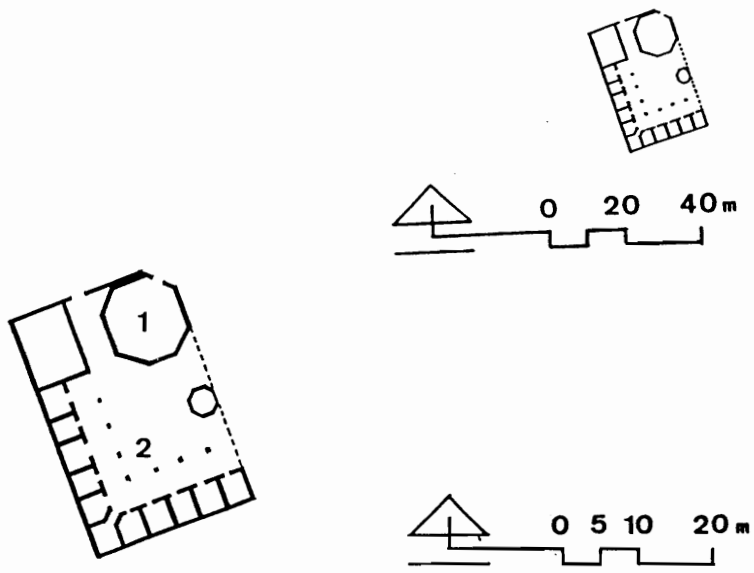




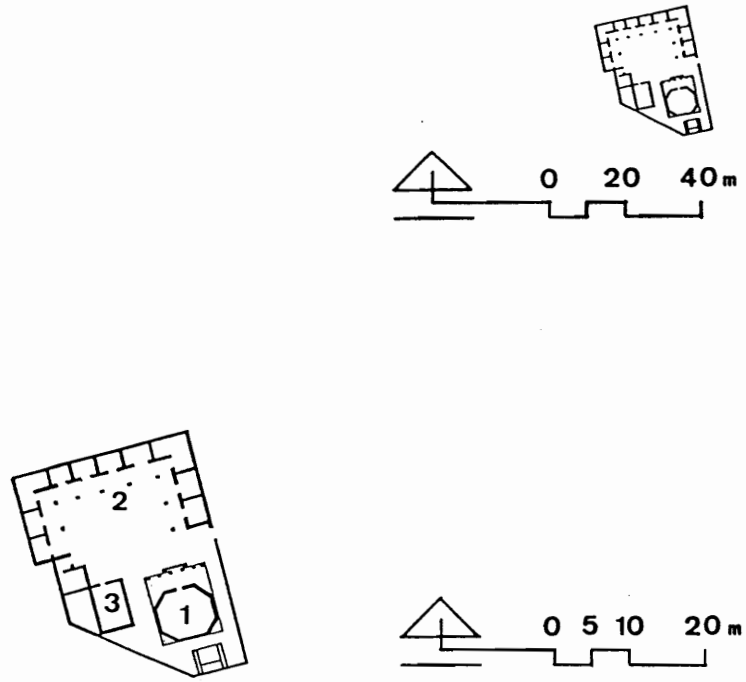




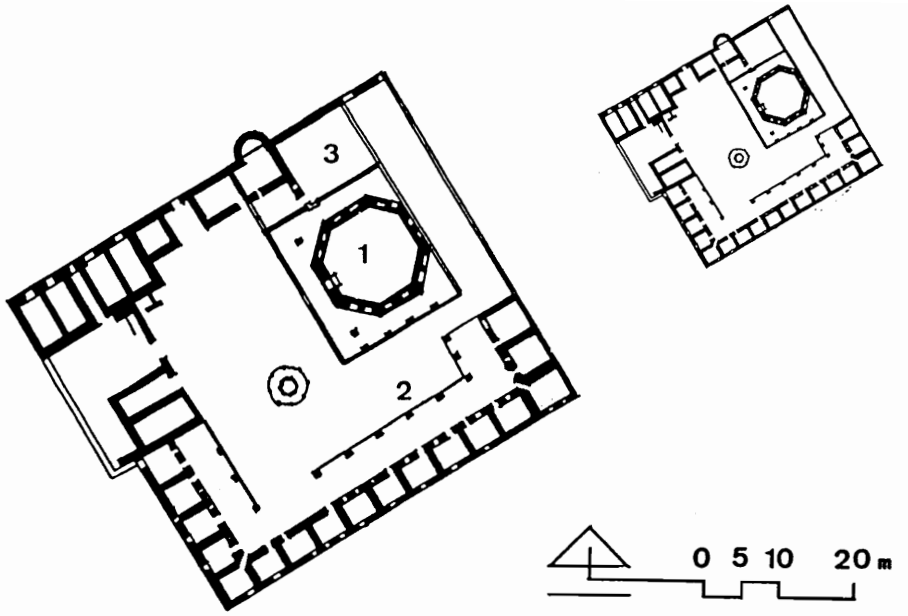
Plan 4-22: Laleli külliye, Istanbul; 1. mosque, 2. imaret, 3. türbe, 4. sebil, 5. latrines



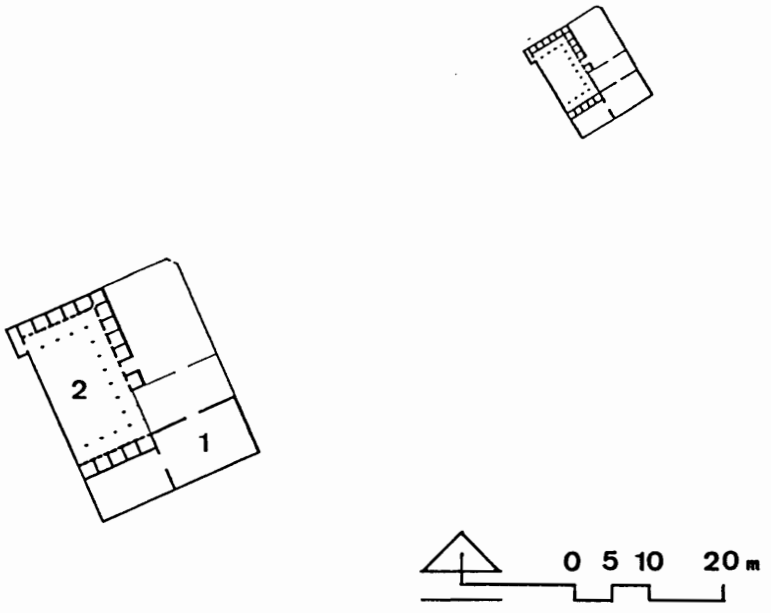
Plan 4-23: Koprülü Mehmet külliye, Istanbul; 1. mosque, 2. medrese



Plan 4-24: Kara Mustafa Paşa külliye, Istanbul; 1. mosque, 2. medrese, 3. mekteb, 4. türbe



Plan 4-25: Amcazade Huseyin Paşa külliye, Istanbul; 1. mosque, 2. medrese, 3. türbe (after Sumner-Boyd and Freely, 1972)



Plan 4-26: Başir Aga center, Istanbul; 1. mosque, 2. medrese

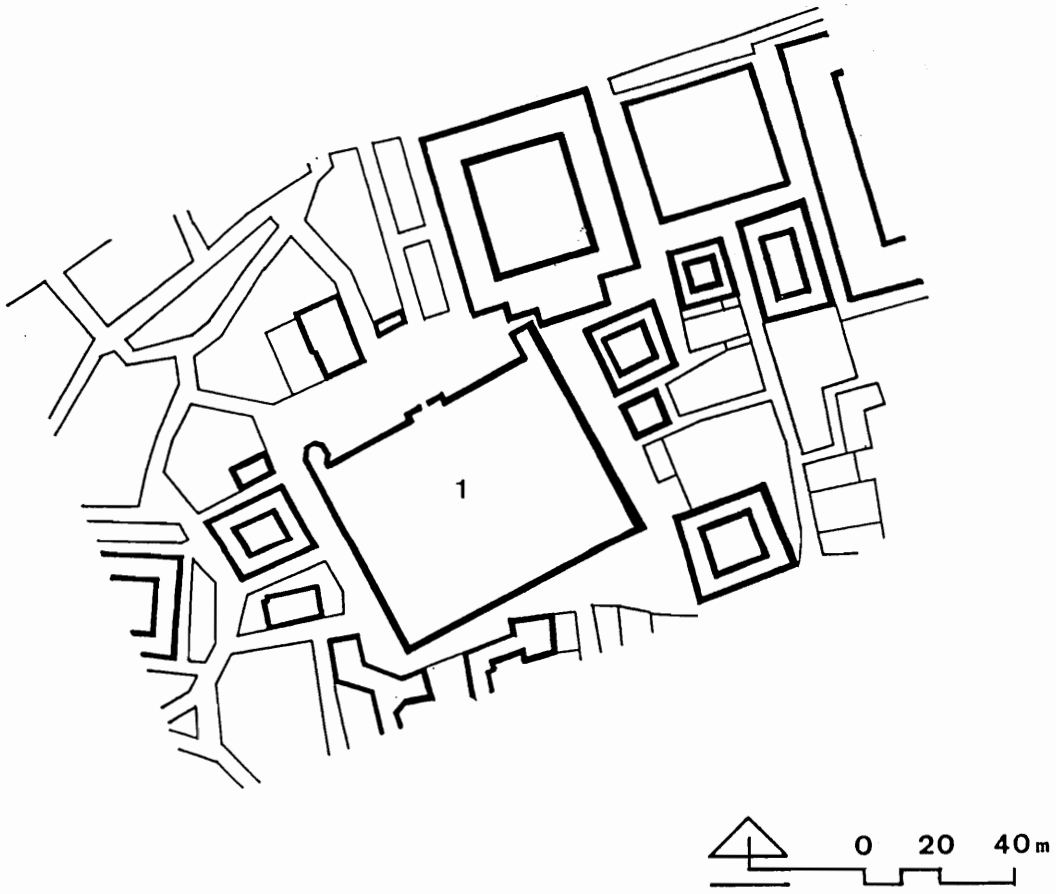
architect. Bursa can be considered as the model for the earlier periods of Ottoman architecture, while Istanbul acts as the epitome of that architecture at its best.

4.4.2.1. THE CASE OF BURSA

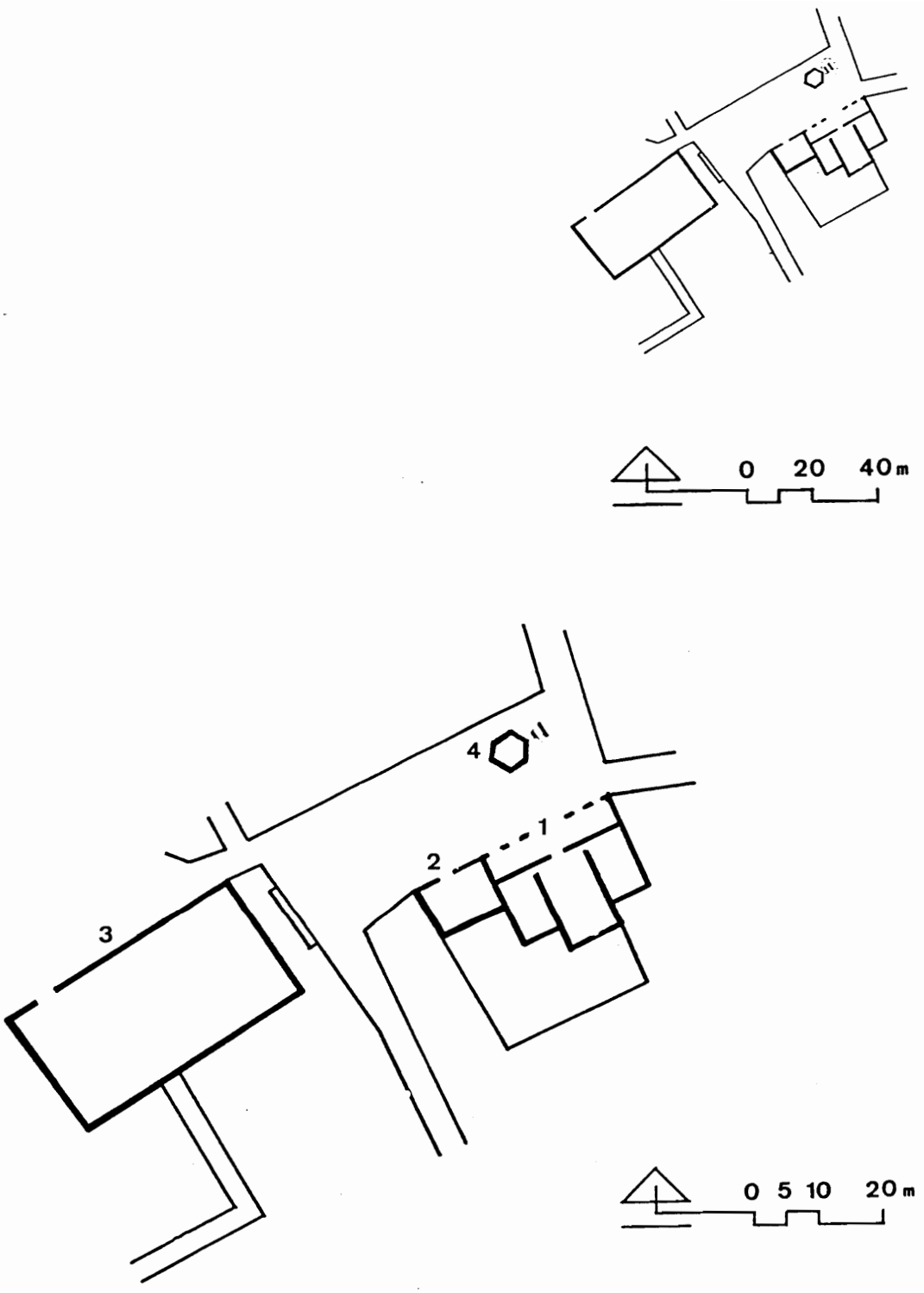
Developments in Bursa, whether külliyes or centers, can be categorized as meshed with or separated, but not isolated from their surroundings. It is Yildirim Beyazit külliye (1390) which was the most isolated by its wall; however, this wall was to disappear once the residential growth surrounded the külliye (plan 4-15). Murad I külliye (1391) had the mosque surrounded by the other facilities, nevertheless, public roads and the urban fabric were very much a part of the overall composition of the külliye (plan 4-12). Similarly, Ulu Cami (1399) shows a strong interaction with its surrounding commercial area. Doors of the mosque lead directly to the public roads which relate the mosque with the hans and market area (plan 4-27). Timurtaş külliye (around 1400) had its facilities facing the main road; in fact the mosque's minaret is located on the public road (plan 4-28). Although the mosque and the imaret share a back space, they still are more outward oriented since their entrances open to the road, while the back space with its location fails to act as a buffer between the facilities and the public area.

The idea of having a back space, however, became more apparent in the design of külliyes. Yeşil külliye (1420) shows a separate space surrounding each of the three main facilities: the mosque, the medrese, and the türbe (plan 4-4). The overall plan of the külliye prepared by Gabriel shows these spaces; however, it cannot be known whether the walls which designate the spaces are original or correspond to older walls.[1] It is to be noted, however, that because of the slope at the northern side of the mosque and medrese, it seems possible to assume that access to the medrese from the mosque was originally through the southern street, as is the case now. The layout of the medrese, which allows the darshane to face the Qibla, is the reason behind having the entrance of the medrese

[1] Gabriel, Une Capital Turque, Brousse, p. 80.



Plan 4-27: Ulu Cami and its surroundings, Bursa; 1. Ulu Cami (after Gabriel, 1958)



Plan 4-28: Timurtaş külliye, Bursa; 1. mosque, 2. imaret, 3. hamam, 4. minaret (after Gabriel, 1958)

from the north and not directly from the southern road. Later medreses show no attachment to the idea of having the darshane facing the Qibla, a development which allowed the mosque-medrese composition to exist.[1]

Later külliyes present a similar kind of relationship with their surroundings. Murad II was the last great külliye to be built in Bursa; it is the most developed geometrically, also (plan 4-5). The mosque and medrese are aligned and the space between them is not a loose space between two buildings anymore; it is a well proportionate space, almost equal to the mosque or medrese in shape and area. In Murad II, the mosque and medrese still are accessible through the public road, and so are the hamam and imaret. The türbes, however, are located in an enclosed space behind the mosque and medrese. Isolating the türbes is logical since a direct public access to them is not critical; on the other hand, all other facilities are readily accessible. Conceptually, Omur Bey center (1454) is similar to Murad II; the türbe is isolated behind the mosque while the hamam is located away from the mosque and opens directly to the public road. The plan provided by Gabriel shows two entrances to the space of the mosque; both are located in such a way that they allow direct access from the two streets passing south of the mosque (plan 1-2). Enclosing the mosque with a space as early as 1454 seems to be inconsistent with the concurrent layout of külliyes. The two roads south of the mosque are aligned; and thus, allow the assumption that they were the same road at the time of construction. The location of the şadirvan concurs with such an assumption; with one road passing to the north of the mosque, the şadirvan would have been located across the street from the mosque as was the case in Murad II and Timurtaş. If this argument is true, then the Omur Bey center can be seen as having a direct relationship with the public road, as was the case with all previous külliyes.

For the Hamza Bey center (1450's), on the other hand, it is more difficult to see such a direct relationship with the public road (plan 4-29). The location of Hamza Bey türbe

[1] See section 5.3.3. (Külliye with a shared space for the mosque and medrese).

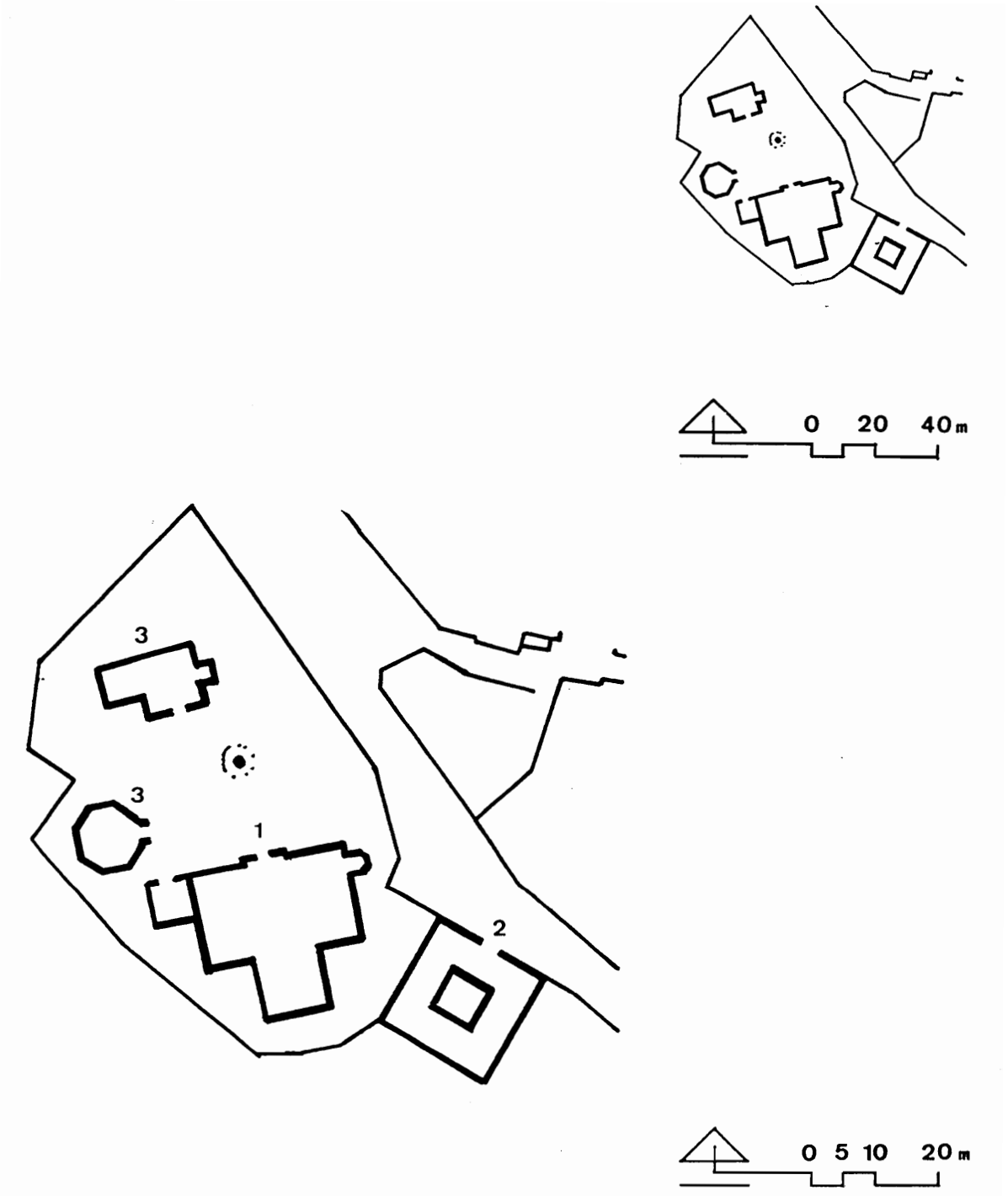
dismisses the possibility of having a road parallel to the northern side of the mosque. The fact that Hamza Bey was built during the same period as Omur Bey discredits the assumption that the latter had one street passing north of its mosque. Thus, accepting the fact that Omur Bey had its mosque surrounded by a space in the same way Hamza Bey did, they both present a new trend which opens the way to the partly and fully isolated külliyes. The timing of these two külliyes seems to be convincing for such a change since the Fatih külliye in Istanbul was built less than twenty years later and presents the classical case of a partly isolated külliye.

4.4.2.2. THE CASE OF ISTANBUL

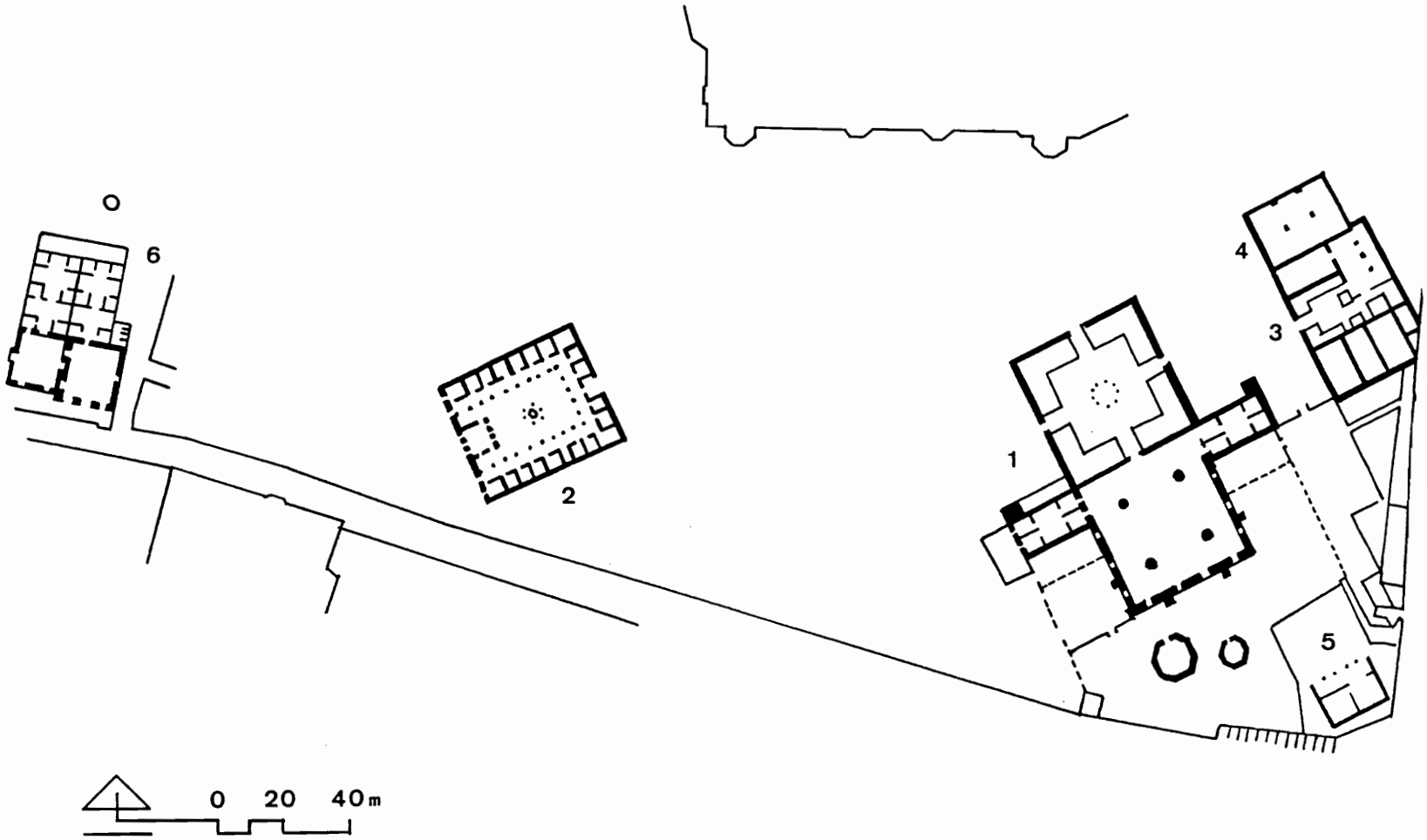
Istanbul housed examples of the four kinds of külliyes; however, it shows a strong trend towards more isolated ones. Beyazit külliye (1506) is the best, and perhaps the only, example of a külliye meshed with its surroundings (plan 4-30). The mosque, as well as the two medreses, have direct access to the street system. The türbe, however, is surrounded by a space which is enclosed by a wall; an arrangement which resembles that used in Bursa.

There are some külliyes which can be seen as separated but not isolated, such as the Süleymaniye and Atik Valide. Süleymaniye (1557) has all its facilities gathered in one particular area; while these facilities are not meshed with the urban fabric, they are not surrounded by any kind of enclosing device (plan 4-13). Access to any facility is direct from the semi-public road which runs through the külliye connecting all its structures. It is considered here semi-public only because it serves the külliye's facilities, and not because it allows limited access to the külliye. In fact, the road which forms a U-shape inside the külliye is in reality a set of extensions for the different roads which lead to the külliye from all sides.

Atik Valide in Üsküdar is another case where the facilities of the külliye are grouped together while the street system runs in between them (plan 4-31). All facilities are



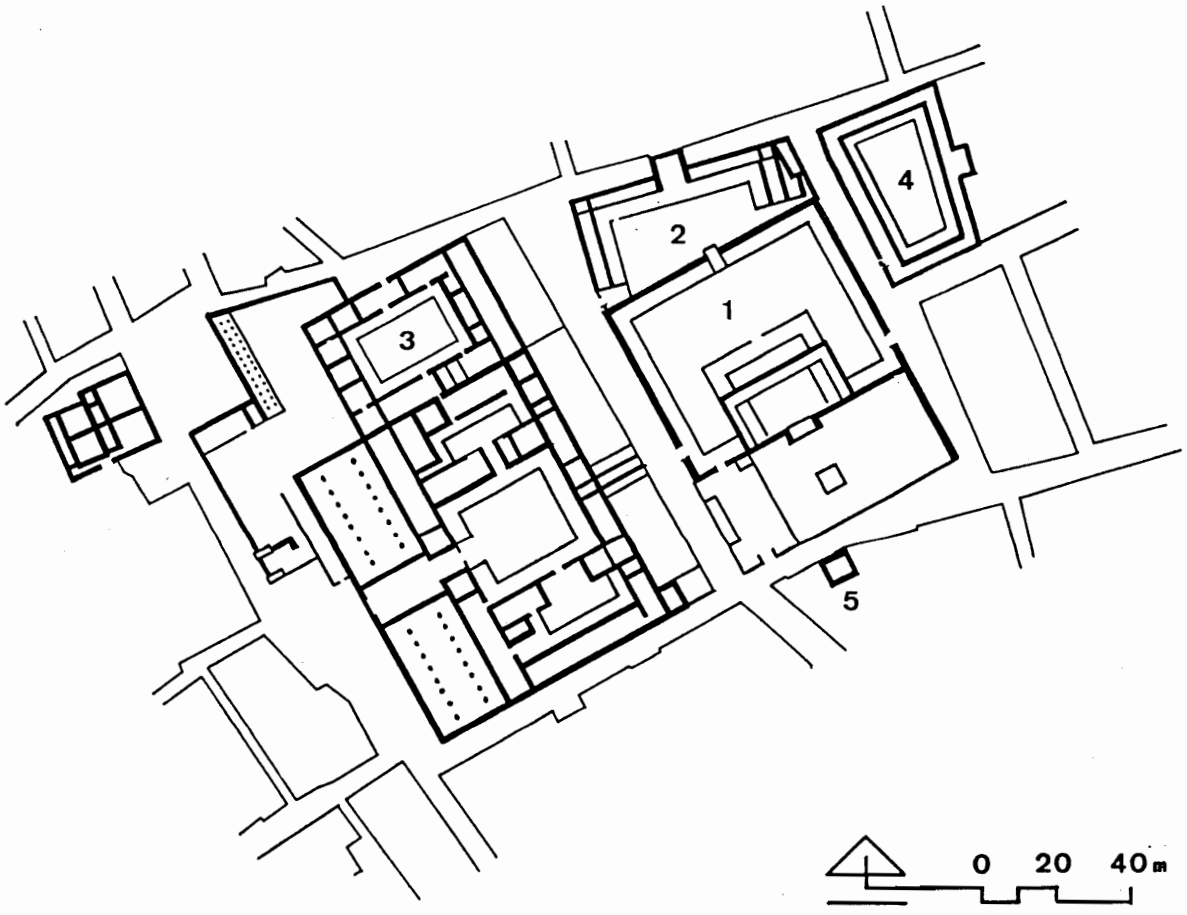
Plan 4-29: Hamza Bey center, Bursa; 1. mosque, 2. medrese, 3. türbe (after Gabriel, 1958)



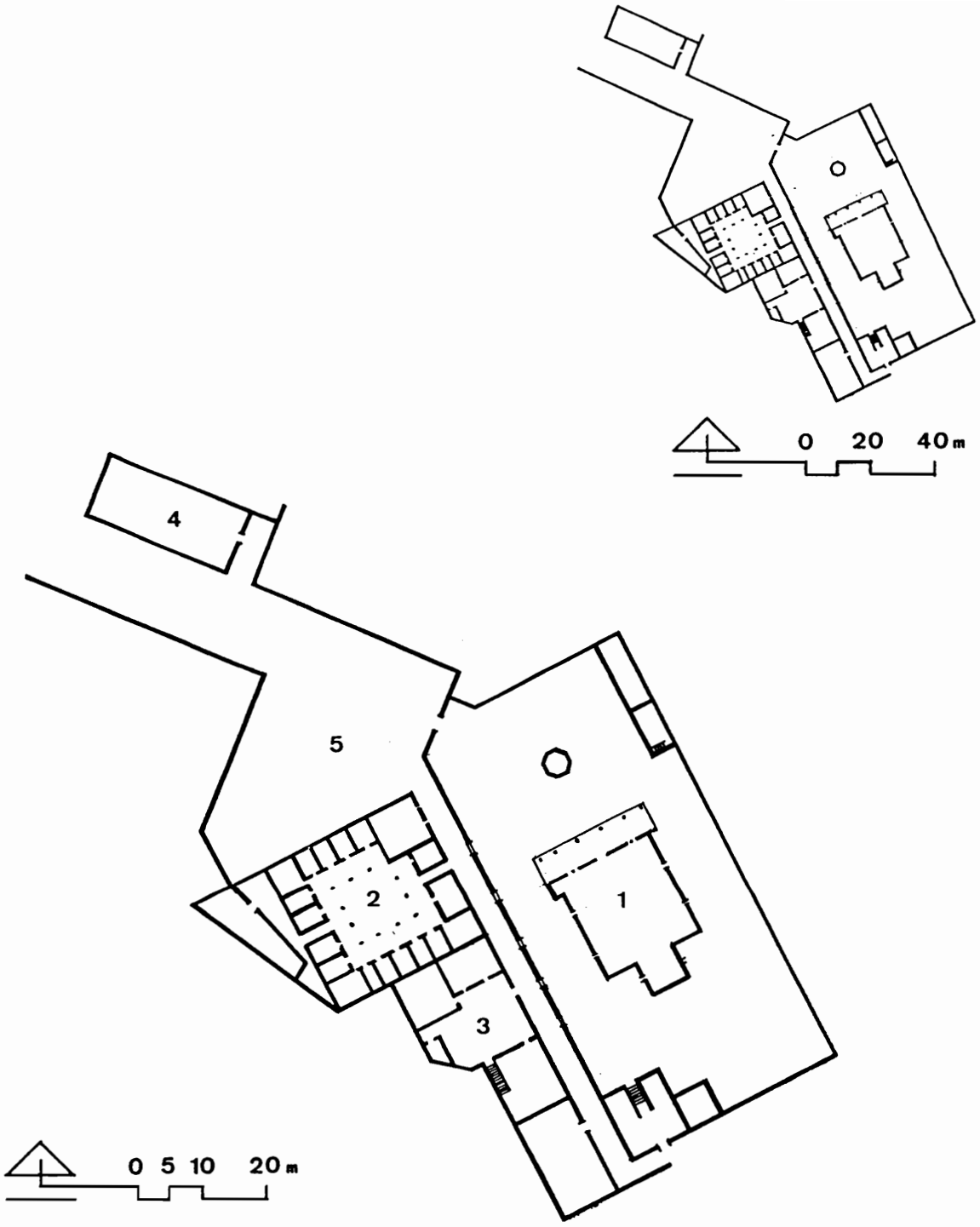
Plan 4-30: Beyazit külliye, Istanbul; 1. mosque, 2. medrese, 3. imaret, 4. caravanserai, 5. mekteb, 6. hamam (after Crane, 1991)

accessible from the street although the medrese can be reached through the mosque also. Sokollu Mehmet Paşa (1569) in Lüleburgaz and Ibrahim Paşa (1726) in Nevşehir are two examples of separated but not isolated külliyes outside Istanbul (plans 4-14, 4-32). Having the külliye separated from the surrounding fabric gives more control and freedom to the designer; and thus, permits him to develop a more comprehensive plan for the külliye. Such planning is clearly illustrated in the design of the Süleymaniye, which shows a high level of order. Comprehensive planning can be observed in all categories of külliyes but the first one: meshed with surroundings. Having to work with scattered lots and all the problems related to their locations, sizes, and orientations, the designer was unable to produce a comprehensive plan in the meshed külliyes. In the other three categories, the designer had either a larger site which he was able to manipulate freely or a smaller site in which he had to accommodate a simpler and smaller program.

In the partly isolated külliyes, some of the facilities would be gathered around one space and could not be reached but through it, while other facilities opened directly to the public road. This category is somewhat between the separated and isolated külliyes. Examples include Fatih; Mihrimah Sultan, Üsküdar; Şehzade; Sokollu Mehmet, Kadirgi; and, Mihrimah Sultan, Edirnekapi. Fatih külliye (1470) can be considered as the prototype of this category with its enclosed area which includes the mosque and medreses, while other facilities have direct relation with the public street system (plan 4-16). Access to the mosque, as well as to the medreses, is possible only through the enclosed space, while the hospital and tabhane and the outer medreses can be reached directly from the street. Şehzade külliye (1548) has a similar space from which the mosque, the türbe, the medrese, and the tabhane can be reached, while the imaret is reached from the public road (plan 4-33). Mihrimah Sultan in Üsküdar has the mektep outside the enclosed area which houses the mosque and medrese (plan 4-34). Mihrimah Sultan in Edirnekapi (1560's) has the mosque and medrese forming one unit which can be reached through different entrances from the roads, while the hamam is completely separate and can be reached directly from the road (plan 4-35). Sokollu Mehmet in Kadirgi and Beyram Paşa have respectively the tekke and the medrese accessible from the street (plans 4-36, 37).



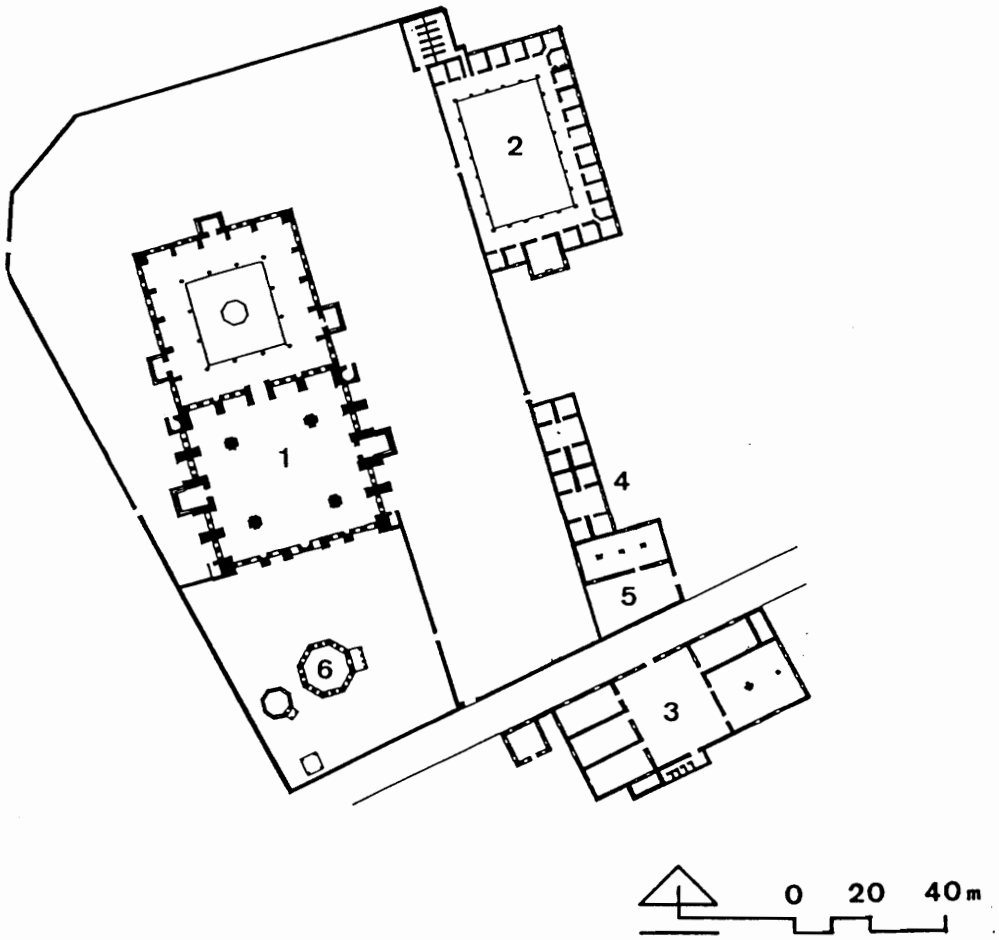
Plan 4-31: Atik Valide külliye, Istanbul; 1. mosque, 2. medrese, 3. imaret, 4. darüşşifa, 5. mekteb (after Sumner-Boyd and Freely, 1972)



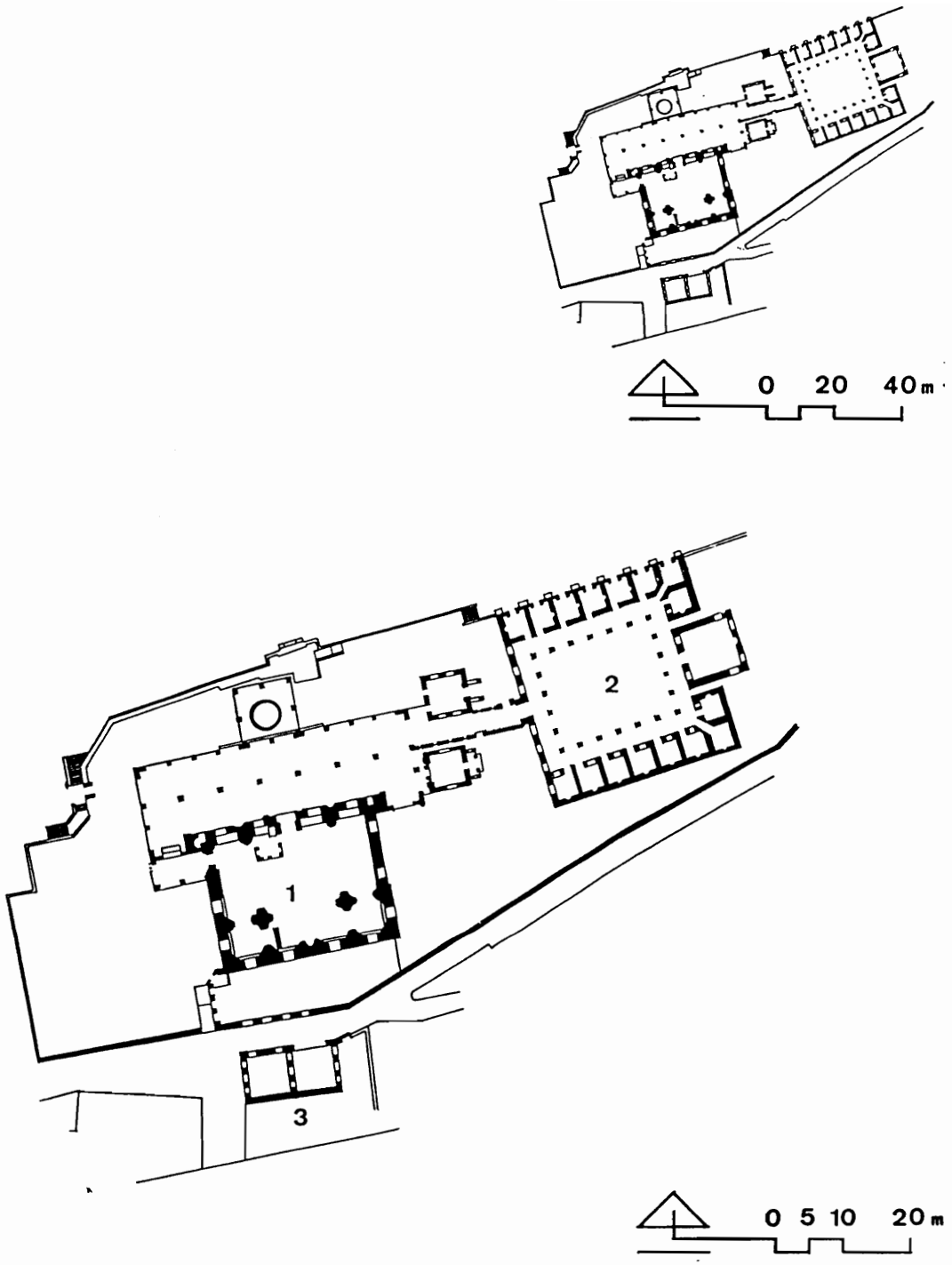
Plan 4-32: Ibrahim Paşa külliye, Nevşehir; 1. mosque, 2. medrese, 3. imaret, 4. hamam, 5. open area

A large number of the isolated külliye category can be seen in Istanbul. Examples include: Şemsi Paşa, Zal Mahmut, Koca Sinan, Koprülü Mehmet, Amcazade, Ali Paşa Çorlulu, Ahmadiye, Hekimoğlu Ali, Başir Aga, Nuruosmaniye, and Laleli. Outside Istanbul, the Selimiye is the best example of an isolated külliye where all facilities are reached through its private space. Nuruosmaniye (1755) and Laleli (1763) in Istanbul are examples of large külliyes which are completely isolated from the surroundings (plans 4-21, 4-22). These külliyes have a wall encompassing them; the wall can be entered through gates which can be closed during the night for safety. The smaller külliyes appear to be more like private homes than public places; they usually have only one gate from which one enters the main space that leads to the different facilities. Koprülü Mehmet (1660), Amcazade (1702), and Başir Aga are good examples of this small kind (plans 4-23, 25, 26). A second kind includes külliyes which have more than one entrance; this kind has a better relationship with the surroundings since passing-through movement is possible. Examples of these külliyes include Şemsi Paşa (1581), Ali Paşa Çorlulu (1708), Zal Mahmut (1581), Ahmadiye (1722), Koca Sinan (1593), and Hekimoğlu Ali (1734) (plans 4-38, 39, 40, 41, 18, 19 respectively).

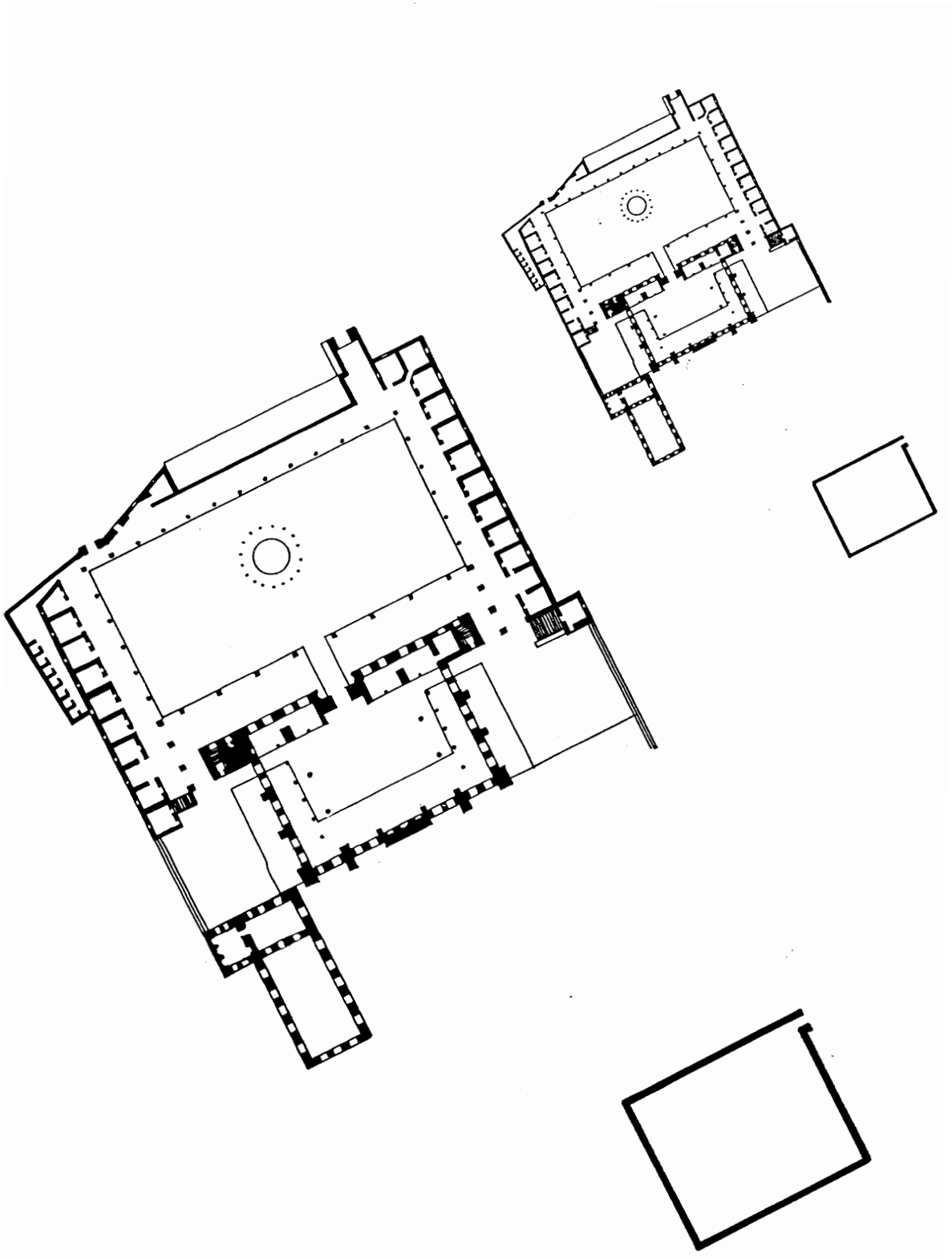
The development of a space around the mosque was a major reason behind the isolation of the külliye, since by introducing an enclosed space no direct movement to any facility was possible anymore. A visitor to a facility in such a külliye can reach his or her destination only through well-defined routes. An advantage of the isolation was the achievement of a sense of place in the külliye; however, this sense of place did not mean a sense of isolation. In other words, although the külliye had its own space independent from the public road system, it did not functionally isolate itself from the public environment. The best way to illustrate this point is by observing the main open spaces in the sultans' külliyes. Fatih külliye has a huge rectangular space in the center of which the mosque is located. Similarly, Süleymaniye, Şehzade, Nuruosmaniye, Laleli, Yeni Valide in Üsküdar, as well as Beyazit II and Selimiye in Edirne, had such spaces which acted as central points for these külliyes. The reason these spaces are considered central is related to the fact that they were usually located in the physical center of the külliye allowing the



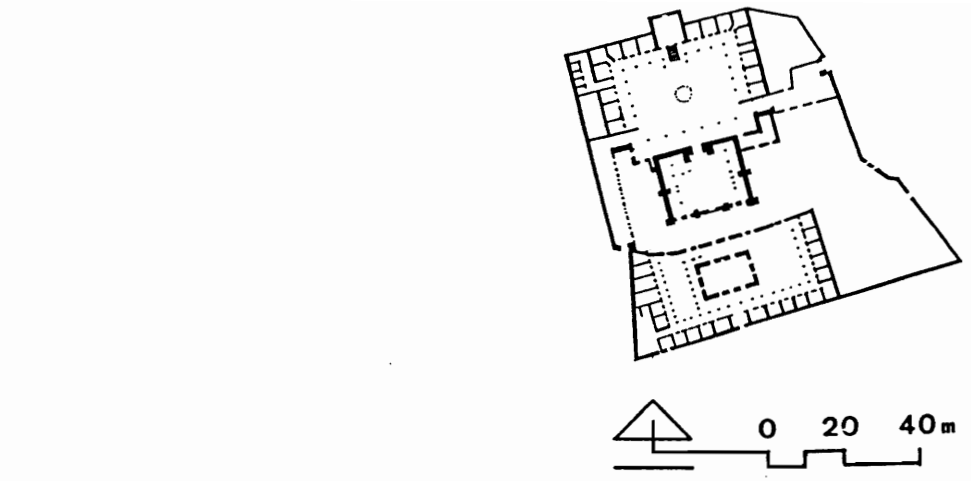
Plan 4-33: Şehzade külliye, Istanbul; 1. mosque, 2. medrese, 3. imaret, 4. tabhane, 5. stables, 6. türbe (after Kuran, 1987)

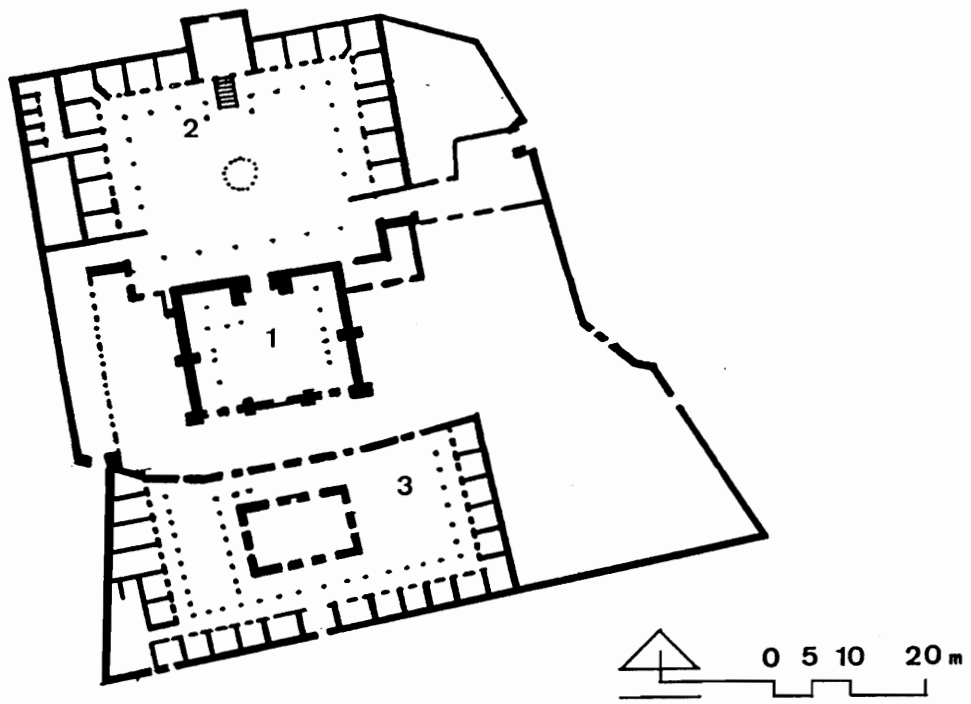


Plan 4-34: Mihrimah Sultan, Üsküdar, Istanbul; 1. mosque, 2. medrese, 3. mekteb (after Kuran, 1987)

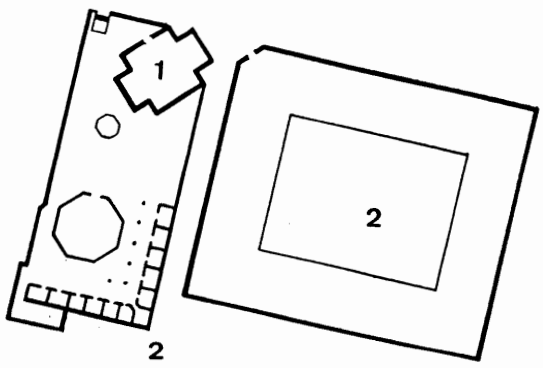


Plan 4-35: Mihrimah Sultan, Edirnekapi, Istanbul; 1. mosque, 2. medrese, 3. mektep, 4. türbe, 5. hamam

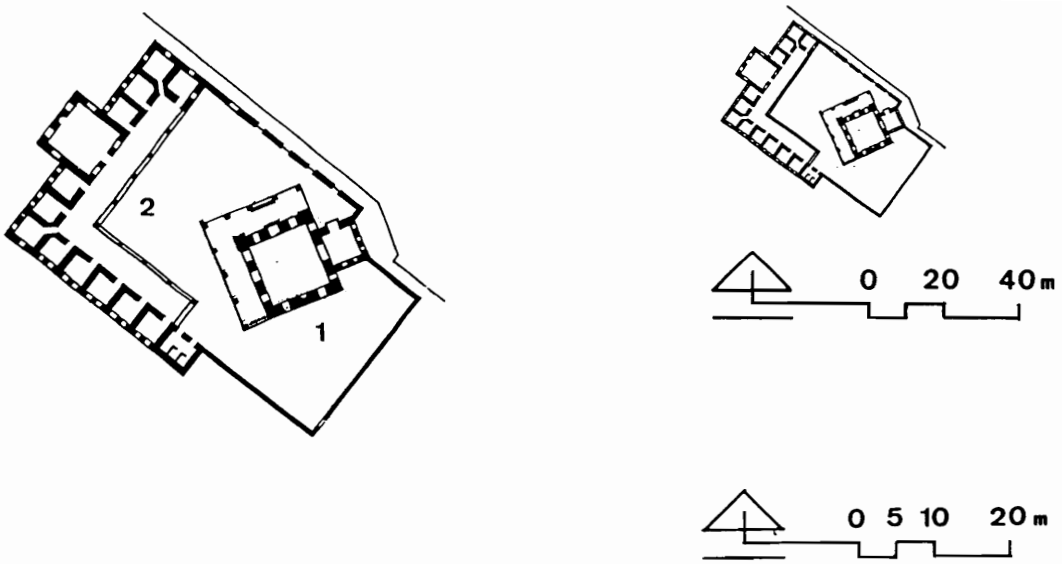




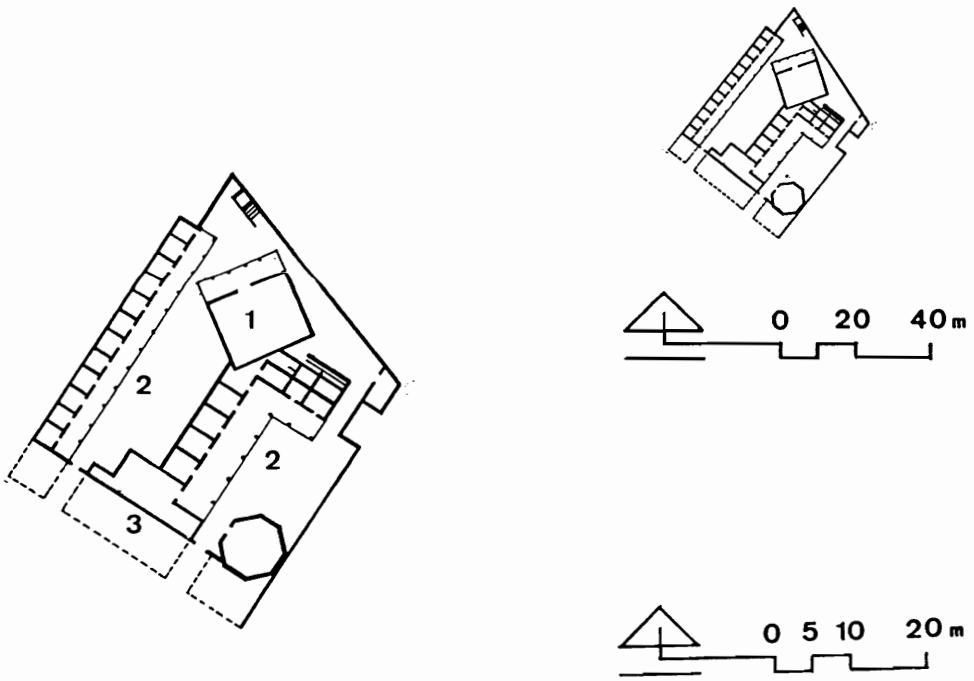
Plan 4-36: Sokollu Mehmet külliye, Kadirgi, Istanbul; 1. mosque, 2. medrese, 3. tekke (after Kuban, 1968)



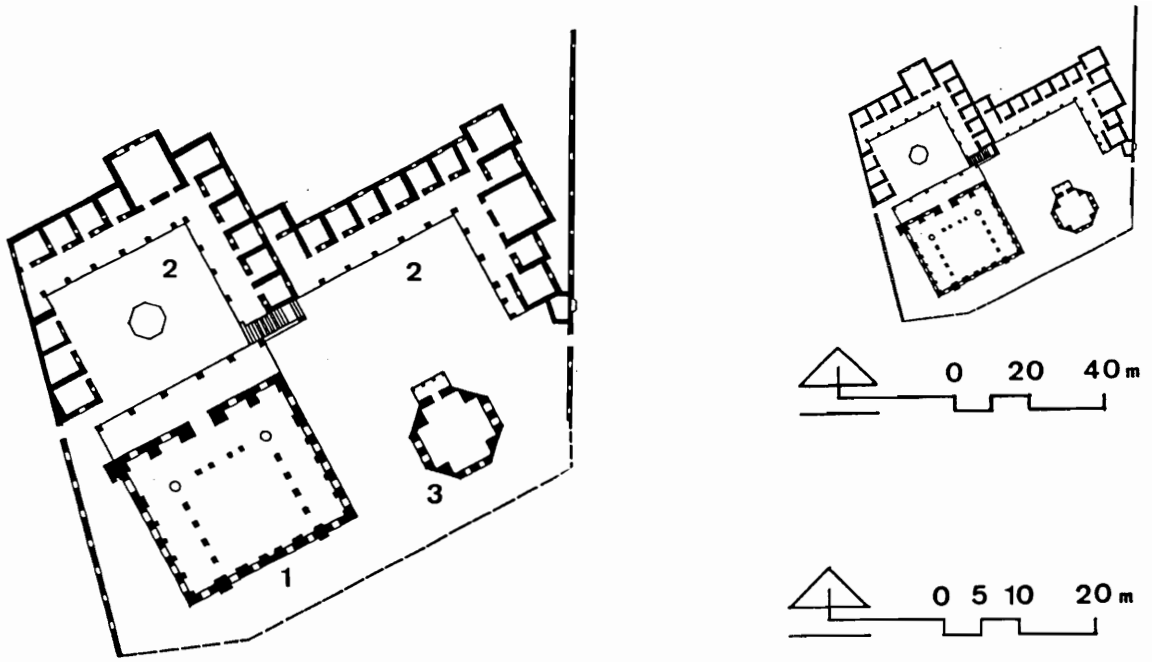
Plan 4-37: Beyram Paşa külliye, Istanbul; 1. mosque, 2. medrese



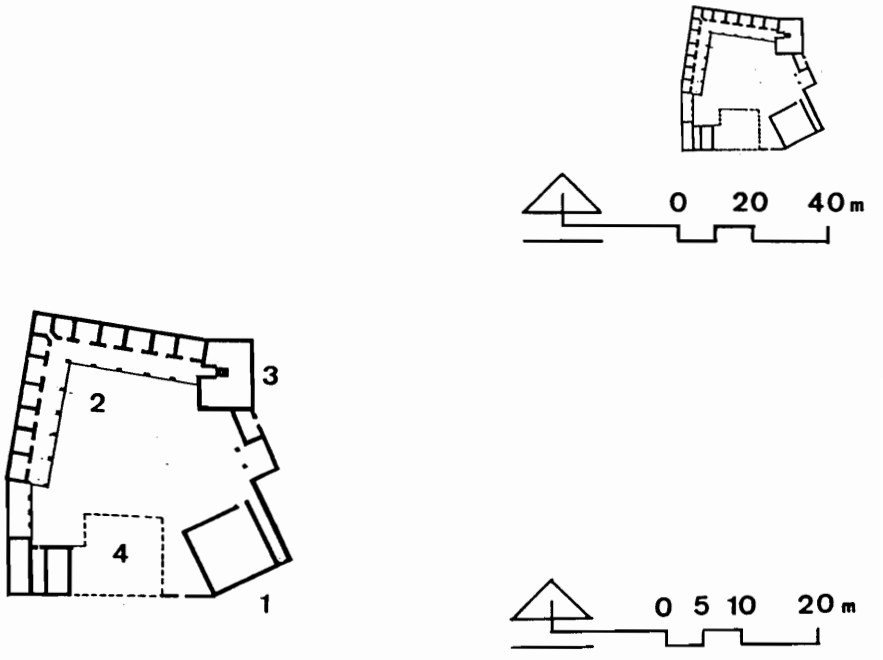
Plan 4-38: Şemsi Ahmed Paşa, Üsküdar, Istanbul; 1. mosque, 2. medrese (after Kuran, 1987)



Plan 4-39: Ali Paşa Çorlulu külliye, Istanbul; 1. mosque, 2. medrese, 3. türbe



Plan 4-40: Zal Mahmut Paşa külliye, Eyüp, Istanbul; 1. mosque, 2. medrese, 3. türbe (after Kuran, 1987)



Plan 4-41: Ahmadiye külliye, Istanbul; 1. mosque, 2. medrese, 3. library, 4. türbe

facilities to be arranged around them. Moreover, facilities in any külliye opened directly to the space and not to the public street; hence, the space had a vital role in the question of accessibility. The space, then, acted as the connection between the külliye's facilities and the urban fabric.

In order to make the space more effective in its role as a connector, the designer made this space an extension of the urban fabric. A gate was introduced to the space at every point a road came in contact with it. Hence, a passerby would continue his typical journey through the space itself to another street which interfaces with the space at another gate. The space, in any of the previously mentioned külliyes, had all streets of the neighborhood coming to it; and thus the space became the core or the central point of the neighborhood. Although it had gates which can be locked at night, in reality it connected the different sides of the neighborhood together. It is for this reason that this space is called in this study the central space of the külliye; it is not just the center of the külliye but the center of the whole urban area around it. This central space was, and still is, accessible by all pedestrians, it also still acts as a public space as it used to do. The central space in Fatih külliye is used as a weekly market place while central spaces in other külliyes are used as public open spaces.

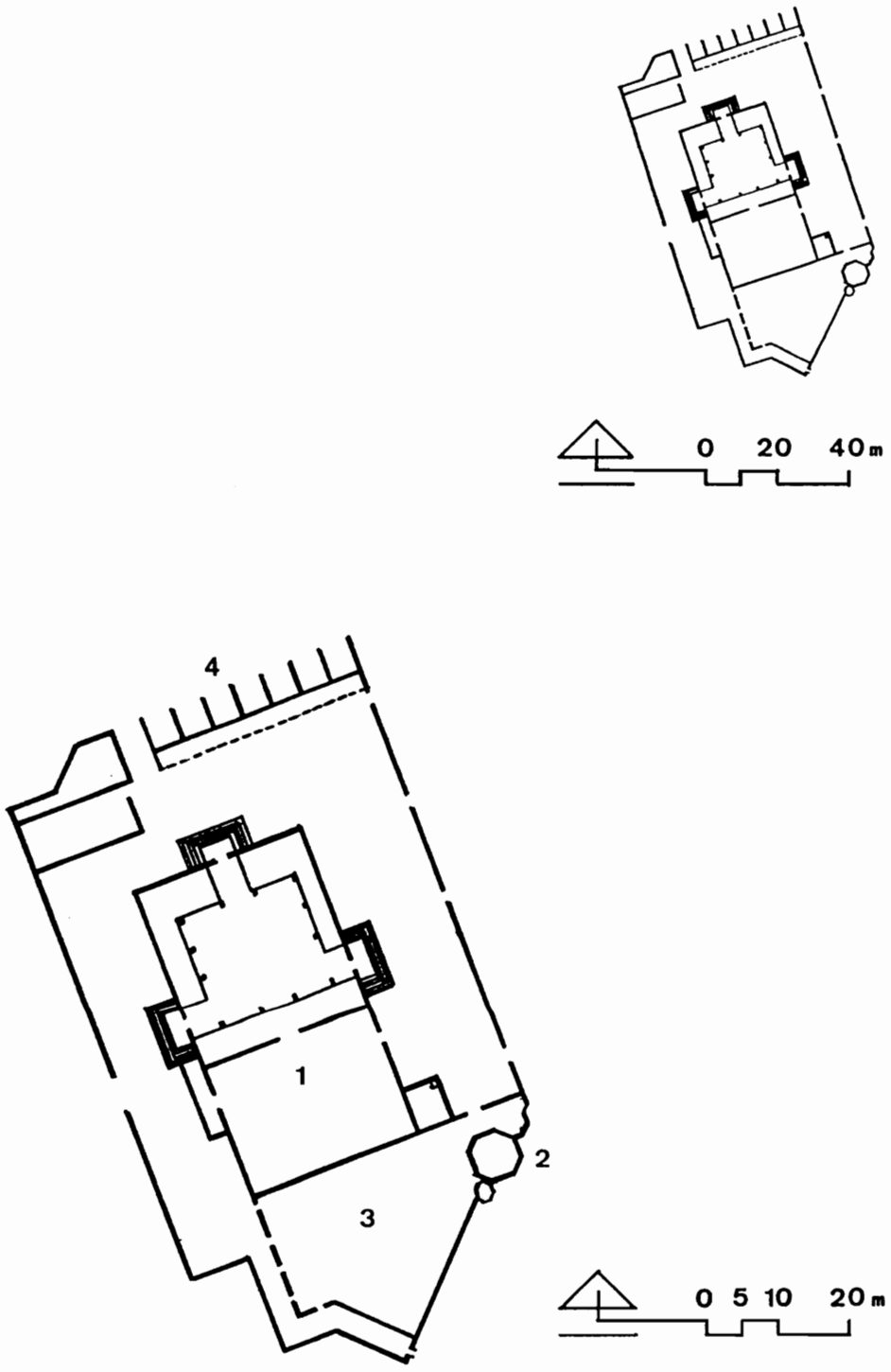
As was mentioned earlier, the location of entrances to these central spaces is such that movement to the central space, and thus to the heart of the külliye, is facilitated and made as direct as possible. The entrances are purposely located on axis with the roads leading to the külliye even if such arrangements would break the axis in the design of the külliye itself.[1] Examples illustrating this point are many; the Süleymaniye has a narrow passageway between the first and second medrese which is on axis with the road leading

[1] It might be difficult to know whether the street came first or the külliye. The Fatih külliye is shown in a 1673 plan with an open space around the whole külliye. However, there is one street shown in the figure provided here (fig 4-11) where the street is on axis with one of the entrances. In all cases, whether the street was first or the entrances, it does not matter since they are in most cases aligned together. Thus, the idea of connection between the urban fabric and the külliye still holds true.

to the külliye and does not share the same axis of the gate to the central space and the mosque (plan 4-13). The alignment with the public road made the connection with the urban fabric much stronger. The passerby would not feel that any kind of change or interruption took place while he or she moved from the public road to the külliye's passageway; both corridors are of the same width and show a continuation in the flow of movement. Another example can be seen in Şehzade where Sinan introduced a gate to the central space between the medrese and the tabhane. Again the gate was located on axis with the road and not with the mosque's entrance (plan 4-33). Yeni Valide in Üsküdar is another obvious case; the northern gate is shifted to the west of its typical location on the axis of the northern entrance of the mosque in order to become aligned with the axis of the street leading to the sea (plan 4-42) (Fig 4-10).

4.5. SUMMARY

This chapter discussed three main points: firstly, the relationship between the growth of the Ottoman state and the building of külliyes; secondly, the location of the külliye in relation to the overall layout of the city; and thirdly, the relationship between the külliye and its immediate surroundings. It was shown that capital cities enjoyed a larger number of külliyes than smaller cities. While a city like Amasya had one major külliye, Bursa had four major ones; Istanbul, which became the capital of the Ottoman state for a much longer period of time, had more than ten major külliyes and over twenty-five medium and small size külliyes. The abundance in number of külliyes in Istanbul did not mean any negligence to the needs of other cities; at the same time külliyes were built in the capital city, külliyes were built outside also. Beyazit II külliye in Edirne (1488), Selim külliye in Karapinar (1530), Sokollu Mehmet külliye in Lüleburgaz (1569), the Muradiye in Manisa (1592), and Ibrahim Paşa külliye in Nevşehir (1726) are a few examples of külliyes which served Ottoman cities while Istanbul was the capital. It is important that a sense of planning was used in the process of locating these külliyes; the size and number of külliyes in a community was a reflection of the needs of that community.



Plan 4-42: Yeni Valide külliye, Üsküdar, Istanbul; 1. mosque, 2. sebil, 3. türbe, 4. shops

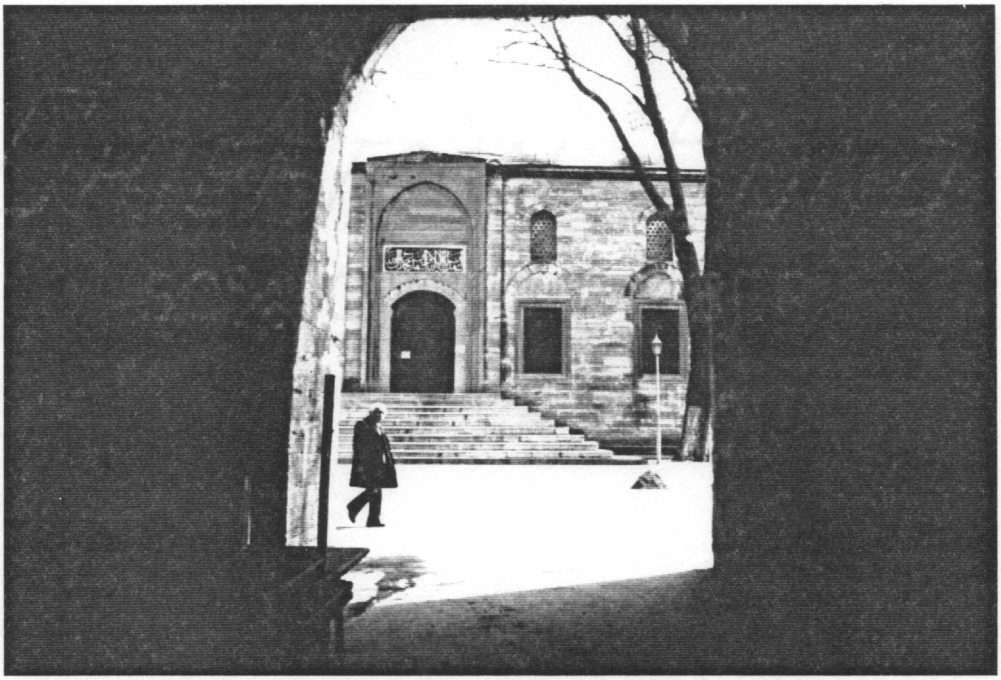


Figure 4-10: Yeni Valide külliye, Üsküdar, Istanbul; a view through the northern gate showing the dis-alignment of this gate with the main entrance to the mosque

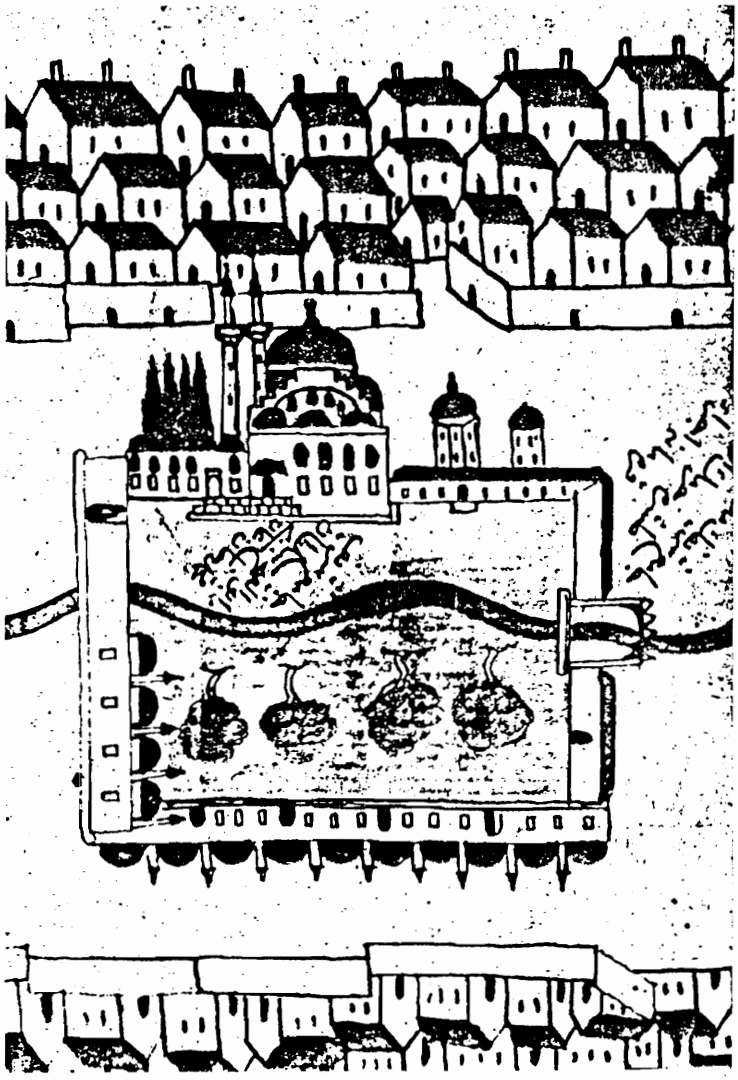


Figure 4-11: Fatih külliye, Istanbul; the külliye and its surroundings, the street at the upper side of the drawing is aligned with one of the side entrances to the külliye (after Aga-Oglu, 1930)

The location of the külliye influenced the kind of facilities it housed; basically a külliye which was located in the city was more educational in character, while a külliye built in the country was more oriented towards serving travellers. In the city itself, külliyes which were built in the central parts of the city were to serve the whole community, and in some cases to serve a large circle; the Fatih and Süleymaniye, for example, were the highest seats of knowledge and education for the whole Ottoman state. On the other hand, külliyes which were built in residential areas were planned to serve a smaller population; hence, the number and sizes of facilities in these külliyes were smaller.

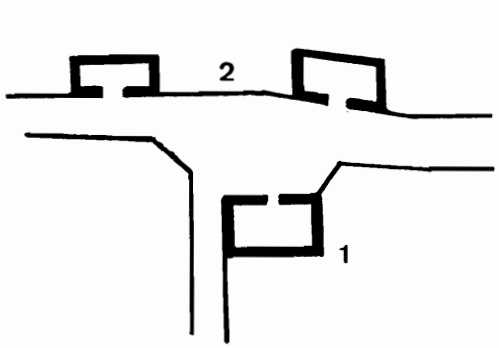
The number of facilities in külliyes differed from one period to another. In general, the largest külliyes were built at the time of conquest since the new Muslim community needed many services which were usually not available. Hence, in Bursa four major külliyes were built by four sultans during a period of only thirty-five years; the other külliyes or centers were much smaller. Istanbul had the majority of its külliyes built during the first hundred and fifty years after the conquest; beyond that time, sultans turned to other cities to build külliyes since by then Istanbul did not need as many or as large külliyes. By the beginning of the seventeenth century, the economic and political power of the Ottomans was in decline; a fact that influenced the architectural growth of the state and brought down the number of pious foundations since then. Another factor which influenced the size of the külliye was the patron; sultans built the largest külliyes, especially during the fifteenth and sixteenth centuries while officials built smaller külliyes. During the seventeenth and eighteenth centuries, however, sultans' külliyes became smaller while government officials maintained the same size for their külliyes.

When locating any külliye, the Ottoman architect was sensitive to several issues among which was the elevation of the site; a higher elevation was preferred for views, image, and isolation. For the same reasons, locations at the shores of water bodies were also favored. Külliyes were built as centers for new communities or neighborhoods; thus, in most cases they were surrounded by residential areas and had social services such as imarets and hamams. Külliyes were also built in the commercial areas of cities. In large cities, such

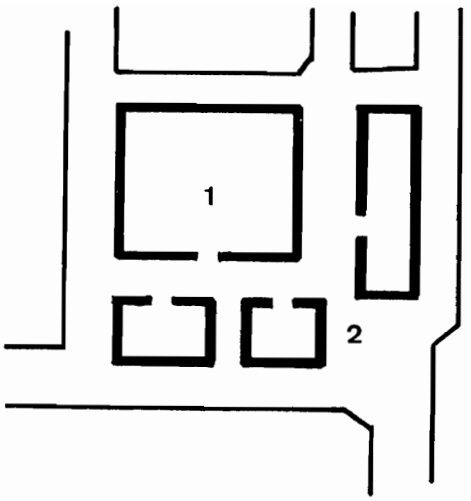
as Bursa or Istanbul, külliyes were located in different sections of the city so that they would serve the whole community and not selected areas. This phenomenon shows that an advanced level of awareness of planning issues was enjoyed by the Ottoman architect.

In terms of the relationship between the külliye and its immediate surroundings, it is possible to distinguish four levels of engagement: the külliye can be meshed with its surroundings, separated but not isolated from the surrounding, partly isolated, or completely isolated from the surroundings. A meshed külliye has its facilities built within the urban fabric in such a way that no separation between the two can be recognized. A separated külliye is one which has all its facilities grouped together in one area; however, these facilities are not isolated from the surroundings by any means of barrier, such as a wall or a fence. A partly isolated külliye has some of its facilities surrounded by a space and enclosed by a wall through which one must pass to reach these facilities; at the same time, this kind of külliye would have some of its facilities open directly to the public road. A completely isolated külliye has all its facilities enclosed inside a wall in such a way that none of the facilities can be reached but through the gates of this wall (plan 4-43).

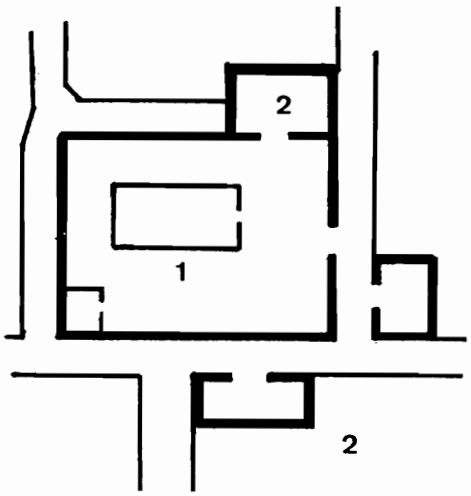
This chapter examined the relationship between the külliye and its environment at the scale of the state, then the city, and finally the immediate surroundings. The examination showed that a sensitivity to the environment was utilized in the process of locating and planning the külliye. The fourth chapter focuses on the design of the külliye itself; it discusses the overall layout of the külliye and introduces a typology for it.



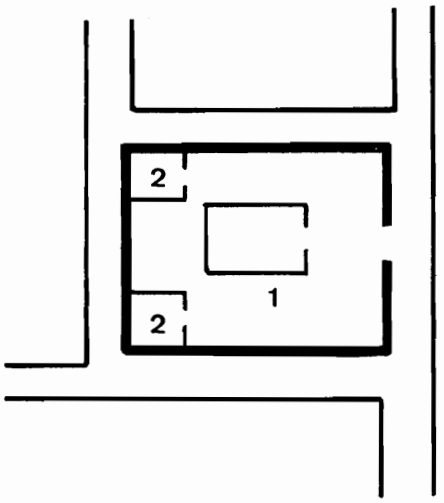
Meshed with its Surroundings



Separated but not Isolated



Partly Isolated



Completely Isolated

Plan 4-43: A diagram showing the relationship between the külliye and its surroundings; 1. mosque, 2. other facilities

V - THE SPATIAL COMPOSITION OF THE KÜLLIYE

This chapter examines the spatial composition of the külliye itself. It starts by differentiating two languages used in the design of the Ottoman külliye, vernacular and classical. General design principles of each language are presented, while the layout of külliyes following each of the two languages is discussed in relation to the arrangement of facilities, access to them, and their size hierarchy. A typology of the Ottoman külliye is developed as a conclusion to this chapter.

5.1. DESIGN LANGUAGE OF THE KÜLLIYE

Two terms are often used to describe the planning of a site or even a city: *arbitrary* and *rational*. *Arbitrary planning* is usually related to the Middle Ages, and, in particular, it is considered to be the most prominent character of Islamic cities. *Arbitrary* means impulsive and subjective; it does not follow a particular set of design principles which can be easily recognized. Although the term *arbitrary* is rarely defined, it is used rather freely by historians. In his discussion about Islamic cities during the Middle Ages, Spiro Kostof explains that because of the lack of municipal organization it was possible for anyone to encroach upon the public domain. Therefore, it is "unlikely that a rational system of public ways could remain inviolate against such odds."[1] In other words, the layout of the

[1] Spiro Kostof, A History of Architecture: Settings and Rituals, Oxford University Press, Oxford, 1985, pp. 370-1.

Islamic city was arbitrary and reflects no order. On the other hand, the European city shows "intentional design;" it is a "work of art... (which) strives for perceivable order."[1] A classical example demonstrating lack of order in the Islamic urban design is Sauvaget's sketch showing the transformation of a Roman avenue in Damascus into an Islamic market street (plan 5-1).[2]

Recent research, however, shows that what was typically considered arbitrary urban fabric is not as such; certain principles of planning and design were found to exist and to be influential in the development of the Islamic urban fabric.[3] Accordingly, a term such as *arbitrary* or *irrational* cannot be used to describe Islamic architecture or urban form anymore. Another term which is used to describe the Islamic urban form is *organic*. This term is a positive one since it pertains to the idea of order, system, and organization. Although this term seems to be attractive, it stretches the image of any urban form beyond its capabilities, for an organic matter has a high level of order besides the fact that it is a living matter.[4] As much as the term *arbitrary* denies the Middle Ages' design from its fine qualities, the term *organic* magnifies these qualities beyond the level of reality. A term

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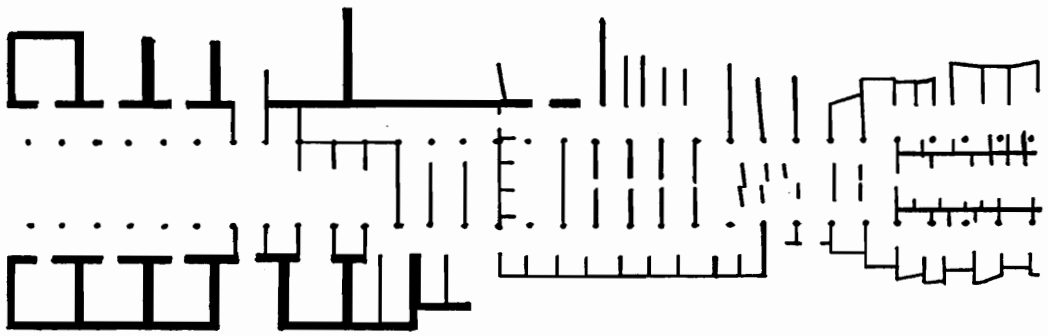
[1] Kostof, p. 371.

[2] Sauvaget, Bulletin d'Etudes Orientales, 1934, p. 104. Nikita Elisséeff in his article "Damas à la Lumière des Théories de Jean Sauvaget," which appeared in The Islamic City (p. 171), as well as Spiro Kostof in his book A History of Architecture (p.286), used this example to portray the issue of change in the Roman urban fabric after the Muslim conquest.

[3] An example of a study showing planning principles is Nelly Hanna's study of the city of Būlāq titled, An Urban History of Būlāq in the Mamluk and Ottoman Periods, Institut Français d'Archéologie Orientale, Cairo, 1983. Two examples of studies presenting urban design principles are: Nizar AlSayyad, Streets of Islamic Cairo, A Configuration of Urban Themes and Patterns, MIT, Cambridge, Mass., 1981; and Besim Selim Hakim, Arabic-Islamic Cities: Building and Planning Principles, KPI, London, 1986.

[4] Aldo Rossi expresses his reservations about the two terms *organic* and *rational*. He thinks that such terms "present a serious obstacle to urban research... (since they) do not help us to clarify concepts or somehow to comprehend urban artifacts." He also does not agree with the term *fabric*. He uses the term *structure*; he speaks of political, religious, economic, and spatial structure. See Aldo Rossi The Architecture of the City, The MIT Press, Cambridge, Mass., 1991, p. 56. The term *structure* is purposely avoided in this study because it gives the impression that every element and detail of the city falls within a specific consciously developed order or system; an impression which is not necessarily true. The term *fabric* is used instead since it is not related to organic matters only; at the same time, it gives the impression of a composition or a pattern.



Plan 5-1: A transformation of a typical classical avenue into a medieval linear bazaar, (cited by different writers but here after Kostof, 1985)

which lies on an objective ground between injustice and exaltation should be chosen to describe such a design. Such a term should be selected so that it can represent the characteristics of the Islamic fabric which are usually informal, functional, and simple. This fabric also shows respect to the locale in terms of topography, use of materials, and sensitivity to culture. In order to encompass all these meanings, the term *vernacular* is suggested in this study; it has the connotation of locality, informality, and familiarity.[1] This term presents one language used in the design of the Ottoman külliye.

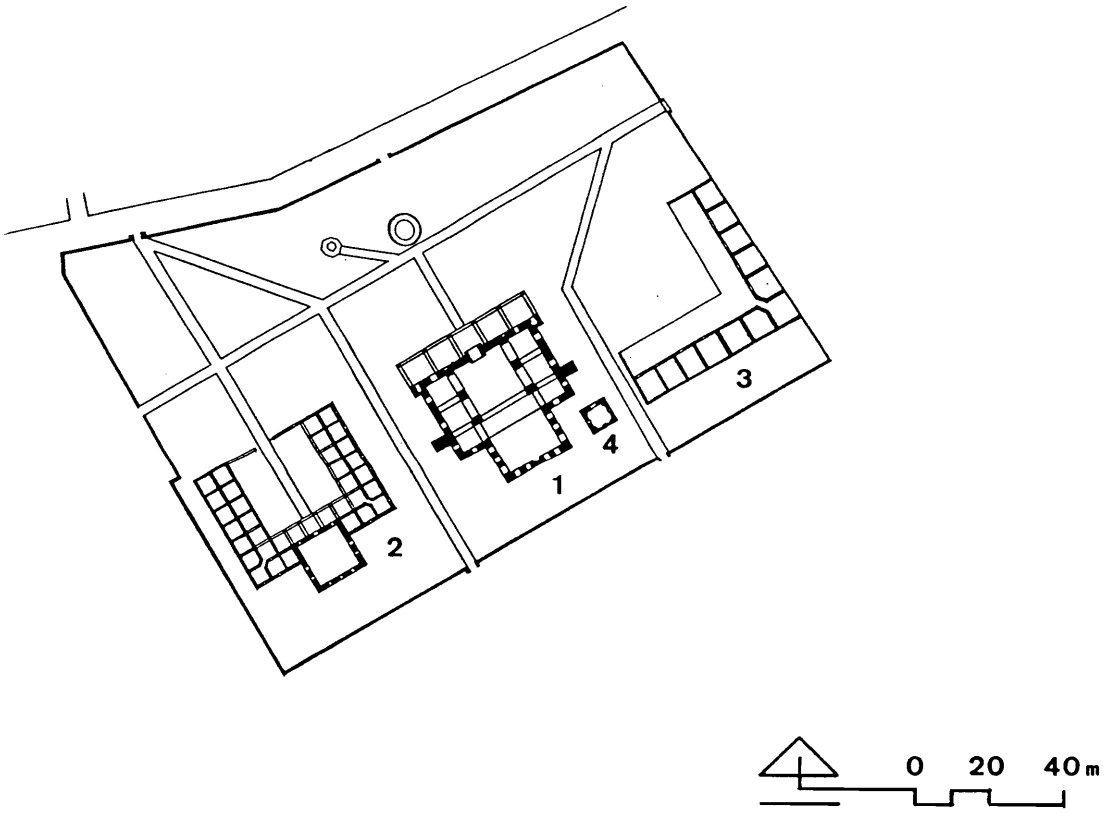
Rational design is a term used to refer to arrangements of objects on the basis of order manifested through the utilization of principles such as balance, repetition, symmetry, and harmony. The problem with the term *rational*, as a description of designs which follow such principles, is that it implicitly suggests that designs which do not follow these principles are not rational. It suggests that only those designs which exhibit principles such as symmetry and balance are rational or logical, a proposition which denies the existence of any other kind of rational system. Keeping in mind that vernacular design is a rational one since it follows a certain kind of logic, the term *rational design* cannot be used to denote only designs which abide by the principles of symmetry, balance, and harmony. The listed principles were used by the Greeks and Romans whose architecture is called *classical*. Although the term *classical* seems to be an appropriate one to take the place of *rational*, it neglects the fact that these principles were used before the Greeks and Romans by other civilizations, such as the Egyptians. Thus, associating the so-called *rational design* only with European classical architecture presents a problem. Observing the way objects are related to each other is another possibility to help find a label for these designs. A so called *rational design* has its objects aligned, parallel to each other, spaced equally, and arranged around an axis; in other words, the objects have a certain kind of geometric order which governs their relationships. This quality seems to be consistent and

[1] Vernacular is defined in Webster's dictionary as native, and as "a: using a language or dialect native to a region or country rather than a literary, cultured..c: of, relating to, or being the normal spoken form of a language...3: of, relating to, or characteristic of a period, place, or group; *esp*: of, relating to, or being the common building style of a period or place." See "Vernacular", Webster's New Collegiate Dictionary, 1981.

does not limit itself to one particular civilization; therefore, it is suggested that *"geometric language"* is the term to be used as a substitute name for *rational design*. Thus, the two languages of design presented here are called *"vernacular language"* and *"geometric language."* They were both used by the Ottoman architect in the planning of his külliye. These two languages are not opposite to each other in any way. They have shared qualities, such as respect to topography and urban fabric. In fact, the vernacular language can be seen as preliminary a stage for the geometric language. A new level of order was added to the vernacular language through the use of geometry. This geometric order is the most distinctive quality in the new layout of the külliye; therefore, the new language was called geometric language. The following section examines the design principles of each one of the two languages.

5.1.1. PRINCIPLES OF VERNACULAR LANGUAGE USED IN THE KÜLLIYE

The most apparent character in such külliyes is that they do not show any geometric order in the way structures are planned. Buildings are not parallel with each other, no clear axis around which structures are planned exists, and no repetition or symmetry can be recognized. However, there is a focal point in the whole design; the mosque, in most cases, acts as that point for it is usually monumental in its size. By being a focal point, the mosque brings unification to the whole composition, and by doing so it establishes an order of sort. All of Bursa's major külliyes can be used as examples of this point; Yildirim Beyazit (1390), Murad I (1391), Yeşil (1420), as well as Murad II (1426), have the mosque as the strongest element in the design (plan 4-15, 4-12, 4-4, 4-5). Yeşil külliye in particular has the türbe in a very strategic location on a platform higher than the mosque; yet, the size of the mosque still guarantees its superiority (plan 4-2). Beyazit külliye in Amasya (1486) is an example from outside Bursa where the mosque is a very powerful element in the whole composition (plan 5-2). In order to make the mosque even more impressive, it was generally erected in a central location within the overall composition of any külliye (fig. 5-1). All of the examples cited above can be used to illustrate this point.



Plan 5-2: Beyazit külliye, Amasya; 1. mosque, 2. medrese, 3. imaret, 4. türbe (after Gabriel, 1934)

Figure 5-1: Beyazit külliye, Amasya; aerial view showing the dominance of the mosque

There were exceptions to this rule, such as in the case of the Muradiye in Manisa (1592), where the mosque is located to the west of the külliye.

Although a geometric order did not govern the arrangement of structures on the site, a different kind of order was observed. This order can be seen as dual: respect and use of topography, and respect of existing urban fabric. The best example to illustrate the respect of topography is Yildirim Beyazit külliye (1390): the mosque was located on the highest platform in order to further emphasize its superiority. This platform is just right for the mosque in terms of its size. The medrese is located on a lower platform with an odd angle in relation to the mosque; however, it shows a comfortable placement because of its alignment with the existing topography. It is to be noted that the idea of aligning buildings together was not alien to the Ottoman architects at that time; Murad I, which was built at almost the same time, had the imaret and türbe parallel to the mosque. While in the case of Murad I, land was available to have buildings aligned. Yildirim Beyazit shows that if a case arose where the designer had to choose between respecting topography or geometric order, it was the respect of topography that he would choose. Topography was not just respected by the Ottoman architect, it was also used to the advantage of the design. A higher platform provided a unique opportunity for the mosque to be elevated above the rest of the külliye. Such extra elevation, which was systematically utilized, aided in providing a stronger monumental image to the mosque.

Respecting the urban fabric was manifested in three different ways: location of buildings, orientation of buildings, and the layout of enclosing walls. Buildings of the külliye were located in many cases apart from each other. In general, the Ottoman architect preferred to have all the külliye's facilities grouped together; Murad I and Yildirim Beyazit are two examples of such an attempt. However, in the cases where space was not available for all the facilities to be grouped together, the urban fabric was not disturbed; rather, the facilities were located in small lots which were close to each other. Such an arrangement allowed for the meshed külliye category to exist. Examples of this kind of layout can be seen in Omur Bey center (1454), Timurtaş külliye (around 1400), as well as in Yeşil külliye

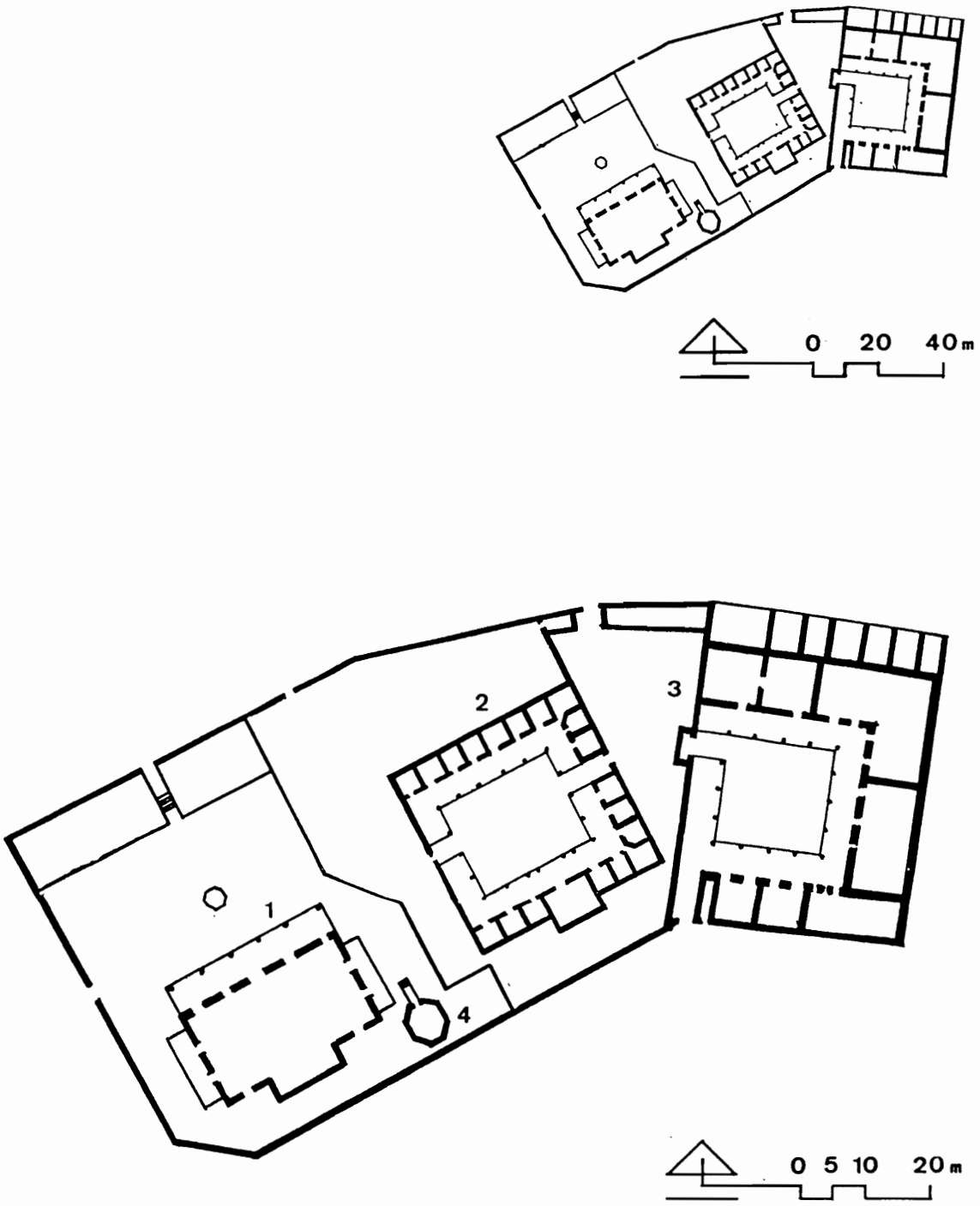
(1420). In all of these examples[1], facilities were located some distance from each other while the urban fabric was meshed with them. Such layouts allow the assumption that the Ottoman architect or planner respected the existing urban fabric and worked around it in order to fit the different facilities of the külliye within this fabric.

Moreover, buildings were oriented with respect to the urban fabric and street system. The imaret, as well as the hamam, in Murad II in Bursa were oriented with respect to the street and not in alignment with the two main structures of the külliye; namely, the mosque and medrese (plan 4-5). Another example is the medrese in Hamza Bey center, Bursa, which was aligned with the street and not the mosque (plan 4-29). Similarly, the imaret in the Muradiye of Manisa (1592) was not aligned with the mosque and medrese, but with the present street which could be where the old street existed (plan 5-3). Atik Valide külliye (1583) in Üsküdar, Istanbul is another example from the classical period where the medrese was rotated so as to respect the street system (plan 4-31). In fact, respect to the urban fabric was a principle to be honored even by the most geometric külliyes such as the Süleymaniye.[2]

The third point which shows respect to the urban fabric is the way enclosing walls were built so as to respect the existing street system. Examples can be seen in Murad II, as well as in Hamza Bey in Bursa. The walls surrounding these külliyes did not create a readily recognizable shape, such as a square or rectangle; rather, they ran parallel to the property lines of the site. The alteration in the shape of the open space, which surrounds the külliye in order to fit the street system, was also a concept to be respected throughout time. Şehzade külliye (1548) in Istanbul is one example where the geometric shape of the open space was altered for that purpose (plan 4-33). In cases where the architect was able to introduce geometric relationships between the structures, he did not waste the chance. However, the arrangement of structures were still simple and did not utilize any idea more

[1] Plans 1-2, 4-28, 4-4 respectively.

[2] See section 4.1.2. (Principles of geometric language used in the külliye).



Plan 5-3: Muradiye külliye, Manisa; 1. mosque, 2. medrese, 3. imaret, 4. library

than simple alignment. Murad I külliye in Bursa, for instance, has the imaret and the türbe located parallel to the mosque, and the medreses in both Yeşil and Murad II in Bursa are aligned with the mosques. Such a phenomenon suggests that the Ottoman architect was aware of the possibilities which geometric arrangements can provide; however, he was experimenting with them cautiously, since he had other determining factors in mind, such as topography and existing urban fabric.

5.1.2. PRINCIPLES OF GEOMETRIC LANGUAGE USED IN THE KÜLLIYE

The main idea behind the geometric language is that structures are related together with comprehensible geometrical relationships. In other words, structures may be aligned together, parallel with, or perpendicular to each other. They may also be spaced away from each other according to a certain ratio, or their sizes may be equal or related by a set of proportions. Such geometrical relationships produce a formal composition, which enjoys symmetry, balance, repetition, and other similar characteristics, typically attributed to the classical language of architecture.[1] Fatih, Süleymaniye, and the Selimiye külliyes are the best examples of the use of geometric language; the buildings are aligned, spaced in a systematic way, and related to each other by the means of walls and careful planning of open and closed spaces (plans 4-16, 4-13, 4-20 respectively). Thus, the approach to designing these külliyes is different from the vernacular approach. In the vernacular language; each structure is related to the land and the urban fabric independently from other structures, each structure fits into its micro environment with minimum effect on that environment so as to make the külliye, as a whole, blend with the site. On the other hand, structures in the geometric language are all worked into the site together; they are not independent elements, rather they are a number of elements composed together for

[1] Vitruvius wrote: "The design of a temple depends on symmetry, the principle of which must be most carefully observed by the architect... Without symmetry and proportion there can be no principles in the design of any temple....Similarly, in the members of a temple there ought to be the greatest harmony in the symmetrical relations.." Vitruvius, The Ten Books on Architecture, translated by Morris H. Morgan, Dover Publication, Inc., New York, 1960, p. 72.

the achievement of a comprehensive design.[1] Moreover, these structures are physically connected creating more defined open spaces.

Thus, in such külliyes, open spaces are not voids between buildings; rather, they are well planned and carefully scaled spaces to act as part of the overall composition of the külliye.[2] The result of such planning is that the külliye is seen as one complete structure with spaces under two main categories: closed spaces and open spaces. The Selimiye in particular exhibits this idea vividly; the central space is well proportioned, especially with the help of the walls' heights which enclose it, so that the whole composition can be seen as one piece of sculpture created by the skillful play of mass and void (fig. 5-2, 5-3). It is not only these three külliyes which present such a comprehensive design which considers the open spaces as part of the total composition; the majority of külliyes built in Istanbul enjoy this character. All külliyes which have the mosque and medrese as one unit achieved this unity through the open space between them; examples of this case include Çoban Mustafa Paşa külliye (1520's) in Gebze (plan 5-4), Mihrimah külliye (1560's) in Edirnekapi, Istanbul (plan 4-35), Sokollu Mehmet külliye (1569) in Lüleburgaz (plan 4-16), and Sokollu Mehmet külliye (1571) in Kadirgi, Istanbul (plan 4-36) (fig. 5-4, 5, 6). Smaller külliyes are also good examples of the comprehensive planning which considers the open space as the critical element of the overall composition; cases in point include Koca Sinan Paşa (1598), Kara Mustafa Paşa (1690), and Başir Aga (1745) which are all in Istanbul.

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[1] The best way to describe such a design is to borrow Alberti's definition of beauty in classical architecture where he says: "... I shall define Beauty to be a Harmony of all the Parts, in whatsoever Subject it appears, fitted together with such Proportions and Connection, that nothing could be added, diminished or altered, but for the worse." See Leon Battista Alberti, The Ten Books of Architecture, (The 1755 Leoni edition) Book vi, Chapter ii, p. 113, New York, Dover Publication, Inc., 1986.

[2] Fatih külliye seems to have followed a certain geometrical order which dictated the sizes and shapes of all elements of the composition, including the central space. Although existing plans are not accurate enough for a detailed analysis of the külliye's complete and detailed geometry, a preliminary analysis is possible and promising. More in-depth studies of the Fatih, as well as other külliyes such as the Süleymaniye and Selimiye, would be worthwhile. See Appendix D for an exploration of the geometrical patterns used in Fatih külliye.

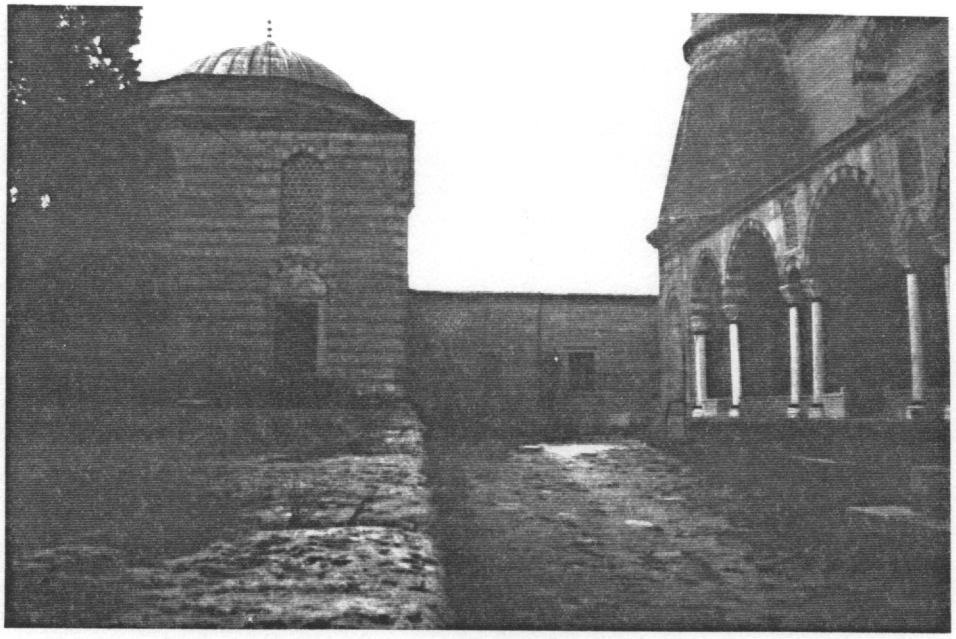
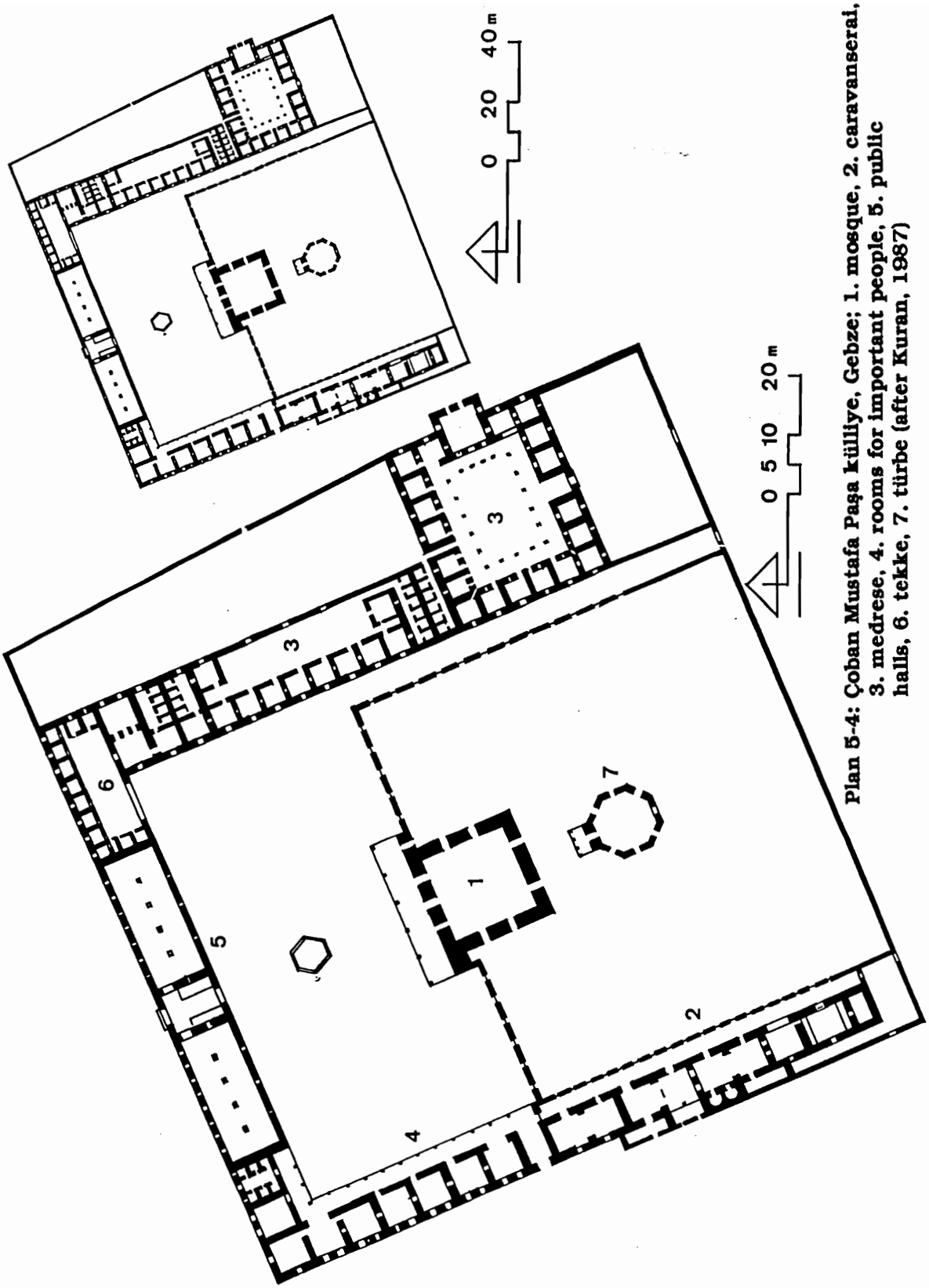


Figure 5-2: The Selimiye, Edirne; the small open space south of the mosque

Figure 5-3: The Selimiye, Edirne; the central space with the entrance to the southern space to the right



Plan 5-4: Çoban Mustafa Paşa külliye, Gebze; 1. mosque, 2. caravanserai, 3. medrese, 4. rooms for important people, 5. public halls, 6. tekke, 7. türbe (after Kuran, 1987)

Figure 5-4: Sokollu Mehmet külliye, Kadirgi, Istanbul; a view of the courtyard showing the mosque and the medrese's rooms

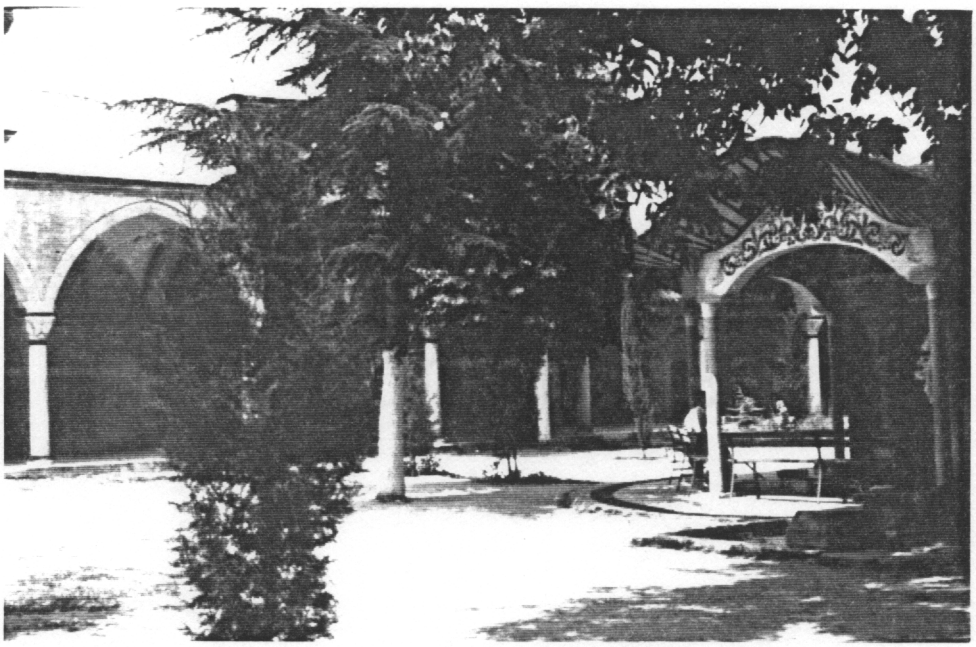


Figure 5-5: Sokollu Mehmet külliye, Lüleburgaz; a view of the courtyard

Figure 5-6: Mihrimah Sultan külliye, Edirnekapi, Istanbul; a view of the courtyard showing the mosque and the medrese's rooms, the şadirvan also acts as a unifying element

The principle which is easily recognized in the geometric language is centrality.[1] In all külliyes, the mosque acts as the most important element in the composition; its location confirms this point by virtue of being in the physical center of the külliye. With the mosque in such a position, the rest of the külliye is planned around it. This principle is carried over to the whole design of the külliye: the külliye itself is located in a central location in relation to its surroundings; the central space is located physically in the center of the külliye; the mosque is in the center of the central space, the court of the mosque has the şadirvan as a central point in it; and, finally, the covered part of the mosque has the dome as a central point under which the believers pray. Centrality in the design of külliyes is symbolically related to the concept of universal unity under the one god.[2] Centrality in the design of the külliye resulted in the appearance of other classical ideas, such as axiality and symmetry. The central location of the mosque, as well as its design which calls for a sequential arrangement of spaces, allow an axis to appear in the overall plan of the külliye. However, such axiality is just a result of centrality; it is not even complete when observed in movement through the külliye. Axiality is supposed to be at least visual and it would be stronger if it is physical also. In the case of the Ottoman külliye, it does not exist at either of these two levels, for it is not possible, visually nor physically, to go through a continuous axis in any külliye. Any such axis is interrupted by focal points which strengthen the idea of centrality and break the continuity of the axis.[3] Symmetry was also a result of centrality and not an objective by itself; it was broken at any time the design necessitated it.

Balance, however, was an objective which the Ottoman architect was interested in achieving. It is a principle which establishes unity and cohesiveness, yet it does not bind the designer or limit him as much as symmetry does. It brings about the sense of order

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[1] A more detailed discussion of centrality can be seen in section 6.2.1.

[2] See for example James Dickie, "Allah and Eternity: Mosques, Madrasas and tombs", in Architecture of the Islamic World, edited by George Michell, London, Thames and Hudson, 1978, p. 15.

[3] For this point, as well as for symmetry, see section 6.2.1. (Centrality).

in an indirect way, a way which is less bold than the use of complete symmetry. The Süleymaniye presents a good case to examine. The west side of the central space has a wall which separates the mosque from the other functions of the külliye. This wall, along with the facades of the back buildings, creates an edge which can equalize the high elevation of the mosque; and, thus, the space as a whole looks more balanced. The eastern side, however, does not have such a wall; Sinan preferred to have an open view to the water, and at the same time respect the topography. Therefore, he located the third and fourth medreses on a lower platform. In this case the eastern part of the space would have appeared crushed under the weight of the mosque's elevation; in order to remedy the situation, Sinan located the darshane of the two medreses at the side, which is parallel and closer to the central space. In doing so, he gave the two domes a visual edge which balanced the mosque's elevation; needless to say, this edge does not obscure the views since the two domes do not create a solid barrier (fig. 5-7).

Another principle which was used in the geometric language was monumentality; the architect wanted to present the külliye as the most powerful element in the urban fabric. In order to do so he selected sites with special characteristics such as high elevation and good visibility. Two structures in the külliye in particular were designed in such a way that they would be impressive and monumental: the mosque and the türbe. The Ottoman architect was engaged in a constant process of experimentation through the years with the objective of building the largest dome. Sinan has been quoted that he designed the Selimiye "on a dominating site in the city..." He also expressed his pride that he was able to build a larger dome than Haghia Sophia; he noted: "they claim that no Islamic architect would be able to build such a large dome. In this mosque, with the help of Allah and the support of Sultan Selim Khan, I erected a dome six cubits (zir'a) higher and four cubits wider than the dome of Haghia Sophia."[1] Monumentality, however, did not mean the creation of overwhelming buildings; the issue of human scale was very much on the mind of the Ottoman architect who used different methods to make his buildings more human.

[1] Cited in Kuran, Sinan, pp. 168-9, from Tezkiretü'l-Bünyan.

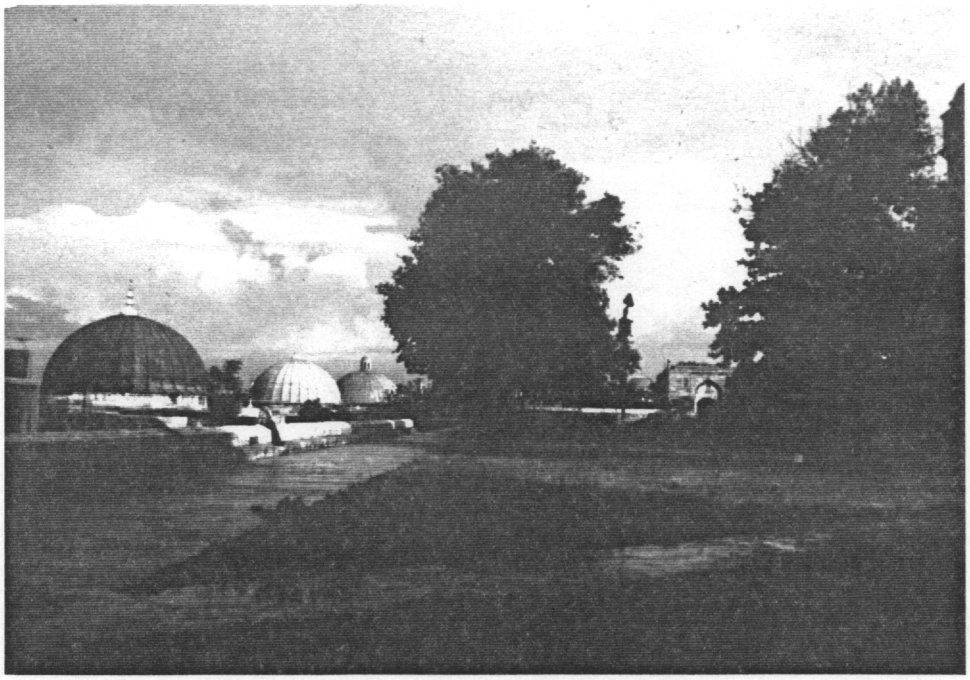


Figure 5-7: Süleymaniye külliye, Istanbul; view of the central space, the medrese's domes help create an edge

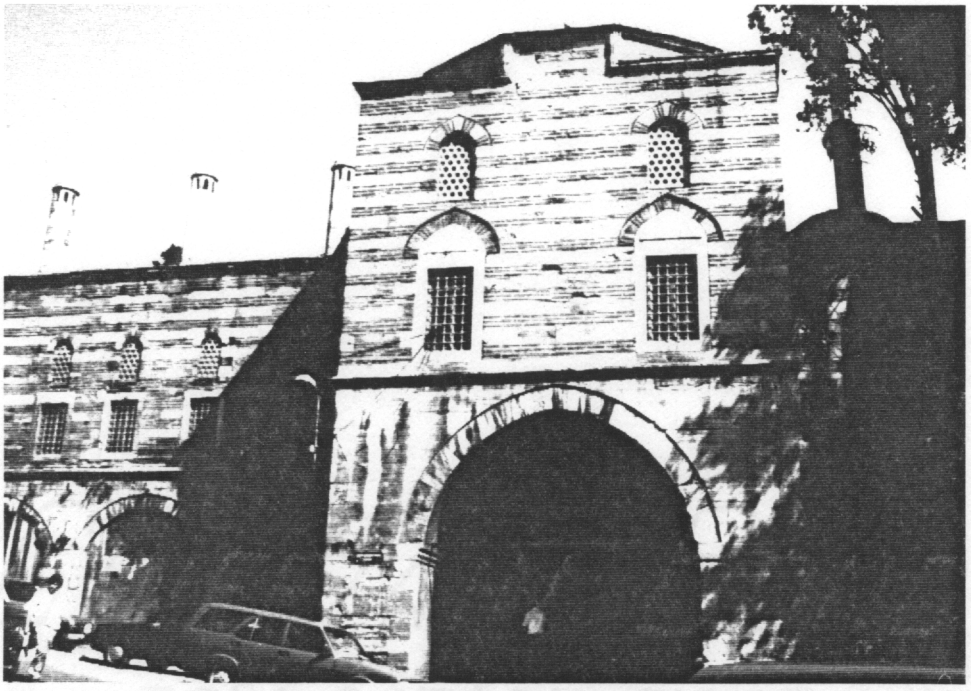


Figure 5-8: Sokollu Mehmet külliye, Kadirgi, Istanbul; the northern entrance located under the darshane, an example of the use of slope in the design of the külliye

The overall design of a monumental külliye presents four characteristics which aided in the creation of comfortable and human scale: simple shapes of spaces; complete enclosure of spaces; physical connection of structures; and, appropriate proportion between structures and their surrounding spaces.[1]

While it appears that the geometric language is rigid and powerful, it is actually fairly flexible. This flexibility is manifested in the fact that old principles which were used in the vernacular language were still valid in the geometric language; in particular, sensitivity to topography and existing urban fabric were very well observed. The third and fourth medreses in Süleymaniye were built on a lower platform for the views and also with respect to the site's topography. Fatih külliye presents another case where the medreses were located at two levels in such a way that the slope was used to the advantage of the design. A beautiful case presenting the use of slope is Sinan's Sokollu Mehmet külliye (1571) in Kadirgi; the structures are placed in respect to topography without compromising the comprehensiveness and unity of the design (fig. 5-8). Similarly, the urban fabric was also respected; the design of the külliye was constantly altered for the purpose of protecting the street pattern. Examples of this practice are many; Süleymaniye külliye has its darül-hadis and the hamam rotated so as to fit within the existing street system (plan 4-13). Şehzade has its central space completely altered because of the location of streets (plan 4-33). Other cases include Atik Valide in Üsküdar, Mihrimah Sultan in Edirnekapi, Nuruosmaniye, and Laleli (plans 4-31, 35, 21, 22).

5.2. THE OVERALL LAYOUT OF THE KÜLLIYE

This section examines in more detail the overall layout of the Ottoman külliye through addressing three main questions: how the buildings were arranged; how they were accessed; and, their hierarchal order in terms of size. These three questions will be discussed in both vernacular and geometric külliyes, so as to observe the development in

[1] See section 6.2.8. (Monumentality and scale) for more about this point.

the Ottoman urban design thinking. Bursa is used as the prototype for the vernacular külliye while Istanbul presents the geometric one.

5.2.1. THE VERNACULAR KÜLLIYE

5.2.1.1. ARRANGEMENT OF STRUCTURES

The most obvious characteristic of the vernacular külliye is its respect for the natural and manmade conditions of its site. This respect did not mean in any way a chaotic arrangement; the Ottoman architect was always looking for an order to govern his work. An elementary effort on his part was to bring the different structures of the külliye as close to each other as possible, so as to create a nucleus or a center. This center was arranged around the most important building in the composition: the mosque. It was this effort in particular, the grouping of the facilities, which gave birth to the idea of a comprehensive complex of services. The vernacular külliye was the stage to experiment with this idea. Such experimentation can be seen as early as the first days of the Ottoman state; Yildirim Beyazit külliye had most of its facilities grouped in one particular area (plan 4-15); Murad I külliye had its facilities also grouped together around the mosque (plan 4-12). All külliyes which came afterwards show the same kind of tendency; Murad II and Yeşil are but two more examples (plans 4-5, 4).

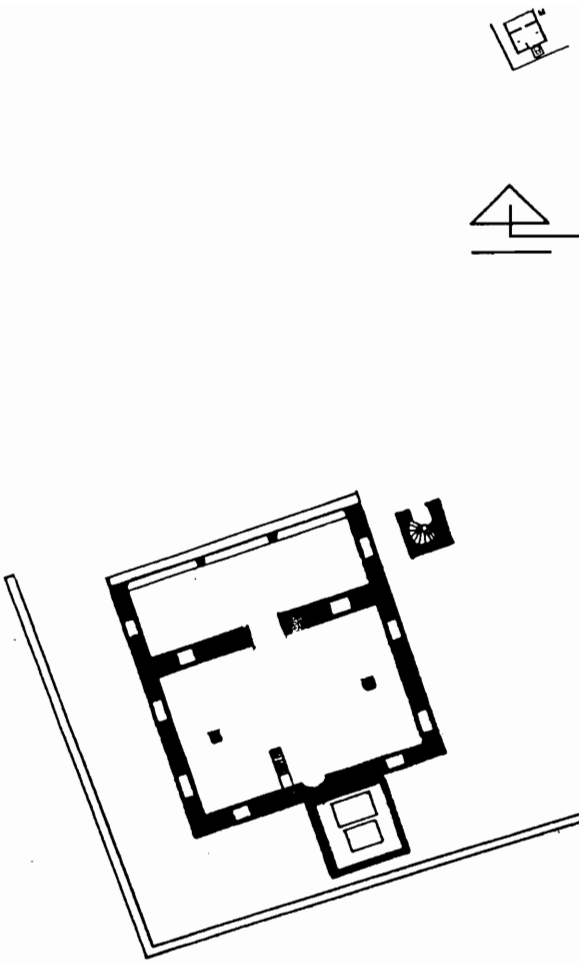
The mosque was, in general, the focal point of the whole composition; whenever it was possible, it was located in the physical center of the külliye. All examples cited above witness to this effort. The Muradiye (1592) in Manisa can be seen as the exception to the rule (plan 5-3). It is worth noting, though, that its present shape does not reflect its original layout; the old medrese occupied the forecourt of the existing mosque.[1] The mosque, especially in sultans' külliyes, had a space around it; in other words, it was detached from any other building. The space around it, and especially the one in front of

[1] Kuran, Sinan, p. 222.

it, became the central space in the composition. The şadirvan, which was usually located across the main entrance of the mosque, helped define this space, as was the case in both Murad I and Murad II. Hamza Bey, as well as Ulu Cami, are also good cases where a space was created between the mosque and the şadirvan (plans 4-29, 27). In cases where such an arrangement was not possible, an open space was found in a central location; Yildirim Beyazit had a space in front of the mosque, yet it had another one between the medrese, the türbe, and the slope at the northern side of the mosque. Yeşil külliye had a central space between the mosque, the türbe, the imaret, and the hamam. Thus, this space occupied a central location either in front of the mosque or somewhere close to it. This central space became a major element in any külliye and was developed to become a formal space which housed the mosque and was surrounded by all facilities of the külliye.

The medrese was separated from the mosque in general. It had some formal relation with it, though; it was in two cases, Yeşil and Murad II, parallel to the mosque. These two cases present the beginning of a long and lasting relationship between the mosque and medrese. The Muradiye in Manisa also had the medrese parallel to the mosque, while the medrese in Yildirim Beyazit was not formally related to the mosque because of the topography of the site. Hamza Bey also shows no formal relationship between the mosque and the medrese as a result of the restriction the street system imposed on the külliye (plan 4-29).

The türbe changed its location from one period to another. In early külliyes, such as Yildirim Beyazit and Murad I, the türbe was located to the north of the mosque as an independent structure. In later külliyes, however, it moved to the south of the mosque, as was the case in Murad II and Omur Bey (plan 4-5, 1-2). This new location was preferred thereafter; most of the sultans' külliyes in Istanbul had their türbes to the south of the mosque. Before these two locations, the türbe was attached to the mosque at its northern side; however, access to it was possible either through the mosque or from the



Plan 5-5: Nebi mosque, Diyarbakir; 1. mosque, 2. türbe, 3. minaret (after Sözen, 1976)

outside.[1] Gök cami (thirteenth century), and Burmali Minare cami (1247), both in Amasya, are examples of such an arrangement (plans 5-6, 7). It is possible that with the increased power of the ulama of the Hanafi school in the Ottoman state, the idea of having the türbe as part of the mosque was abandoned[2].

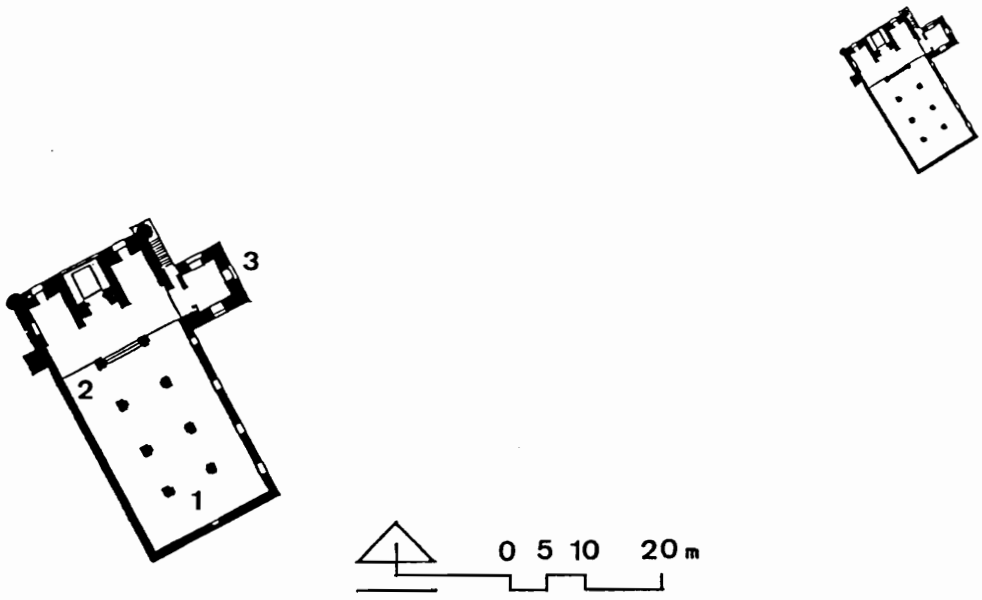
The hamam, as well as the imaret, were the first two social services to be included in any külliye. Because of their nature as daily secular services for the community, they were closer to and even at times meshed with the residential fabric. Murad II, as an example, has the mosque and medrese producing a strong composition along with the different türbes to the south of both of them. The hamam, as well as the imaret were, however, located outside this composition and at two different sides of it (plan 4-5). They followed the contours of the streets and did not relate in any formal way to the mosque and medrese. The hamam in Yildirim Beyazit is also independent from the rest of the külliye and even outside the old walls. This independence from the rest of the külliye was to become less pronounced in later külliyes; however, both the hamam and imaret, as well as other social services, kept their direct connection with the urban fabric (plan 4-15).

5.2.1.2. MOVEMENT IN THE KÜLLIYE

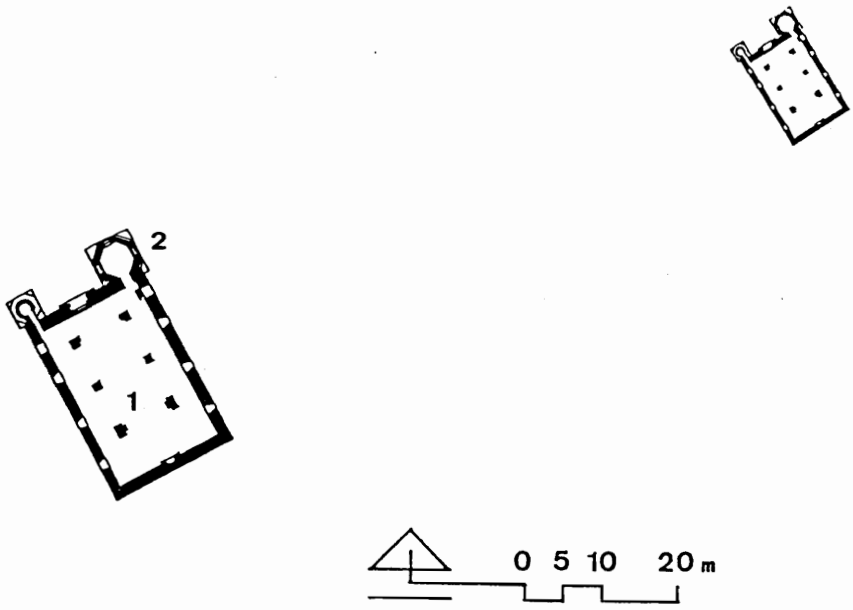
Access to all facilities was, in most cases, directly from the public road. Even in cases where the mosque has developed its own space, the northern side was open to the street for direct access. Two cases seem to be exceptions to the rule: Yeşil külliye and Hamza Bey. In the first case, the mosque is located at the summit of a steep slope; at this time, there is no trace of an old road at that side of the mosque. It is, therefore, difficult to know what was the relationship between the mosque and the street. Hamza Bey mosque is

[1] There were cases where the türbe was attached to the mosque from its southern side, such as in the case of Nebi mosque in Diyarbakir, built during the fifteenth century (plan 5-5). The tradition of having the türbe south of the mosque in the külliyes of Istanbul could have come from mosques similar to Nebi mosque.

[2] Prophet Muhammad said: "... Do not turn graves into mosques. I forbid you to do that". Narrated by Muslim.

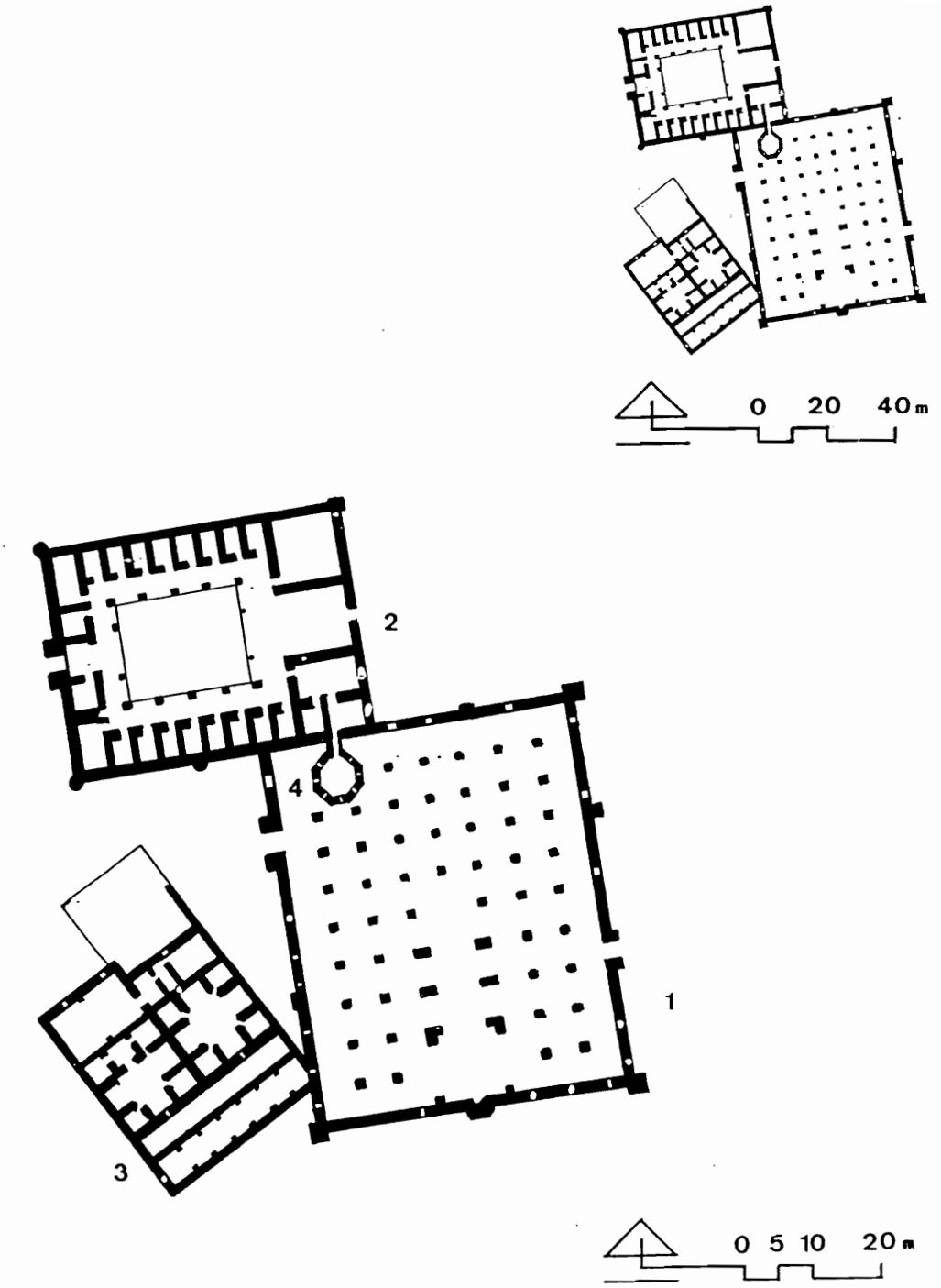


A



B

Plan 5-6: Cases of mosques with attached türbes; A. Gök mosque and medrese, Amasya; 1. mosque, 2. medrese, 3. türbe, B. Burmali Minare cami, Amasya; 1. mosque, 2. türbe (after Gabriel, 1934)



Plan 5-7: Huand Hatun külliye, Kayseri, 1.mosque, 2. medrese, 3. hamam, 4. türbe (after Akurgal, 1980)

isolated from the public road; nevertheless, the present passageway which connects the two entrances of the walled space may suggest the existence of an old road.[1]

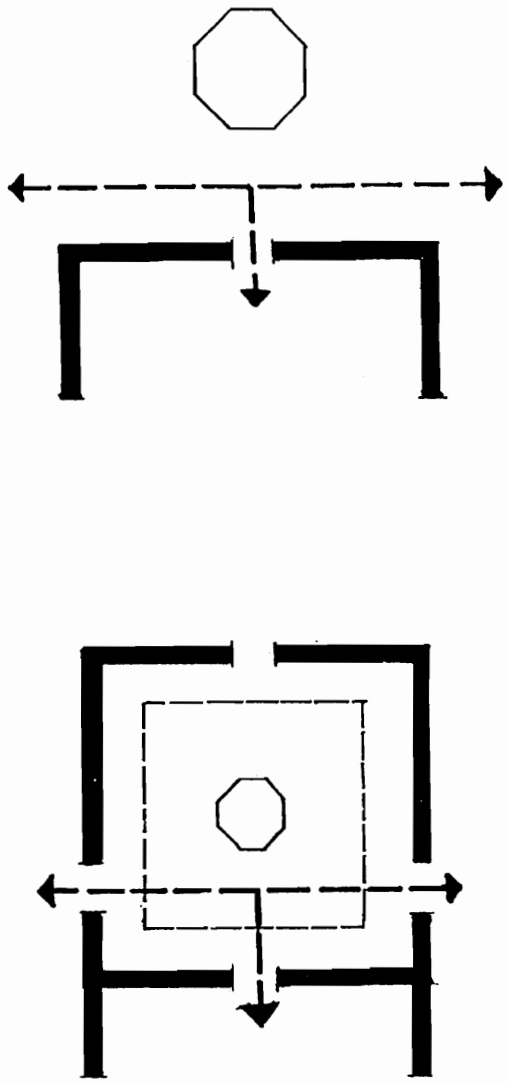
Accordingly, movement from one facility to the other was through the public road. The türbe, in particular, was the first facility to be isolated from the road; therefore, access to it took place through the back space of the mosque, as was the case in Murad II. The road which passes at the northern side of the mosque created a constant movement along an east-west axis passing parallel to the northern side of the mosque. The şadirvan, which is located across the road on the axis of the mosque's entrance, strengthens the axis running parallel to the mosque and produces another axis which runs perpendicular on the first one (plan 5-8). This configuration became a device which was used in most later mosques, and especially the sultans' ones in Istanbul. In these mosques, the court had two entrances at the eastern and western sides, while the şadirvan maintained its location facing the mosque's entrance; and thus, the same movement patterns were maintained.

5.2.1.3. HIERARCHY OF STRUCTURES IN TERMS OF SIZE

Looking at any plan of a vernacular külliye, one cannot distinguish any particular hierarchy in terms of size. The medreses of Yildirim Beyazit, Yeşil, Murad II, and Hamza Bey are not smaller in total area than the mosque. Similarly, the Murad I mosque is not much larger than the imaret, while Ulu cami is smaller than some of the hans around it. The hamams at both Timurtaş and Omur Bey are larger than the mosques of these two külliyes.

It is only when the vertical dimension is considered that any kind of order surfaces. The architecture of the whole külliye is, in general, very horizontal; in other words, the buildings are relatively low since they are mostly one story high. The only exception to this

[1] For more about the relation between the mosque and the public street in Bursa see section 4.4.2.1. (the case of Bursa)



Plan 5-8: A diagram showing the relationship between the mosque's entrance and the şadirvan. This relationship was maintained throughout the development of the mosque's architecture and dictated the circulation patterns at the entrance

generalization is the mosque; its design is very vertical, thus, it is much higher than the rest of the buildings in the külliye. This special height gives the mosque its superiority over the rest of the composition and makes every other structure subordinate to it (fig. 5-9, 10). Along with the height advantage, there are other factors which reinforce the mosque's superiority, such as the choice of materials, colors, and details. The choice of marble columns makes the main facade of the mosque look more grandiose, and so does the way that facade is designed. The great tall columns and the elevation of the portico, along with its depth, bring monumentality to the whole composition of the facade (fig. 5-11, 12).

Locating the mosque on a higher platform was also a practice used by the Ottoman architect. Murad II has the mosque and the medrese on an elevation slightly higher than the platform of the imaret and the hamam. However, the best example of such an arrangement is Yildirim Beyazit; there, the mosque is placed on a much higher elevation than the rest of the külliye (fig. 5-13). Yeşil külliye presents an exception to the rule; the türbe is located on a higher elevation than the mosque. This arrangement does not affect the superiority of the mosque, however, "the mosque is still the dominant element of the complex because of its two domes and larger size."[1] It should also be mentioned that the türbe is located away from the street while the mosque is very close to it. The distance of the türbe makes its elevation less effective, while the closeness of the mosque makes its scale more impressive. The mosque has an advantage from the northern side also; because of the great drop of elevation at the northern side, the türbe is completely hidden while the mosque dominates the view and overshadows the low medrese (fig. 5-14).

5.2.2. THE GEOMETRIC KÜLLIYE

Any külliye which shows a geometric relationship between its structures can be considered a geometric külliye. Thus, külliyes such as Koca Sinan Paşa (1598), Kara Mustafa Paşa (1690), and Amcazade (1702) can be considered geometric ones (plans 4-18, 4-24, 4-25

[1] Kuran, The Mosque in Early Ottoman Architecture, p. 207.

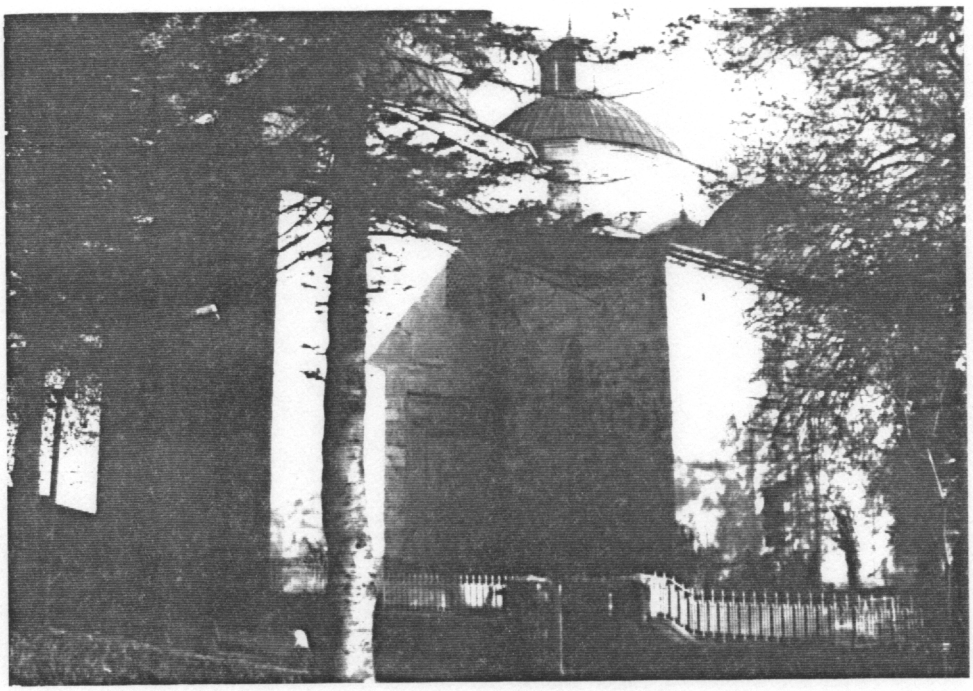


Figure 5-9: Yeşil mosque, Bursa, the south west corner; the mosque shows verticality

Figure 5-10: Yeşil külliye, Bursa; the medrese shows horizontality

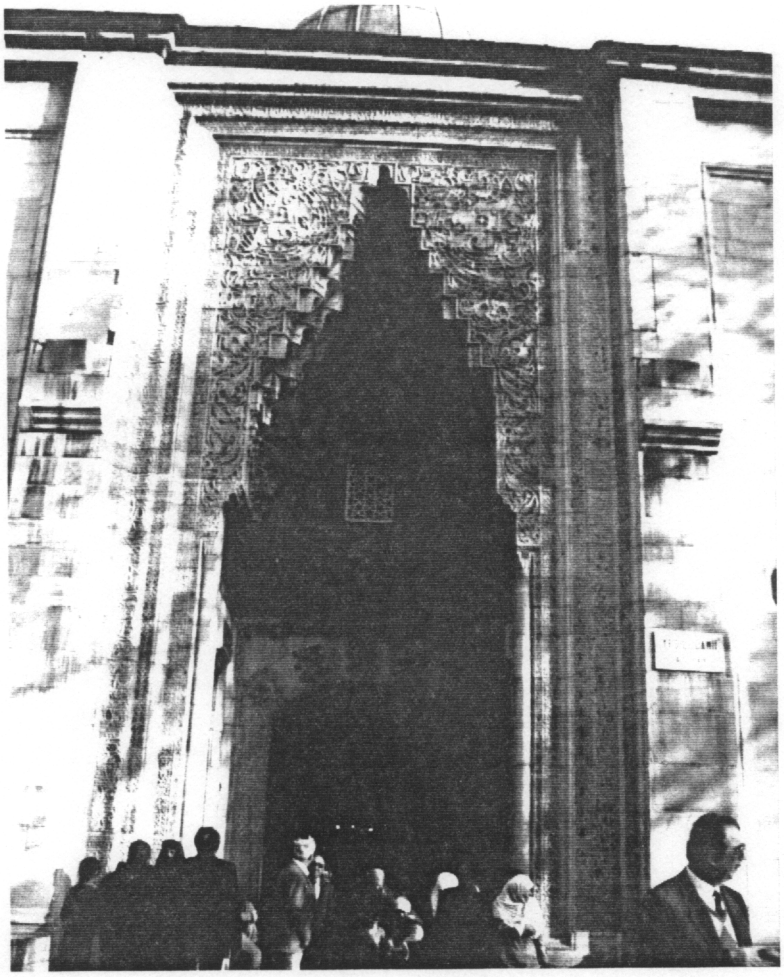


Figure 5-11: Yeşil mosque, Bursa; the main entrance

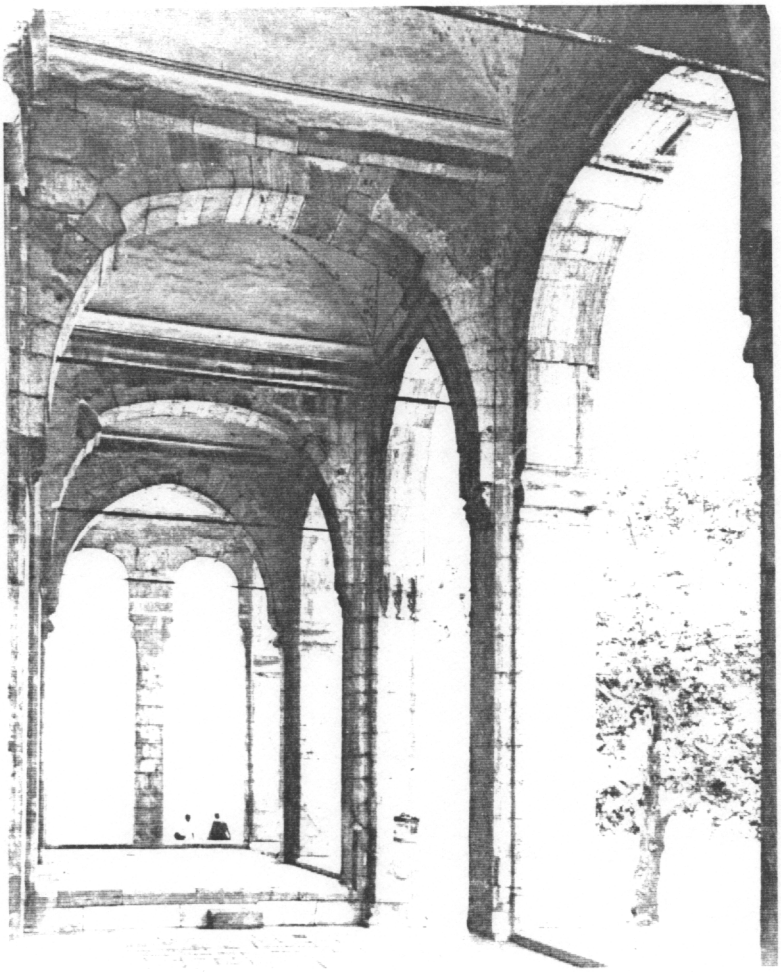


Figure 5-12: Yildrim Beyazit mosque, Bursa; the portico (after Goodwin, 1971)

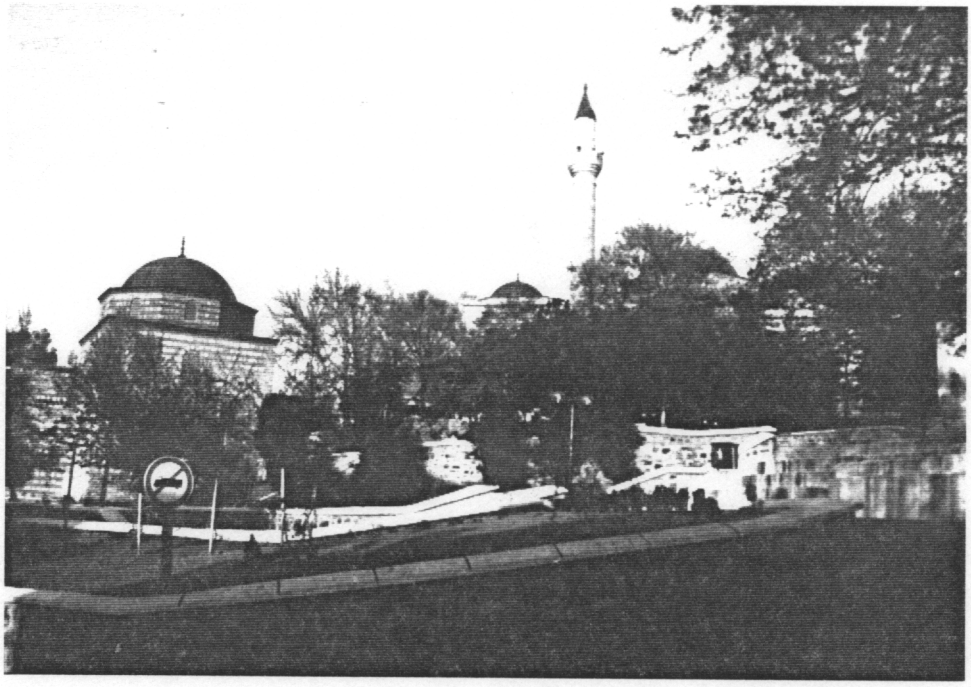


Figure 5-13: Yildrim Beyazit külliye, Bursa; the mosque is located at the highest elevation dominating the rest of the külliye

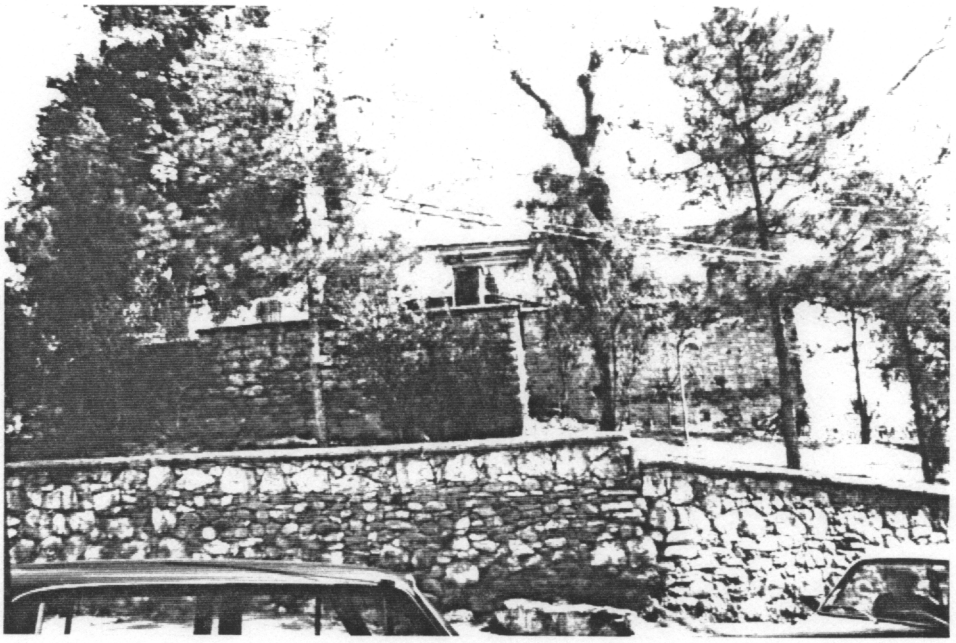


Figure 5-14: Yeşil külliye, Bursa; view from the north, the mosque hides the türbe and dominates the külliye

respectively). However, these külliyes are relatively small and cannot represent the sultans' külliyes of the Istanbul period which show a clear pattern in their design. Therefore, while the typology of the Ottoman külliye will address the smaller külliyes,[1] this section will basically concern itself with the külliyes of the Istanbul period which were built by the sultans and are considered to be the masterpieces of that period. The following külliyes in particular are considered in this section: Fatih (1470); Beyazit II, Edirne (1488); Beyazit II, Istanbul (1506); Şehzade (1548); Süleymaniye (1557); Sokollu Mehmet, Lüleburgaz (1569); Mihrimah, Edirnekapi (late 1560's); Sokollu Mehmet, Kadirgi (1571); Selimiye, Edirne (1575); Zal Mahmut (1581); Atik Valide (1583); Sultan Ahmet (1617); Yeni Valide, Eminönü (1663); Yeni Valide, Üsküdar (1710); Ibrahim Paşa, Nevşehir (1726); Nuruosmaniye (1755); and, Laleli (1763).

5.2.2.1. ARRANGEMENT OF STRUCTURES

The most important element in the composition of any külliye was its mosque; thus, it was always emphasized by a variety of means, such as its elevation, size, height, decoration, and location. In the geometric külliye, the mosque was given a central location around which the rest of the composition was planned. The space around the mosque, which existed as early as the külliyes of Bursa, continued to appear throughout time; in fact, it was developed to become an independent element in the design, as opposed to being a leftover space. This space reached its maturity in the sultans' külliyes of Istanbul where it was a completely enclosed space around the mosque and the türbe. At that stage, the open space was no longer a "negative" space surrounding the positive masses of architecture; rather, it was a positive space that differed from the architectural mass because it did not have an overhead structure or a roof. This space was the public space for the community because of its central location and its affiliation with the mosque. It is because of its function, as well as its architectural importance, that this space is called

[1] See section 5.3. and in particular 5.3.2 (külliye with a shared space between the mosque and other facilities)

in this study the "central space."[1] The central space had a rectangular shape surrounding the mosque and türbe; this shape was always maintained in the design of külliyes unless it encroached on the public road; in such a case the central space was altered in order to fit with the existing urban fabric.

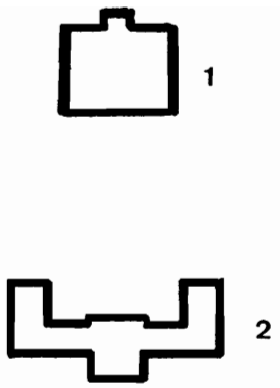
The medrese maintained its close relationship with the mosque; in earlier külliyes, it was close to the mosque, yet with no formal relationship binding them together. An example of such a case can be seen in Hamza Bey külliye (plan 4-29); this loose relationship continued to be used even in later dates, as was the case in Mihrimah külliye in Üsküdar (1548). However, the mosque-medrese composition took other forms which can be summarized in four more alternate possibilities (diagram 5-9):

1. Mosque and medrese are aligned with each other. This is the simplest relationship between the two; Yeşil (1420) and Murad II (1426) are two examples of this case (plans 4-4, 5).

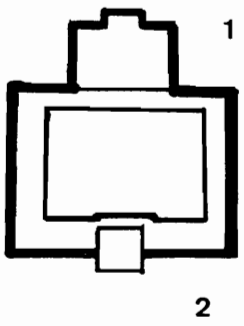
2. Mosque and medrese are located opposite to each other as the beginning of a spatial relationship between the two. Khatuniye mosque and medrese (1485) in Tokat, as well as Ishak Paşa mosque-medrese in Inegöl, show this form of composition (plans 5-10, 5-11). In this case the medrese is located to the north of the mosque and the darshane faces the main entrance to the mosque. The two east and west sides of the medrese generate a semi-space between the mosque and medrese.

[1] See section 4.4.2.2 (The case of Istanbul) for a discussion about the "central space" in the sultans' külliyes.

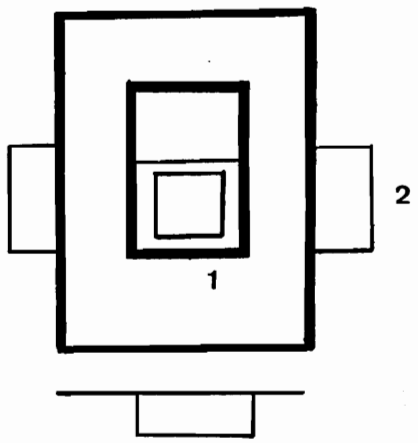
No relationship but
a simple alignment



Medrese south of mosque and
shares axis

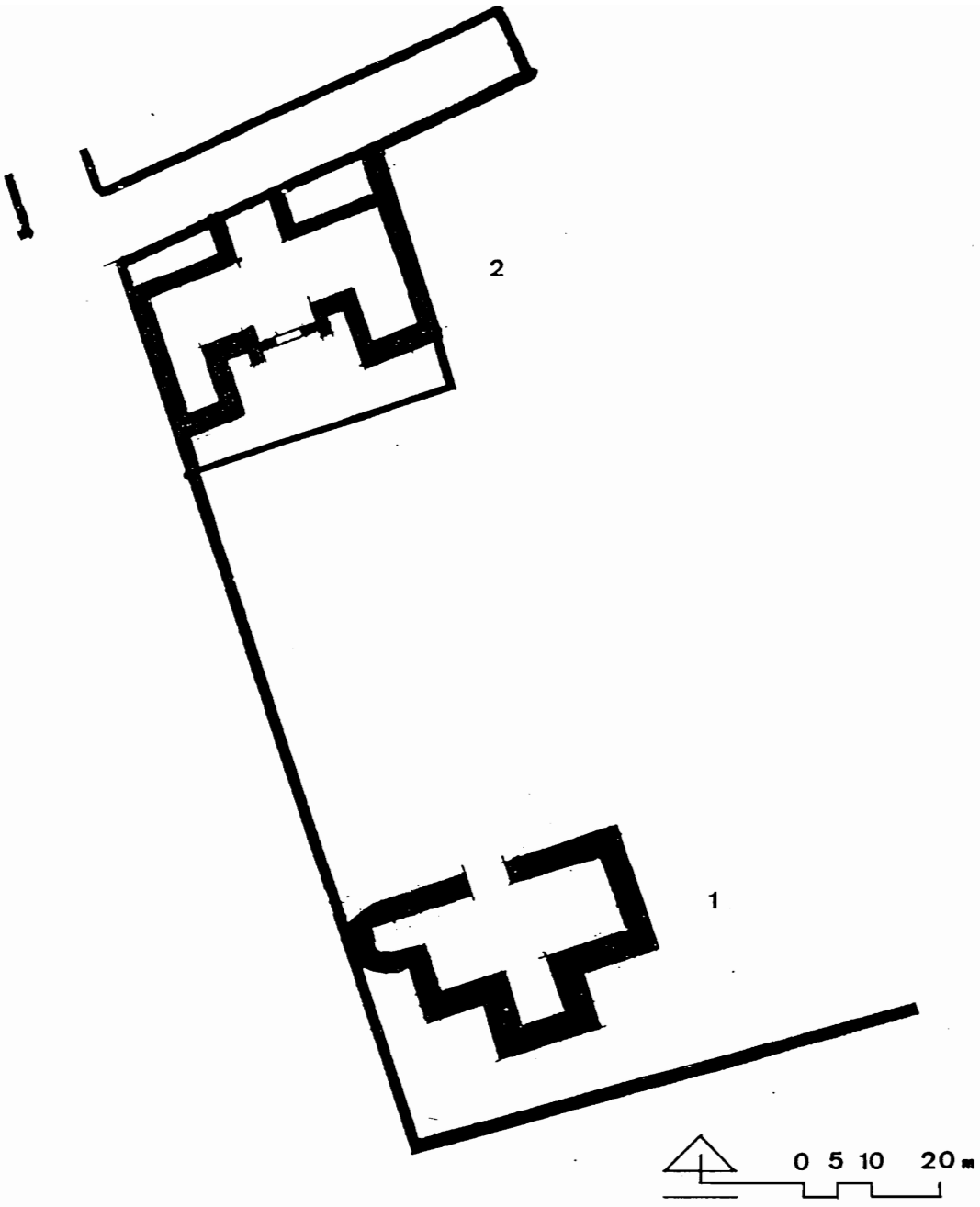


Medrese and mosque share
the same space

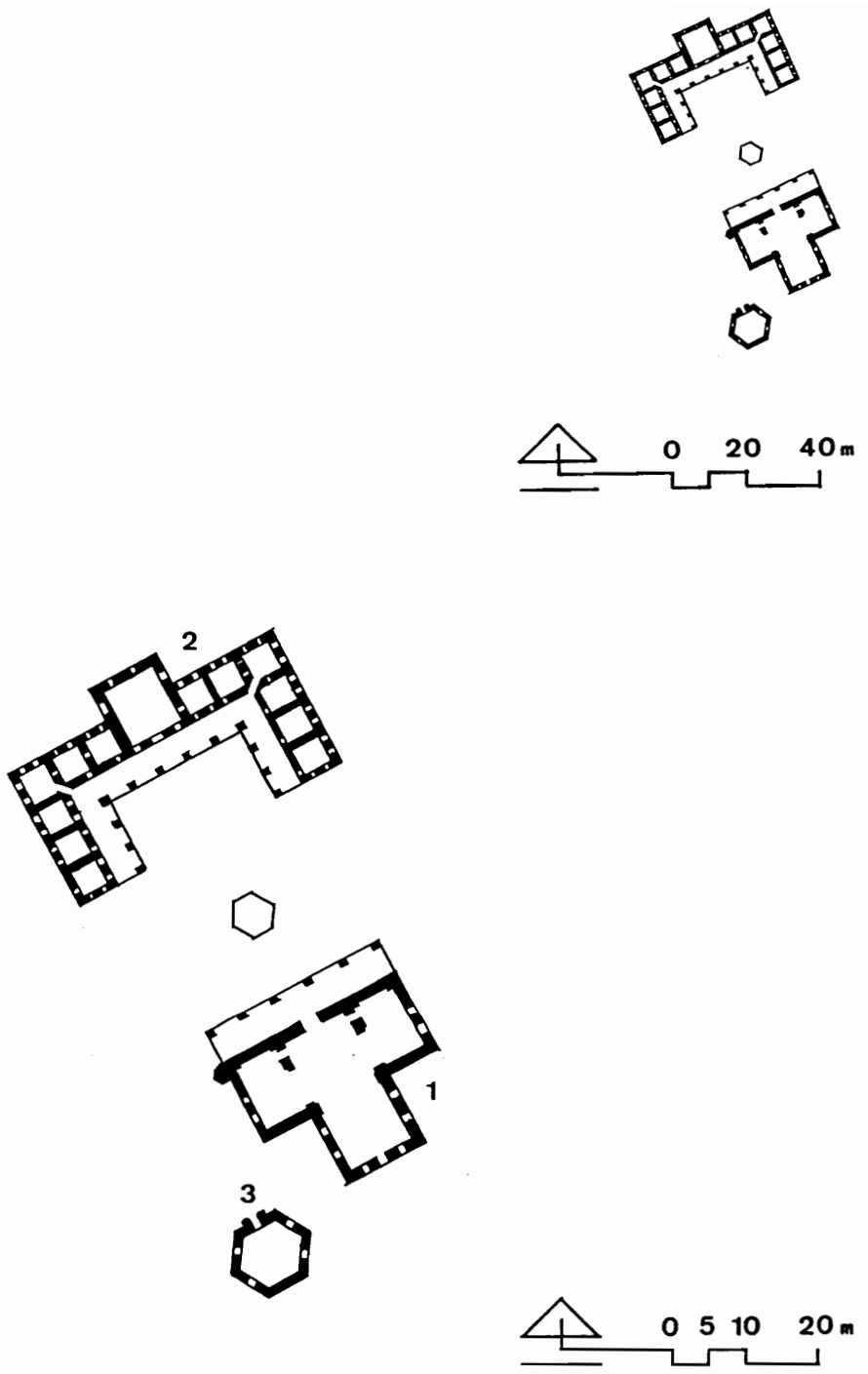


Medrese is inferior to the mosque
and part of the külliye's total composition

Plan 5-9: A diagram showing the different possibilities of relationships between the mosque and medrese; 1. mosque, 2. medrese



Plan 5-10: Khatuniye mosque and medrese, Tokat; 1. mosque, 2. medrese (after Gabriel, 1934)



Plan 5-11: Ishak Paşa mosque-medrese, Inegöl; 1. mosque, 2. medrese, 3. türbe (after Goodwin, 1971)

3. Mosque and medrese are parts of a complete architectural composition where the east and west sides of the medrese extend to reach the portico of the mosque. In this case, the mosque and medrese enclose an open space which adds to the unification of the two structures. This case can be regarded as a development of the second case, since the physical relationship between the two structures is the same; however, the relationship was allowed full development by the establishment of a unifying space between them. Mihrimah Sultan in Edirnekapi (1560's), Sokollu Mehmet in Kadirgi (1571), and Zal Mahmut (1581) are examples of this case which show the medrese in its strongest position, where it acts as an equal partner with the mosque in the külliye's overall composition (plans 4-35, 36, 40).

4. Medrese is a subordinate element in the composition of the külliye and located at one of the four sides of the külliye's central space. This case can be seen in the sultans' külliyes of Istanbul where the mosque is the unchallenged structure in the külliye and the other facilities humbly surround it. Fatih (1470), Süleymaniye (1557), and the Selimiye (1575) exhibit this relationship between the mosque and medrese (plans 4-16, 13, 20).

The relationship between the mosque and medrese; in the geometric külliyes, can be categorized under the third or fourth cases. In the third case, the medrese and mosque form one unit around an open space, while in the fourth, the medrese is just one of many other facilities located with respect to the overall geometry of the külliye. The mosque-medrese composition was used mostly by viziers, while the other case was used by sultans; it seems that availability of funds, as well as the fact that only sultans were able to build mosques with courtyards, had something to do with the fact that viziers chose the mosque-medrese composition for their külliyes.

The türbe assumed its final location to the south of the mosque; the two eastern and western walls of the mosque were extended southward to meet the southern wall of the central space and, thus, enclosed an almost square space for the türbe, and made the

central space of the külliye U-shaped. It was possible to go from one side of the central space to the other since the türbe had a gate at each side.

Educational facilities were, in general, close to the mosque, while services were slightly further away. Commercial services, such as shops or markets, were located the furthest from the center of the külliye. Süleymaniye had most of its shops at a lower level under the central space,[1] the Selimiye has its arasta completely separated from the main body of the külliye and located at a lower elevation. Similarly, Nuruosmaniye and Laleli have their shops under the central space and with a direct relationship with the urban fabric.

5.2.2.2. MOVEMENT IN THE KÜLLIYE

The layout of the külliye dictates the movement to and within it. In the case of the sultans' külliyes in Istanbul, the mosque is located in the center of the central space, while other facilities are grouped around it. Thus, reaching the mosque is possible only through the central space, which acts as a node for the whole community, while the mosque becomes its focal point.[2] The generous number of entrances to the central space makes any separation between the külliye and its surroundings vanish and makes the central space part of the urban fabric.[3] The Fatih, Süleymaniye, Şehzade, and Laleli are a few examples whose central spaces are still used as nodes and public spaces.

The mosque can be reached through the central space, and in the case of the sultans' külliyes in Istanbul, they have one entrance at the northern wall, which leads to the mosque's courtyard, and two or three entrances at each of the eastern and western sides.

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[1] The Süleymaniye also has some shops on the main level of the külliye at the western side of the central space. See plan 3-12.

[2] The two terms "node" and "focal point" are borrowed from Kevin Lynch's The Image of the City, MIT, 1985, p. 46.

[3] See section 4.4.2.2. (The case of Istanbul) for more about the role of the central space as an open public space.

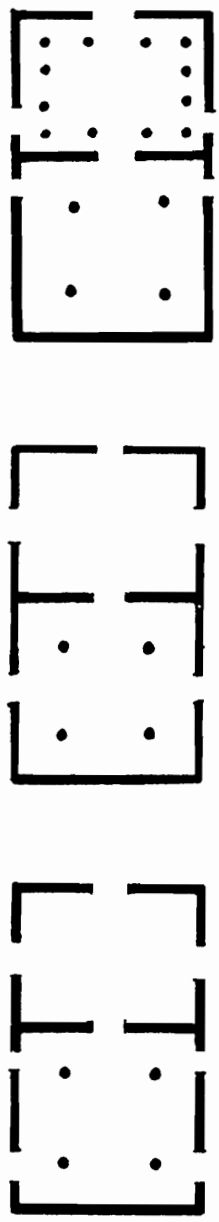
The mosque's courtyard has three entrances from the central space at three sides and a fourth entrance at its southern wall leading to the covered part of the mosque.[1] The covered part of the mosque has its main entrance from the courtyard and one or two entrances at each of the two side walls. The side entrances present three varieties (plan 5-12). The most typical case is to have one entrance at the bay north of the main dome, such as in the case of Yeni Valide in Eminönü, Sultan Ahmet, or Süleymaniye. The second variety is to have two entrances at each side, one at the northern bay and the second at the southern one; the Selimiye serves as an example of this case. The third variety is to have the entrance at the main bay of the mosque in axis with the main dome.

Access to different facilities in the külliye also happens through the central space; the medreses in Fatih, Şehzade, Selimiye, and Süleymaniye, for example, can be reached through that space. Other facilities can be reached in a variety of ways: through the central space (the imaret in Süleymaniye), from within the külliye but not necessarily through the central space (the hospital in Fatih), or directly from the public road (darü'l-it'am in Şehzade). Nonetheless, the central space maintains its strong influence as the main space of the külliye around which the rest of the composition is arranged (plan 5-13). The concept of having all facilities around the central space made it unnecessary to have any direct relationship between the different facilities in the külliye, thus, it is not a familiar practice to have two medreses open to each other although they may share a wall.

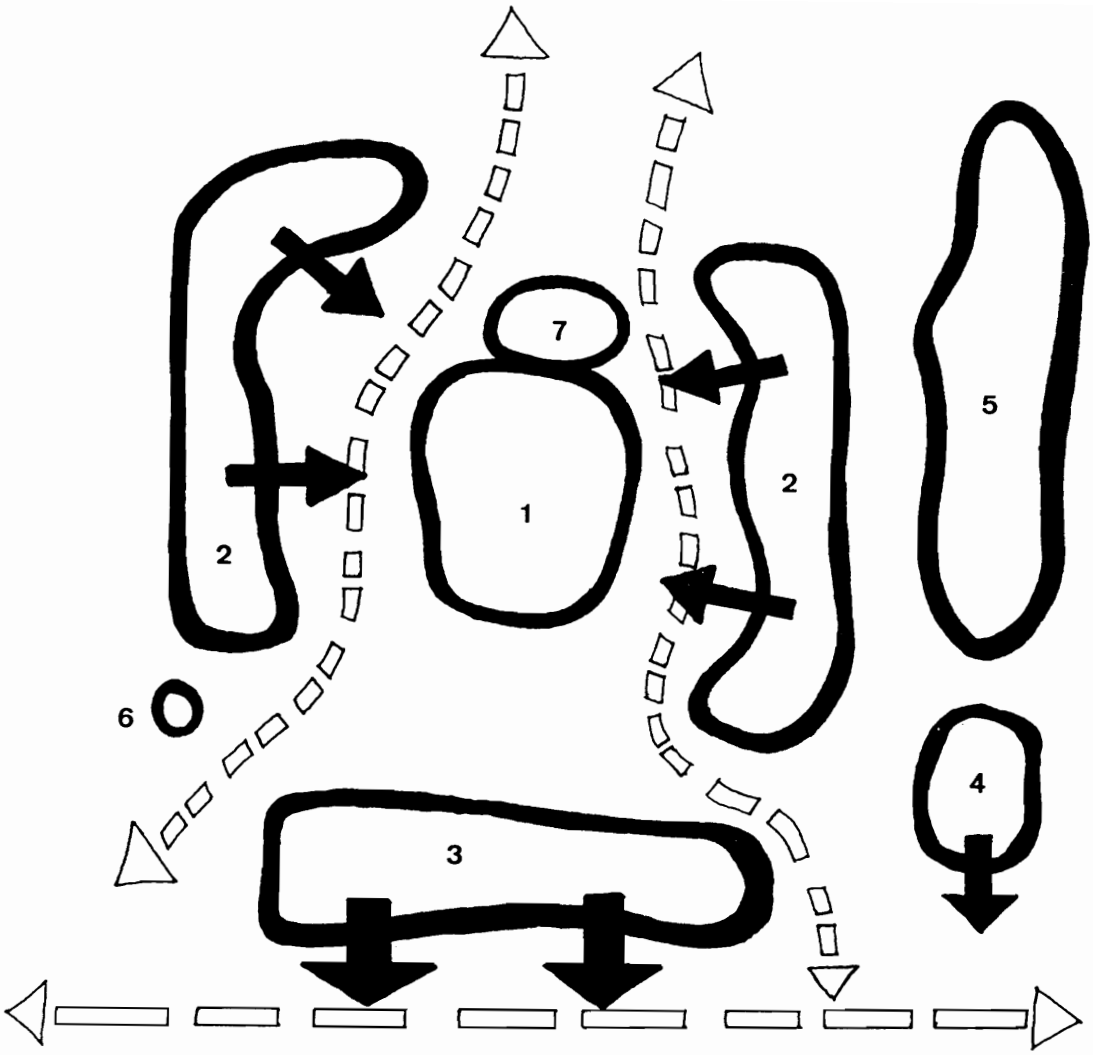
5.2.2.3. HIERARCHY OF STRUCTURES IN TERMS OF SIZE

A better sense of hierarchy is observed in the geometric külliyes and especially in the sultans' ones. The mosque is much larger than any other facility with its two parts -- the covered one and the open courtyard. The central space acts as an extension to it, and thus, renders it more grandiose and monumental in appearance. Other facilities are smaller than the mosque and have, in general, similar sizes; thus, although the

[1] See Appendix C for a discussion of the Ottoman mosque: its covered part and its courtyard.



Plan 5-12: A diagram showing the different possibilities of entrances to the mosque in geometric külliyes



Plan 5-13: A functional diagram of a geometric külliye with circulation patterns; 1. mosque, 2. medreses, 3. imaret, 4. hamam, 5. shops, 6. sebil, 7. türbe

architectural design of the medrese differs from that of the imaret, hospital, or han, they all are relatively equal in terms of the area they occupy. A third scale of facilities includes the hamam and the türbe. The functional program of any facility, as well as the number of its users, determines its size. The mosque is the most used facility, where hundreds of people can meet at the same time, while a medrese or an imaret may usually have no more than a hundred people at one time. The hamam is usually used by a smaller number of people at any one time, besides the fact that its functional program is simpler than a hospital or an imaret. The türbe is used by a few individuals who visit the tomb which itself does not require a large area.

The hierarchy of buildings is even better observed at the vertical plane; the mosque is the highest building in the whole composition, its dominance is emphasized by being raised above the rest of the külliye and by its grandiose architecture with its great dome and minarets. The türbe is the second monumental structure, its monumentality stems from its role as a commemoration of the külliye's patron; it is, thus, the symbolic importance of the türbe which requires the special scale and not any functional consideration. In the case of the mosque, two factors influenced its scale: the symbolic concept of unity which generated the idea of one large space under one dome, and the functional consideration which required the erection of the largest possible hall for prayer. It was the combination of these two factors that inspired the Ottoman architect to strive for the achievement of a superstructure which can cover the large mosques.

Other facilities had similar heights which did not exceed two stories. Because of this fact, these facilities acted as a visual preparation to help the eye move from the typical urban fabric scale to the monumental scale of the mosque. The different facilities had a height relatively close to that of the urban fabric; therefore, these facilities did not present a major change in the overall streetscape. However, these facilities were architecturally different from the rest of the fabric; they enjoyed a clear and formal order which the typical fabric did not have. This formal order can be seen in the unified height of the facilities and in the rhythm used in the design of the facade. The sense of order which can be recognized

by the viewer prepares him to the ultimate order seen in the mosque. Thus, because of the dual character of the külliye's facilities, they establish a way of connecting the urban fabric to the külliye's largest monumental (fig. 5-15, 16).

5.3. A TYPOLOGY FOR THE KÜLLIYE

The basic and most important element in any külliye was the mosque, for it played the key role in the life of the külliye. Its functional importance stemmed from the fact that it was the spiritual, as well as social, center of the community. The functional importance of the mosque was reflected in the formal composition of the külliye. The mosque occupied a central position, while other facilities were grouped around it in a variety of configurations. Being the center of the composition, the mosque and its surrounding space influenced the whole design of the külliye. The different treatments of the mosque and its surrounding space generated a variety of layouts for the külliye.

The development of the mosque's architecture was accompanied by a development in the design of the open space around it. This space was critical from a design point of view because of its nature: it was the space around the core of the külliye. The relationship between other facilities and the mosque, as well as amongst each other, was directly influenced, if not dictated, by this open space. Because of the vital role the mosque and its surrounding space played in the design of the külliye, they are used here as the basis upon which a typology is offered.

More specifically, the characteristics of the open space around the mosque are used to establish a series of types for the design of the külliye. It is proposed here that the open space's degree of exclusiveness to the mosque influenced the typology of the külliye. Four types of külliyes are defined based on this premise.

1. Külliye with no special space for the mosque.
2. Külliye with a shared space between the mosque and other facilities.

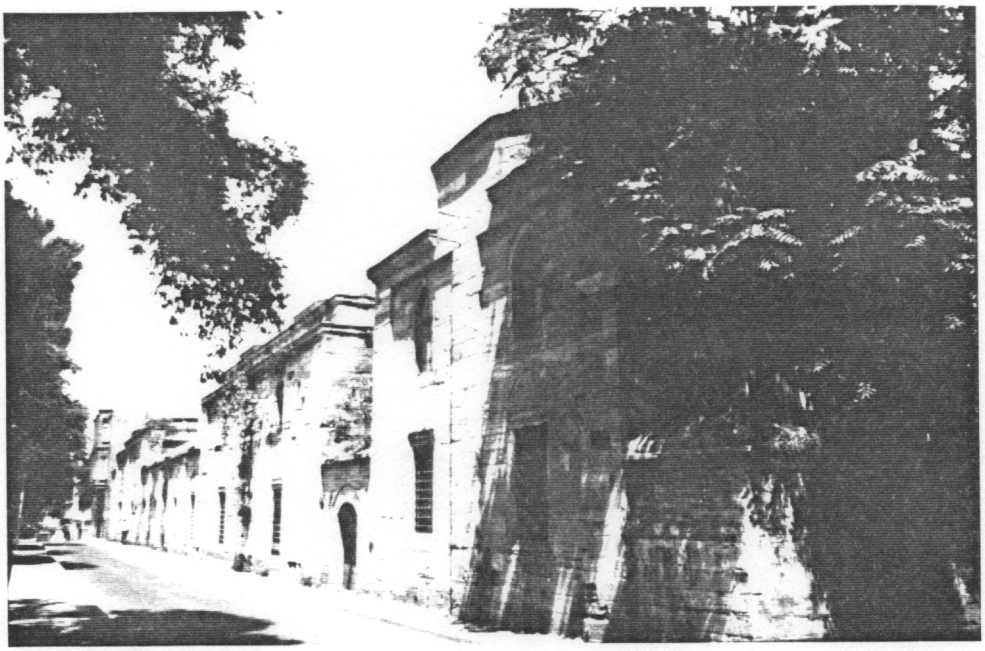


Figure 5-15: Şehzada külliye, Istanbul; a view of darül-it'am showing the architectural order of the facade

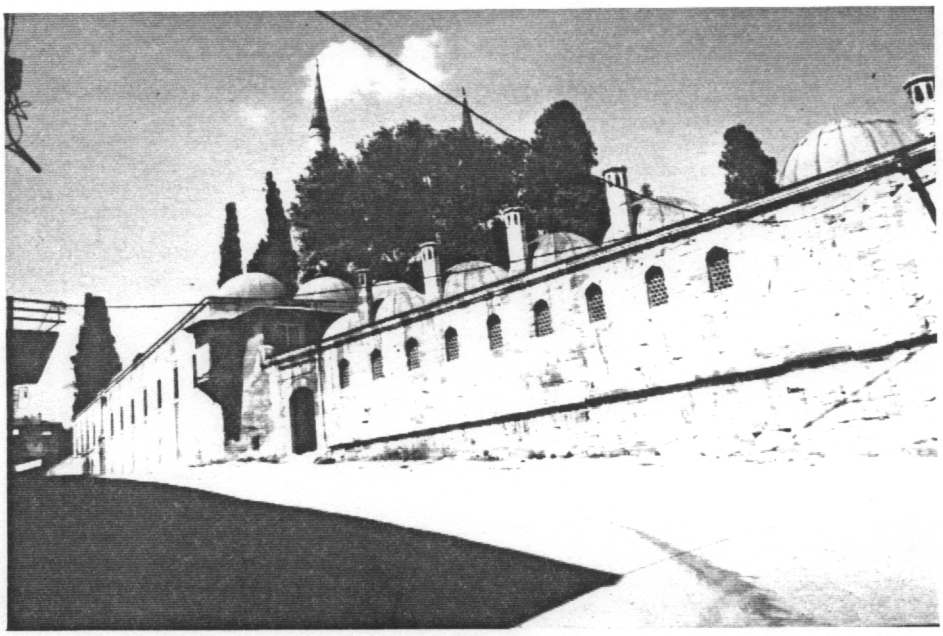


Figure 5-16: Atîk Valide külliye, Istanbul; the medrese acts as a visual preparation for the highly ordered mosque in the background

3. Külliye with a shared space for the mosque and medrese.

4. Külliye with a special space for the mosque.

Since the four types existed simultaneously, this typology does not represent a chronological order. There were other factors which influenced the development of the four types along with the factor of time, such as the geographical location of the külliye and the status of its builder.

5.3.1. KÜLLIYE WITH NO SPECIAL SPACE FOR THE MOSQUE

The main quality of this type is the lack of a clearly defined space for the mosque. The mosque and the rest of the facilities are grouped together in one particular area. The grouping creates a sense of center, which is the külliye. In some cases the grouping seems to be without a clear geometrical order and in others some kind of geometry can be observed.

This type of külliye was used in the early periods of Ottoman architecture. Its best examples can be seen in Bursa, when it was the seat of the government. The first five out of nine külliyes listed in Table 5-1 were built in Bursa during a short period of time, between the end of the fourteenth century and the early years of the fifteenth century. During that period, the eyvan mosque was the dominant type used in the architecture of the Ottoman mosque.[1] Four of these külliyes were built by sultans. The later külliyes were all built by the sultans and their families. Two of the later külliyes were built in Istanbul and two were built outside. Hence, this type was built mostly by sultans. The only külliye which was built by a grand vizier can be considered as an exception to the rule. Its architecture and size make it more like the many small centers which were built

[1] The eyvan mosque was also called the "Bursa type" and the "Reverse T" among other names. The term "Eyvan Mosque" was introduced by Aptullah Kuran. For detailed discussion of this type of mosque and its names see: Kuran, Aptullah, The Mosque in Early Ottoman Architecture, pp. 72-77.

in Bursa during the same period. In other words, it is only by definition that Timurtaş is considered a külliye.

NAME	LOCATION	DATE	BUILDER	AREA
Murad I	Bursa	1391	Sultan	9,000 sq.m
Yild. Bzt.	Bursa	1395	Sultan	32,300 sq.m
Timurtaş	Bursa	1400	Grandvizier	5,000 sq.m
Yeşil	Bursa	1420	Sultan	26,000 sq.m
Murad II	Bursa	1426	Sultan	23,100 sq.m
Beyazit II	Amasya	1481	Sultan	16,500 sq.m
Haseki Hrm	Istanbul	1539	Sltn Wife	11,000 sq.m
Mihrimah	Usk., Ist.	1548	Sltn dgtr	7,200 sq.m
Muradiye	Manisa	1592	Sultan	9,100 sq.m

Table 5-1: Külliyes with no special space for the mosque

Külliyes built in Bursa, then, were representative of sultans' külliyes of the period. They were also the largest, if compared with other külliyes of this type. The average size of sultans' külliyes in this type is around 16,700 square meters. However, the average size of those built in Bursa is 22,600 square meters, while the average size of those built outside Bursa and in later periods is only around 11,000 square meters. The decrease in the size of these külliyes can be explained by the fact that the later külliyes were built during the period when Istanbul was the capital, a period during which sultans' külliyes had a completely different style. By that time the fourth type (külliye with a special space for the mosque) was the dominant and most favored one by sultans. This explanation is valid for Haseki Hürrem and Mihrimah Sultan külliyes, which were built in Istanbul during the period when the fourth type was on its way to be established.

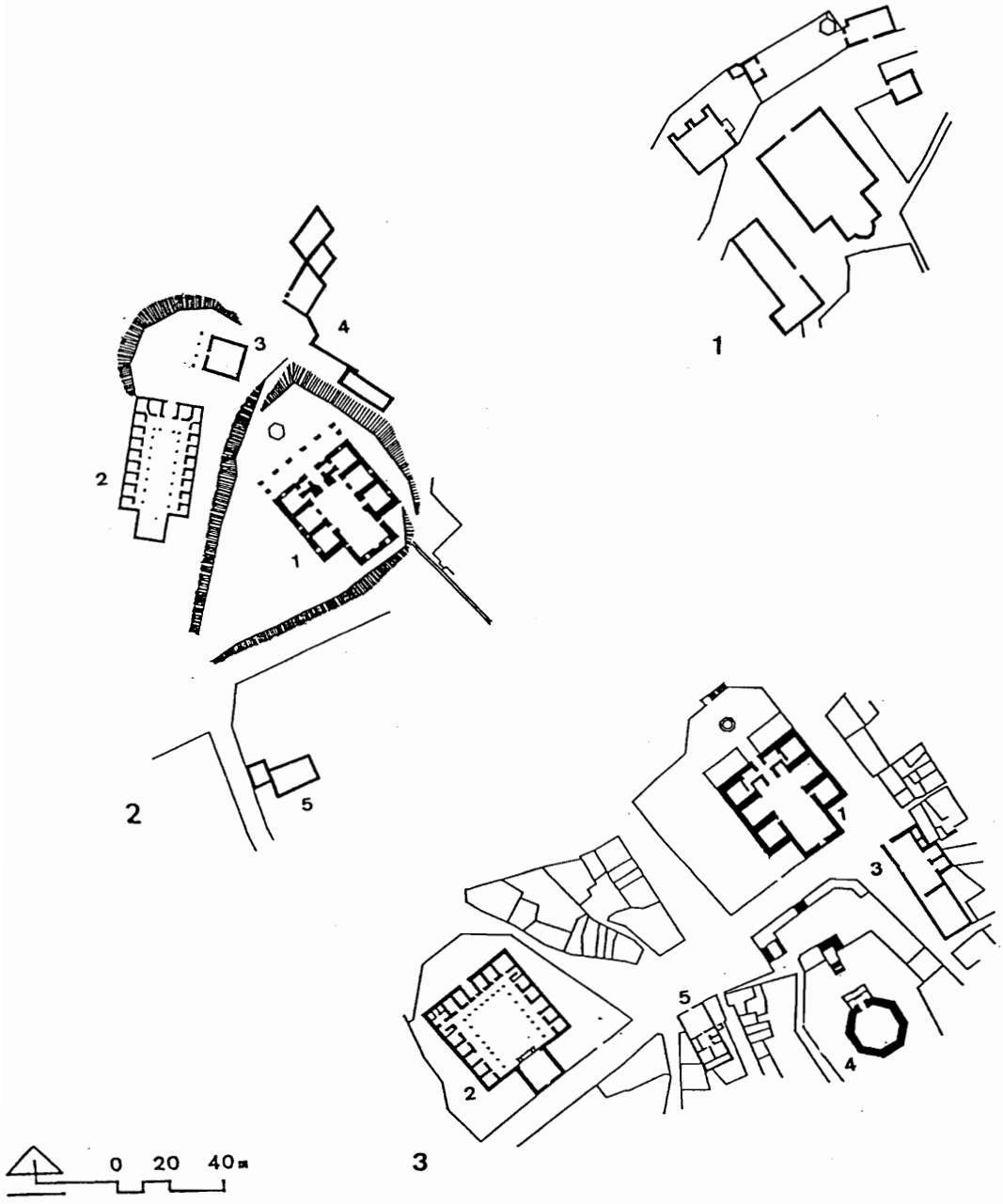
Beyazit II in Amasya was relatively good sized. However, because of the fact that this külliye, as well as the Muradiye in Manisa, were built outside Istanbul, they did not need to be of a great size. In fact, building smaller külliyes shows a mature level of sensitivity to the needs of each one of these cities. It would have been very overwhelming to have a külliye of the Süleymaniye's size in any of these cities. The Selimiye in Edirne is another example to testify to this sensitivity. Although it was built for a sultan and according to the fourth style, its size was much smaller than other sultan's külliyes erected in Istanbul.[1]

There are three layouts distinguished within this type of külliye: vernacular, linear, and clustered. The vernacular layout is more influenced by the existing topography and conditions of the site than by a geometrical order.[2] Structures are grouped around the mosque with respect to the existing urban fabric and topography. The different facilities are part of the fabric and weaved within it. The külliyes of this group are Murad I, 1391; Yildirim Beyazit, 1395; and, Yeşil, 1420 (plan 5-14). They were the first major külliyes to be built. It is natural that they would belong to this type and this group, since at that time none of the geometrical design ideas were introduced to the overall planning of the külliye. If a model of this group is to be selected, it would be Yildirim Beyazit's külliye (plan 4-15). Buildings are located on different platforms and oriented in different directions. They are located with respect to topography, without compromising the superiority of the mosque. Murad I külliye (plan 4-12) shows centrality as the most dominant feature of the layout, while Yeşil külliye (plan 4-4) seems to fit with the topography and the fabric. It also presents the beginning of a simple order expressed in the alignment of structures.

The alignment of the mosque and medrese in Yeşil establishes a linear composition, which is not very strong in this case. However, it is this characteristic that distinguishes the linear layout (plan 5-15). The first level of geometrical order, which can be seen in the

[1] See section 4.1.2. for more about sizes of cities and their relation to sizes of külliyes.

[2] See sections 5.1.2. and 5.2.1. for a more detailed description of the vernacular külliye.



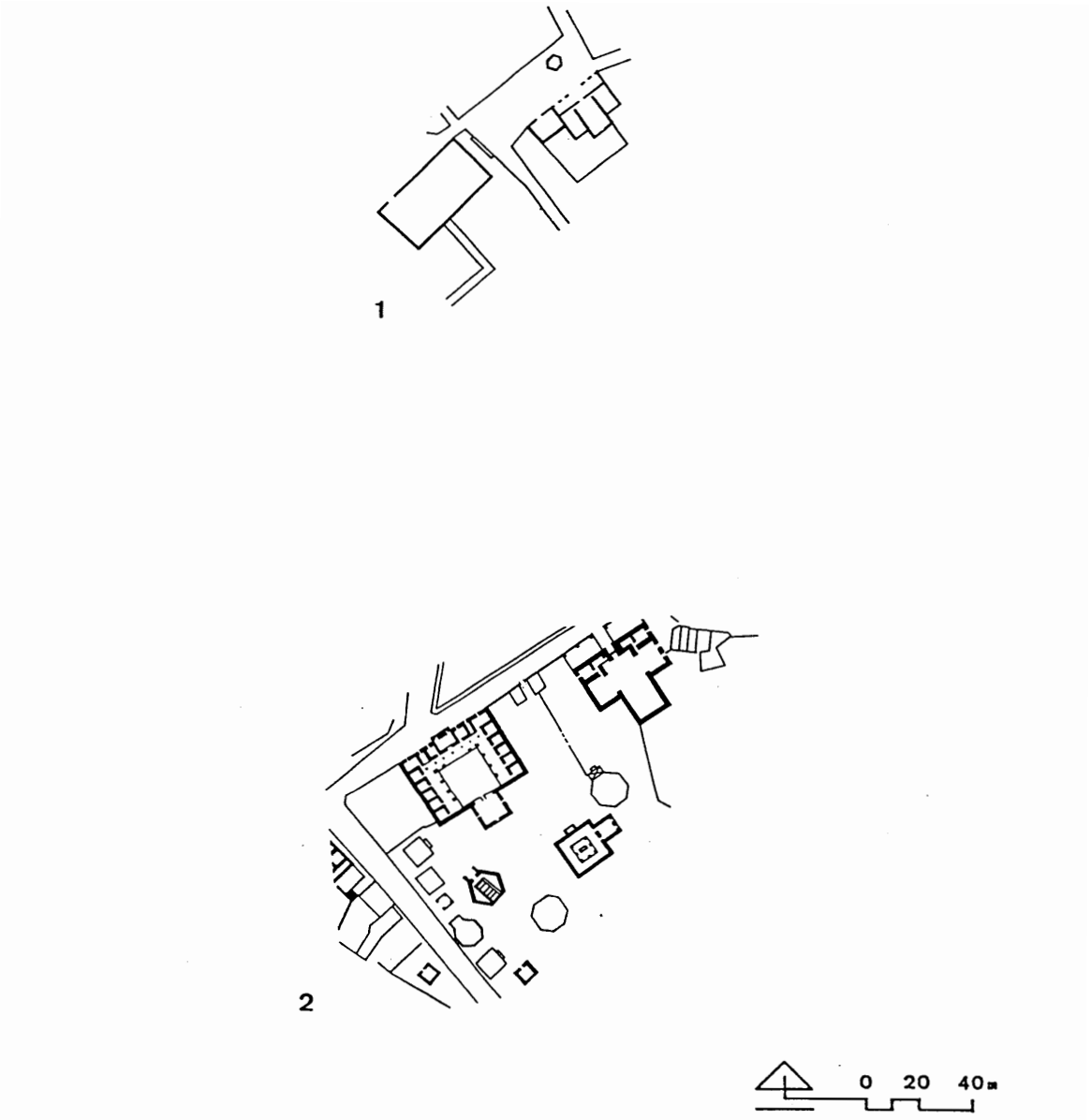
Plan 5-14: Külliyes with no special space for the mosque, vernacular type; 1. Murad I, 2. Yildrim Beyazit, 3. Yeşil (all in Bursa)

design of the külliye, is alignment. The existence of a piece of land which allowed two of the külliye's structures to face the street meant aligning these two structures. The earliest example is Timurtaş Külliye, 1400, which has the mosque and the imaret aligned parallel to the road (plan 4-28). Murad II in Bursa, dated 1426, is a better example of this layout. The mosque is flanked by the medrese and the imaret on each side, while the street connects these buildings, as well as the hamam, which is located to the west of the medrese (plan 4-5). The imaret and the hamam are located along the seem line of the mosque and medrese; however, they are not aligned with them. The obvious explanation for such a discrepancy is that the hamam and imaret were fitted to respect the existing urban fabric since they were located out of the main lot of the külliye. The türbes and burial ground behind the mosque and medrese are a good example of compartmentalization and sequential spatial arrangement with constant visual change.[1]

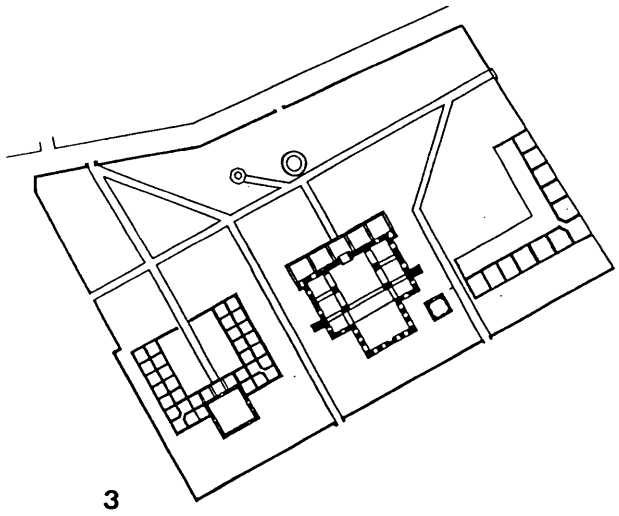
Beyazit II külliye, 1481, in Amasya, is the best example of this layout (plan 5-2). The mosque is in the center of the composition, while both the medrese and the imaret are parallel to and aligned with it. The superiority of the mosque is very well established by its monumental architecture. This architecture, however, presents an early example of three levels of design which brought the building to a more human scale. Transparency can be seen in the northern wall of the medrese which encloses the courtyard. Another principle which is apparent in the külliye is the sense of enclosure.[2] The whole külliye is enclosed by a wall which defines the territories of the space and provides it with a sense of place. Similarly, the medrese has its own courtyard which is enclosed by a wall. The mosque has its space defined by the portico, the şadirvan, and the trees which enclose the area. The imaret, however, has the most interesting case of the three main buildings. Its L-shape provides only two sides to enclose a space. The designer seems to have used the türbe as a means to provide a sense of enclosure (plan 5-16). The türbe is located in a way that closes the gap between the imaret and the mosque. Such an arrangement creates a

[1] See sections 6.2 and 6.8 (Sequential spatial arrangement...)

[2] See section 6.2 (Design Principles used in the külliye)



Plan 5-15: Külliyes with no special space for the mosque, Linear type; 1. Timurtaş, Bursa, 2. Murad II, Bursa



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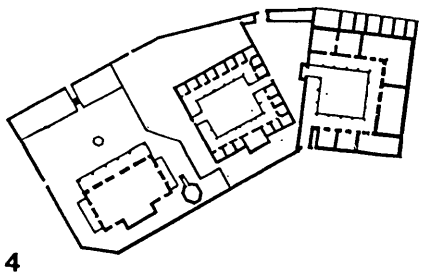

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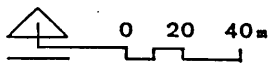


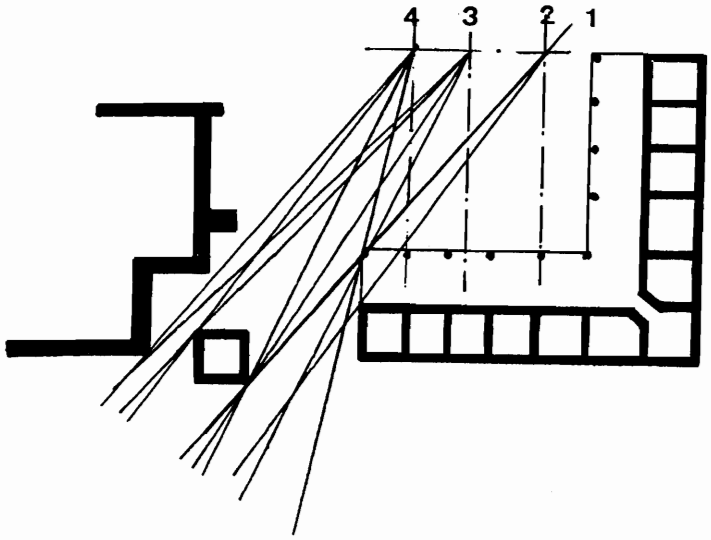
Plan 5-15: Külliyes with no special space for the mosque, Linear type (continued); 3. Beyazit, Amasya, 4. Muradiye, Manisa

unity between the imaret and the mosque, and, hence, allows a stronger feeling of enclosure for the space of the imaret. The passerby who enters the külliye from the eastern gate will feel the presence of a well defined space for the imaret. He will also experience transparency through the opening of the imaret's arcade and the small gaps between the türbe and the imaret or the mosque.

The Muradiye in Manisa, 1592, is a later example of the linear layout. However, the advanced organization of Beyazit Külliye in Amasya does not exist here. The mosque is not in the center of the composition, and the three buildings are not aligned (plan 5-3).[1] This odd layout makes this külliye fit the vernacular layout; yet, the linear arrangement is also very present. A nice feature of this külliye is the spatial arrangement which allows a variety of visual experiences. The movement from the mosque to the imaret through the medrese presents the visitor with a constant change in direction, lighting, and shapes. The Muradiye appears to be squeezed in a small lot; from that perspective it has some resemblance to the clustered külliyes.

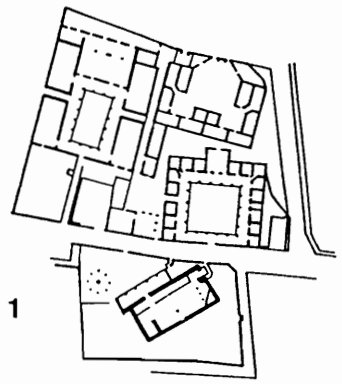
The clustered layout can be seen in Haseki Hürrem, Istanbul, 1539, and Mihrimah, Üskudar, Istanbul, 1548 (plan 5-17). Both of these külliyes are enclosed by a wall. Enclosing the whole külliye with a wall was a relatively well established practice when these two külliyes were built. Fatih, 1470; Beyazit II, Edirne, 1488; as well as Beyazit II, Amasya, 1481, were all enclosed by a wall. The wall in both of these külliyes, however, did not enclose all of the külliyes' buildings. The mekteb in Mihrimah (plan 4-34) and the mosque in Haseki Hürrem (plan 5-18) were located outside the main wall. It seems that in both cases the program of the külliye needed a larger site. The limitations caused by the size of the site meant awkward arrangements. The medrese in both külliyes had to be shifted because of limitation of the site. The buildings in Haseki Hürrem, in particular, are very close to each other because of the same reason. The mosque in this külliye has a separate space; however, two reasons make it fit this type more than the fourth one.

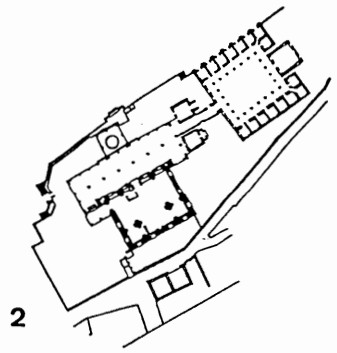
[1] For a discussion about the layout of this külliye see: Kuran, Sinan, pp. 220-3.

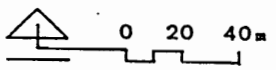


between points 1 and 2: complete enclosure by the türbe
between points 2 and 3: a narrow opening appears, still strong sense of enclosure
between points 3 and 4: two narrow openings at both sides of the türbe, still strong sense of enclosure
beyond point 4 : a clear opening between the imaret and türbe

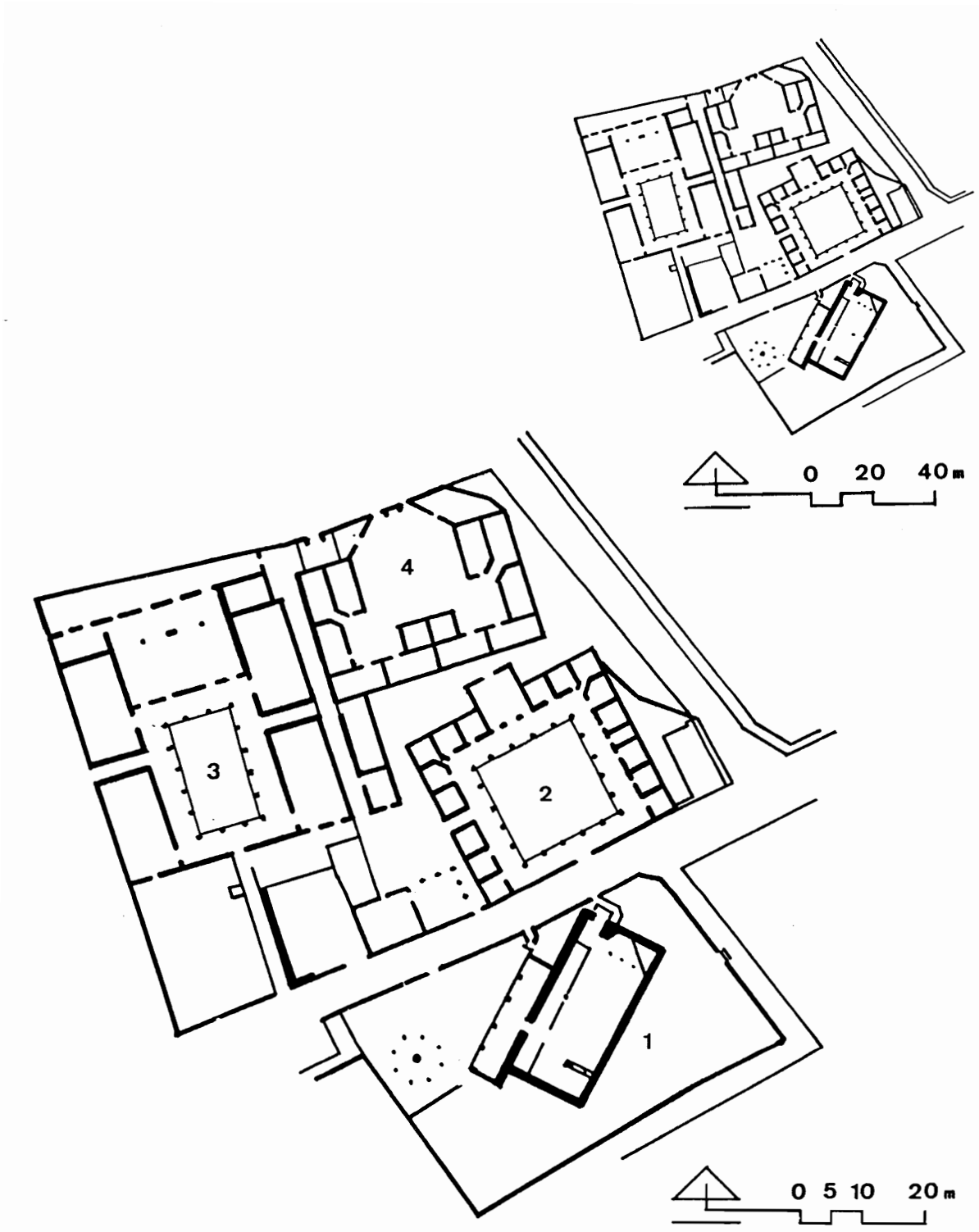
Plan 5-16: Beyazit külliye, Amasya; the imaret's courtyard, the türbe helps create a visual enclosure in this space







Plan 5-17: Külliyes with no special space for the mosque, clustered layout; 1. Haseki Hürrem, Istanbul, 2. Mihrimah, Üsküdar



Plan 5-18: Haseki Hürrem külliye, Istanbul; 1. mosque, 2. medrese, 3. imaret, 4. (after Kuran, 1987)

First, the buildings are very clustered together in a manner which is not usually seen in the külliyes whose mosques have special spaces. Second, although the mosque has a space around it, this space does not have the characteristics of a typical space around a mosque of the fourth type, such as being aligned with the mosque, or having the şadırvan on the same axis of the main entrance to the mosque. Both of these külliyes enjoy a richness in their visual experiences.

The scale of these külliyes is relatively comfortable due to the relatively low height of the buildings. The mosque is always the higher structure in any composition. Its height was moderate in these külliyes, however, since the size of the mosque was also moderate. Therefore, the spaces between buildings were well-proportioned and, thus, visually comfortable.

5.3.2. KÜLLIYE WITH A SHARED SPACE BETWEEN THE MOSQUE AND OTHER FACILITIES

A külliye of this type contains a defined space in front of the mosque. However, this space does not belong to the mosque only; it is shared with other facilities in the külliye. Except for Beyram Paşa (plan 4-37), all of the cases presented of this type are surrounded and enclosed by a wall. Hence, from a formal point of view, these külliyes appear to be isolated from the rest of the urban fabric. However, functionally some külliyes are very much part of the social life of the street, even in our time. What gives some of the külliyes this characteristic is having more than one gate. Two gates or more in a külliye allow a chance for moving through from one side to the other. The külliye becomes a moving device of a sort which connects different streets together. In the case of one gate, the külliye is more like an island in the fabric entered only by those who need to use its facilities.

Another characteristic of this type is that structures are physically attached to each other. They either share walls, such as the case of Amcazade, Başir Aga, or Çorlulu külliye (plans 4-25, 26, 39); or at least they have a wall which connects the structures together, such as

the case of Hekimoğlu or Köprülü (plans 4-19, 23). That the structures were attached together and the külliye was enclosed by a wall made each külliye of this type a strong architectural unit (plan 5-19). Külliyes of this type appear as if they were private homes with small structures, or rooms, around a private courtyard. The idea of attaching structures together was constantly used in Ottoman architecture. The great sultan külliyes in Istanbul show the use of walls which connect all structures. The use of walls in monumental külliyes helped in the process of creating a more comfortable scale.[1]

With the exception of Çoban Mustafa Paşa, all külliyes discussed of this type were built during the seventeenth and eighteenth centuries; Koca Sinan Paşa, which was built in 1593, almost belongs to the seventeenth century (table 5-2). Çoban Mustafa Paşa can be considered as a unique case of this type for many reasons (plan 5-4). First, it was built much earlier than the rest of this type külliye. Second, it is the only one which was built outside Istanbul. Third, it is much larger in size and program than all other külliyes. Fourth, it is more formal in its design; in other words, it has a clear geometrical arrangement which does not exist in other külliyes of its type. Reasons for these differences cannot be easily explained. However, some facts can help explain the differences. First, it was built in the center of Gebze; hence, it was the most important külliye in town. This might be the reason for it to have a larger program and size. Second, it was built in a period when the style of the great sultan külliyes was still in the process of development and experimentation. Sinan, the architect of the külliye, might have wanted to use this opportunity for experimentation outside Istanbul. There are quite a few ideas in the design of this külliye which can be seen in sultans' külliyes, such as locating the türbe at the southern side of the mosque, having a special space for the türbe enclosed by a wall, and using a rigid geometry in the whole layout. It is important to mention that the third type of külliye (külliye with a shared space for the mosque and medrese) was in the process of development at the time when Çoban Mustafa Paşa was built (see table 5-5).

[1] See section 5.3.4 (Külliye With a Special Space For the Mosque) for more about this point.

NAME	LOCATION	DATE	BUILDER	AREA
Çoban Mustafa	Gebze	1520's	Grandvizier	15,600 sq.m
Şemsi Paşa *	Istanbul	1581	Grandvizier	1,500 sq.m
Koca Sinan Paşa	Istanbul	1593	Grandvizier	1,100 sq.m
Beyram Paşa	Istanbul	1634	Grandvizier	1,900 sq.m
Köprülü Ali P. *	Istanbul	1660	Grandvizier	750 sq.m
Kara Mustafa P.	Istanbul	1690	Grandvizier	620 sq.m
Amcazade	Istanbul	1702	Grandvizier	2,750 sq.m
Çorlulu Ali Paşa	Istanbul	1708	Grandvizier	1,600 sq.m
Ahmadiye	Istanbul	1722	Comptroller	1,300 sq.m
Hekimoğlu Ali P.	Istanbul	1734	Grandvizier	2,400 sq.m
Başir Aga *	Istanbul	1745	Chief ...	1,500 sq.m

* Şemsi Paşa, Köprülü Ali Paşa and Başir Aga are centers and not külliyes

Table 5-2: Külliyes with a shared space between the mosque and other facilities

Similarities between this külliye and Ayşe Hafsa in Manisa, which was built in the same decade, cannot be overlooked.

Hence, külliyes with a shared space between the mosque and other facilities were mostly the product of the seventeenth and eighteenth centuries. The cases which are listed in this study were all built in Istanbul. This is understandable considering the fact that these külliyes were built by grand viziers or high officials in the state. The very fact that these külliyes were built in Istanbul and by officials in the state and not sultans may have something to do with the size of these külliyes. By the seventeenth century most of the

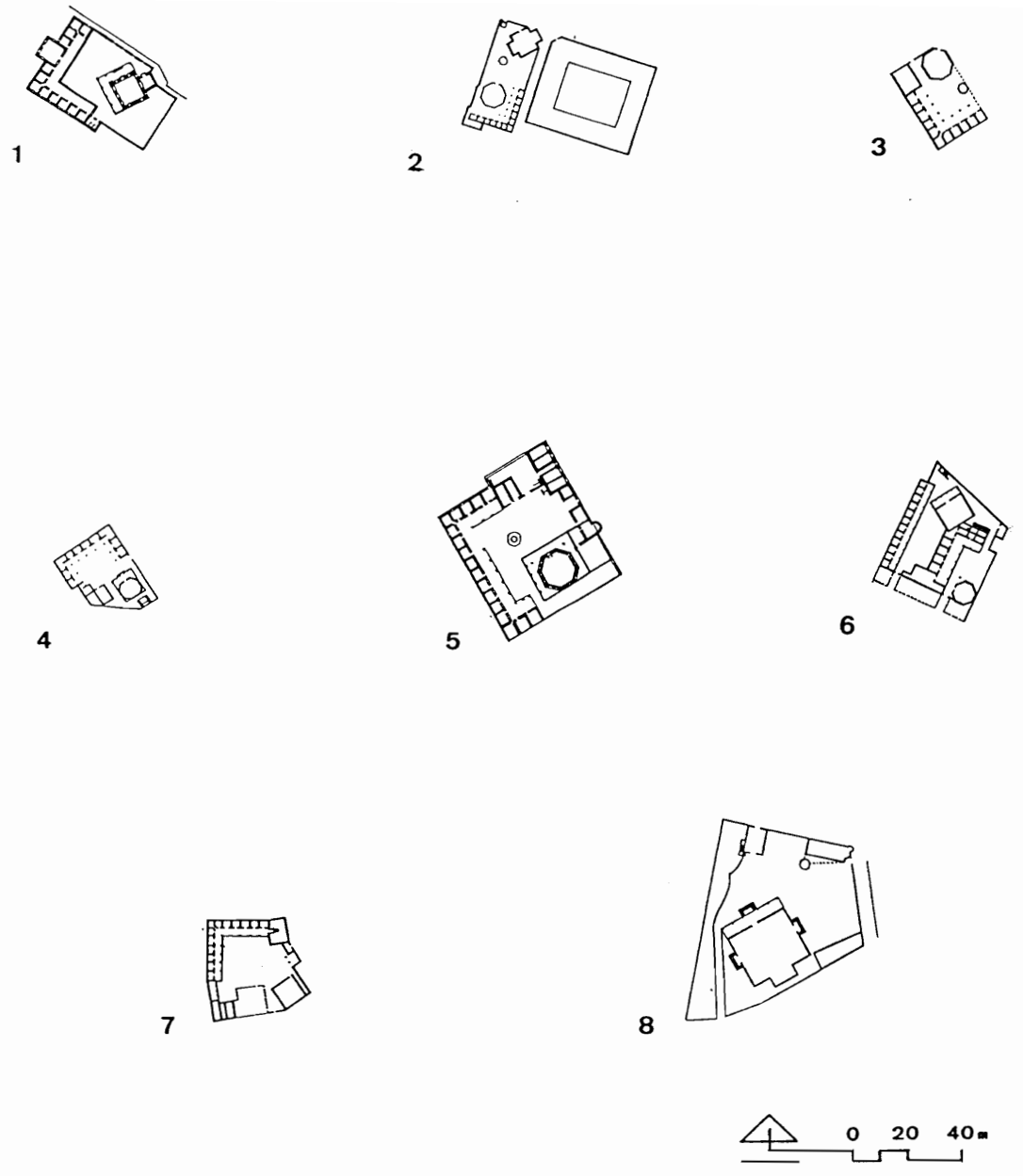
great sultan külliyes were already built and the city had sufficient services. The Fatih, Şehzade, Süleymaniye, and even Sultan Ahmet were dominating Istanbul by then along with many other smaller külliyes. The city was fairly crowded also. Land was not as readily available as it was in the early years of the conquest. High officials of the state who were interested in building külliyes probably had no choice but to build smaller külliyes. It is worth noting that during the seventeenth and eighteenth centuries even sultan's külliyes were much smaller than their counterparts in the two earlier centuries.

The average size of this type of külliye built in Istanbul was around 1,600 square meters only. These külliyes are the smallest among all others in this study. The number of facilities in such külliyes is also relatively small. Most of these külliyes include a mosque, a medrese, and one or two other facilities such as a library, mekteb, burial ground, or sebil. These külliyes were more at a neighborhood level than at a city level. In other words, they were to serve a particular neighborhood of the city unlike the great sultan's külliyes, which were at a city or even state level. A good number of these külliyes were built in residential areas, as opposed to the center of the city, where most of the larger külliyes were built. Beyram Paşa, Amcazade, Ahmadiye, and Hekimoğlu are all located in residential quarters away from the central area of the city. Koca Sinan Paşa, Köprülü Mehmet Paşa, Kara Mustafa Paşa, and Çorlulu Ali Paşa are all located in the same area around a major commercial center of the city: the covered bazaar. However, residential quarters were very much around that market, as is the case in Muslim cities.

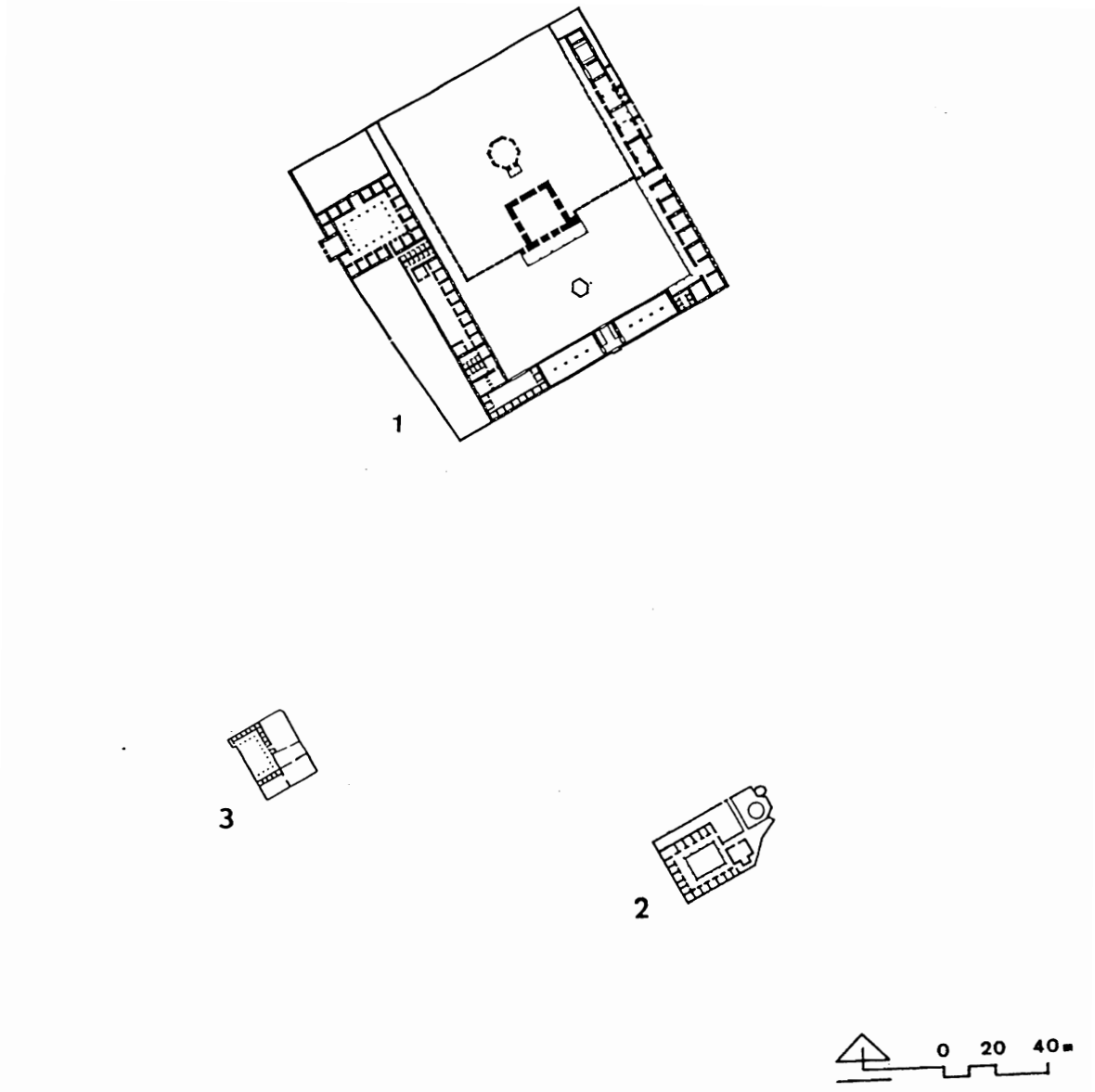
Külliyes with a shared space between the mosque and other facilities can be seen under two main categories. The basic difference between the two categories has to do with the way the medrese is addressed in relation to the rest of the külliye. The first category, and the more often seen, is that where the medrese shares its space with the rest of the külliye's facilities. Amcazade (plan 4-25), Ahmadiye (plan 4-41), Köprülü Mehmet Paşa (plan 4-23), Kara Mustafa Paşa (plan 4-24), Şemsi Paşa (plan 4-38) and Çorlulu Ali Paşa (plan 4-35) belong to this category (plan 5-19). The medrese is part of the whole composition and its rooms are arranged around two or three sides of the general space.

Çorlulu Ali Paşa, in particular, is a unique case since its medrese has two sections: one shared with the mosque's space and the other completely independent with its own space. The two sections of the medrese might have been two different medreses. If this was the case, Çorlulu Ali Paşa appears to be more like Beyram Paşa (plan 4-37), which has two medreses; one shares the space of the mosque, and the other is completely independent and even isolated from the rest of the külliye. The medrese in the second category has its own open space. Hence, Beyram Paşa or Çorlulu can belong to either kind. Çoban Mustafa Paşa (plan 5-4), Koca Sinan Paşa (plan 4-18), and Başir Aga külliyes (plan 4-26) show the independence of the medrese from the rest of the composition (plan 5-20). In both categories, though, one enters the medrese through the külliye's main entrance. In other words, the medrese is still part of the külliye although it has its own autonomy. Hekimoğlu (plan 4-19) cannot be included in either of the two kinds, since it does not have a medrese.

The shape of the available lot seems to have influenced the overall layout of the külliyes in this type. Çorlulu Ali Paşa is a good example of where the mosque had to be squeezed at the corner of the site in a very uncomfortable position. The Ahmadiye is another example which has an irregular site. The site was used in its entirety, and, hence, walls and structures were aligned with the borders of the site and not with each other. Had they been aligned with each other, a good part of the site would have been lost. The interior space would have been much smaller then. Kara Mustafa Paşa and Koca Sinan Paşa have their structures aligned; however, the irregular site affected the placement of the structures. Both of these külliyes have rectangular sites with one corner missing. In the case of Kara Mustafa, the mekteb was located at that missing side because it is a small one room structure. In the case of Koca Sinan, the relatively small mosque is located at one side of the missing corner and the türbe at the other side. These two külliyes show successful examples of the use of a geometrical layout with complete respect to a site's limitations. While Çoban Mustafa Paşa, Başir Aga, Amcazade, Şemsi Paşa, and Köprülü Paşa show a clear geometrical layout, Hekimoğlu, on the other hand, is another example of a layout which was dictated by the shape of the site.



Plan 5-19: Külliyes with a shared space between the mosque and other facilities, the medrese shares the same space; 1. Şemsi Paşa, 2. Beyram Paşa, 3. Koprülü Ali Paşa, 4. Kara Mustafa Paşa, 5. Amcazade, 6. Çorlulu Ali Paşa, 7. Ahmadiye, 8. Hekimoğlu (all in Istanbul)



Plan 5-20: Külliyes with a shared space between the mosque and other facilities, the medrese has its own space; 1. Çoban Mustafa Paşa, 2. Koca Sinan Paşa, 3. Başir Aga

The size of the structures is relatively small. All buildings are only one story high. The mosque is usually higher than a regular one story building; nevertheless, because of its small size in the külliyes of this type, it does not appear to be much higher than other structures. Külliyes such as Koca Sinan Paşa, Kara Mustafa Paşa, Ahmadiye, Amcazade, Şemsi Paşa, or Başir Aga have very well proportioned buildings and spaces (figs. 5-17, 18, 19, 20). Beyram Paşa is an exception; it has the darshane in the middle of the medrese's open space. Because of its relatively large size, the darshane practically occupies the whole space and leaves nothing but a narrow corridor between it and the medrese's arcade. Thus, the proportion of the space and the building is unusual (fig. 5-21, 22). A similar case happens in Çorlulu Ali Paşa where the mosque is squeezed between a high retaining wall and the cells of the medrese (plan 4-39). Çoban Mustafa Paşa in Gebze is much larger than the other külliyes; however, the spaces and architecture seem to be well-proportioned. The long and narrow passageway at the southeastern side of the külliye is softened visually by the windows in the eastern wall, which allows a visual expansion of space (plan 5-4). The elongated court in front of the mosque is nicely scaled down by the şadirvan, which breaks the space visually into two subspaces. The trees also play a noticeable role in dividing the space into small areas with a more comfortable scale. It is to be noted that a large space was needed in this case, however, in order to balance the monumentality of the mosque.

5.3.3. KÜLLIYE WITH A SHARED SPACE FOR THE MOSQUE AND MEDRESE

This type is, in a way, a special case of the second type, (külliye with a shared space between the mosque and other facilities). The mosque has a space which is shared with only one other facility; namely, the medrese. That particular open space is well developed architecturally that it has clear characteristics which are repeated in all külliyes of this type. The mosque-medrese space is the most important space in the külliyes of this type. In some cases, this space was the only one of special spatial qualities; other spaces were leftover spaces of no significant importance. Kara Ahmet Paşa (1554) and Sinan Paşa (1593) külliyes belong to this category (plans 5-21, 22).

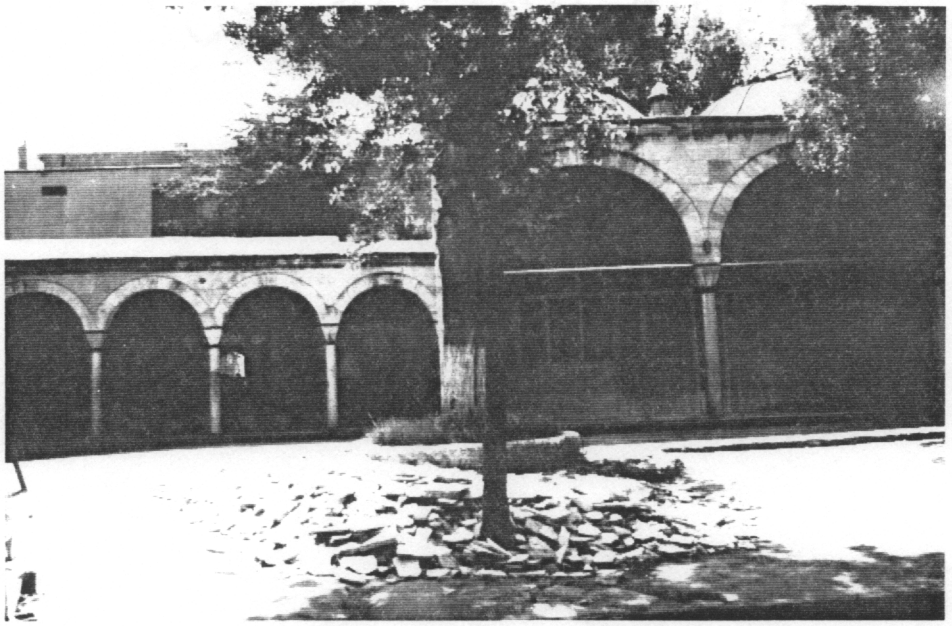


Figure 5-17: Ahmediye külliye, Istanbul; the courtyard

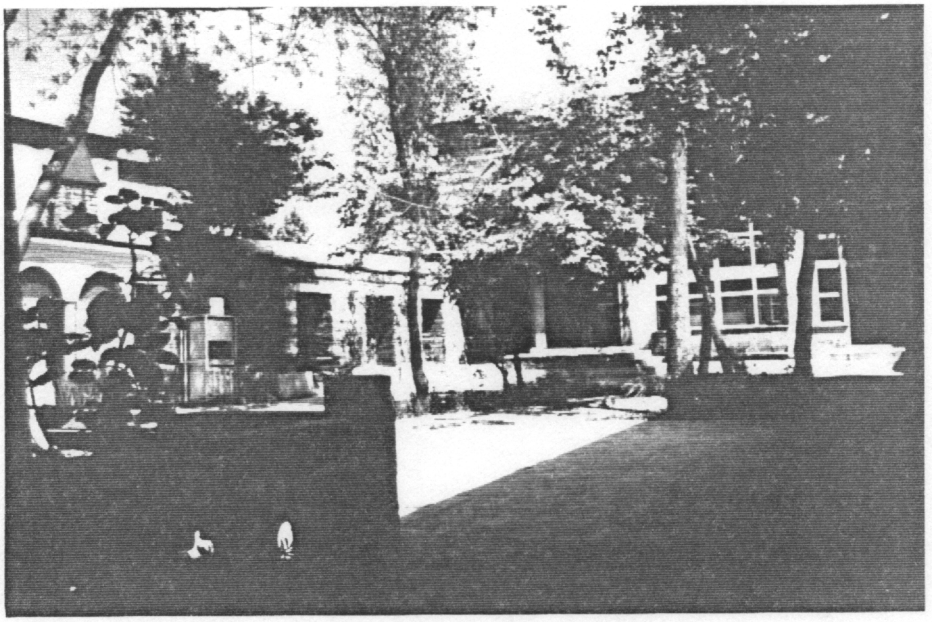


Figure 5-18: Başir Aga center, Istanbul; the size of the space, the height of the buildings, and the plant materials make the space appear more like a private residential courtyard. This image is true in all külliyes of this type

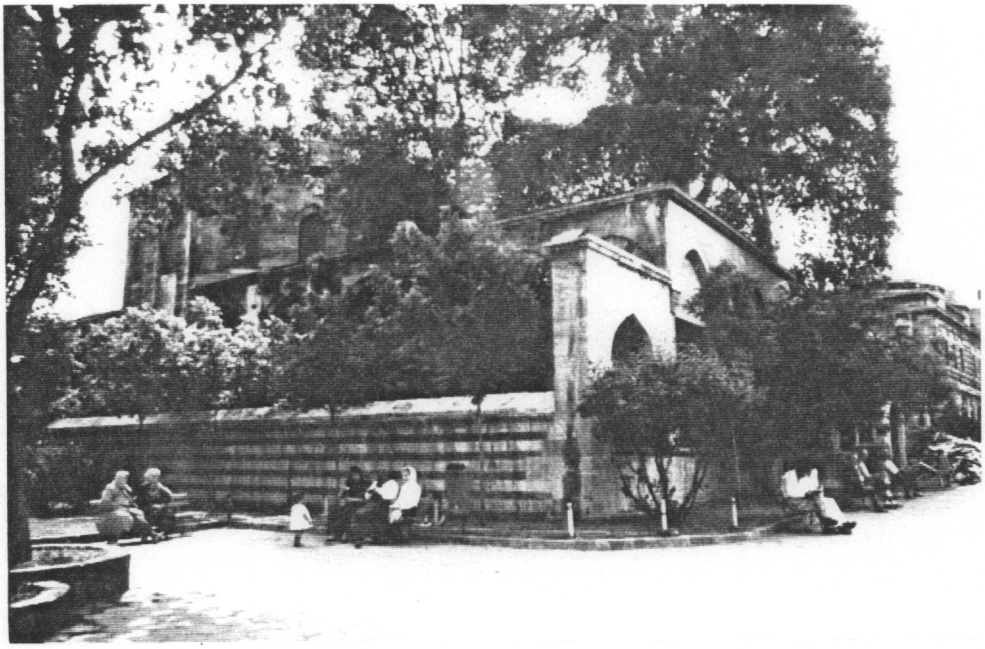


Figure 5-19: Amcazade külliye, Istanbul; a general view from southeast

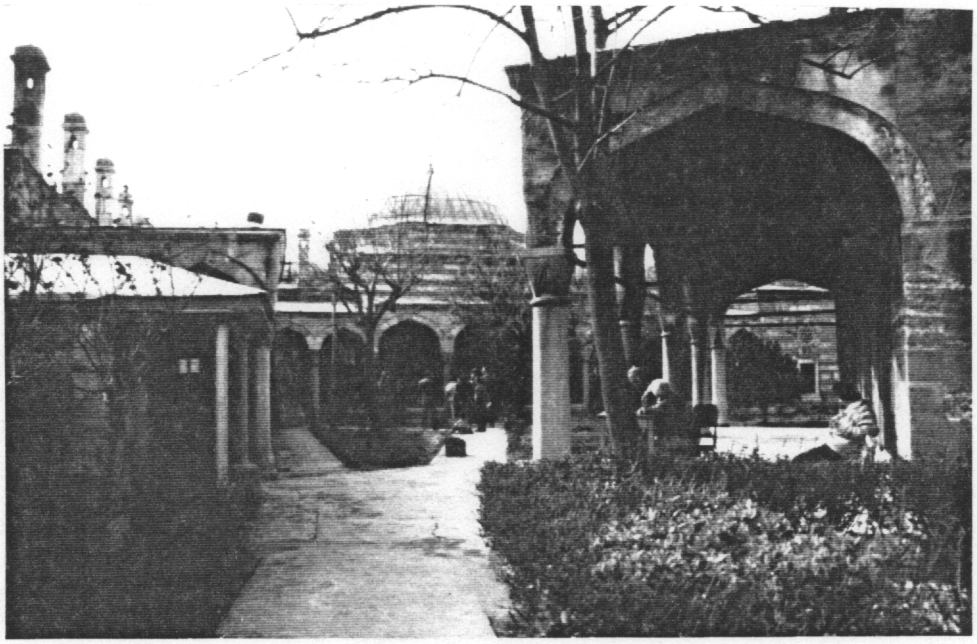


Figure 5-20: Şemsi Paşa center, Üsküdar, Istanbul; the courtyard, the mosque's portico is to the right and the dome of the darshane is in the center

Figure 5-21: Beyram külliye, Istanbul; the courtyard with the darshane in the background

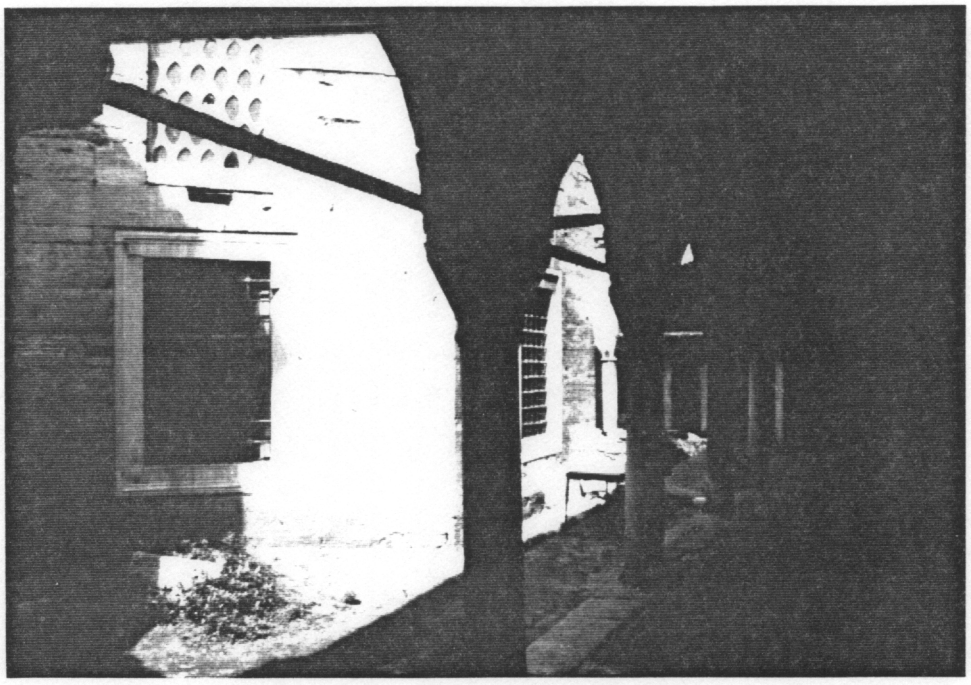
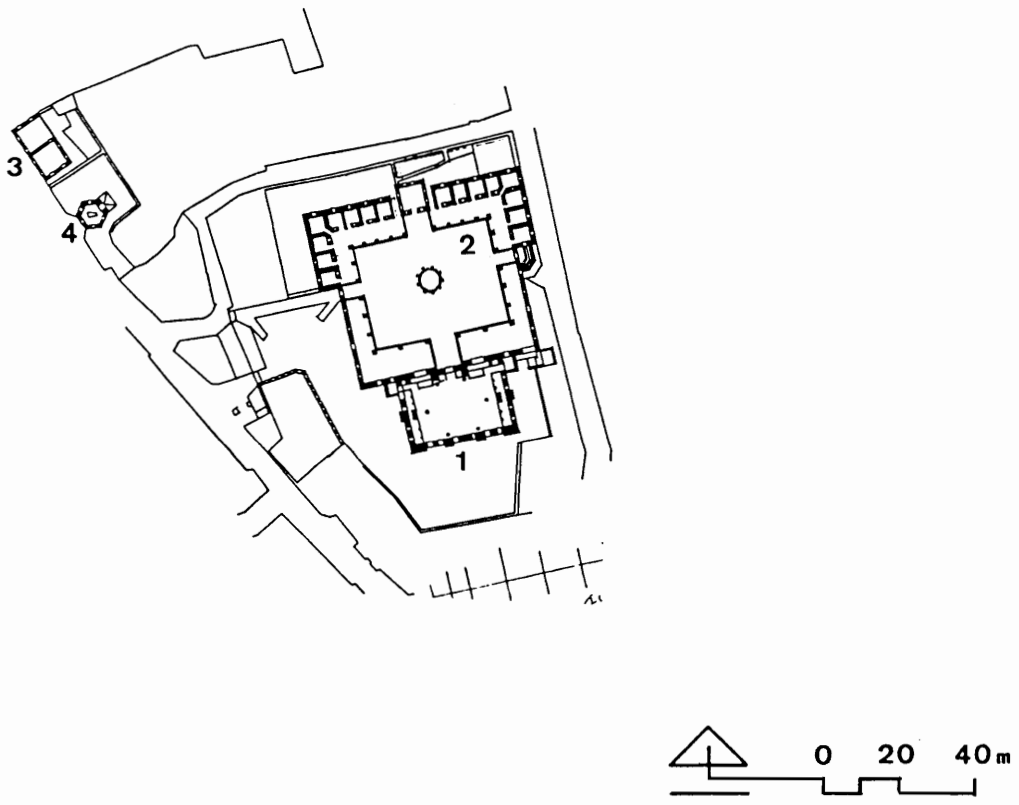


Figure 5-22: Beyram külliye, Istanbul; the narrow space between the darshane and the medrese's rooms

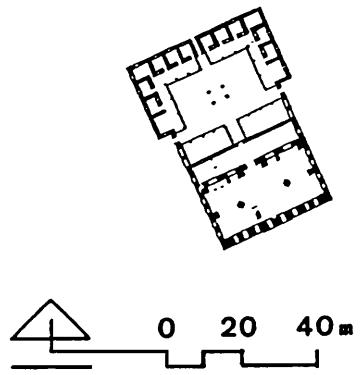
The existence of other spaces did not reduce the level of importance the mosque-medrese space enjoyed. The case of Sokollu Mehmet külliye (1569) in Lüleburgaz is a good example. It had another major space in the caravanserai which, in plan, balances the space of the mosque-medrese around the axis of the arasta (plan 4-14). This space, however, was of less importance than the mosque-medrese space because of several factors. First, functionally, the caravanserai's space is of less importance than the mosque's. The mosque is the actual center of the community; the caravanserai has a more limited function and much less services to offer to the community. Second, the mosque-medrese space is of a larger size. Third, the architecture of the mosque-medrese space presents a more elaborate design because of the medrese's arcades, the şadirvan, and the monumentality of the mosque.

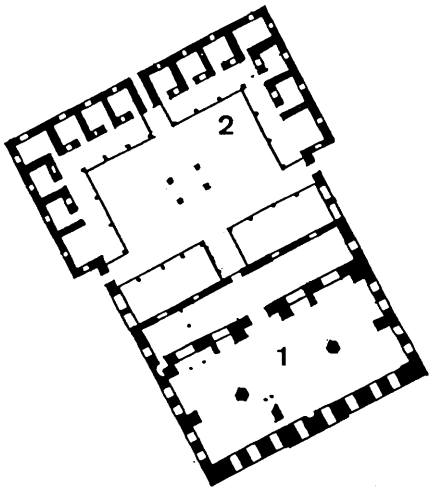
Ayşe Hafsa Sultan külliye (1522) has other facilities outside the block of the mosque-medrese (plan 5-23). However, it does not seem that they formed a space amongst themselves to compete with the mosque-medrese one. Entrances to these facilities do not show any order which can lead to the creation of a common space. Also, the difference in elevation between the second medrese, the hamam, and the mekteb makes the idea of a common space even more remote. The odd orientation of the mekteb, which resulted in the alteration of the medrese's northeastern side, as well as the scattering of the facilities, supports the idea that the külliye was meshed into the then existing urban fabric which was usually formed by narrow streets. Hence, there was no major space but the mosque-medrese's. Zal Mahmut Paşa külliye (1581) has two spaces; one is shared by the medrese and the mosque at the upper level, and the other is shared by the second medrese and the türbe at the lower level (plan 4-40). The upper courtyard acts as the principal space since it has a better defined space than the lower court. Moreover, the mosque and the elevation's superiority gives more importance to the upper courtyard (figs. 5-23, 24).

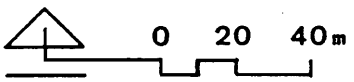
The first külliye which shows the beginning of a unified open space for the mosque and medrese was Ishak Paşa in Inegöl (1482). The medrese was placed facing the mosque. The darshane faced the main entrance to the mosque, and the şadirvan was located in the



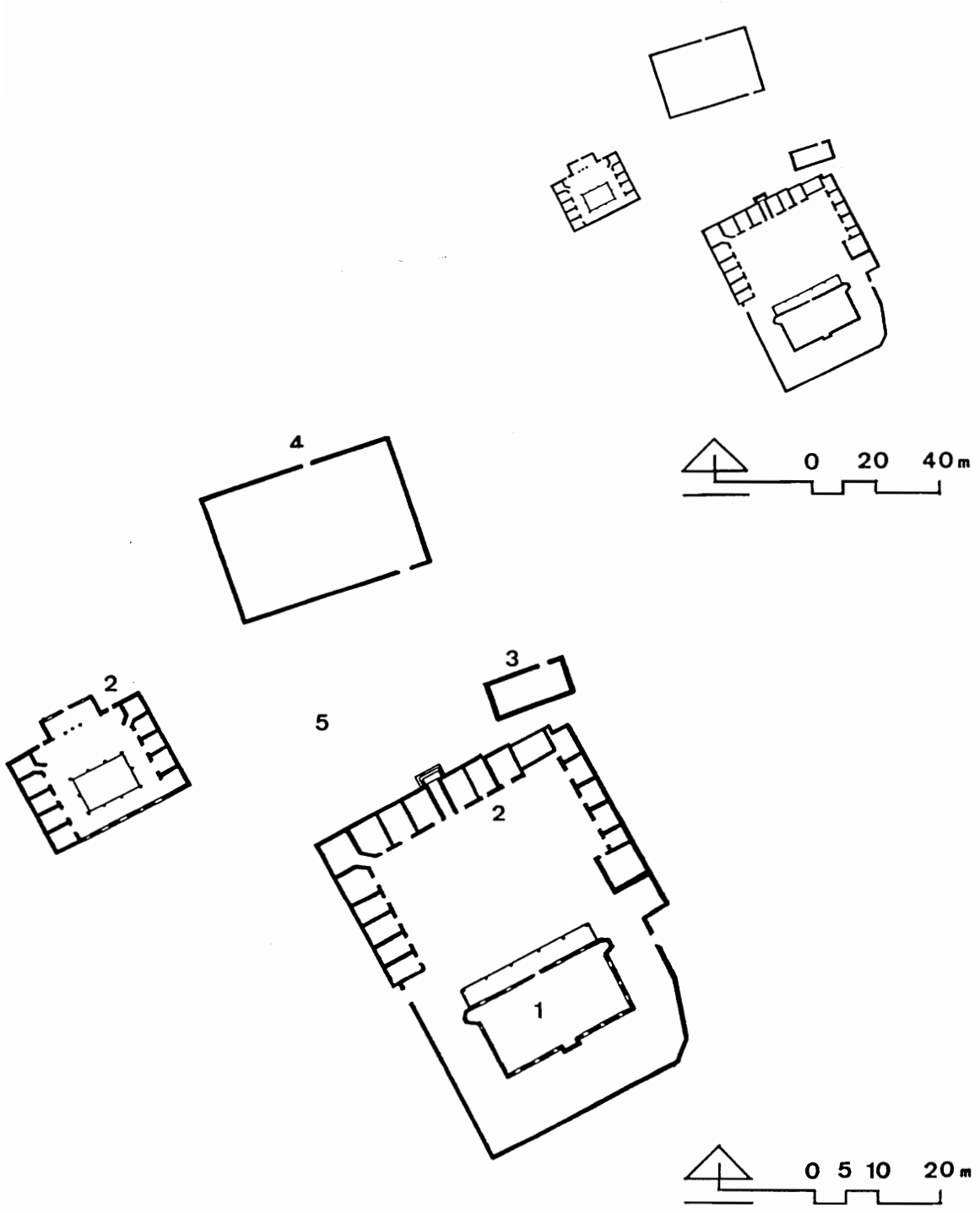
Plan 5-21: Kara Ahmet Paşa külliye, Istanbul; 1. mosque, 2. medrese, 3. mekteb, 4. türbe (after Ali Saim Ülgen, 1941)







Plan 5-22: Sinan Paşa center, Istanbul; 1. mosque, 2. medrese (after Kuran, 1987)



Plan 5-23: Ayşe Hafsa Sultan külliye, Manisa; 1. mosque, 2. medrese, 3. mekteb, 4. hamam, 5. modern gardens most probably replace the old residential fabric

space closer to the mosque (plan 5-11). The two spaces of the mosque and medrese come close to each other in this case. The space of the mosque is defined by the area around the şadirvan; while the medrese's space is defined by its three sides. Accordingly, the two spaces do not join yet; they only touch each other. The two recently built walls connecting the medrese and mosque help bring the two spaces together (figs. 5-25, 26).

Ayşe Hafsa Sultan külliye in Manisa (1522) shows another stage in the development of this type (see table 5-3). The spaces of the mosque and medrese are unified here. The two structures are brought much closer to each other so that the two spaces overlap. The şadirvan is located inside the space of the medrese. As such, the space of the mosque exists within the space of the medrese and the two spaces become one. Functionally as

NAME	LOCATION	DATE	BUILDER	AREA
Ishak Paşa	Inegöl	1482	Grandvizier	3,200 sq.m
A. Hafsa Sultan	Manisa	1522	Sltn Wife	10,100 sq.m
Kara Ahmet Paşa	Istanbul	1554	Grandvizier	6,000 sq.m
Sokollu Mehmet P.	Istanbul	1554	Grandvizier	5,500 sq.m
Mihrimah Sultan	Istanbul	1560's	Sltn Wife	8,000 sq.m
Sokollu Mehmet P.	Lüleburgaz	1569	Grandvizier	28,500 sq.m
Zal Mahmut Paşa	Istanbul	1581	Grandvizier	5,400 sq.m
Sinan Paşa	Istanbul	1593	Grandvizier	2,700 sq.m

Table 5-3: Külliyes with a shared space for the mosque and medrese

well as visually, the space is used by those who occupy the medrese, as well as by those who use the mosque. The doorway at the center of the north side of the medrese brings the two spaces to a stronger unity, since a visitor to the mosque will go through the medrese in order to reach his destination.

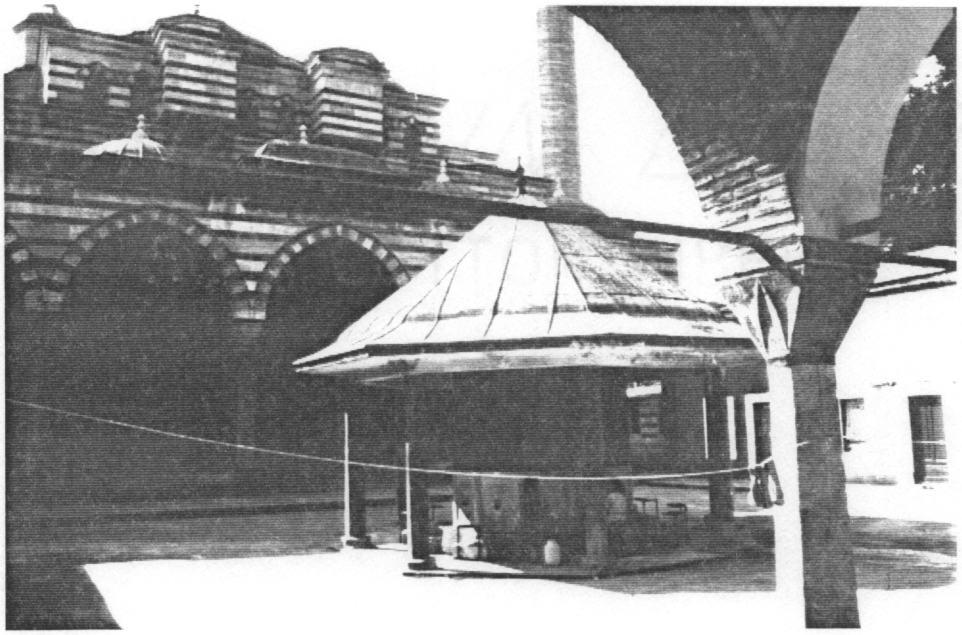


Figure 5-23: Zal Mahmut Paşa külliye, Istanbul; the upper courtyard with the mosque as a dominant feature

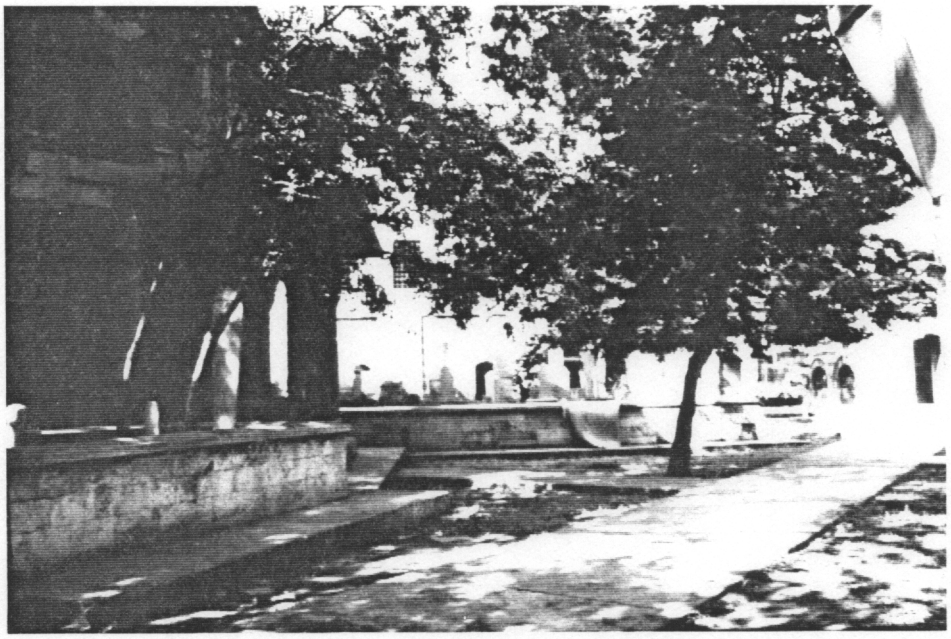


Figure 5-24: Zal Mahmut Paşa külliye, Istanbul; the lower courtyard

Figure 5-25: Ishak Paşa mosque-medrese, Inegöl; the open space, the mosque is to the right and the medrese to the left

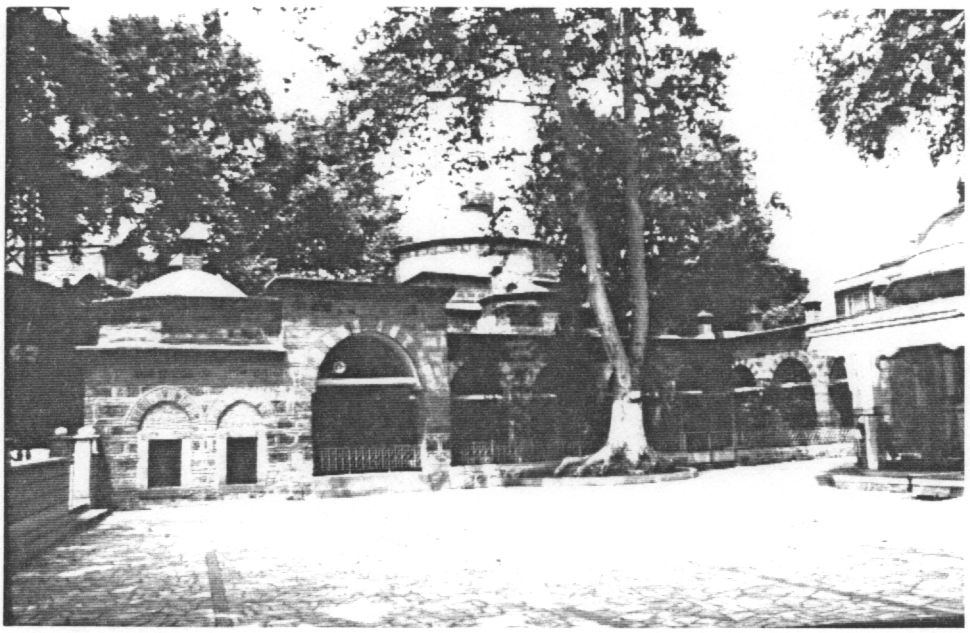
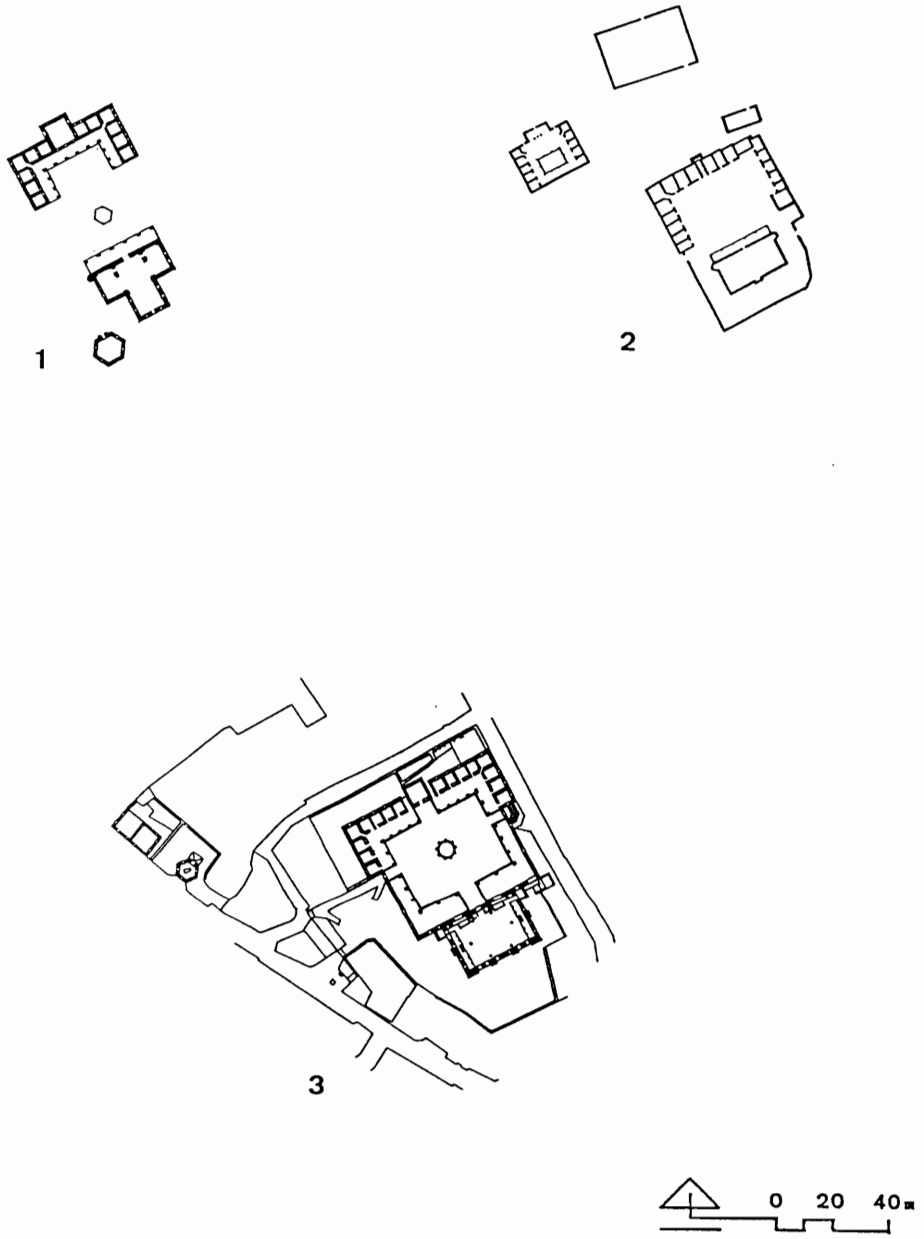


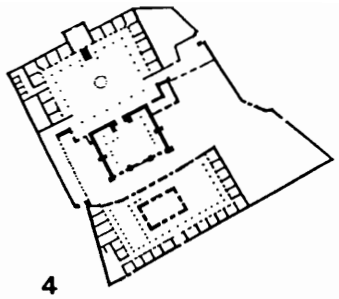
Figure 5-26: Ishak Paşa mosque-medrese, Inegöl; the open space and the medrese

The two structures in Ayşe Hafsa külliye are still separate, however. Kara Ahmet Paşa in Istanbul (1554) brings the space into a complete enclosure by connecting the two structures by a wall. The space in this case is not a loose one anymore. It is a complete, well defined, and purposely created space (plan 5-21). The space is no different from any interior space. It is a courtyard now, completely enclosed by physical structures. This courtyard has gates and windows, and has several subspaces created within it. The last stage in the development of this type can be seen in Sokollu Mehmet Paşa in Istanbul (1554) and the following külliyes. The medrese is brought closer to the mosque; and the two are separated from each other by only one bay, which defines an entrance to the court at the eastern and western sides (plan 4-37). They are not two structures connected by walls anymore; they are now two functions housed in the same structure.

Thus, this type of külliye started to appear around the latter part of the fifteenth century and was well developed by the middle of the sixteenth century. It continued to be used during that century and seemed to be replaced by the second type thereafter (plan 5-24). All the külliyes of this type were built by viziers, while the sultans were building their great külliyes. The fifteenth and sixteenth centuries were the great days of the Ottoman Empire. It reached at that time its maturity and was at the height of its power. This period marks the days of Süleyman the Magnificent, (ruled 1520-66), the majestic Istanbul, and the might of a great state. Most of the great külliyes were built during or before this period including the Fatih, Beyazit II, the Şehzade, the Süleymaniye, and the Selimiye. This period allowed grand viziers to build some of the greatest viziers' külliyes. The design of the külliye, which has shared space for the mosque and medrese, is the closest to that of a sultans' külliye. The mosque has a well defined and completely enclosed space in front of its main gate; however, the only difference is that this space is shared with the medrese. The period after the great climax in the sixteenth century produced smaller külliyes in general. Sultans built according to their own style; however, at a smaller scale. Viziers had to accept a more compacted design where facilities shared the same space; and, thus, the second type of külliyes was developed.



Plan 5-24: Külliyes with a shared space for the mosque and medrese; 1. Ishak Paşa, Inegöl, 2. Ayşe Hafsa Sultan, Manisa, 3. Kara Ahmet Paşa, Istanbul



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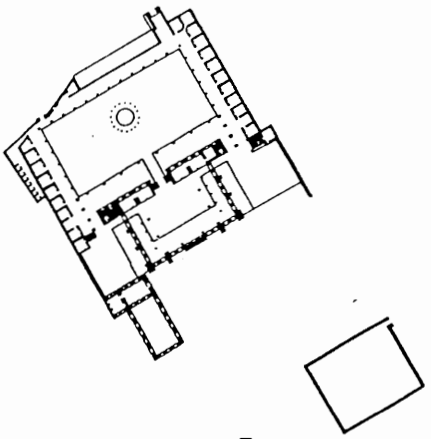

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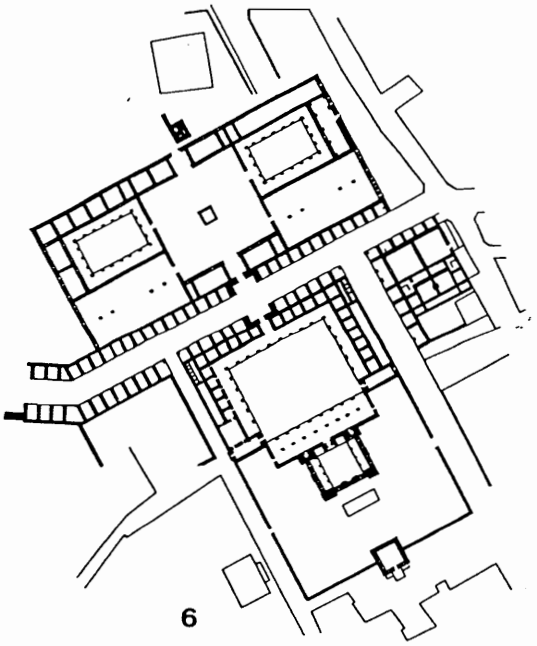

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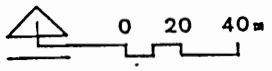
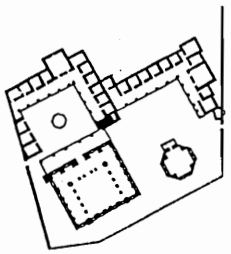


Plan 5-24: Külliyes with a shared space for the mosque and medrese (continued); 4. Sokollu Mehmet Paşa, Istanbul, 5. Mihrimah Sultan, Istanbul, 6. Sokollu Mehmet Paşa, Lüleburgaz



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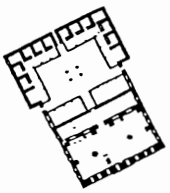

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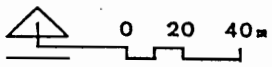


Plan 5-24: Külliyes with a shared space for the mosque and medrese (continued); 7. Zal Mahmut Paşa, Istanbul, 8. Sinan Paşa, Istanbul

The average size of this type of külliye is around 8,600 square meters. However, this number includes all külliyes of this type including those outside Istanbul. Viziers were able to build larger külliyes outside Istanbul because of reasons which can be predicted based on present day experiences. Land outside Istanbul was definitely more available and at cheaper prices. Workers' wages outside Istanbul might have been less also. A more indicative number of the case in Istanbul, therefore, might be the average size of külliyes built there. Out of the eight presented külliyes in this type, five were built in Istanbul; the average size of these külliyes is about 5,500 square meters. The average size of a külliye of the second type is only 1,600 square meters. On the other hand, the külliye of the type studied here is much smaller than that of the first type, whose average size was around 11,000 square meters during the time of the third type. It is to be recalled that the first type was not used very often in Istanbul. In the two cases when it was used, the külliyes were built by the royal family and not viziers, a fact which allowed them a larger size. In other words, the külliye with a space for the mosque and medrese (third type) came earlier than the külliye with a space for all facilities (second type); and it was larger than the latter. Both types were mostly built by viziers.

The layout of the külliye of this type is in general dictated by a well defined geometry since the two main structures, the mosque and the medrese, developed a strong geometrical relationship. The site had its effect on the layout of other facilities. In the case of Sokollu Mehmet Paşa in Lüleburgaz (1569), the whole külliye was developed according to a strong geometrical scheme. However, it might be the only külliye which shows such a scheme. Other külliyes of this type present a different picture. Ayşe Hafsa Sultan in Manisa can be seen as the other extreme against Sokollu Mehmet in Lüleburgaz. Its buildings are located in different areas around the mosque-medrese structure; they fit within the existing urban fabric with no particular order governing their relationships (plan 5-23). Other külliyes in Istanbul show cases between these two extremes. Basically, their outline was influenced by the limits of the site in terms of size and shape. In the case of Mihrimah Sultan (late 1560's), almost all facilities were located in one area and governed by a geometrical order. Only the hamam was located outside of the main block (plan 4-

35). Kara Ahmet Paşa (1554) has a small program consisting of a mosque and a medrese, which were located in the main site. The türbe and mekteb were located on another site across the street (plan 5-21). Zal Mahmut Paşa presents a case where main structures, namely the medreses, were altered because of the site's shape.

The most important space in the külliye's of this type is the courtyard of the mosque and medrese. It has its own characteristics, which were repeated in different külliyes. The courtyard is rectangular in shape in most cases. The court in Zal Mahmut Paşa comes the closest to a square. The three sides of the medrese have colonnades; the mosque side also has a portico. The space can, therefore, be divided into three main parts: the open part in the center; the closed parts, which are the actual buildings of the mosque and medrese, and, a middle part, which acts as a connector between the two extremes. Visually, this middle part makes the court expand and appear larger. At any time these colonnades were enclosed by glass the space appeared small and the feeling of continuity between inside and outside was lost (figs. 5-27, 28). A şadirvan occupies the center of the court in all of the külliyes of this type. As was mentioned earlier, the şadirvan acted as an important unifying element between the mosque and the medrese.

The mosque and medrese became one structure in this type of külliye. The colonnades of the medrese touch the portico of the mosque and bring a complete unification between the two. The cells of the medrese come as close as one bay away from the mosque. This bay is used for the entrances. This arrangement can be seen in Sokollu Mehmet külliyes in both Istanbul and Lüleburgaz, in Zal Mahmut Paşa, and in Sinan Paşa. Mihrimah Sultan has a similar design except that the cells of the medrese continue further southward making the entry areas appear parallel to the mosque and not to the medrese's rooms. However, the sense of enclosure is obtained in this case as it is in the other külliyes (plan 5-24).

In several cases, the medrese was wider than the mosque. Sokollu Mehmet Paşa külliyes, Kara Ahmet Paşa, and Mihrimah Sultan are examples of such a case. In order to bring

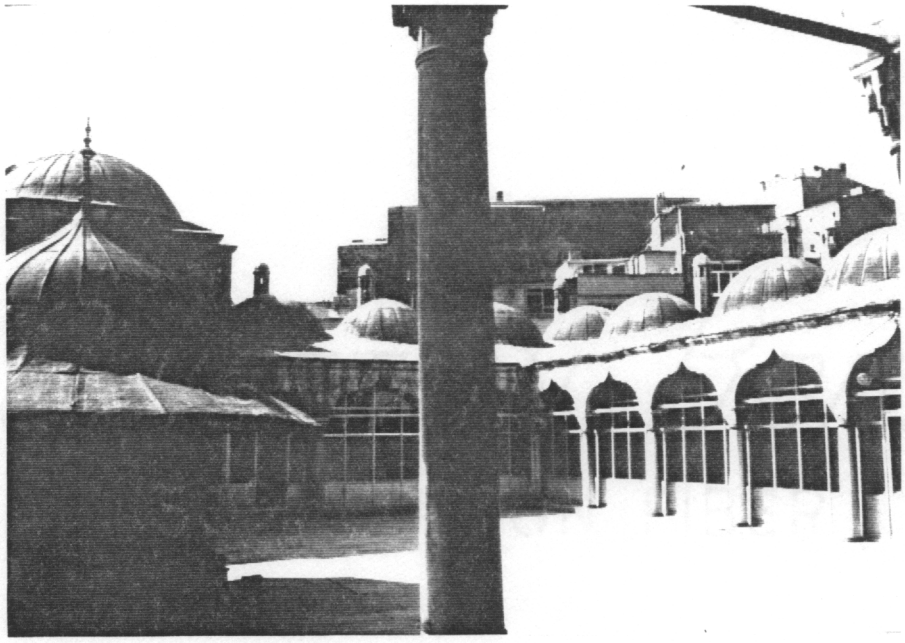


Figure 5-27: Sokollu Mehmet külliye, Kadirgi, Istanbul; the courtysrd with the colonnade enclosed by glass facade

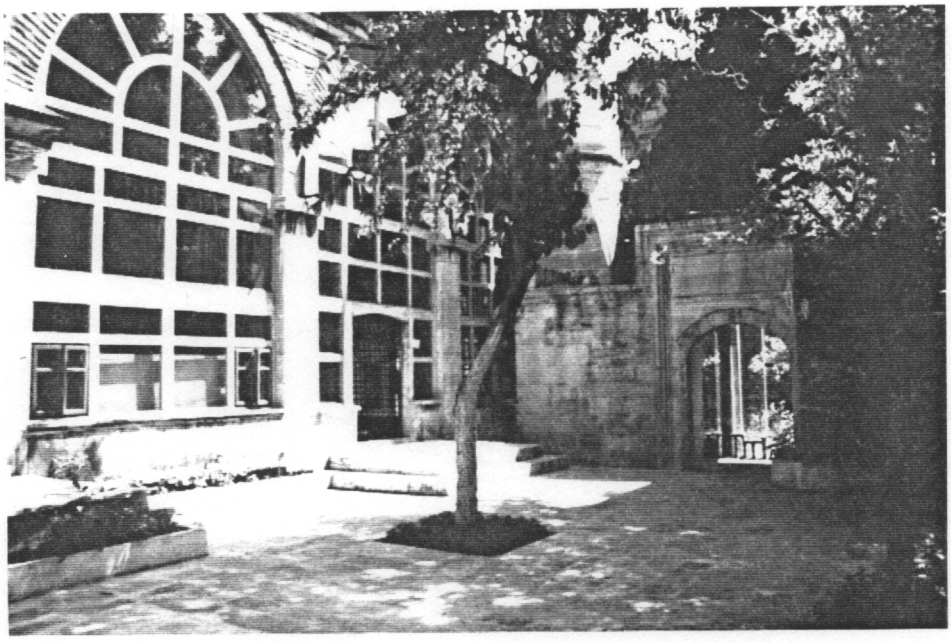


Figure 5-28: Başir Aga center, Istanbul; the mosque's portico is enclosed by glass facade

the space into a complete enclosure, the designer expanded the northern wall of the mosque at both sides. The difference of width between the medrese and mosque was compensated, and the space became more defined. The extended wall of the mosque has nothing behind it. Windows were opened in it which allowed a visual continuity between inside and outside. Such a transparency was needed in these courts since the medrese's rooms allowed no windows for the courtyard.

The two main entrances to the courtyard are located at the points where the two structures come together. The layout of this point has different forms. The simplest form can be seen in Ayşe Hafsa Sultan, where the two structures do not touch each other and the entrances are open areas between the two facilities. Mihrimah Sultan has the entrances parallel to the mosque, as was mentioned earlier. The most common layout can be seen in the Sokollu külliyes, Zal Mahmut Paşa, Kara Ahmet Paşa, and Sinan Paşa. The entrance appears in the bay immediately after the last room in the medrese, whether that bay is the one which touches the mosque or not. The entrances are parallel to the medrese's two parallel sides and occupy a space equal to one room.

The courtyard had in some cases a third entrance which was located at the center of the medrese's northern side. Sokollu Mehmet külliyes in Istanbul and Lüleburgaz, as well as Ayşe Hafsa külliye in Manisa, are examples where a third entrance was incorporated in the northern side of the medrese. There was a particular problem with having that third entrance, however. An entrance at that point was perhaps desired because of axis and because it allows a distinguished view of the mosque from which its architecture can be admired. Yet, the medrese typically has its darshane at that same location. The designer was definitely under the pressure of selecting one over the other. Sokollu Mehmet Paşa in Istanbul presents a very innovative solution to the problem where Sinan used the slope to his advantage and located the entrance under the darshane. In the Sokollu Mehmet Paşa külliye at Lüleburgaz, Sinan chose to locate the darshane at the southern end of the medrese's western wing. Ayşe Hafsa shows the same solution where the darshane is located at the southern end of the eastern wing. Kara Ahmet Paşa and Sinan Paşa have

minor entrances at that point also. In the case of Sinan Paşa, the darshane was relocated, while in Kara Ahmet Paşa it maintained its original place. Mihrimah Sultan has an entrance at that side of the medrese, but it is located at the northeastern corner.

Many of the külliyes of this type show monumental scale in their architecture. Mihrimah has the largest mosque and courtyard; nevertheless, other külliyes are of a considerable size also. These külliyes were built at a time when the great külliyes of Istanbul were either already built or in the process of being constructed. The design principles which are characteristic of the Ottoman külliye can all be seen in this type.[1] Stepping, as an example, is used in the architecture of the Sokollus, and Mihrimah, (figs. 5-29, 30). Transparency is used in Sokollu Mehmet, Lüleburgaz, and Kara Ahmet (fig 5-31). The three scales of design are used in any of these külliyes. Also, trips through any külliye show the continuous change in spaces, directions, lighting, and levels (figs. 6-34, 46).

5.3.4. KÜLLIYE WITH A SPECIAL SPACE FOR THE MOSQUE

The most important character of this type of külliye is the existence of a special space for the mosque. This space appears in two forms: a courtyard attached to the mosque or a space surrounding it. The first form is the one most used; a courtyard is attached to the mosque and becomes part of its overall composition. This new mosque with its court is surrounded by another space which is called "the central space."[2] Because of the importance of this space, functionally as well as formally, this form of külliye can be called "külliye with a central space." In the second form, the mosque has a portico at the northern elevation and is surrounded by a space which is defined by a wall. Külliyes following this form can be called "külliyes with a space surrounding the mosque."
This type of külliye appeared mostly in Istanbul. It does not belong to one particular period though; Uç Şerifli which is the first one of this type was built in 1447, while Laleli

[1] See section 6.2. (Design Principles used in the külliye).

[2] See section 3.4.2.2. The case of Istanbul

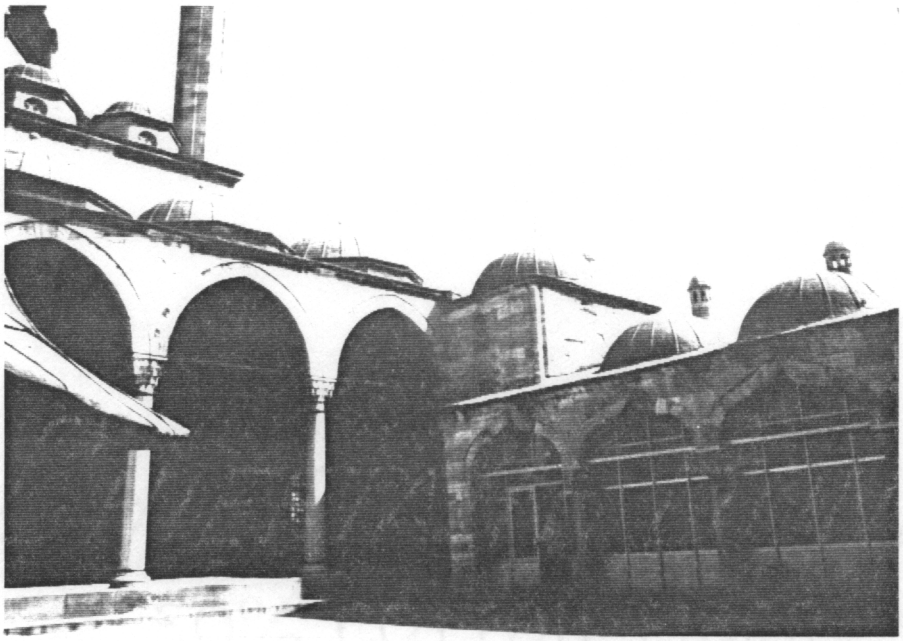


Figure 5-29: Sokollu Mehmet külliye, Istanbul; stepping by the different heights of domes

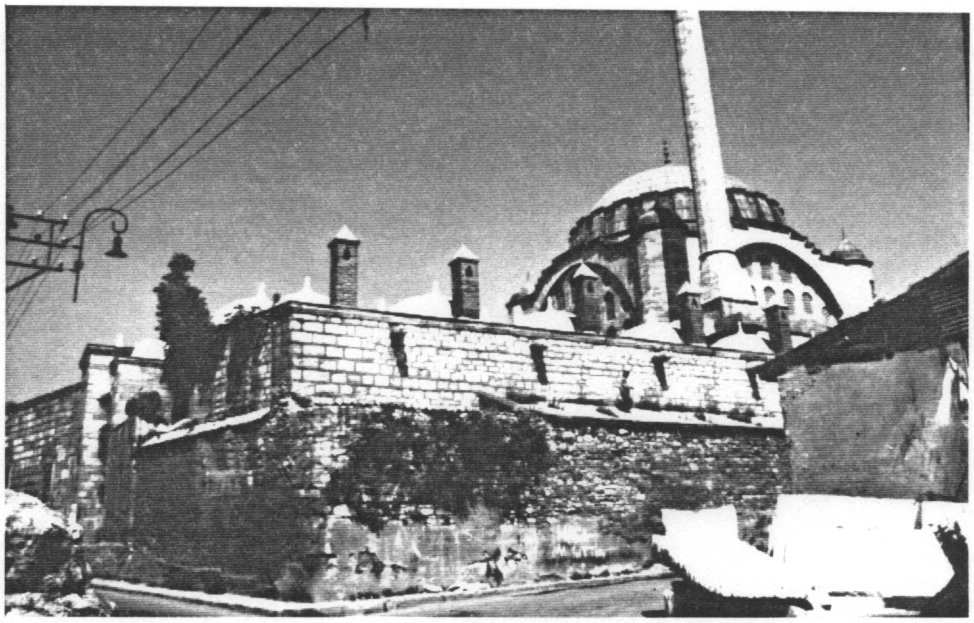


Figure 5-30: Mihrimah Sultan, Edirnekapi, Istanbul; stepping

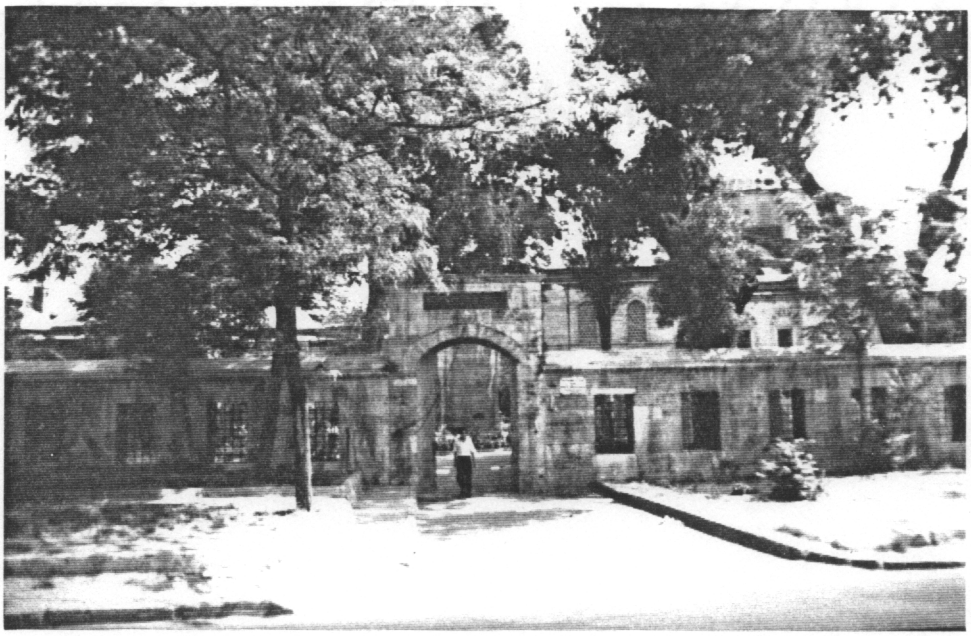


Figure 5-31: Kara Ahmet Paşa külliye, Istanbul; transparency through the enclosing wall of the külliye

NAME	LOCATION	DATE	BUILDER	AREA
Üç Şerifli	Edirne	1447	Sultan	
Fatih	Istanbul	1470	Sultan	104,000 sq.m
Beyazit II	Edirne	1488	Sultan	26,000 sq.m
Beyazit II	Istanbul	1506	Sultan	
Şehzade	Istanbul	1548	Sultan	27,000 sq.m
Süleymaniye	Istanbul	1557	Sultan	85,000 sq.m
Selimiye	Edirne	1575	Sultan	30,000 sq.m
Pertev Paşa	Izmet	1579	Grandvizier	
Kiliç Ali Paşa	Istanbul	1580	Admiral	6,000 sq.m
Atîk Valide	Istanbul	1583	Sltn Mother	26,500 sq.m
Sultan Ahmet	Istanbul	1617	Sultan	60,000 sq.m
Yeni Cami	Eminönü, Ist.	1663	Sltn Mother	20,400 sq.m
Yeni Valide	Üsk., Ist.	1710	Sultan	3,600 sq.m
Ibrahim Paşa	Nevşehir	1726	Grandvizier	4,400 sq.m
Nuruosmaniye	Istanbul	1755	Sultan	8,800 sq.m
Laleli	Istanbul	1763	Sultan	4,900 sq.m

Table 5-4: Külliyes with a special space for the mosque

was built in 1763 (see table 5-4). The overall design of these külliyes follows a clear geometry. In such külliyes buildings are aligned, centrality is observed, and open spaces are either square or rectangular in shape.

5.3.4.1. KÜLLIYE WITH A SPACE SURROUNDING THE MOSQUE

Examples presented in Table 5-5 show that this form of külliye was built by high officials in the government, and the royal family. The four examples cited were built between the 1570's and the 1720's when officials were mostly building according to the second type (külliye with a shared space between the mosque and other facilities). Külliyes of this type are typically larger than those of the second type. While the average size of külliyes in Istanbul with a space shared between the mosque and other facilities is 1,600 square meters, the smallest külliye of those which has a space around the mosque is 4,400 square meters. Hence, during the period examined, only a few of the government officials were able to build külliyes larger than those built by their peers. One advantage which may have allowed the building of some larger külliyes is the fact that two of them were built outside Istanbul. Another advantage which helped Atik Valide is that it was built by

NAME	LOCATION	DATE	BUILDER	AREA
Pertev Paşa	Izmet	1579	Grandvizier	
Kiliç Ali Paşa	Istanbul	1580	Admiral	6,000 sq.m
Atik Valide	Istanbul	1583	Sltn Mother	26,500 sq.m
Ibrahim Paşa	Nevşehir	1726	Grandvizier	4,400 sq.m

Table 5-5: Külliyes with a space around the mosque

a sultan's mother who would have had sufficient funds for large projects. The overall design of three of the külliyes of this type is very similar (plan 5-25). The mosque occupies a central location within the space which encloses it; while other facilities are located outside this main block and open towards the street. This layout is true for Pertev Paşa in Izmet (1579), Kiliç Ali Paşa in Istanbul (1580), as well as Ibrahim Paşa in Nevşehir

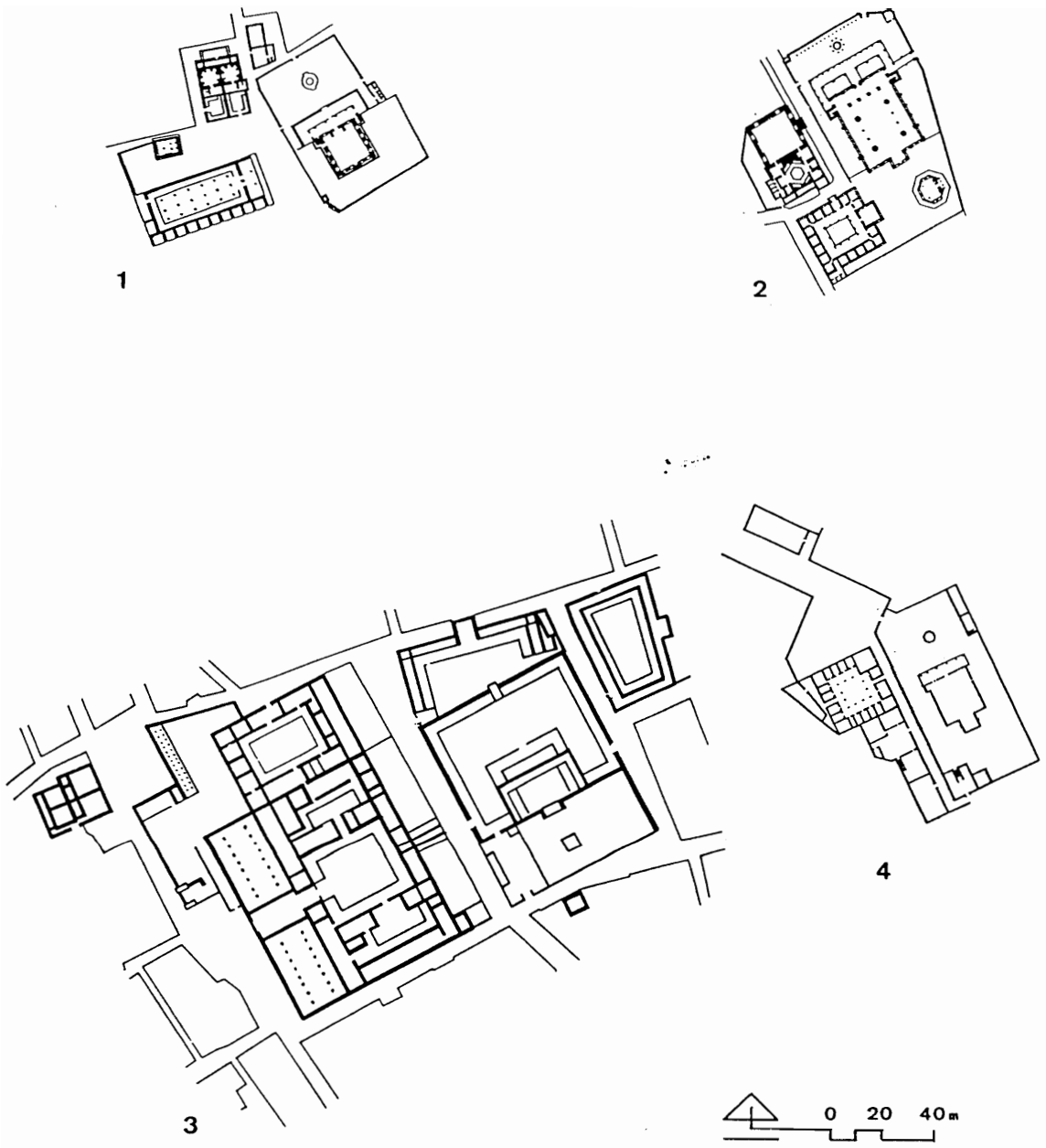
(1726). The space around the mosque is a simple rectangle enclosed by a wall. No major facility is located within the space (plans 5-26, 27; 4-32). The şadirvan is the only structure in the space and is found in its typical location in front of the main entrance to the mosque. Kiliç Ali Paşa has the türbe to the south of the mosque as was the practice in many of the great sultan külliyes in Istanbul. Atik Valide has a similar layout with some differences; the space around the mosque has a colonnade enclosing it instead of a wall. The space also has a gate on axis with the mosque's entrance at the northern side. This gate leads to the medrese which is located at a lower elevation. The rest of the facilities are located at the two sides of the mosque and occupy a large area because of the size of this külliye's program (plan 4-31).

In general, these four külliyes show another sample of the effort to imitate the great sultans' külliyes of the Istanbul period. They were built in the same period when the mosque-medrese külliyes were built (the third type) which were also trying to imitate the sultans' külliyes.[1] In the case of the mosque-medrese külliyes, the shared open space shows similarity to the mosque's courtyard; while in the case of külliyes with a space around the mosque, that space resembles the central space in the sultan külliyes. The clear geometry and the centrality of the mosque strengthen the ties between these two types and the sultans' külliyes.

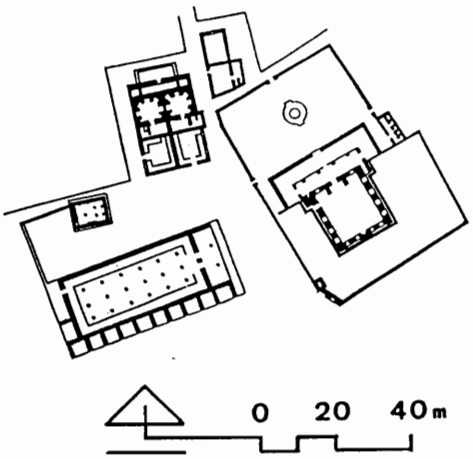
5.3.4.2. KÜLLIYE WITH A CENTRAL SPACE

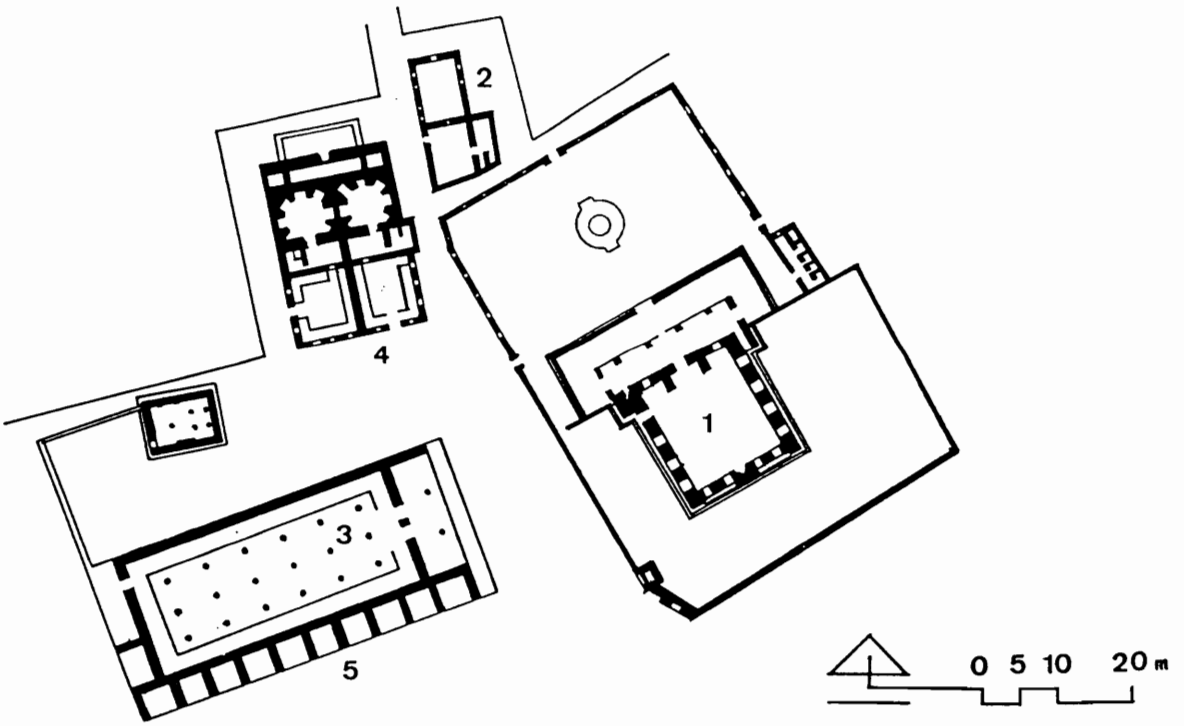
It is this sub-type of külliye that has been referred to as the sultans' külliyes in the previous sections. Having a central space around the mosque is one of the characteristics which sultans' mosques in Istanbul enjoyed. Other special signs of sultans' mosques include the multi minarets and the open court. This sub-type presents the climax of Ottoman architecture; its monuments are the masterpieces of Ottoman architecture (plan 5-28). This sub-type also represents a new scheme in the layout of the külliye. The Fatih

[1] See section 4.4.3. (Külliye With a Shared Space For the Mosque and Medrese).

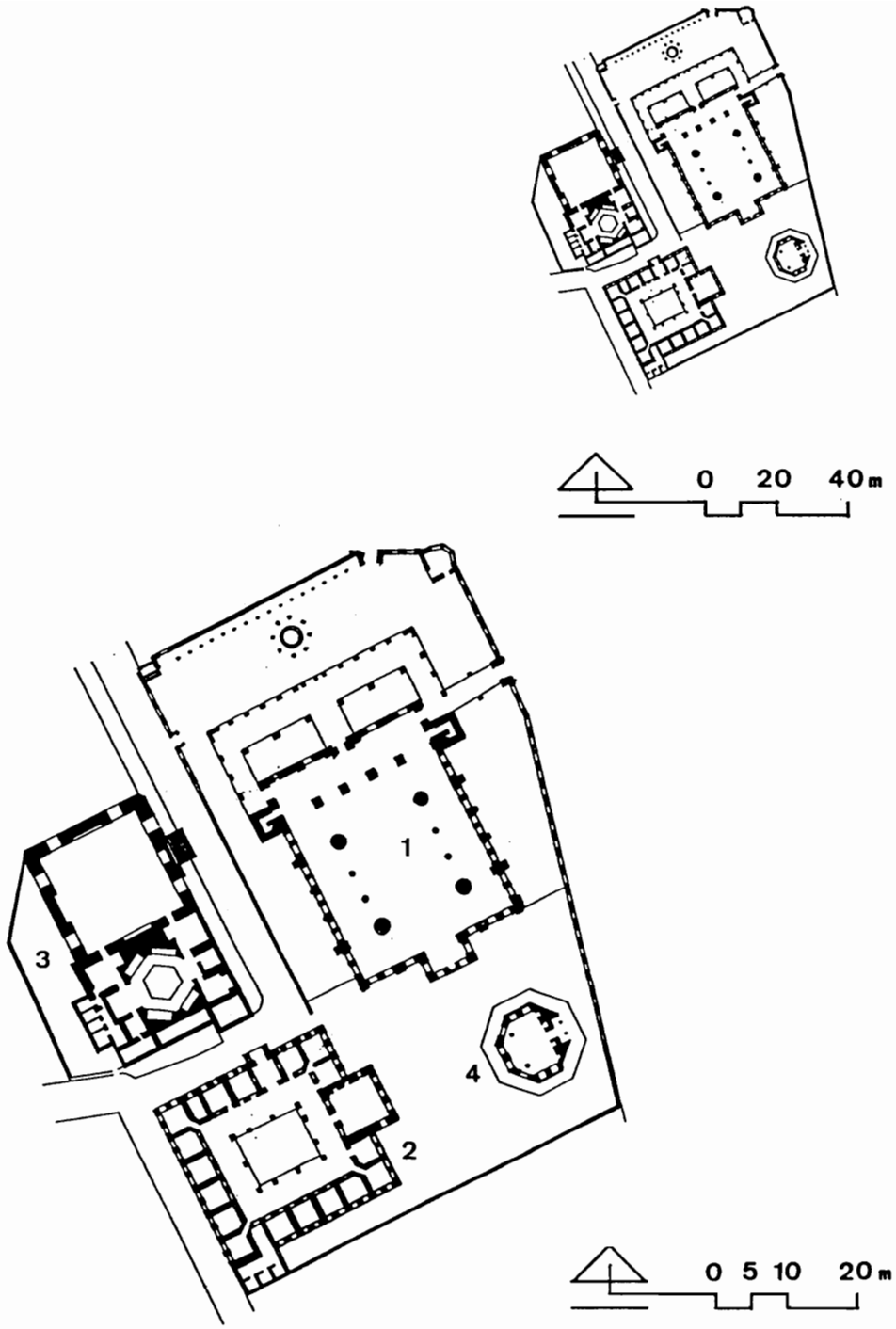


Plan 5-25: Külliyes with a space surrounding the mosque; 1. Pertev Paşa, Izmet, 2. Kiliç Ali Paşa, Istanbul, 3. Atīk Valide, Istanbul, 4. Ibrahim Paşa, Nevşehir





Plan 5-26: Pertev Paşa külliye, Izmet; 1. mosque, 2. mekteb, 3. caravanserai, 4. hamam, 5. shops (after Goodwin, 1971)



Plan 5-27: Kiliç Ali Paşa, Istanbul; 1. mosque, 2. medrese, 3. hamam, 4. türbe (after Kuran, 1987)

külliye (1470) is the best prototype to present this new layout. The Fatih mosque with its own courtyard is located in the center of the külliye and surrounded by the central space (plan 4-16). This central space has a clearly defined geometrical shape and is well delineated by walls and gates. The idea of having a space around the mosque to enclose it and separate it from the rest of the facilities as well as implementing a design which is based on a high geometrical order is quite new and unique to Ottoman architecture.[1]

Where this idea came from is a very acute and difficult question. The Fatih külliye had been built before any külliye of the second or third type existed. The major külliyes which were built earlier than the Fatih are those which dominated the older capital, Bursa. Murad I, Yildirim, Yeşil, and Murad II were of a completely different layout. The Fatih had a much larger scale and a more ambitious program. However, the main difference between the külliyes in Bursa and the Fatih is in the design approach. While in Bursa each structure has its independence and was built in no strong relationship with the rest of the composition, the Fatih shows an unmistakable coherence in the whole layout of the külliye. No one building is independent from the overall composition, not even the mosque. With all its majesty and greatness it fits within a specified location dictated by the larger plan of the külliye. This design approach was new to the thinking of the Ottoman architect; yet, it became so rooted in his mind that he rarely deviated from it.

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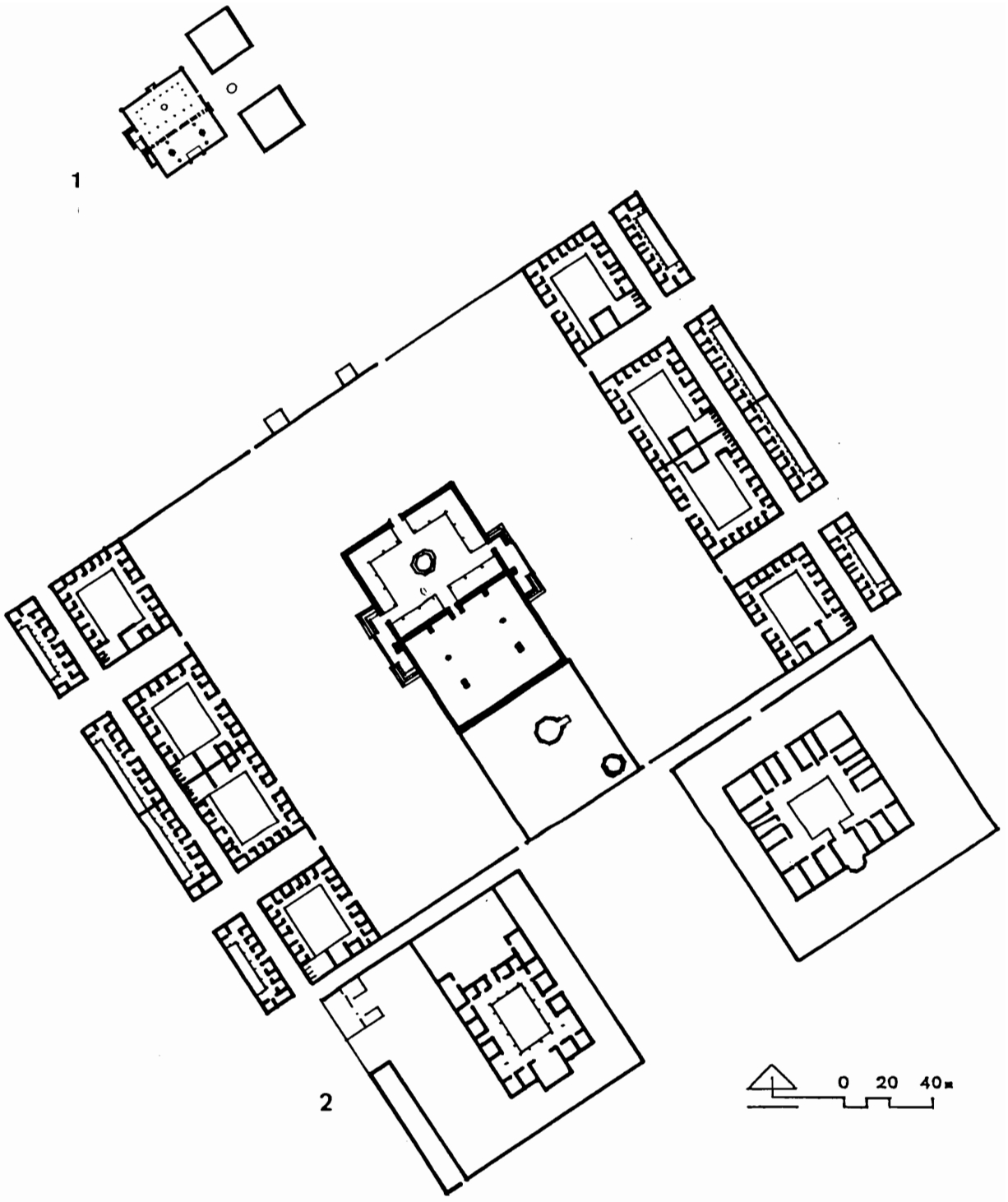
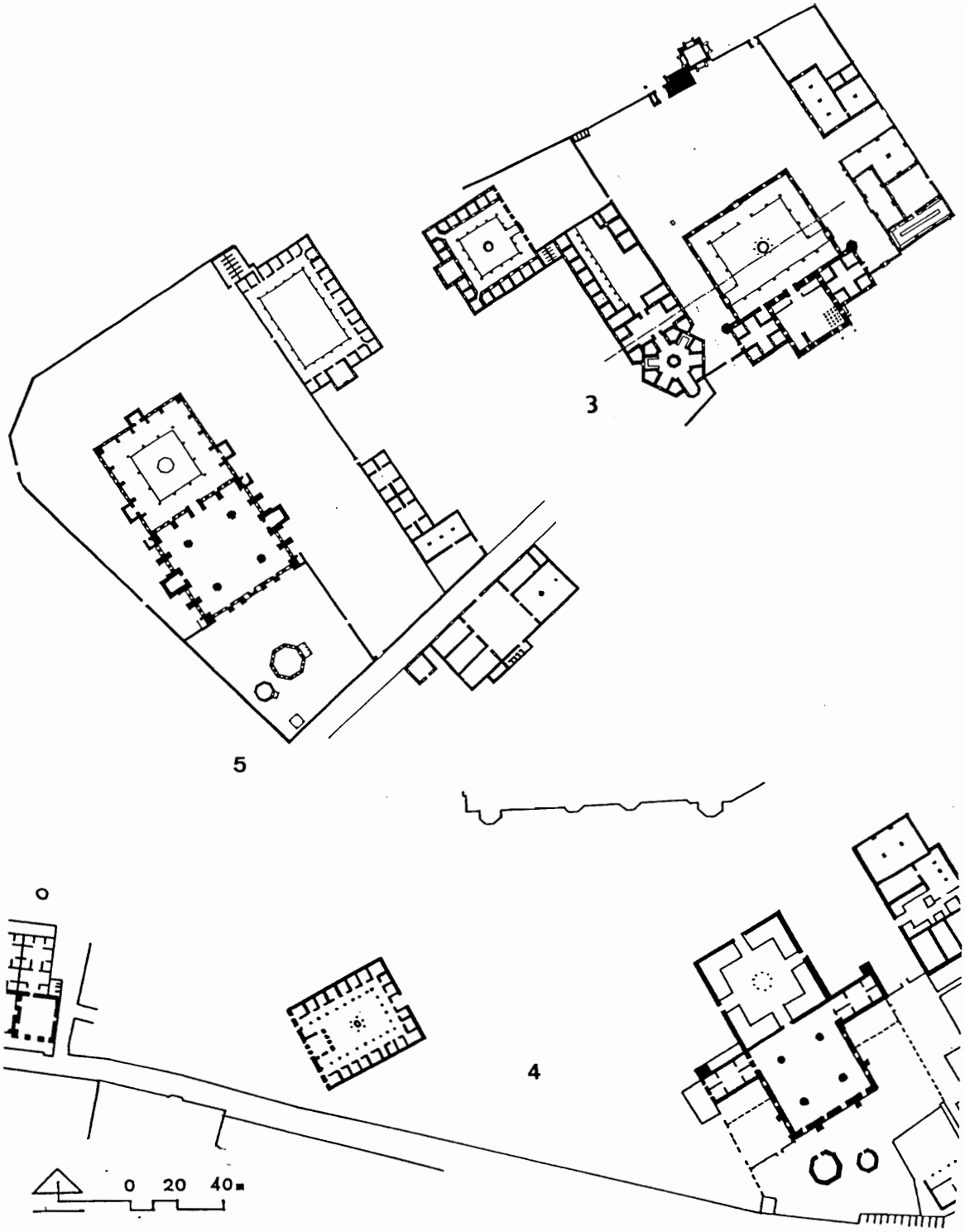
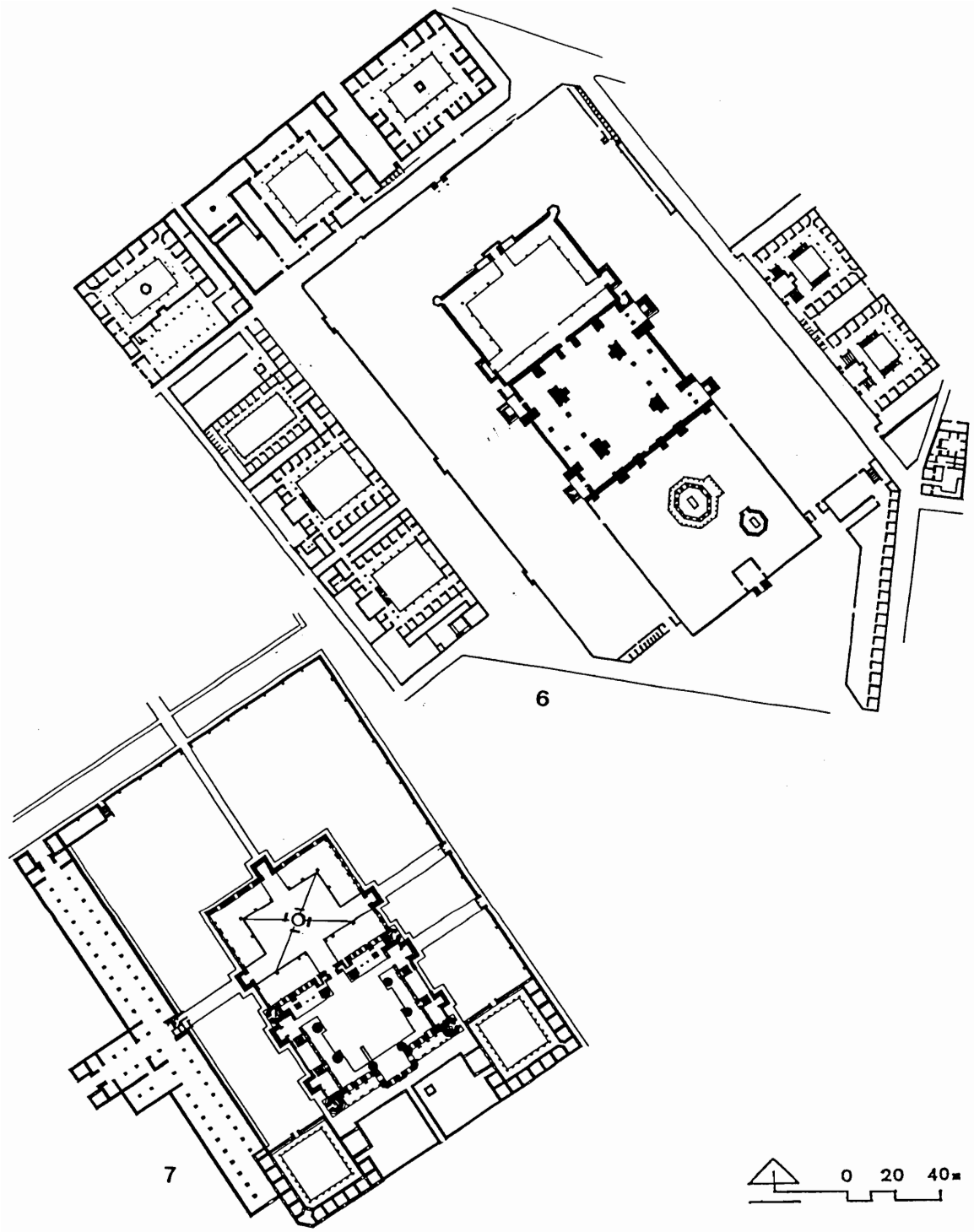
[1] Kuran wrote: "The tradition of placing a mescid at the center of a large courtyard continues in early Ottoman architecture as exemplified by the Koza Han in Bursa." This tradition was first used by the Anatolian Seljuks in different hans, and the Ottomans practiced the same idea. (See Kuran, "Thirteenth and Fourteenth Century Mosques in Turkey", Archaeology, vol. 24, no. 3, June 1971, pp. 234-54.) The Fatih mosque is different, however, from these earlier practices; mosques in the hans were small structures, sometimes even elevated over fountains. They were not of any monumental scale or great importance. The hans were the primary structures and the mosques were secondary structures serving the hans. In the great mosques of Istanbul, on the other hand, the mosque was the primary structure around which the whole composition evolved. Another difference between the early hans' mosques and mosques in Istanbul is the design of the mosque itself. The mosques in Istanbul were rectangular in shape and preceded by a courtyard. The han's mosques were not necessary rectangular, there were many octagonal mosques. Some of them were elevated, and none of them has its own courtyard. With all these differences between Istanbul's mosques and han's mosque's, the question of their formal relationship is yet to be answered. Older architectural tradition in Asia, Islamic and otherwise, during and before the Ottomans, should be studied in relation to Ottoman architecture.



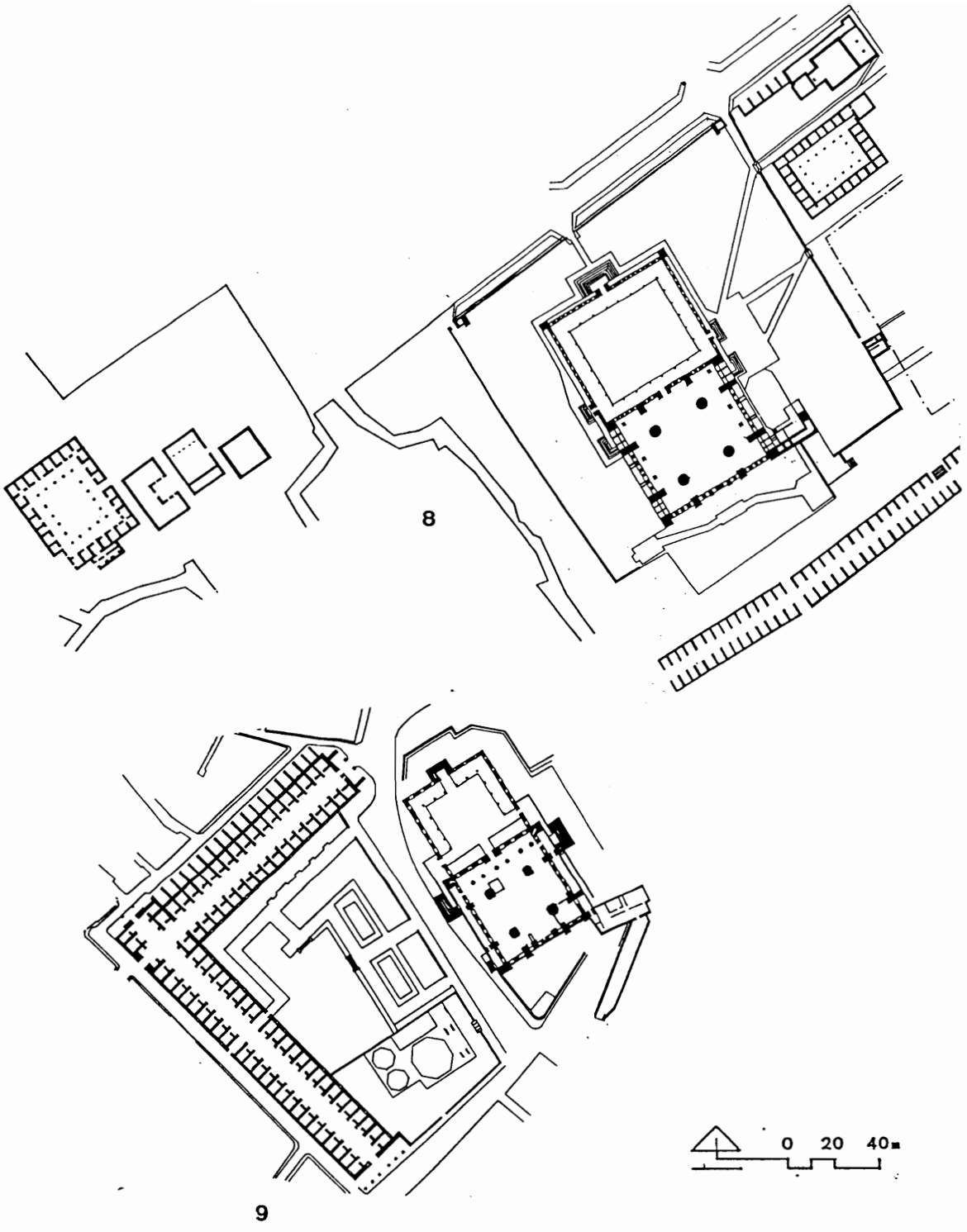
Plan 5-28: Külliyes with a central space; 1. Üç Şerifli, Edirne, 2. Fatih, Istanbul



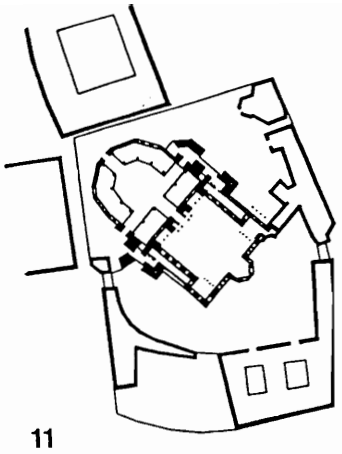
Plan 5-28: Külliyes with a central space (continued); 3. Beyazit, Edirne, 4. Beyazit, Istanbul, 5. Şehzade, Istanbul



Plan 5-28: Külliyes with a central space (continued); 6. Süleymaniye, Istanbul, 7. Selimiye, Edirne



Plan 5-28: Külliyes with a central space (continued); 8. Sultan Ahmet, Istanbul, 9. Yeni Valide, Eminönü, Istanbul



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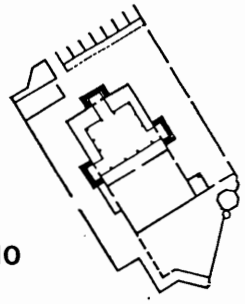

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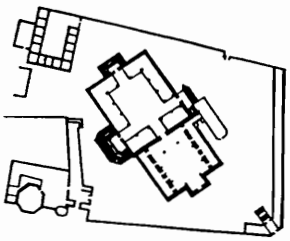

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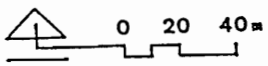

Plan 5-28: Külliyes with a central space (continued); 10. Yeni Valide, Üsküdar, Istanbul, 11. Nuruosmaniye, Istanbul, 12. Laleli, Istanbul

The political environment must have had its role in inspiring the Ottoman architect with such a comprehensive way of designing. Mehmet the Conqueror wanted to make Istanbul a capital for his world empire.[1] His külliye was to reflect the greatness of this capital since it includes the symbol of the religion and the houses of knowledge. The idea of the mosque as the symbolic center had its chance to become a concrete reality through the design of the Fatih külliye. The Conqueror's will to create a great cultural center around the imperial mosque might have inspired the architect with such a plan.[2] The function of the central space can also provide an explanation for its existence. The space was usually occupied by the tents of the visiting caravans. Another functional consideration is safety; it was desirable that the külliye could be locked during the night[3]. This requirement had its roots in the early külliyes which were built outside the city walls. Yildirim külliye in Bursa (1395) is one example where a wall surrounded the whole composition. The difference between Yildirim and Fatih is in the geometry, though. Buildings in Yildirim were arranged on different platforms with no clear geometrical order as was the case in the Fatih.

The Fatih became the model for the new imperial külliye. Although no other külliye was able to surpass the Fatih in terms of its size, architecturally, it was in the sixteenth century that the masterpieces following the Fatih's layout were built. Although the sources of the Fatih's layout cannot be established in this study, the fact that this layout

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[1] Bernard Lewis, Istanbul and the Civilization of the Ottoman Empire, University of Oklahoma Press, Norman, 1972, p. 27.

[2] Many writers consider Haghia Sophia as the source of inspiration for the Ottoman mosque design in the Istanbul period. Lewis mentions that "(i)t was natural that the new emperor in the city (the Fatih) should try to vie with Aya Sofya". Lewis, p. 104. Sumner-Boyd and Freely mention that travelers who saw the original Fatih mosque compared it with Haghia Sophia; and hence, "it must already have shown the overpowering influence of the Great Church." Sumner-Boyd and Freely, Strolling Through Istanbul, Redhouse Press, 1989, p. 255. The comparison, however, is limited to the mosque and does not include the whole külliye since Haghia Sophia did not form a külliye at the time of the conquest. It is unlikely, then, that the design of the külliye as a whole was inspired by Byzantine architecture.

[3] Kuran in, The Architecture of Early Ottoman Mosque, p. 19 mentions the safety issue in the design of Fatih külliye.

was the influential inspiration for following külliyes is easily recognized. It is worth noting, however, that none of the külliyes which were built afterward was as orthodox about symmetry as the Fatih was. The closest to such a perfect symmetry is the layout of the Selimiye; nonetheless, the arasta, which was added later on, at the western side of the central space, weakens the symmetry. All other külliyes were built according to the same overall concept with a variety of layouts.

The külliyes of this sub-type present the climax in Ottoman architecture. There were a combination of factors which allowed such a peak to take place. First, up until the last quarter of the sixteenth century, the Ottomans were showing great power and vitality. They were able to conquer most of south-eastern Europe, the Middle East, and North Africa. This period was their best, politically and militarily. They were able to acquire power, stability, and wealth.[1] Secondly, their exposure to different civilizations aided in the process of developing their own taste which was already cultured by the time they entered Istanbul.[2] Thirdly, the Ottoman architect had also reached a level of experience which allowed him to take the architecture of the strong empire to higher levels of achievement. And more importantly, all these külliyes were built by the strong and wealthy sultans of the period who were very interested in building a great capital for their flourishing empire (see table 5-6).

Beyond the sixteenth century the külliye of this sub-type became smaller in program and scale. However, the overall layout continued to be used through the second half of the eighteenth century, although more liberal solutions were advanced.[3] At the time when the sultans were building smaller külliyes, viziers and officials were building according to

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[1] The century following the death of Selim II in 1574 is considered a passive period in Ottoman history during which corruption began to have its way within the system. See Fisher and Ochsenwald, The Middle East A History, McGraw-Hill, 1990, pp. 225-37.

[2] Bernard Lewis, Istanbul and the Civilization of the Ottoman Empire, p. 103.

[3] Nuruosmaniye and Laleli, for instance, do not have the old rectangular central space where the mosque is located in its center, see plans 4-21, 22.

the second type of külliye (külliye with a shared space between the mosque and other facilities). Istanbul, which was the home for all külliyes of this sub-group[1], reached a point where building large facilities became very difficult. Moreover, financial means were

NAME	LOCATION	DATE	BUILDER	AREA
Uç Şerifli	Edirne	1447	Sultan	
Fatih	Istanbul	1470	Sultan	104,000 sq.m
Beyazit II	Edirne	1488	Sultan	26,000 sq.m
Beyazit II	Istanbul	1506	Sultan	
Şehzade	Istanbul	1548	Sultan	27,000 sq.m
Süleymaniye	Istanbul	1557	Sultan	85,000 sq.m
Selimiye	Edirne	1575	Sultan	30,000 sq.m
Sultan Ahmet	Istanbul	1617	Sultan	60,000 sq.m
Yeni Cami	Eminönü, Ist.	1663	Sitn Mother	20,400 sq.m
Yeni Valide	Üsk., Ist.	1710	Sultan	3,600 sq.m
Nuruosmaniye	Istanbul	1755	Sultan	8,800 sq.m
Laleli	Istanbul	1763	Sultan	4,900 sq.m

Table 5-6: Külliyes with central spaces

not as readily available.[2] In other words, the whole state was influenced by the political

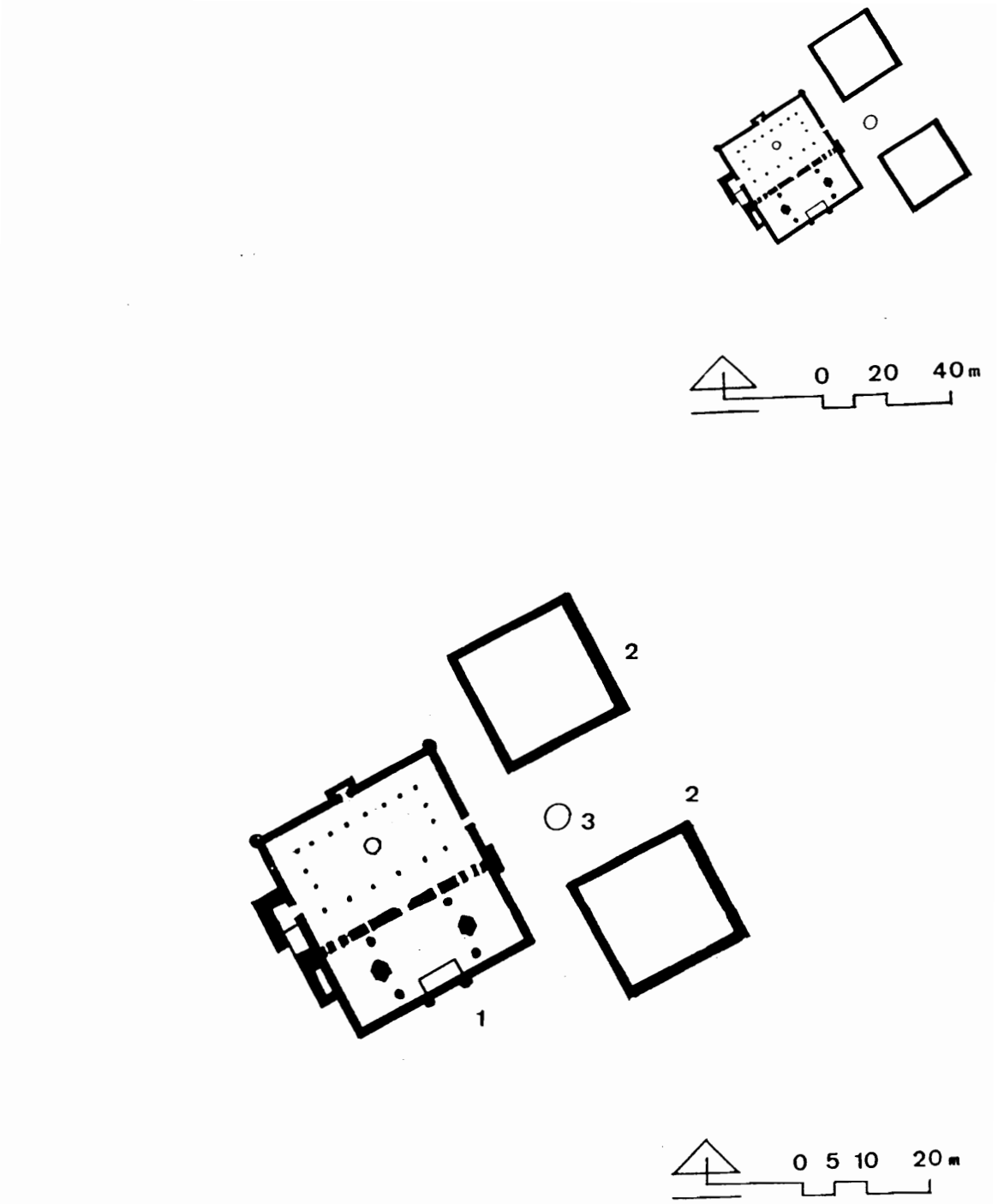
[1] Üç Şerifli was built before the conquest; the Selimiye is the only exception since it was built in Edirne. One reason for building it outside Istanbul was the fact that the city was overcrowded with monuments especially in prime locations. See Dogan Kuban "Selimiye at Edirne: Its Genesis and an Evaluation of its Style" in IV Congres International d'Art Turc, 1976, pp. 105-11.

[2] Fisher and Ochsenwald, The Middle East, A History, p. 225.

and economic changes; subsequently, construction and architecture were affected. In fact, sultans in the last two centuries of the empire's life ceased to build külliyes, and were limited to building only centers. Beylerbey (1778), Emirgan (1781), Haydarpaşa (1804), and Nusretiye (1826) are examples of sultans' projects to include only a mosque and one other facility which, in most cases, was a mekteb.

Based on the fact that the central space is the most prominent feature in this sub-type, there are two külliyes which can be seen as exceptions to the rule. Üç Şerifli in Edirne (1447) and Beyazit II in Istanbul (1506) do not have a well defined central space around them. They belong to this sub-type only because their mosques have a court. Their layout is rather more loose than the other külliyes. Üç Şerifli külliye has two medreses to the east of the mosque and a türbe between them (plan 5-29). The location of the medreses seems to be typical if compared with other külliyes, especially the Fatih and Süleymaniye. However, the türbe is located in an unusual place since, in most cases, türbes are located to the south of the mosque. Beyazit II has the türbe to the south of the mosque; yet what is unique about this külliye is the layout of the mosque itself (plan 4-30). It has two wings flanking the main body of the mosque at the point where the covered part meets the courtyard. While such a design reminds one of the eyvan-mosque, it can only be seen in Beyazit II in Edirne and not in any külliye of this type. The imaret and caravanserai are located closer to the mosque than the medrese, a such configuration is not typical since, in most cases, medreses are the closest function to the mosque.

Other than these two külliyes, the outline which was established in the Fatih was followed liberally. None of the külliyes broke loose of the Fatih's layout; however, none of them was a copy of it either. The Süleymaniye (1557) comes very close to the Fatih in the sense that its central space is a complete rectangle. The central space has a U-shape, inside of which the mosque block is located (plan 4-13). The mosque block consists of the mosque with its two parts (the covered part and the courtyard), and the türbe. The wall which divides the central space into two sections in the Süleymaniye is a feature unique to it. The mosque has a more sacred space around it, while an L-shaped space surrounds the



Plan 5-29: Üç Şerifli, Edirne; 1. mosque, 2. medrese, 3. türbe

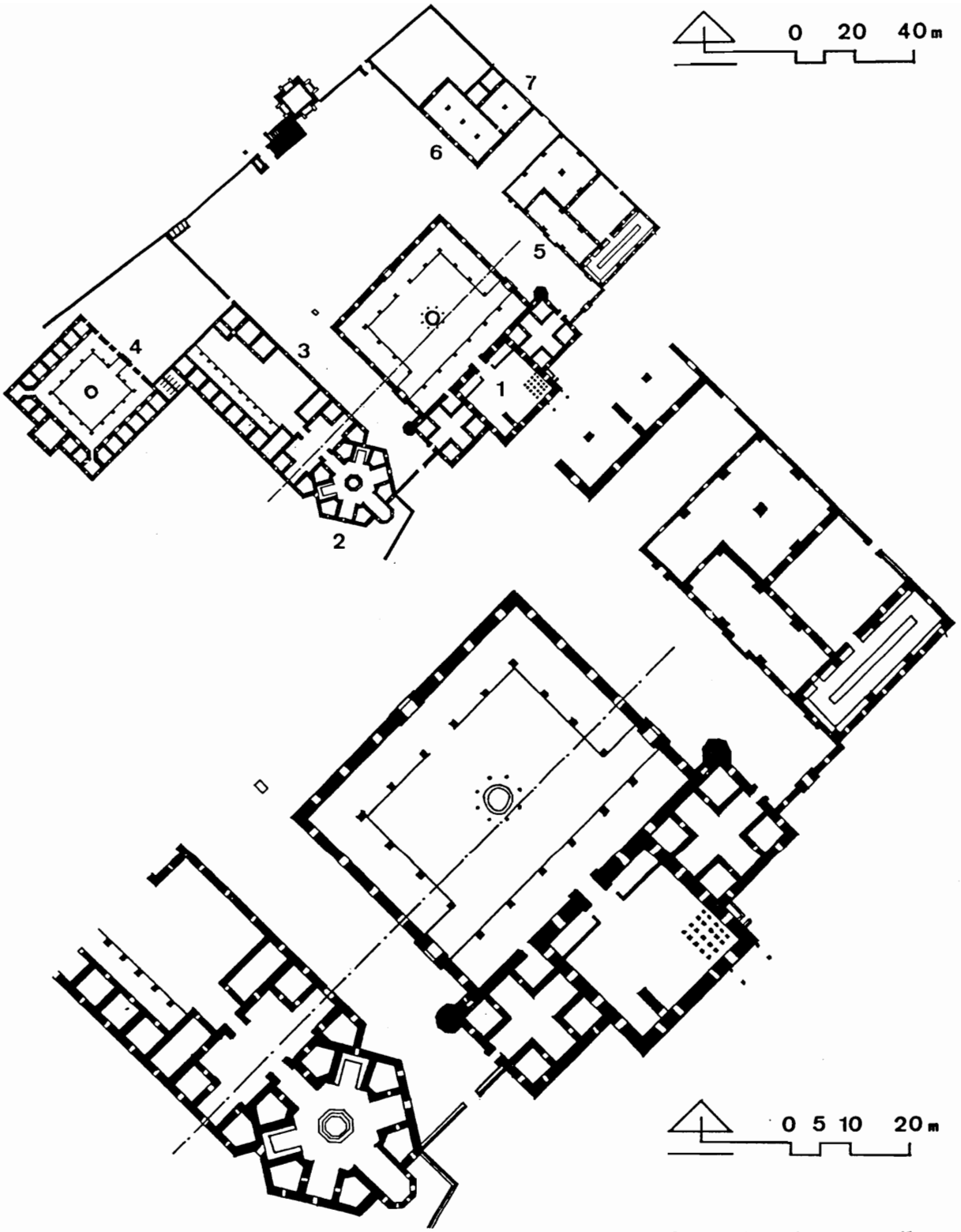
mosque's space and connects the different facilities together. The symmetry, which can be clearly seen in the plan of the Fatih, is replaced by a balanced plan here. The medreses are not located in a symmetrical arrangement, the northern gate of the central space is not aligned with any architectural element in the northern block of the külliye, and the darü'l-hadîs (the theological school) is not aligned with the rest of the composition.

Entrances to the central space are aligned with the entrances to the mosque. The two entrances at the southern side are located at the corner with the wall of the türbe. They also face directly the steps of the side entrances to the mosque. Such an arrangement for the entrances allows a better sense of scale since the visitor's attention is drawn to architectural elements in the foreground; and hence, a visitor will be able to concentrate on these elements during his journey in the külliye. The short axial relationships between certain elements in the composition aid the worshipper in his or her process of concentration on worship. Examples of such axes are the side gates to the central space and the stairs to the mosque, the main gate to the central space and the main gate to the mosque, the northern gates to the central space and the side stairs of the mosque, and the gate of the mosque and the şadirvan inside the court.

Beyazit külliye in Edirne (1488) is slightly different than the first two prototypes (plan 5-30). The türbe is absent here and the mosque moves all the way down to the southern wall of the central space. The külliye shows a good example of compartmentalization. The medical quarter is well isolated from the rest of the külliye. It has its own common space around which the hospital and the medical school are located. The külliye shows a very good case of transparency where it is possible to see one space after the other through the windows of the separating walls.[1]

Şehzade külliye (1548) follows more carefully the example of Fatih. However, it shows an abnormality at its western side where the central space has a triangular shape and ends

[1] See sections 6.2.2.and 6.2.3. for more about compartmentalization and transparency.



Plan 5-30: Beyazit külliye, Edirne; 1. mosque, 2. darüşşifa, 3. timarhane, 4. tib medrese, 5. imaret, 6. store, 7. bakery

at the point where the türbe starts as oppose to the typical layout where the central space continues parallel to the türbe (plan 4-33). Such a change in the layout was probably a result of the site's borders which the architect had to respect. The mosque is at the same elevation of the central space, and hence a better transparency is achieved between the inside and outside of the mosque. This feature is unique to Şehzade since usually the mosque is a few feet higher than the central space.

The Selimiye is considered to be the masterpiece of Sinan and the climax of Ottoman classical architecture.[1] However, it is not only the architecture of the mosque which is superb, but also the whole composition of the külliye shows an unmatched excellence. The Selimiye is not like its predecessors a composition of individual buildings, but rather it is a complete and unified piece of architecture.[2] It cannot be read or seen as pieces. It is a whole consisting of a variety of rooms (plan 4-20). Each room has its own character. The central space is here part of the architectural composition; in other words, the mosque is not limited by its walls, it expands to include the whole central space. The moment one enters any of the central space's gates one is in that complete piece of architecture; only some of its rooms are unroofed. This point is strongly displayed at the southern entrance to the külliye. The visitor enters a room in which he is pulled inward by the dominating drainspout which acts as a symbolic piece of sculpture more than anything else. One is surrounded by the three enclosed rooms of the külliye, the mosque and the two medreses.[3] From that space one can move to the main central space which is carefully

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[1] Dogan Kuban, "Architecture of the Ottoman Period" in Ekrem Akurgal (ed.), The Art and Architecture of Turkey, Rizzoli, New York, 1980, p.146; Goodwin, A History of Ottoman Architecture, p. 261; Kuran, Sinan, p. 169; and others.

[2] Ernst Egli wrote about the Selimiye's layout that it resembles the Süleymaniye, "it is, however, more compact, with a greater emphasis on the vertical. The forecourt lacks the axial quality of the one in Istanbul, while the dependent buildings - schools, hospitals, etc. - are drawn in closer and serve as a pedestal to the mosque itself." See Ernst Egli, "Sinan the Architect", Landscape, vol. 7, no. 3, Spring 1958, p. 10.

[3] See section 6.2.5. (Framed and Directed Views) for a discussion of this entrance.

proportioned to act as a continuation of the mosque.[1] The Selimiye has no türbe in the typical sense. There are a few tombs to the south of the mosque; however, the area is not meant to be used for that purpose. The space is used as a southern entrance which is another unique addition to the overall design. The two medreses are also located differently. They are within the central space, and attached to the mosque by two small gates which lead to the main part of the central space. The Selimiye shows a clear symmetry in its design, even more than Süleymaniye since all pieces of the composition are aligned and have the same direction. The arasta is the main element which breaks the symmetry. The eastern side of the central space is a few meters wider than the western side.[2]

Sultan Ahmet (1617) was the last large külliye built by the Ottomans. The central space is not a perfect rectangle as was the case in the earlier külliyes; however, it provides the necessary enclosure for the mosque. The türbe is not located in its typical location to the south of the mosque, but at the northeastern corner of the central space (plan 4-17). The türbe and the medrese constitute a block with a passageway running in between them and leading to the central space. Although the passageway does not seem to have any particular geometrical relationship with the central space or the mosque, it allows a vista to the two minarets of the court. Architecturally, the mosque is one of the masterpieces of Ottoman architecture; yet the külliye as a whole shows early signs of a major break away from the traditional layout. The facilities do not surround the central space anymore, and a clear geometrical order for the whole külliye does not exist. Nevertheless, the külliye is very rich visually. Besides the vista of the two minarets through the passageway, there are other interesting visual compositions. One of them is the view of the dome from the small eastern entrance which is on axis with the dome. Another interesting point is the tunnel under the ramp which leads to the royal pavilion; the visitor

[1] See section 6.2.8. (Monumentality and Scale) for a discussion of this point.

[2] See section 6.2.5. (Framed and Directed Views) for a discussion of the difference in the width of the central space's two sides.

leaves the enclosed central space through a covered and narrow corridor which leads him to an open space where he can observe the sea.

Yeni Valide in Eminönü (1663) presents another case where the old layout is modified. The central space shows a form which is free from the rigidity of the rectangle. The west side of the central space is defined by the bazaar instead of medreses. The old tradition of separating the religious functions from commercial activities is absent in this case (fig. 5-32). However, the mosque is separated from the bazaar area by the sets of stairs which elevate the mosque over the main level of the central space. The mosque in this case is elevated more than other mosques of this type, most probably in order to create a strong separation through change of level since no other means of separation between the mosque and the bazaar was utilized.[1] The türbe is located in the area between the bazaar and the mosque, and not to the south of the mosque (plan 5-31). And the ramp leading to the royal pavilion has an irregular angle. As is the case in all külliyes, there are special views created by the composition of the buildings. One example is the tunnel under the ramp which leads to the eastern side of the central space and allows a vista to the water.

While Yeni Valide in Üsküdar (1710) presents a return to the old prototype of a rectangular central space (plan 4-42), Nuruosmaniye (1755) and Laleli (1763) show a strong break away from it. It seems that, in both cases, the site has dictated the shape of the central space. The mosque was located in that space facing Makka; and since the site was small, the central space turned to be of an odd shape (plans 4-21, 22). The unusual layout in both cases produced areas of uncomfortable scale, especially where the mosque comes very close to the limits of the site. Both of these cases show that the issue of respecting existing urban fabric was observed by the designer throughout the development of the külliyes' design.

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[1] Reynolds talks about the fact that the mosque is elevated; he sees this elevation as impressive, however, he does not think that it has any other practical benefit. He asserts that by raising the building a "fine approach and a massive base is thus given to the building, but I have failed to establish any more practical reason for the custom." See Edwin Reynolds, "Imperial Mosques of Constantinople", The Architectural Review, vol. xxvi, no. 152, July 1909, p. 21.

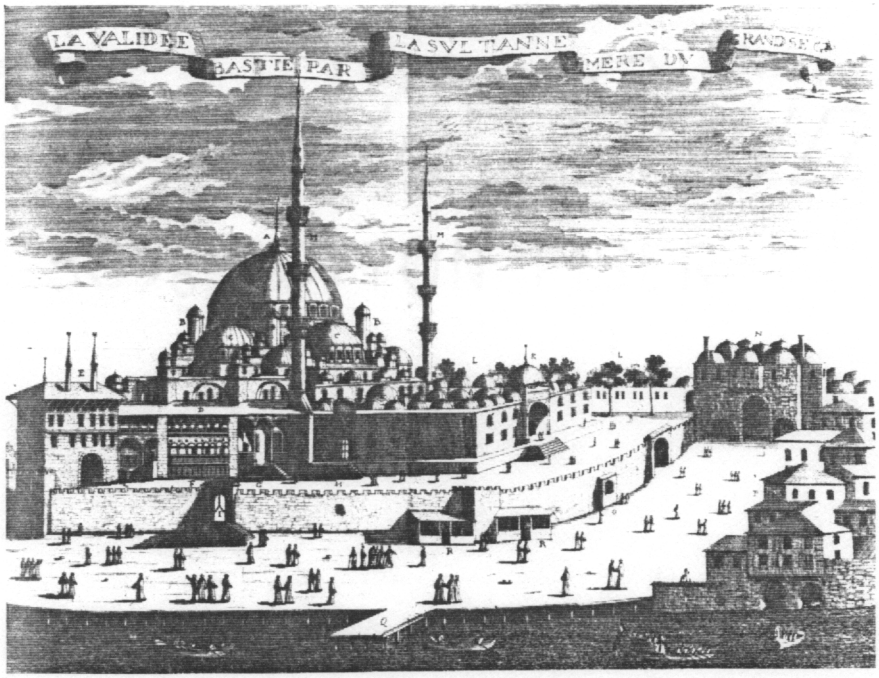
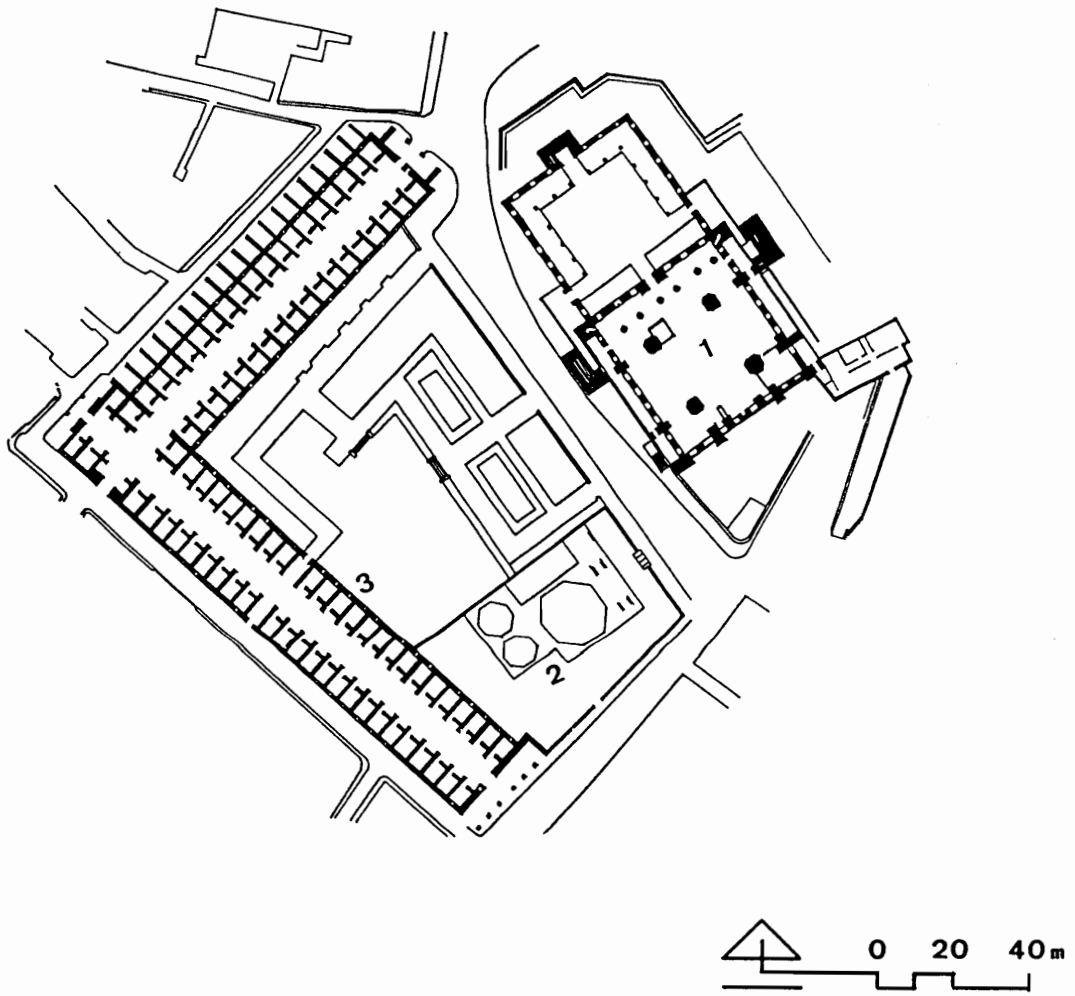


Figure 5-32: Yeni Valide külliye, Eminönü, Istanbul; a general view (after Goodwin, 1971)



Plan 5-31: Yeni Valide külliye, Istanbul; 1. mosque, 2. türbe, 3. bazaar (after Goodwin, 1971)

Külliyes of this sub-group where all built by the royal family; in fact all but one, Yeni Valide, Eminönü, were built by sultans. These külliyes are the largest of all külliyes built by the Ottomans. The Fatih, which is the largest of all, is over 100,000 square meters in area. Süleymaniye is the second largest at around 85,000 square meters. Yeni Valide in Eminönü is the last of the large külliyes, with over 20,000 square meters in area. Later külliyes had an area of less than 10,000 square meter.

5.4. AN OVERVIEW OF THE KÜLLIYE'S TYPOLOGY

The mosque was always the center of the whole composition in any külliye. Its development, as well as the development of the space around it, was the essential force behind the manifestation of different types of külliyes. The early forms of külliyes have the mosque in a central location around which the rest of the facilities were grouped. This type of külliye was called in this study 'külliye with no special space for the mosque'. The apparent lack of an overall composition did not mean chaotic layouts; topography was one factor influencing the layout as well as the site's shape. A vernacular flavor was dominant in these külliyes which were the first to be built. The best examples of this type are the sultans' külliyes in Bursa when it was the capital of the state. When the capital was moved to Istanbul, there was a different layout according to which the sultans were building their külliyes. This layout was used only for the sultans. In it, the sultan's mosque had a courtyard added to the covered part. The mosque had several minarets as opposed to just one. Also, the mosque was surrounded by a space which is framed either by walls or by the different facilities of the külliye. This type is called külliye with a special space for the mosque. Chronologically, this type was also developed early; however, not as early as the first type. The first famous mosque which has a courtyard, Üç Şerifli, was built less than twenty years after Murad II. The Fatih, which is the best example of this type was built in less than fifty years after Murad II (table 5-7). A drastic development took place in the design of külliyes. The inspiration behind the Fatih is not revealed yet; and therefore, it is not possible to know the story of the development. From that point on the design of the külliye was pushing towards the best. The climax of this development

DATE	TYPE 1	TYPE 2	TYPE 3	TYPE 4
1390	Murad I, Bursa Yıldırım, Bursa	.....	.....	.....
1400	Timurtaş, Bursa	.....	.....	.....
1410	.....	.....	.....	.....
1420	Yeşil, Bursa Murad II, Bursa	.....	.....	.....
1430	.....	.....	.....	.....
1440	.....	.....	.....	Uç Şerifli, Edirne
1450	.....	.....	.....	.....
1460	.....	.....	.....	.....
1470	.....	.....	.....	Fatih, Ist.
1480	Beyazit II, Amasya	.....	Ishak Paşa, Inegöl	Beyazit II, Edirne
1490	.....	.....	.....	.....
1500	.....	.....	.....	Beyazit II, Ist.
1510	.....	.....	.....	.....
1520	.....	Çoban Must., Gebze	Ayşe Hafsa, Manisa	.....
1530	Haseki Hrm., Ist.	.....	.....	.....
1540	Mihrimah, Üsk., Ist.	.....	.....	Şehzade, Ist.
1550	.....	.....	Kara Ahmet, Ist. Sokollu M., Ist.	Süleymaniye, Ist.
1560	.....	.....	Mihrimah, Edirnekapi Sokollu M., Lüleburgaz	.....
1570	.....	.....	.....	Selimiye, Edirne Pertev Paşa, Izmit
1580	.....	Şemsi Paşa	Zal Mahmut, Eyüp, Ist.	Kiliç Ali P., Ist. Atik Valide, Top., Ist.
1590	Muradiye, Manisa	Koca Sinan, Ist.	Sinan Paşa, Ist.	.....
1600	.....	.....	.....	.....
1610	.....	.....	.....	Sultan Ahmet, Ist.
1620	.....	.....	.....	.....
1630	.....	Beyram Paşa, Ist.	.....	.....
1640	.....	.....	.....	.....
1650	.....	.....	.....	.....
1660	.....	Köprülü M., Ist.	.....	Yeni Cami, Eminönü, Ist.
1670	.....	.....	.....	.....
1680	.....	.....	.....	.....
1690	.....	Kara Mustafa, Ist.	.....	.....
1700	.....	Amcazade, Ist. Çorlulu Ali, Ist.	.....	.....
1710	.....	.....	.....	Yeni Valide, Üsk., Ist.
1720	.....	Ahmadiye, Ist.	.....	Ibrahim P., Nevşehir
1730	.....	Hekimoğlu, Ist.	.....	.....
1740	.....	Başir Aga, Ist.	.....	.....
1750	.....	.....	.....	Nuruosmaniye, Ist.
1760	.....	.....	.....	Laleli, Ist.

Table 5-7: Külliyes of the four types listed chronologically

was in the design of the Selimiye which produced one coherent and complete composition. The size of the külliye started to decline during the later periods of the state to the point that sultans were not building külliyes anymore, only mosques.

While sultans' külliyes moved from having no space around the mosque to a well defined one, smaller külliyes were trying to copy as many ideas as possible from the great külliyes. The 'külliye with a shared space for the mosque and medrese', where the two functions shared the same space, was used by high officials in the government during the period when the great külliyes were built, throughout the sixteenth century (table 5-7). None of these külliyes had more than one minaret, nor did any of them have a program as substantial as those of the sultans' külliyes of the time; nonetheless, the courtyard of the mosque and medrese was as close in its grandeur to a sultan's mosque as it can get. By the seventeenth century, Istanbul became a crowded city and the state was not as rich as it used to be. While sultans continued to build according to their own style but on a smaller scale, high officials moved towards a humbler layout for their külliyes. The open space was shared then by not only the mosque and medrese, but also by other facilities. A new type was developed and called in this study 'külliye with a shared space between the mosque and other facilities'. Külliyes of this type were built mostly in Istanbul and were used throughout the seventeenth and eighteenth centuries.

Kuran wrote in his book The Mosque in Early Ottoman Architecture that the objective behind the design of the mosque was: "to create the largest single uninterrupted space disturbed by as few vertical structural elements inside the main prayer hall as possible."[1] The creation of a central space under which the worshippers would stand, a space which is large enough and open enough to bring all people together was the objective of the Ottoman architect. This objective has been carried out to include the design of the whole külliye. The Ottoman architect strove to create an open space around which all kinds of functions of the community were to exist. That open space was quickly to evolve and

[1] p. 213.

become the core of the whole külliye. That space took many forms; it was loose at the beginning, but soon it started to be structured. It acquired a definite shape and specific characteristcs made it as architectural as the buildings themselves. This space took different forms which influenced the layout of the külliye and dictated its various types.

VI. DESIGN PRINCIPLES IN THE OTTOMAN KÜLLIYE

6.1. BACKGROUND

David Gebhard wrote: "It is the quality of the space rather than the details or plans which ultimately establishes the individuality and character of this (Ottoman) architecture."[1] The quality and characteristics of the space in the külliye are the object of analysis in this chapter. The Ottoman külliye took a variety of forms and went through several stages of development. Certain design devices started to crystalize along with the development process and formulated the character of the külliye's spaces. Some of these devices were used in almost all külliyes, and some were developed through time and appeared more in later periods. These devices, when established, were repeated so systematically, especially in the later külliyes, that they can be considered as design principles. Külliyes which were built for the sultans in Istanbul were the most developed and articulated. The design principles were utilized very clearly in them. However, other smaller and earlier külliyes also featured many of these principles. The application of these principles had a formal, as well as symbolic, significance. The principles made the külliye a much more humanly scaled place without compromising the monumentality of the architecture. They also made the visual experience of great interest and excitement. At another level, these principles reflected some of the Islamic symbolism at an urban scale. Because of their formal and symbolic qualities, the külliye became a very spiritual place.

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[1] David Gebhard, "The Problem of Space in the Ottoman Mosque," The Art Bulletin, vol. 45, no. 3, Sept. 1963, p. 272.

Nine main design principles are identified in this study as influential in the design of the külliye. Five of these principles were related to the design of the spaces and the visual experience in them; therefore, they will be called the visual principles. The other principles played a critical role in developing a human scale in the külliye; they are called here scale principles. The five visual principles are: centrality, compartmentalization and enclosure, transparency, sequential spatial arrangement with continuous visual changes and framed and directed views. The four scale principles are: layering, stepping, monumentality and scale, and three levels of design. These nine principles provided the külliye with a unique character visually and spatially. The following is a detailed account of these principles.[1]

6.2. DESIGN PRINCIPLES USED IN THE KÜLLIYE

6.2.1. CENTRALITY

One of the most used principles in the design of the Ottoman külliyes is centrality.[2] The külliye is usually located in the center of the city or the neighborhood. Its central location has a functional importance: being accessible to everybody. Moreover, it has a symbolic significance: being the heart or center of the community's life. At a smaller scale, the külliye itself is designed around a central point, which is usually the mosque. The mosque

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[1] Similar design principles or concepts have been developed in a good number of urban design studies. It is not possible to mention each one of these studies; however, some of them are noted when possible. Most of the studies are general and none of them explores exactly the same principles proposed in this study; furthermore, none of the cited studies examines Ottoman architecture. Nonetheless, the citations will help clarify some of the principles, since they are based on Western examples, and thus they will be easier to relate to and be comprehended by the Western reader.

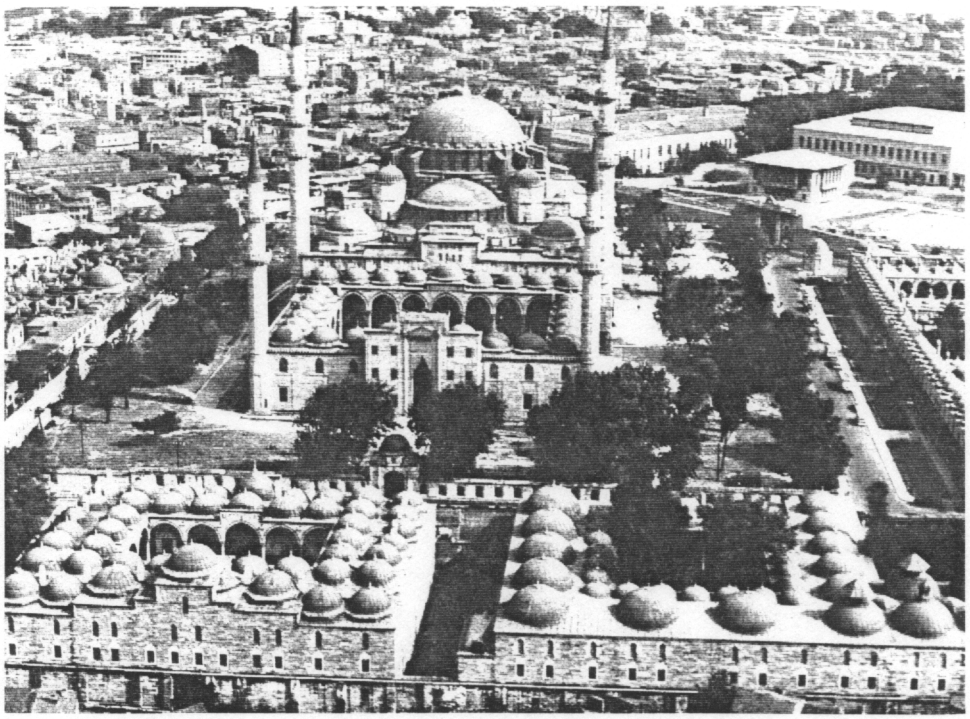
[2] Centrality in Ottoman architecture has been explored by many writers. Kuran talks about "the nondirectional containment of the inner space by four walls." (Kuran, The Mosque in Early Ottoman Architecture, p. 213). (Also see Kuran, "Basic Space and Form Concept in Early Ottoman Mosque Architecture," 2nd International Congress of Turkish Art, Napoli, 1965, pp. 181-187.) More explicitly, Reynolds wrote describing Şehzade mosque: "All the four sides of the dome are treated exactly alike... and the expression of length given by the north and south arcades in the Beyazid Mosque,... gives place to a more central and perhaps more logical emphasis of the great dome." (Reynolds, "Imperial Mosques of Constantinople," The Architectural Review, vol. xxv, no. 150, May 1909, p. 220).

is physically located in the center of the composition. Its architecture emphasizes its importance, also; the mosque is always the largest structure and the highest one. The care given to its details and ornamentation adds to its importance. The central space provides a platform of sorts within which the mosque also has a central position (fig. 6-1).

At an even smaller scale, the individual buildings also adhere to the principle of centrality. The mosque, for example, has its courtyard with a shape which is close to being a square with a water fountain in the center. Although this fountain is used for ablution, it does not seem that this was the purpose for having it in every mosque. There are always designated areas for ablution at other places around the mosque. The fountain provides a visual center for the courtyard. It also redirects movement around it in such a way that a direct access to the covered part of the mosque is not possible.[1] (fig. 6-2)

The covered part of the mosque is another example where centrality is well respected. The whole architecture of the mosque is developed around the dome which covers a central space. The dome has been related to a different symbolic meaning in Islamic architecture. It is under the dome that the worshipper has a direct relationship with God. The mihrab area enjoys such emphasis in its design that one might think of it as a terminal and focal point for the composition. However, the northern wall is also very elaborate in its design in a way which makes it compete very easily with the mihrab's wall. The eastern and western walls are of equal importance in their design, also. And thus, every two facing walls appear to be of equal importance; an arrangement which makes the central area,

[1] Corbett stresses the idea that there is no part of the mosque more sacred or more important than the others. The mosque is radially planned, he thinks, in a way that no procession or climax exists. He further discusses the fact that the prayer is preceded by ablution. He wrote that because of this functional relationship "it is hard to suppress all idea of procession... However, the axiality which is thus inevitably introduced is minimized by a strong transverse feature, the portico, which invariably runs along the façade of the prayer-hall." See Spencer Corbett, "Sinan," The Architectural Review, vol. 113, May 1953, p. 292.



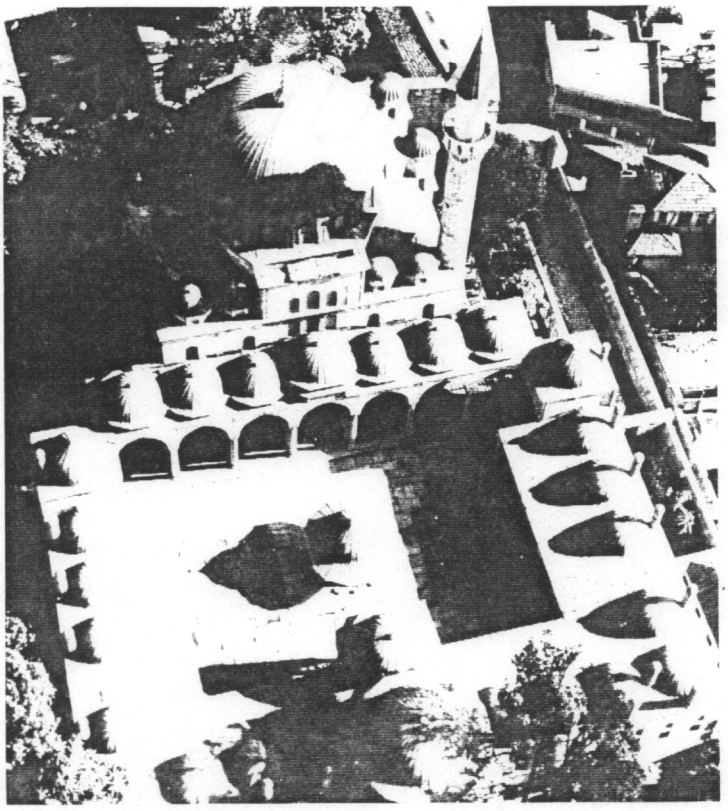


Figure 6-1:
Süleymaniye külliye, Istanbul; centrality dictated the design (after Kuran, 1987)

Figure 6-2:
Sokollu Mehmet, Istanbul; (after Kuran, 1987)

under the dome, the most dominant location in the composition.[1] Such cases can be seen in all major mosques such as Süleymaniye, Selimiye, Sultan Ahmet, and Fatih. Examples from the eyvan type include Yeşil and the Muradiye külliyes (fig. 6-3, 4).

Centrality is more prominent in the sultans' külliyes, such as the Süleymaniye and the Fatih. The külliye is in the center of the neighborhood, the central space is in the center of the külliye, the mosque is in the center of the central space, the water fountain is in the center of the courtyard, the major space under the dome is in the center of the covered part of the mosque, and the tomb of the sultan is in the center of the türbe (plan 4-13). Such an arrangement, which was based on centrality, allowed an axis to exist in the composition of the külliye. A semi-symmetrical design was also developed because of the centrality principle. However, axiality and symmetry were not purposely or intentionally used in the composition of the Ottoman külliye. They were an outcome of the centrality which was always maintained.

The axis which appears in the plan of all sultans' mosques does not exist physically nor visually. A visitor to the Süleymaniye, for instance, cannot walk along the axis because of the water fountain (Şadirvan) in the courtyard which redirects movement and because of the mihrab wall which stops it completely. Visually, the fountain also disturbs the vision because of its height. The mihrab wall does the same thing since the mihrab is always a solid wall with no windows. In order to see the tomb, one should leave the axis and look through one of the windows at either side of the mihrab.

Symmetry in the design of külliyes is also never complete. In none of the külliyes which suggested symmetry was it fully realized. It was only a result of the centrality which governed the design. In the Süleymaniye, for example, only the mosque's complex seems

[1] Gebhard explains that no element in the mosque creates a directional force. He sees that all elements, including the dome, participate in creating a neutral interior space. See David Gebhard, "The Problem of Space in the Ottoman Mosque," The Art Bulletin, Vol. 45, no. 3, Sept. 1963, p. 272.

to have symmetry. The rest of the composition shows balance, but not symmetry. In the Selimiye, the arasta breaks the symmetry of the composition. Similarly in the Fatih, whose design shows almost a perfect symmetry, the outer medreses show some differences in their length.

Finally, in the city of Istanbul the different külliyes had no direct connections between them. One had to go through the typical winding, middle eastern road system in order to move from one külliye to the other. Such an arrangement made the centrality issue even stronger. Had the külliyes had direct axes connecting them, they would have appeared as nodes and terminal points for the axes. Such an arrangement would have weakened centrality and strengthened axiality.

The symbolic significance of centrality cannot be overemphasized. Islamic patterns are based on the circle in most cases. The circle and its center symbolize the universe and its dependency on the one God. This principle is used very much in Islamic ornamentation and architecture. This study shows that centrality is also used at an urban design level where all elements surround and are subordinate to the mosque. The physical location of the külliye in the center of the community emphasizes this point. The külliye does not need to be in the exact physical center of the community since from a pedestrian point of view such a center does not mean much. The centrality of the külliye reveals itself at the urban scale by virtue of having roads leading into or radiating from it. Conceptually, the külliye is the center of the community. At the smaller scale, the mosque is the center of the külliye. Functionally, all activities are dependent on and based upon the mosque's life. Hence, the idea of a center surrounded by subordinate components is strongly suggested.

6.2.2. COMPARTMENTALIZATION AND ENCLOSURE

The Ottoman architect divided large open spaces into smaller sections by different means. Such a division provided privacy and more comfortable scale for the open space. This

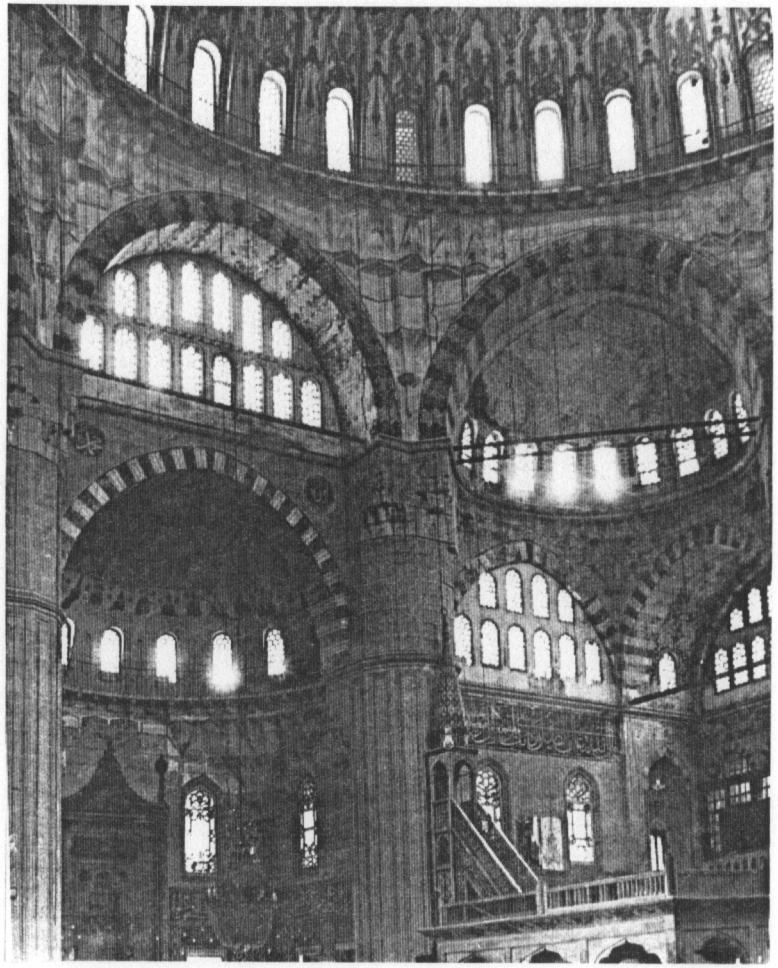


Figure 6-3: Selimiye mosque, Edirne; interior (after Kuran, 1987)

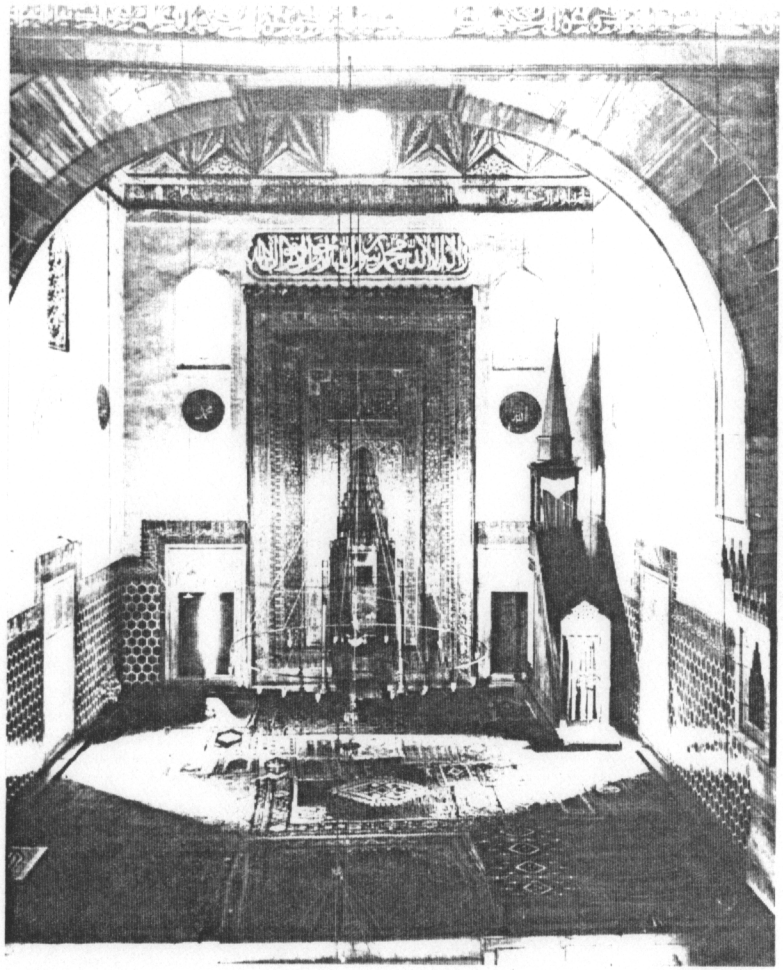


Figure 6-4: Yeşil mosque, Bursa; interior (after Goodwin, 1971)

strategy is called here compartmentalization.[1] There were several ways to achieve such a division in space. The simplest method can be seen in the iron work which was added to the mosque is portico. An iron grill was used between the columns of the portico which gave the portico a clear separation from the rest of the courtyard in front of the mosque. Examples of this device of division can be seen in Kiliç Ali Paşa külliye, 1580-1 and Atîk Valide külliye, 1583 (fig. 6-5, 6).

Another means of establishing compartmentalization was the implementation of level change.[2] In the simplest case, a small change in level was used in order to designate different spaces. This was the case in all mosque courtyards where all colonnades were raised one or two steps above the level of the open courtyard itself. However, there are cases when a space is lowered or raised slightly for the purpose of giving it special identity. Such a case can be seen in the türbe of the Murad II külliye in Bursa, 1426. Murad II's türbe is located behind the mosque and the medrese. It has a small open space in front of the structure which is two or three steps higher than the surrounding area, enough to give the royal tomb its own private space and importance (fig. 6-7).

Changing levels in order to create smaller divisions in the külliye was used on a more dramatic scale in Yildirim Beyazit külliye in Bursa, 1390. The mosque has its own platform, which is about fifteen feet higher than the platform of the medrese and the türbe Fig. 6-8). The imaret is also located on a different level. By this arrangement, the külliye

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[1] Curran talks about what he calls 'space-dividing elements.' He wrote "Elements within public spaces are often less important in creating focal points than in subdividing spaces into subareas and subspaces." He sees the two columns at St. Mark's Square as visual elements which provide edge to the space. Similarly, he explains that the steel lamps at the Via delle Conciliazione visually subdivide the space. (Curran, Architecture and the Urban Experience, New York, Van Nostrand Reinhold Company, 1983, p. 153.)

[2] Cullen considers manipulating levels as an art; he further explains: "Variations in the level of the ground can occur either directly, as a result of the contours of the site, or artificially, arising out of the needs the planner has to meet." He also thinks that the "would-be imposing building is placed on the top of a slope." He hints at the idea of compartmentalization when he writes "one may wish to separate sitting space from circulation space in a park or square. How to do it? By change of level." (Cullen, The Concise Townscape, New York, Van Nostrand Reinhold Company, 1986, p.175.)

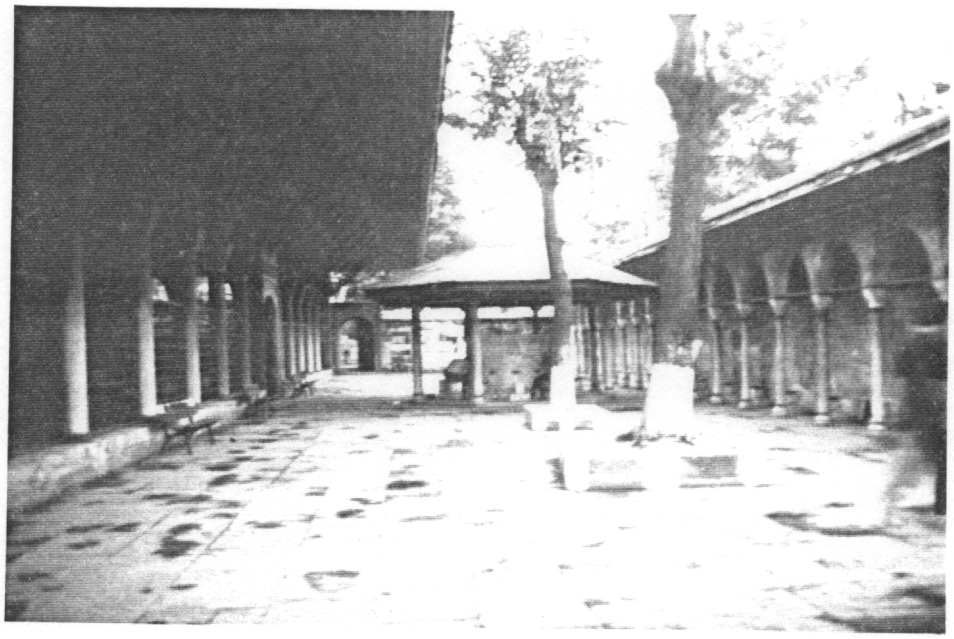


Figure 6-5: Kiliç Ali Paşa külliye, Istanbul; compartmentalization by iron work

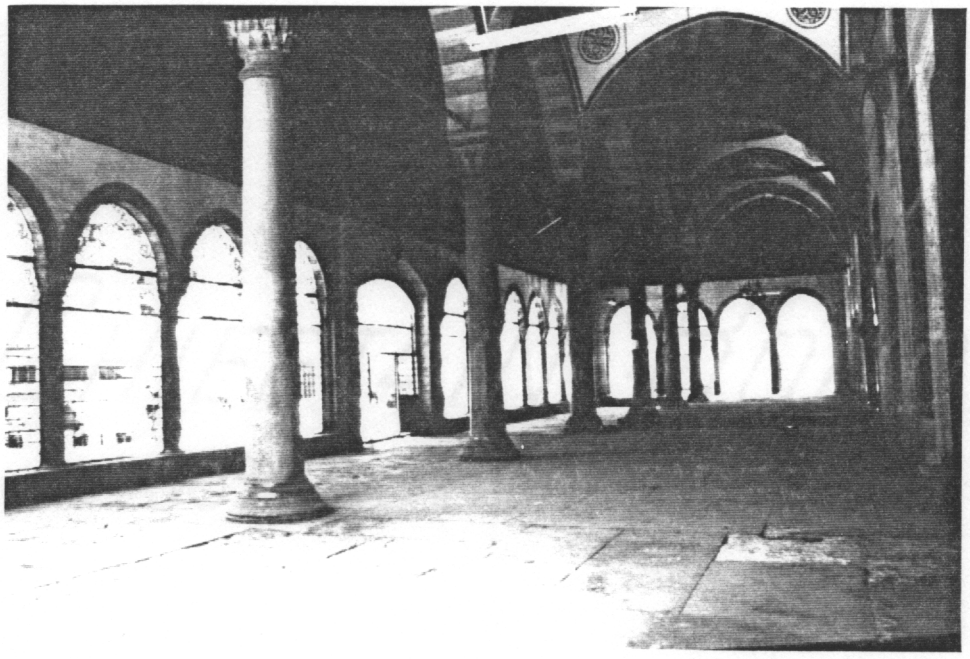
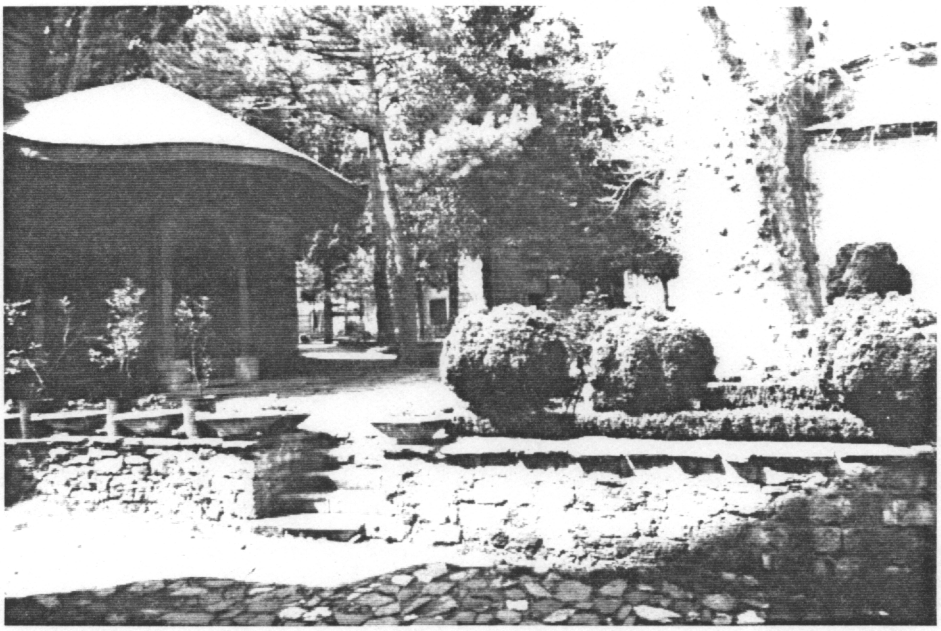


Figure 6-6: Atīk Valide külliye, Istanbul



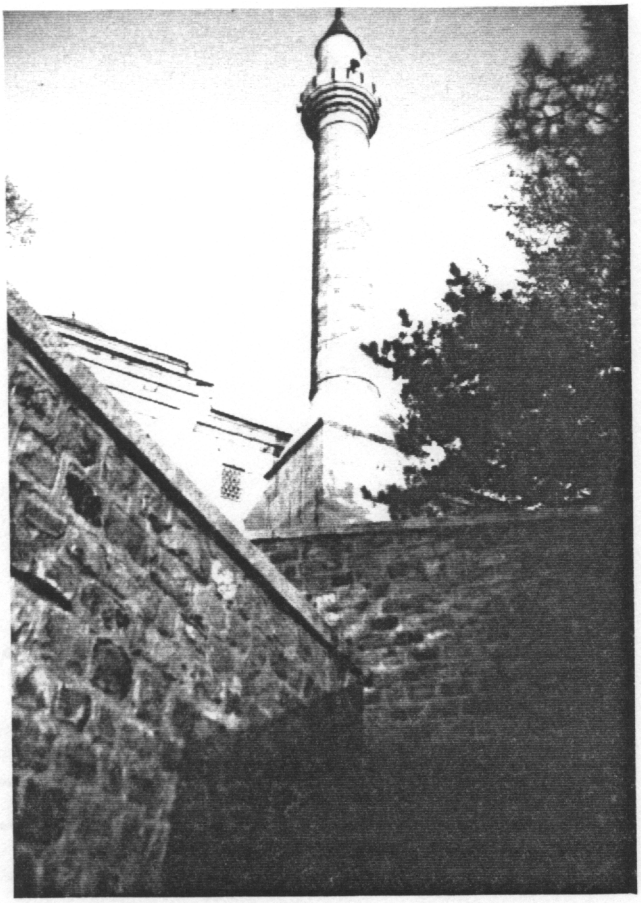


Figure 6-7:
Murad II külliye, Bursa; compartmentalization by change in level

Figure 6-8:
Yildrim Beyazit külliye, Bursa

appears to be much smaller, since each part of it is separated by a major change in level giving each structure an independent space.

The most common way of dividing spaces of the külliye, however, was through the use of walls. This method was used in particular in the larger külliyes where spaces, as well as number of facilities, became very large. A wall was used to enclose certain facilities such as in the case of darü'l-hadis in the Süleymaniye, 1556 or darü'l-şifa in the Fatih, 1470 (plans 4-13, 16). In these two cases the enclosing wall was used in order to give some privacy to the particular function. Another common place for the use of a wall is around the mosque in order to define the central space. The Süleymaniye and Şehzade are good examples of this case. In the case of the Süleymaniye, the wall plays a role in giving the space a more comfortable scale (figs. 6-9, 10). It designates a part of the open space as a central space with gates leading to the larger space. Hence, a visitor will move from one space to the other, starting from the narrow street to the open space where the shops are located. From there, the visitor can either walk around and pass the different medreses, or he can enter the central space from which he can enter yet another open space, namely the mosque's courtyard. The visitor, thus, will move through a series of humanly scaled spaces, although some are monumental, as opposed to entering an over scaled space. Another example of compartmentalization is the türbe in Eyup külliye which is a very large area designated as burial ground. That cemetery is divided into several small sections, each for a family or a group of related people. The division is achieved by changing levels and by walls. Gates are added to further emphasize privacy and division (fig. 6-11).

6.2.3. TRANSPARENCY

Walls which are used in order to divide the open spaces are pierced with a series of windows which allow a continuous view from one space to the other.[1] Such a design

[1] Cullen talks about 'here and there;' a concept which is in a way similar to compartmentalization. "(W)e have an articulated environment resulting from the breaking-up of flow into action and rest, into corridor street and market place, alley and square." One implication of

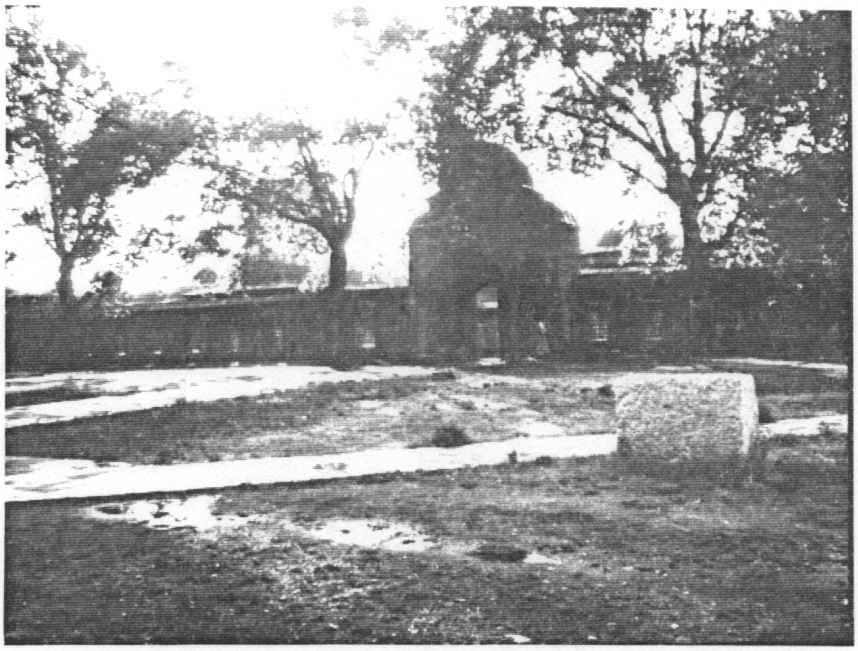


Figure 6-9: Süleymaniye külliye, Istanbul; the wall around the central space divides the overall space into smaller spaces

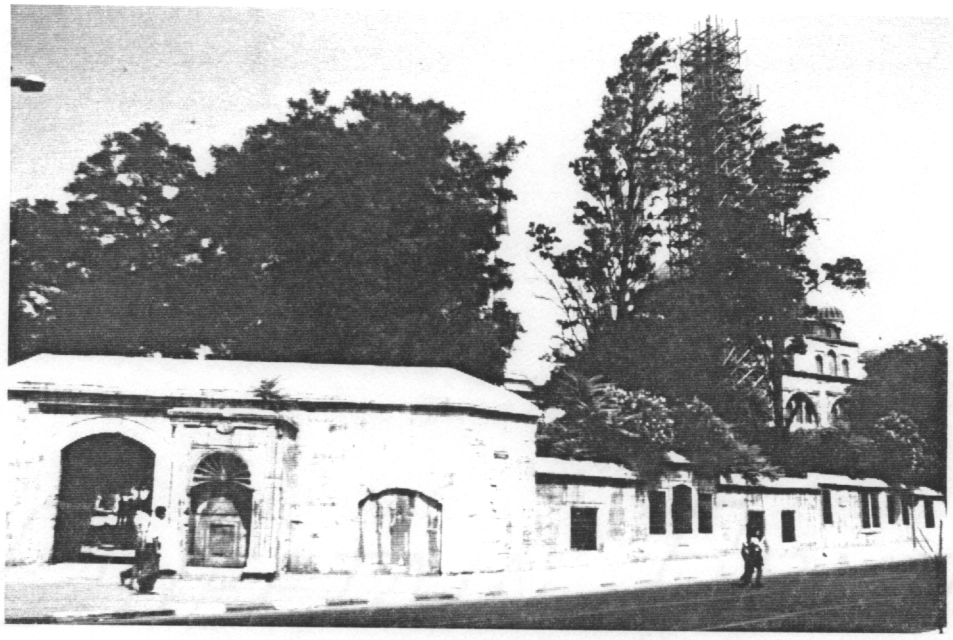


Figure 6-10: Şehzade külliye, Istanbul

device allows a spatial continuity in the külliye. Although each space has its own independence and identity, these spaces are not isolated. The ability to see through a space into another one provides a better sense of unity for the whole design, and a more interesting series of perspectives which open up while one is walking through the space.

This quality of transparency is used in almost every külliye. An interesting example of it can be seen in Beyazit külliye in Edirne, 1488. If one stands to the west of the timarhane and looks through the window of its inner courtyard, one can see that courtyard; then through the facing window, one can see the open space in between the mosque and the timarhane; and through the window of the mosque's courtyard, one can see the courtyard. Again, the facing window allows a view of the open space between the mosque and the imaret; and finally, the wall of the imaret terminates the line of vision (figs. 6-12, 13).

Transparency provides three more benefits besides the fact that it allows a sense of continuity and unity: it widens the perspective of a narrow space. This quality is particularly important in passageways. The narrow passageway between the medrese and the türbe in Sultan Ahmet is an excellent example (fig. 6-14), and so is the passageway between the central space and the imaret and the tabhane in the Süleymaniye (fig. 6-15). While the actual movement is limited to a linear and narrow path, the windows in the walls make the visual experience much wider. Thus, instead of feeling the space to be narrow and linear, one feels it to be much wider and, therefore, much more proportioned. Other examples can be seen in Çoban Mustafa Paşa külliye in Gebze, 1517; and in Yeni Valide külliye in Üsküdar, 1710 (figs. 6-16, 17).

The Ottoman architect also used transparency in order to open an enclosed space to outer

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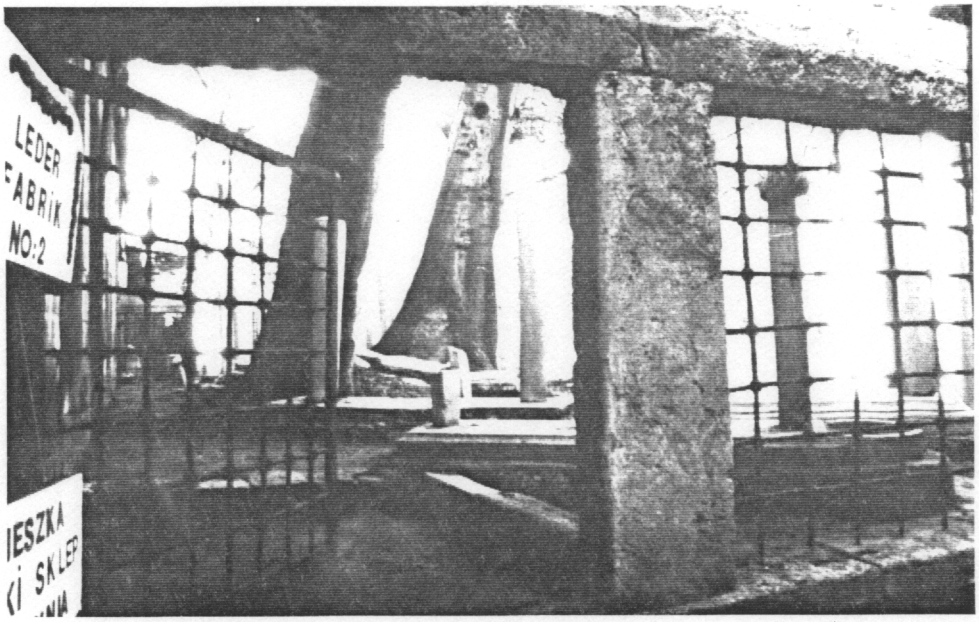
such a division is a visual one where spaces are discovered or observed through openings. Among many experiences resulting from the 'here and there' he lists: inside extends out, space continuity, and captured space, all of which have somewhat similar implications to that of transparency. (Cullen, The Concise Townscape, pp. 182-7.) Curran also mentions transparency and calls it permeability; he writes: "A high level of permeability... can provide a complex three-dimensional lacework of subspaces highly supportive of a wide variety of activities." (Curran, Architecture and the Urban Experience, p. 135.)



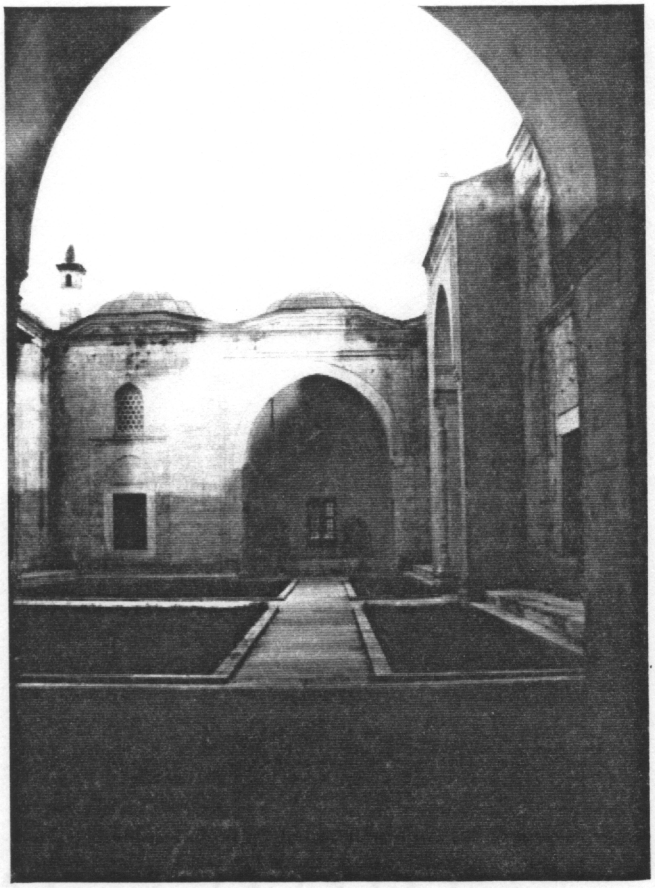


Figure 6-11:
Eyup külliye, Istanbul; the türbe

Figure 6-12:
Beyazit külliye, Edirne; a series of transparent walls allowing vision through different spaces, a visual axis starts from the western window of the darüşşifa's courtyard to the central space

Figure 6-13:
Beyazit külliye, Edirne; the visual axis continues through the mosque's courtyard to the eastern side of the central space (see plan 5-30)

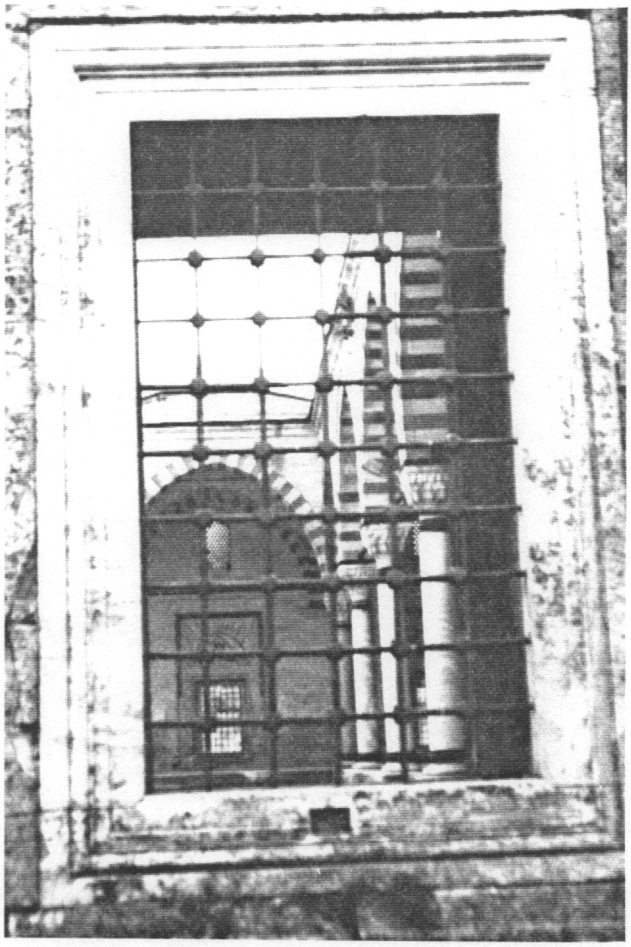


Figure 6-14:
Sultan Ahmet külliye, Istanbul; transparency widens the perspective of the passageway between the medrese and the türbe

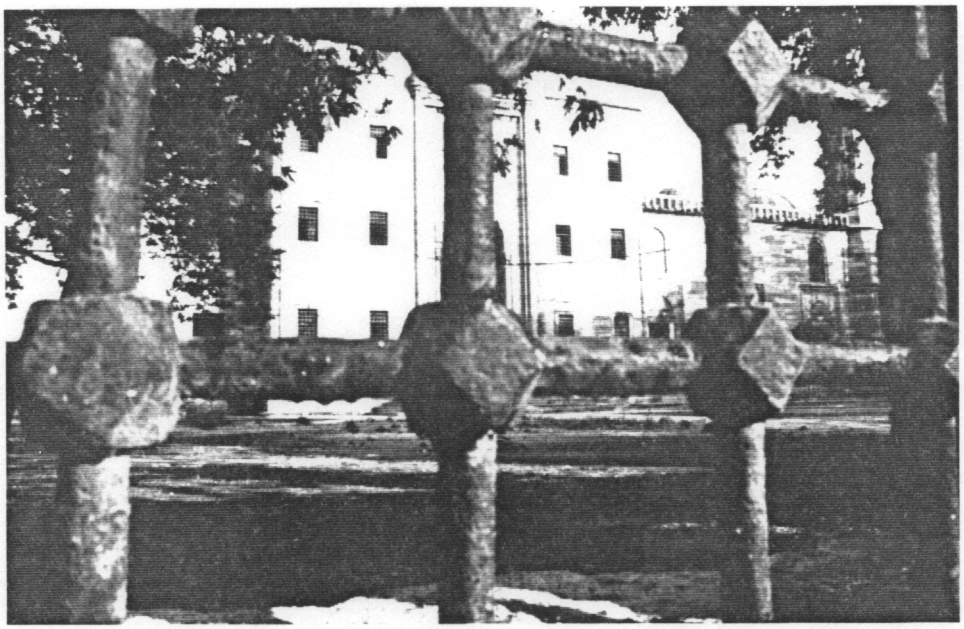


Figure 6-15: Süleymaniye, Istanbul; view through a window from the northern passageway to the central space

views. A typical case for this use is in courtyards which are shared by the mosque and the medrese. The cells of the medrese allow no windows to connect the courtyard with the outside space. In such a case, the colonnade of the mosque is lengthened by one unit at each side of the mosque. These two particular units are enclosed by the extension of the northern wall of the mosque. This enclosing wall usually has a window which allows a view of the outer space. In this instance, while the courtyard is completely enclosed by the mosque and the medrese's cells, these two windows at the two sides of the mosque provide a connection with the outside. Examples of courtyards which enjoy such a design configuration include the courtyard in Kara Ahmet Paşa in Istanbul, 1554 (plan 5-21); and Sokollu Mehmet Paşa in Lüleburbaz, 1569 (figs. 6-18, 19). The courtyard in Çoban Mustafa Paşa in Gebze also has a southern wall with windows which connect the courtyard with the space behind the mosque (plan 5-4). The connection at this particular side of the courtyard is important since it visually extends the short side of the space. In doing so, the linearity of the courtyard is reduced.

The third benefit of the use of transparency is lightening structures. The large number of windows in a wall or in a structure makes it appear much lighter, and hence more human in scale.[1] Any of the walls around central spaces or any particular facility would have looked much heavier and much more dominant had they not been pierced with openings. Such a feeling is especially noticed in mosques with their overwhelming sizes. The openings make the supporting walls seem much lighter. The whole mosque appears to be as if it were suspended[2] (figs. 6-20, 21, 22).

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[1] Sinemoğlu writes, "In the creation of a perfect space, light also plays a great role, since more light decreases the effects of the thickness of the walls which have already lost their function of carrying." (Sinemoğlu, "Unity of Turkish Art in General in the 16th Century," IV Congres International d'Art Turc, 1976, p. 218).

[2] Gebhard mentions the treatment of the walls in order to make them lighter in appearance. "By keeping the plaster mullioned windows and metal grills closely parallel to the adjoining exterior and interior surfaces, the planes of the walls remain thin and unbroken." See Gebhard, "The Problem of Space in the Ottoman Mosque," The Art Bulletin, vol. 45, no. 3, Sept. 1963, p. 275.

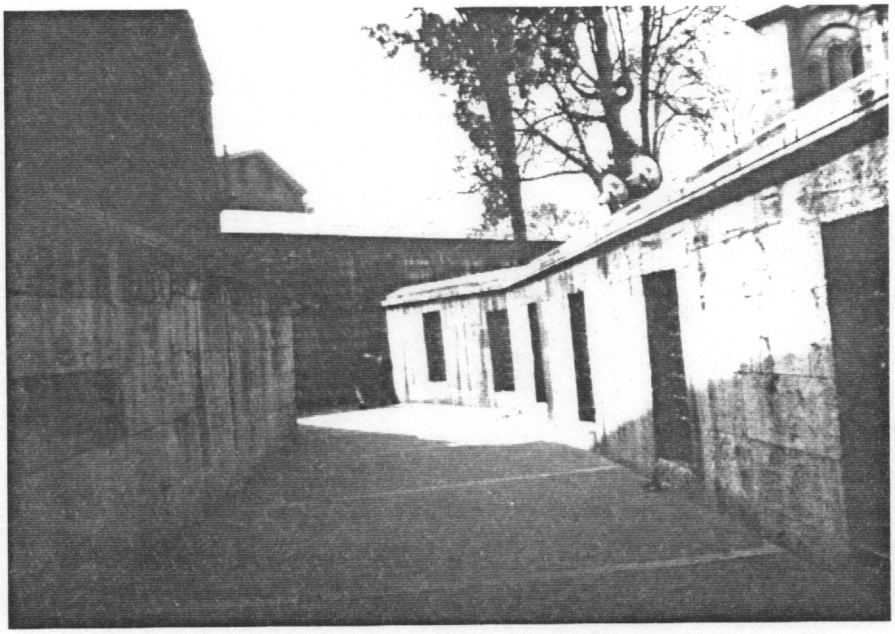

Figure 6-16: Yeni Valide, Üsküdar, Istanbul; view of the passageway which runs around the türbe

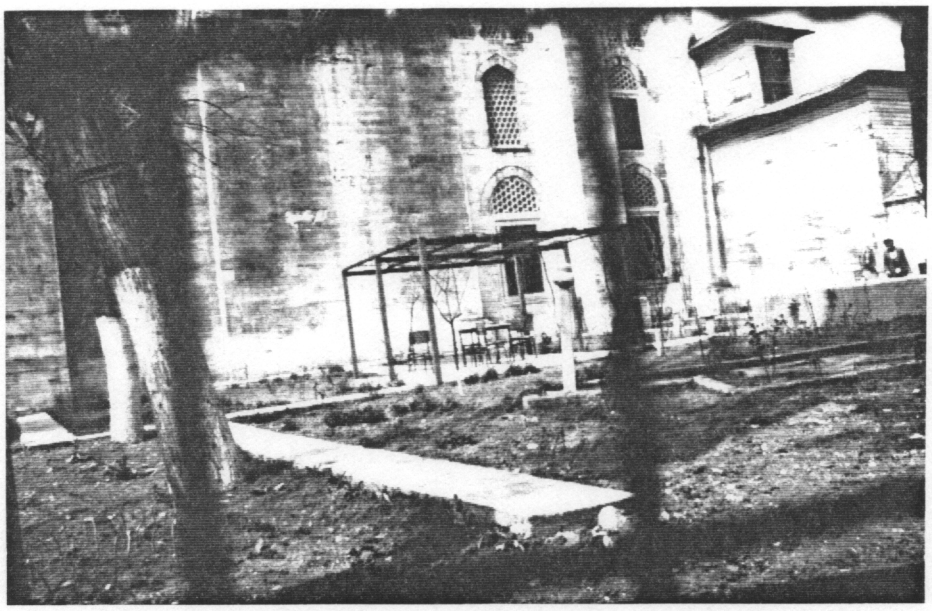

Figure 6-17: Yeni Valide, Üsküdar, Istanbul; windows in the passageway's wall expand the perspective

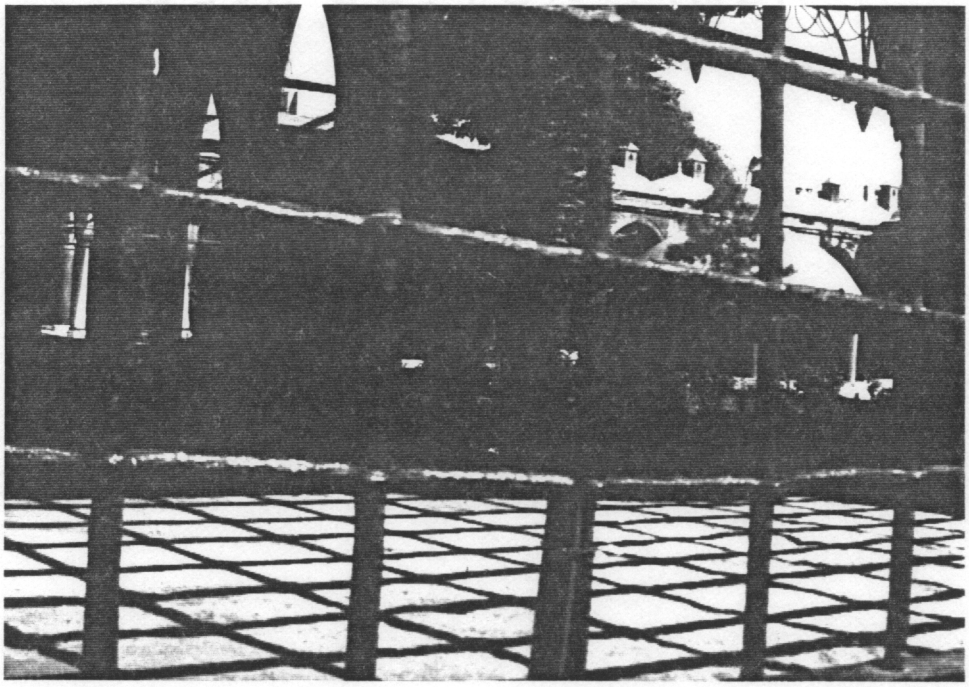

Figure 6-18: Kara Ahmet Paşa, Istanbul; a view to the enclosed courtyard

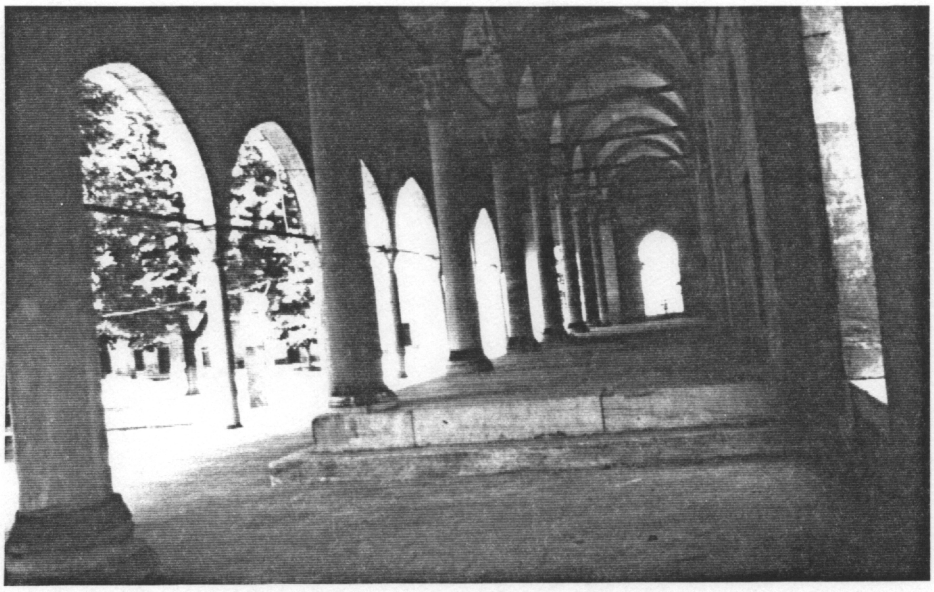

Figure 6-19: Sokollu Mehmet Paşa, Lüleburgaz; windows allowing views to the outside of the enclosed courtyard

Making structures light and transparent seems to have been a very favorable thing to the Ottomans. Their mosques are full of windows so that more light would be permitted to the inside.[1] Three examples of three different periods of Ottoman architecture can very well demonstrate the point. The first mosque is Murad II's in Bursa, 1426. In this mosque the number of windows is appropriate for lighting; however, the ratio of mass to void was still more in favor of the mass (fig. 6-23). In the Fatih, 1470, and the Süleymaniye, 1556, the number of the windows is much more and the ratio of mass to void is more in favor of the void (fig. 6-24). In later mosques, such as Dolmabahçe, 1853, and Yeni Valide, Aksaray, Istanbul, the mosque becomes almost a pavilion because of the number of windows (fig. 6-25). The interior space is, therefore, well lit and very cheerful. It seems, hence, that there was a trend in Ottoman architecture of moving towards lighter and more open structures. The ideal piece of architecture for the Ottoman architect can be seen in the later tombs which consisted of only the structural elements and iron-work to define the space. An example of such a piece of architecture is the tomb in the Yeni Valide külliye in Üsküdar, 1710[2] (figs. 6-26, 27, 28).

Compartmentalization and transparency coexisted in the design of the külliye. The multiplicity of spaces which is established by compartmentalization is visually realized through transparency. The visual outcome of such a design reminds one of the design of the Cordoba mosque, where columns are repeated in a series of rows. The repetition of the same element in Islamic architecture, as well as ornamentation, represents symbolically the idea of infinity. The same idea is represented at an urban scale in the külliye through the combination of the two principles: compartmentalization and transparency. Spaces are repeated one after the other allowing a feeling of endlessness.

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[1] Sinemoğlu wrote about the lightening effect windows have on structures: "In the creation of a perfect space, light also plays a great role, since more light decreases the effects of the thickness of the walls which have already lost their function of carrying." Nermin Sinemoğlu, "Unity of Turkish Art in General in the 16th Century...", IV Congres International d'Art Turc, 1976, p. 217.

[2] Kuban mentions the mastered use of windows and galleries in the Selimiye by Sinan. He thinks that a "total plasticity" resulted from their use. See Doğan Kuban, "Selimiye at Edirne, its Genesis and an Evaluation of its Style," IV Congres International d'Art Turc, 1976, p.109.

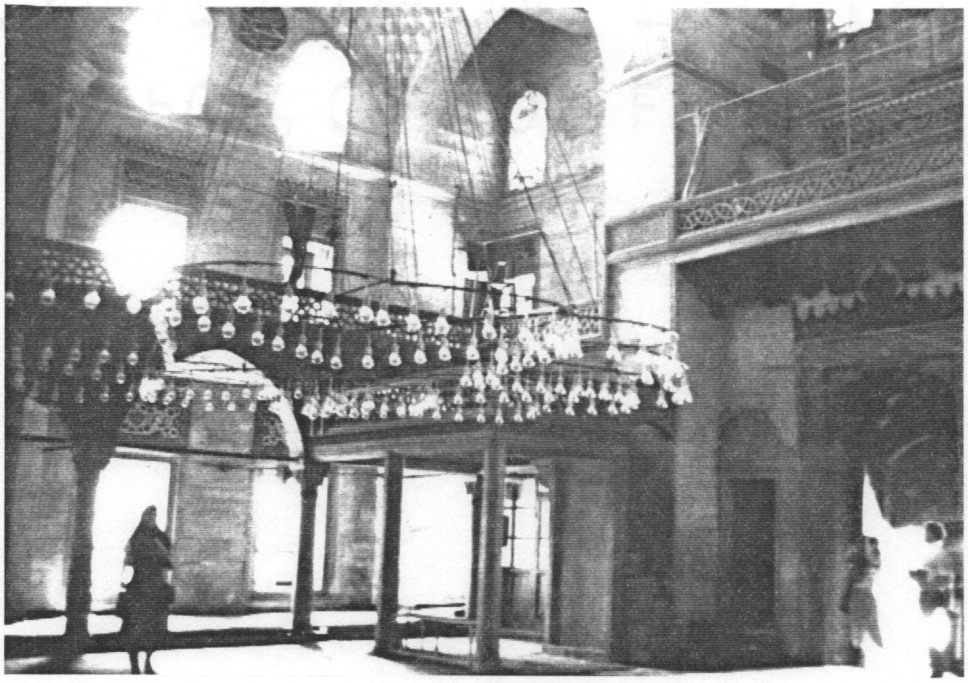


Figure 6-20: Sokollu Mehmet Paşa, Kadirgi, Istanbul; windows make structures appear lighter

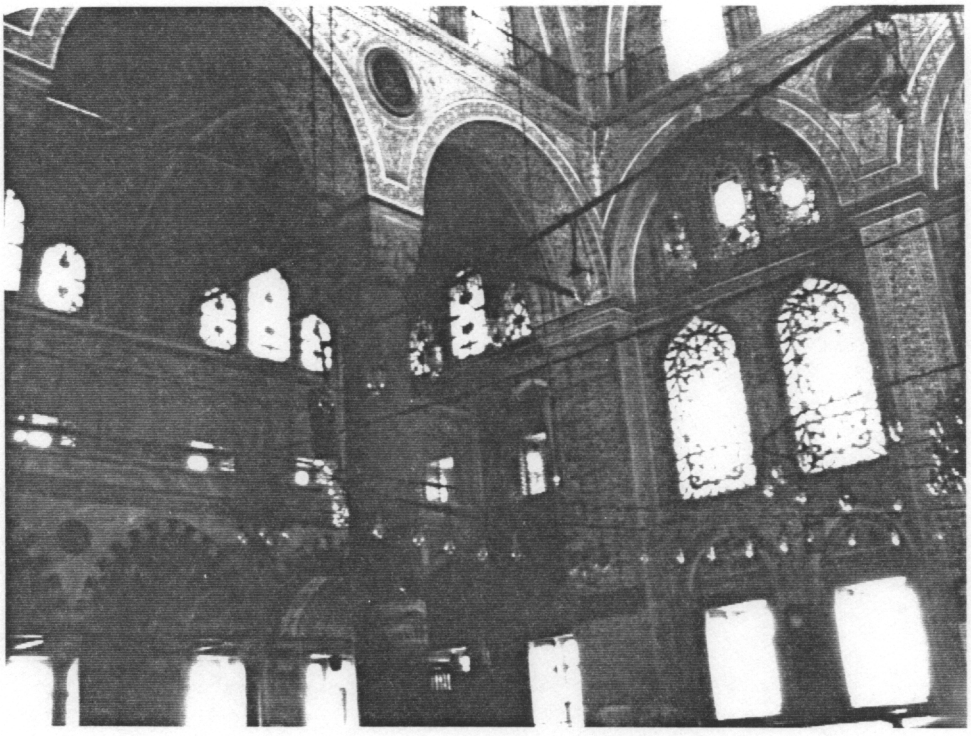


Figure 6-21: Mihrimah Sultan, Edirnekapi, Istanbul

Figure 6-22: Yeni Valide, Eminönü, Istanbul; the courtyard

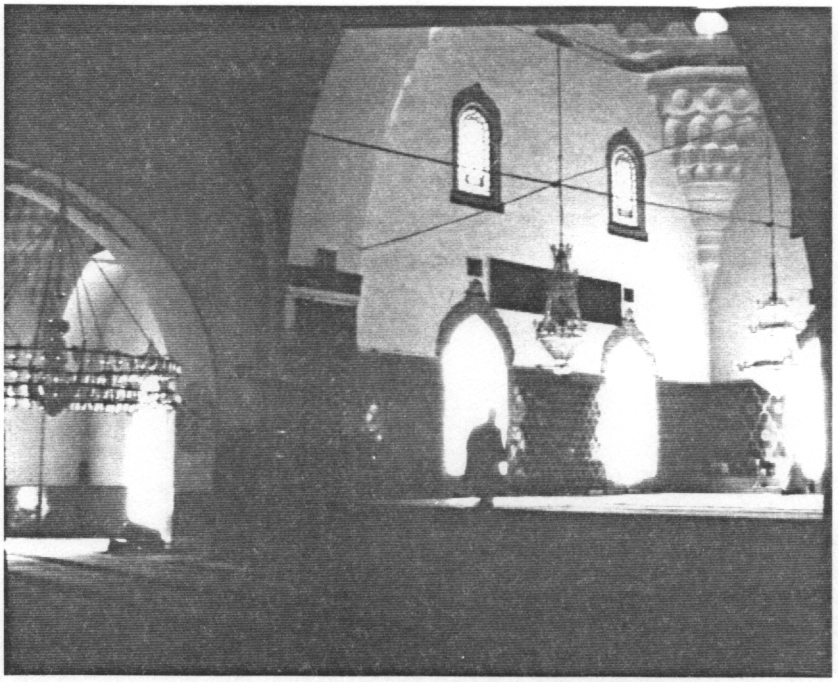


Figure 6-23: Murad II, Bursa; interior

Figure 6-24:
Süleymaniye, Istanbul; interior

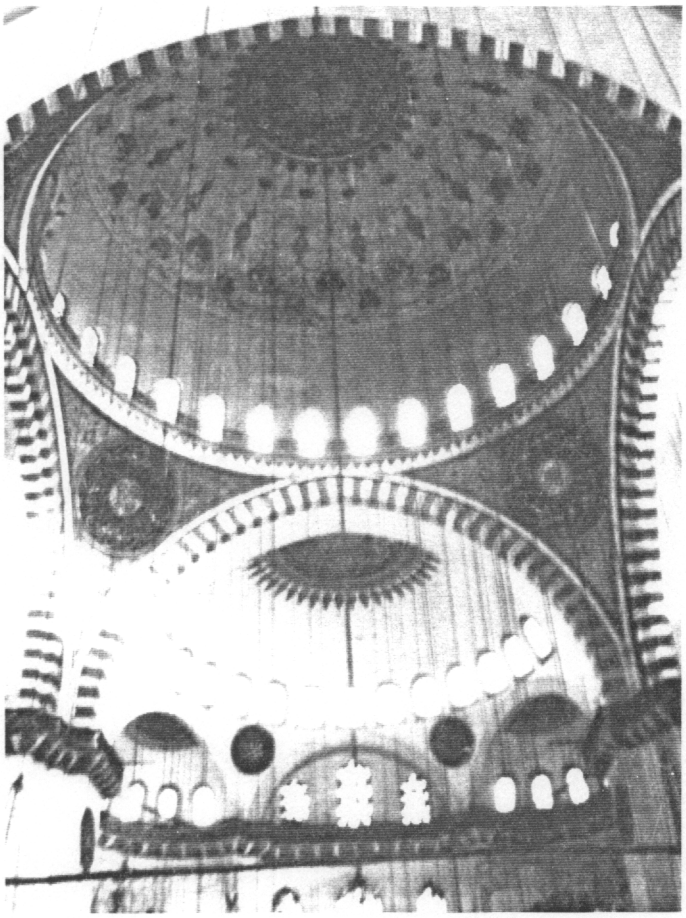
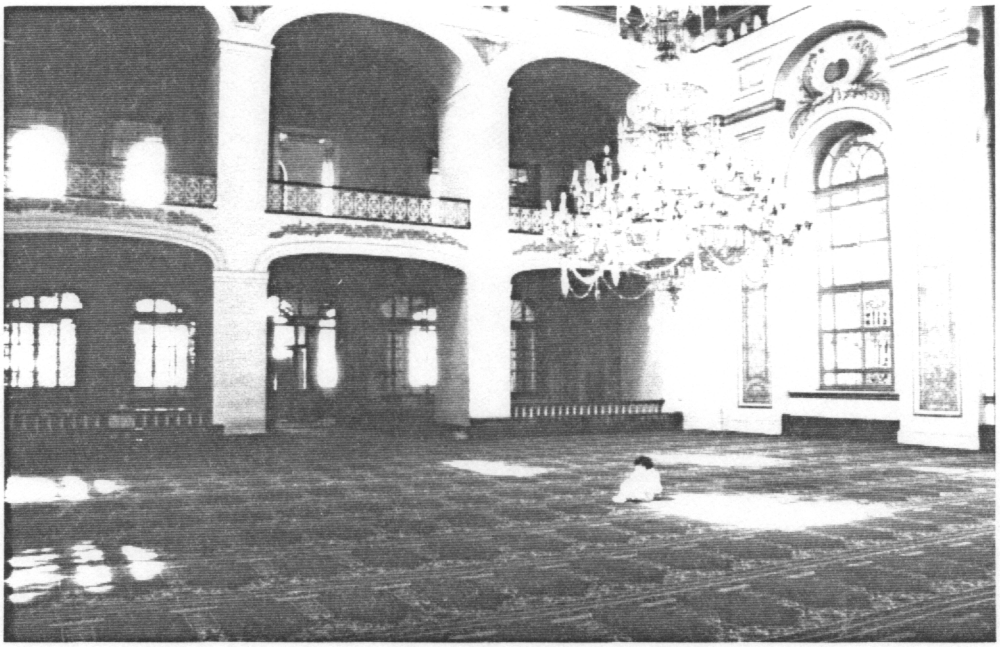
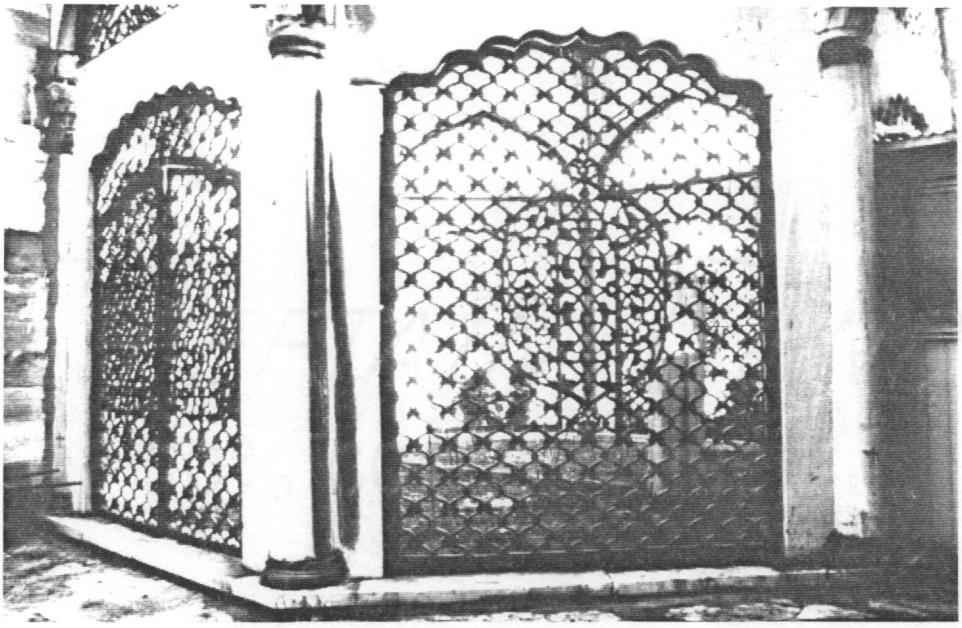


Figure 6-25:
Dolmabahce mosque, Istanbul; interior





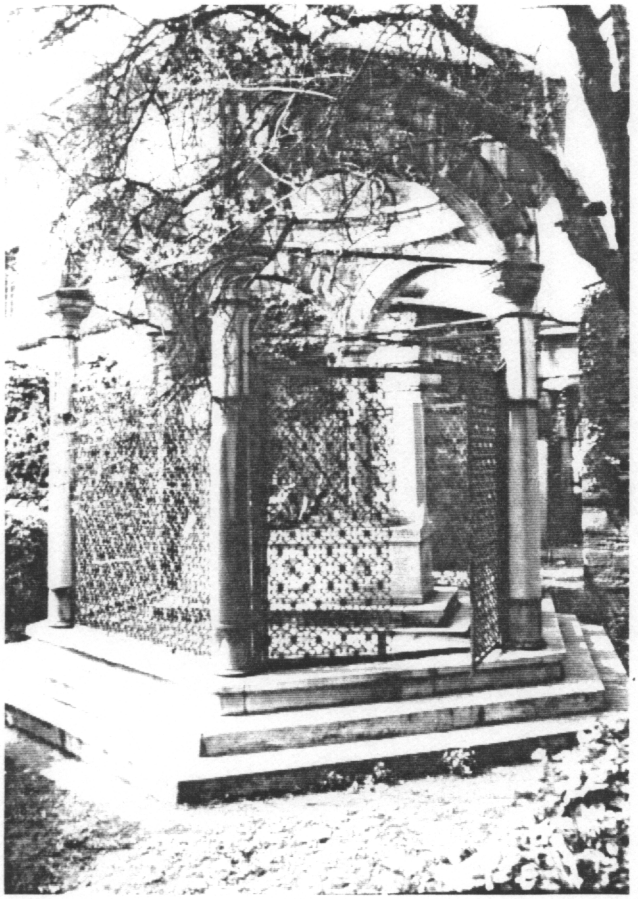


Figure 6-26:
Yeni Valide külliye, Üsküdar, Istanbul; the türbe

Figure 6-27:
A türbe in Laleli area, Istanbul

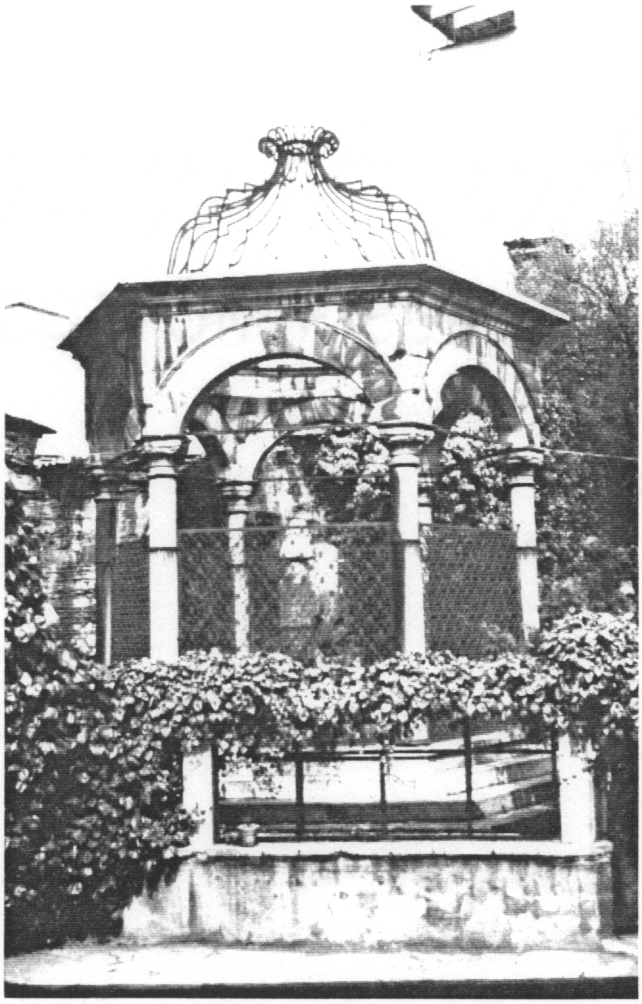


Figure 6-28: A türbe close to Hekimoğlu mosque, Istanbul

6.2.4. SEQUENTIAL SPATIAL ARRANGEMENT WITH CONTINUOUS VISUAL CHANGES

Axiality is usually utilized in a typical monumental design. With a strong axis comes the fact that there would be one directed view leading to the monument itself. Axiality, as was mentioned earlier, was not an issue with which the Ottoman architect concerned himself. He, therefore, was free from the use of a rigid axis to lead to his monument. In planning the visitor's trip through a külliye, the architect provided continuous change in the visual experience, as opposed to a one directed view.[1] In order to reach the mosque, the visitor goes through a variety of spaces of different qualities which enrich the visual experience. Among the means which the Ottoman architect used to enhance the visual experience are the following ones.[2]

6.2.4.1. CHANGE IN DIRECTION

The visitor does not have a direct axis to the point of interest, be it the mosque as a whole or its interior central space. The visitor will change his direction, and thus his visual focal point several times before reaching the final attraction. This change comes through the

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[1] Bacon captures this concept beautifully in his definition of architecture as "the articulation of space so as to produce in the participator a definite space experience in relation to previous and anticipated space experiences." (Bacon, Design of Cities, New York, Penguin Book, 1985, p. 21.)

[2] Many urban design studies explored the idea of sequential spatial arrangement and the visual experience which results from it. In an added chapter to Sitte's famous study about the planning of cities, it is stated that the medieval winding streets "kept sealing off perspective views in them while offering the eye a new aspect at each succeeding turn." (Sitte, City Planning According to Artistic Principles, New York, Random House, 1965, p. 61.) Bacon talks about 'progression through space' and the idea of 'anticipation and fulfillment' during the trip through a sequence of spaces (Bacon, Design of Cities, pp. 53-7). Cullen uses the term 'serial vision', a visual experience which one goes through while one moves in a town. Such a visual experience, he asserts, generates a "sense of discovery and drama" (Cullen, The Concise Townscape, pp. 17-9). Rowland uses the concept of views and movement in his analysis of urban spaces. He walks the reader through the spaces with pictures and words (Rowland, The Shape of Towns, England, Ginn and Company Limited, 1981, pp. 34-43). At an architectural scale, Rasmussen praises Palazzo Massimo for it "is full of delightful surprises, a capricious composition of light and dark, open and closed." (Rasmussen, Experiencing Architecture, Cambridge, The M.I.T. Press, 1982, p. 64.)

layout of the different spaces which lead to that terminal point[1].

6.2.4.2. CHANGE IN SIZE

The spaces which lead to the focal point are of different sizes so that no repetition or monotony exists. The sizes do not increase or decrease in any rigid pattern; a fact which even enhances the level of interest within these spaces. However, the change in size introduces the visitor slowly to the monument: the visitor starts with a very small and personal space, then goes through the sequence of spaces which will lead finally to the monument itself.

6.2.4.3. CHANGE IN SHAPE

The shapes of the spaces vary from a perfect square to a very elongated rectangle. The square has the connotation of stability while the rectangle suggests movement. Walking through spaces which enjoy different characters makes the trip more exciting. There would be areas where one would sit and relax, and areas one would cross quickly in order to reach a following space. The first space can be called a stationary space, while the second can be called linear.[2]

6.2.4.4. CHANGE IN LIGHTING

The change in lighting comes from the fact that some of the spaces are enclosed and covered while some are open. The middle ground between the two extremes comes with

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[1] Ashihara considers changing the direction of the visitor as a technique which brings surprise and excitement to the visual experience. In his words, changing direction can "break the spatial monotony, and provide rhythm and variety in space." See Yoshinobu Ashihara, Exterior Deisgn in Architecture, New York, Van Nostrand Reinhold Company, 1981, pp. 94-5.

[2] Curran categorizes spaces under two headings: linear spaces and cluster spaces. The first is used for linkage and access while the second acts as a place for overlapping and interaction of people and activities. (Curran, Architecture and the Urban Experience, p. 71 and p. 103.)

the use of colonnades. Plant materials also play a role in the creation of variety in lighting conditions. Related to change in lighting is the richness of color. Colors used are in general either monochromatic or close together on the color circle. The variety of tones, as well as the different colors of materials, such as stone, brick, wood, or metal increase the number of possibilities of color combinations. The interior of buildings is particularly rich because of the tile and wood work.

6.2.4.5. CHANGE IN LEVELS

Stairs, which are very often seen in the Ottoman külliye, are used either to overcome changes in elevations because of the site's topography or to raise the mosque onto a higher plane. The change of level has a similar effect as the change in direction since it is, in a way, a change in direction as well as the vertical plane.

The richness in the visual experience, hence, comes from the variety of qualities of the spaces leading to the monument. Four main benefits result from the spatial arrangement used in the design of the trips through the külliye. First, the scale of the külliye is very comfortable. This quality comes from the fact that the passerby goes through spaces which are very small and personal, and then slowly moves to larger spaces until he reaches the monument itself. The ability to touch and feel the architecture at an intimate scale allows a sense of security and easiness with the building to grow.[1] Any entrance to any külliye can be used as an example to illustrate the comfortable scale of the space. The north western entrance to Şehzade, the west entrance to Atîk Valide, the different entrances in Sokollu Mehmet, both in Istanbul and Lüleburgaz, and definitely the northern entrance to the Selimiye are all good examples of spaces with human scale which are used to introduce major monuments.

Along with the feeling of human scale comes the second benefit, which is the sense of

[1] See section 6.2.8. (Monumentality and Scale) for this point.

place. The spaces through which one goes have spatial qualities which allow each one of them to have character and identity. Each one of these spaces, be it an entrance, a passageway, or a small stationary space, can be enjoyed as a space by itself. Elements which make each one of these spaces a real place include clear definition of entrance and exit, clear enclosure, plant materials, and details and furniture. The small space at the bottom of the stairs of Sokollu Mehmet's northern entrance exhibits such qualities. It is enclosed and it has its own identity and does not appear as just a corridor because of its shape, which is almost a square. It also has two elevated sides which can be used as sitting areas. Another example is the western entrance to Mihrimah Sultan where one goes up a set of stairs to reach a small space which is enclosed by the mosque, the türbe, the outer wall of the külliye, and the arcade, which is extended from the mosque's northern wall. The size of the space is large enough to be an independent one. Its shape and degree of enclosure add to its character. Finally, the surface treatment of the different walls enclosing it, along with the plant materials, give the space a more special character.

The third benefit of the spatial configuration utilized in the külliye is interest and surprise. The constant change in direction, size and character of spaces, lighting conditions, levels, and views makes the trip very vivid and full of surprises. In the medrese of Haseki Hürrem there is a small entrance in the middle of the western side. Typically, such a small entrance leads to a service area. In this case it leads to a very spacious area which connects the medrese with the other structures of the külliye. Another example can be seen in Yeni Valide mosque in Eminönü. The visitor goes through the market area at the western side of the mosque; then he walks around the southern side of the mosque where he reaches what seems to be a gate under the ramp of the royal pavilion. He changes his direction while walking under the ramp to see afterward a new vista showing a vast space with the sea in the background.

A similar experience is found in Sultan Ahmet. The space to the east of the mosque is enclosed at the southern side with the ramp leading to the royal pavilion. Under the bridge which connects the ramp with the mosque is a small gate which leads to a covered

corridor as if it were a tunnel. That tunnel takes the visitor to another space which is completely hidden. A wide perspective with a view of the sea is granted at that point. The Ottoman külliye exhibits a wide variety of similar experiences which make wandering through them a pleasure by itself.

The fourth benefit is perhaps the most important one, and which dictated the design of the spatial experience in the külliye; this benefit is the process of moving the attention of the visitor from the outside world to the inside of the külliye, from the materialistic world to the spiritual one. The three previous benefits, scale, sense of place, and interest, are in reality experienced together in order to bring about the fourth benefit. The visitor's interest is attracted to the well proportioned space which can provide him with a sense of place; his attention is moved towards this space and his mind will concentrate on the experience through which he is going. On the other hand, a monotonous space or configuration of spaces will not attract the visitor. The Ottoman architect was definitely very interested in the creation of interesting visual experiences so that he gets the visitor to be involved in the architecture. If such involvement took place, the trip through the külliye to the mosque will succeed in preparing the visitor for a spiritual experience in the mosque. Thus, such a trip is not meant to be a physical one only, it is a mental one which acts as a stage for the ultimate spiritual experience in the mosque itself.[1]

Figures 6-29 to 6-49 show images of trips through different külliyes. These images display the different means which were used by the Ottoman architect in order to achieve variety in the visual experience.

[1] A description of this mental trip in the külliye is expressed by Ernst Egli; he wrote describing the experience of entering the mosque of Rüstem Paşa in Istanbul: "(T)o enter the mosque is to climb from noise to peace, from ugliness to beauty, from darkness by gradual degrees to light; and in that last quality the mosque is perhaps an example of the Light teachings of the Sufi philosophers. One never tires of examining its details, the inexhaustible wealth of its wall ornamentations." (Egli, "Sinan the Architect", Landscape, vol. 7, no. 3, p. 9.

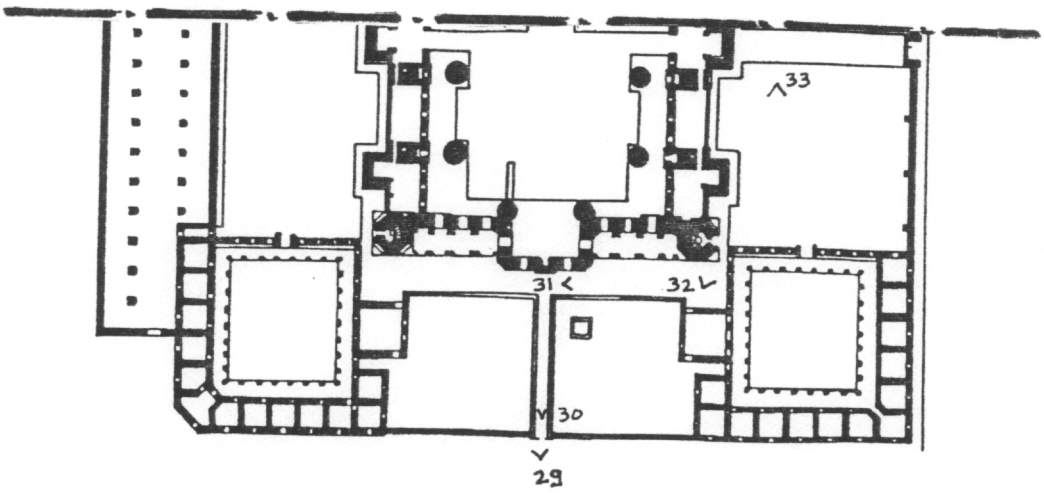
6.2.5. FRAMED AND DIRECTED VIEWS

Certain important views are framed and emphasized in such a way that the visitor will recognize them.[1] However, since these visual focal points are not very pronounced, a casual passerby may not notice them. It requires attention and involvement on the participant's part so that he or she is able to detect them. Such points in the landscape put the emphasis on the important structures and also help in the process of concentration and contemplation. Mostly, the focal points are the domes of mosques or türbes. Nonetheless, other architectural elements are also used as focal points such as minarets, gates, and drainspouts.

In some cases these focal points appear to be of only formal importance. An example of this case are the two minarets of Sultan Ahmet which, as a unit, come at the end of the narrow passageway which runs between the türbe and medrese (fig. 6-52). It has been discussed earlier that its linearity was overcome by the principle of transparency in the horizontal plane. The minarets at the end of the axis, on the other hand, contrast and, therefore, balance the linearity of the passageway at the vertical plane.

However, there seems to be some symbolism attached to the framed view. One example is the drainspout at the end of the northern entrance to the Selimiye (fig. 6-30). It reminds the walker of the Kaaba's Mercy Spout in Makka. There is no particular functional necessity for the spout to be located at the center of the facade. Its location, where it dramatically terminates that short path, suggests a symbolic meaning. Had Sinan performed the pilgrimage prior to him building the Selimiye, it would have been more convincing to attach such symbolism to that particular spout. However, the Mercy Spout

[1] Doxiadis' study of the Greek open spaces is a classic work which deals with framed and directed views. His visual analysis of the Acropolis in Athens is perhaps the most famous one; in it he showed that at the main entrance to the Acropolis a complete enclosure is achieved through the visual overlapping of the structures. This enclosure is interrupted at one point only, where a view of the sacred mountain is provided. (Doxiadis, Architectural Space in Ancient Greece, Cambridge, The M.I.T. Press, 1985, pp. 29-37.)



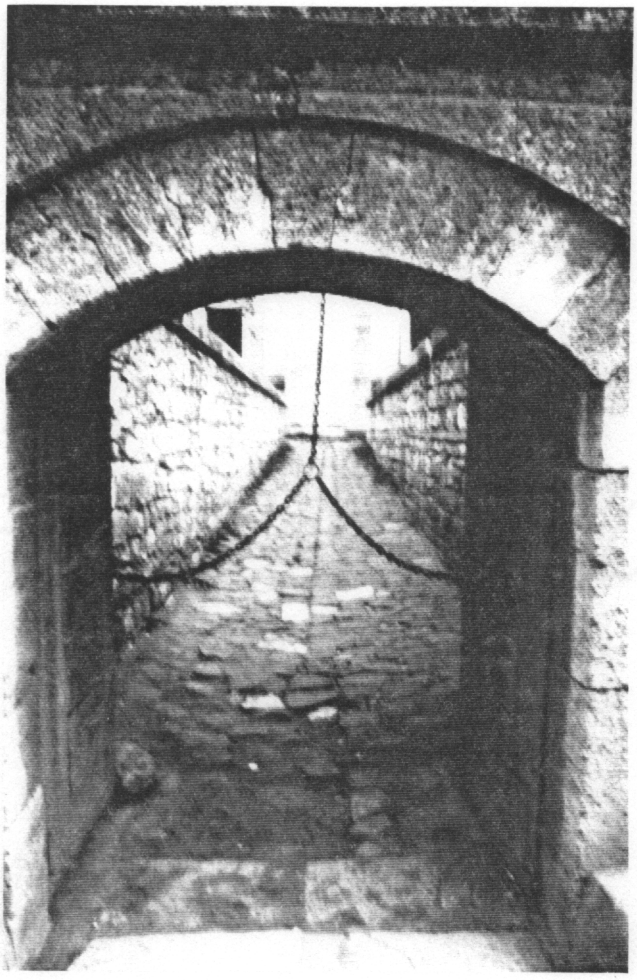


Figure 6-29 to 6-32:
Selimiye külliye, Edirne; a trip through the külliye from the northern entrance

Figure 6-29:
The entrance is just a small gate

Figure 6-30:
Beyond the gate one goes through a narrow linear passageway, the drainspout is a focal point

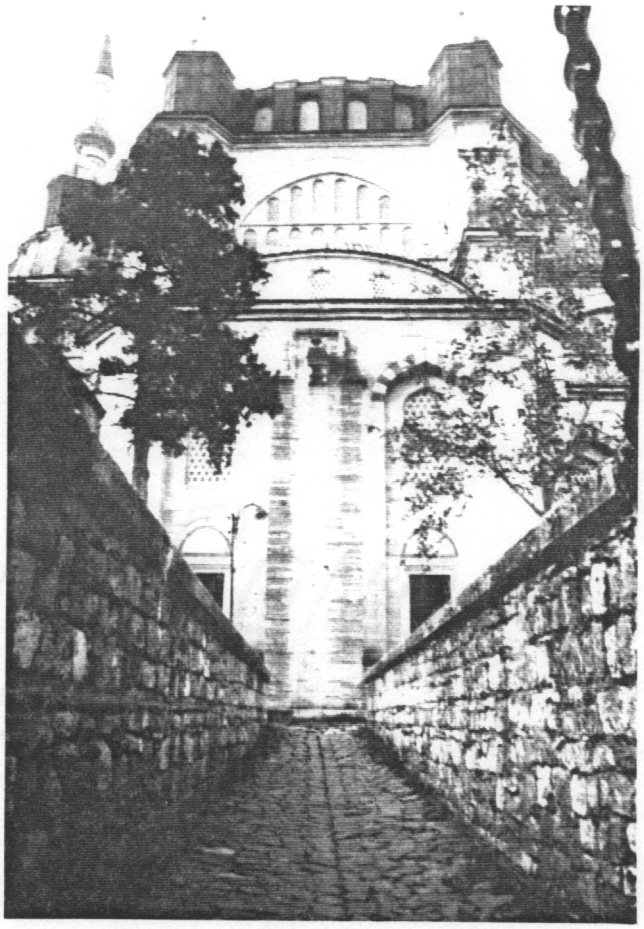


Figure 6-31:
After the passageway, a stationary space runs parallel to the mosque's northern wall

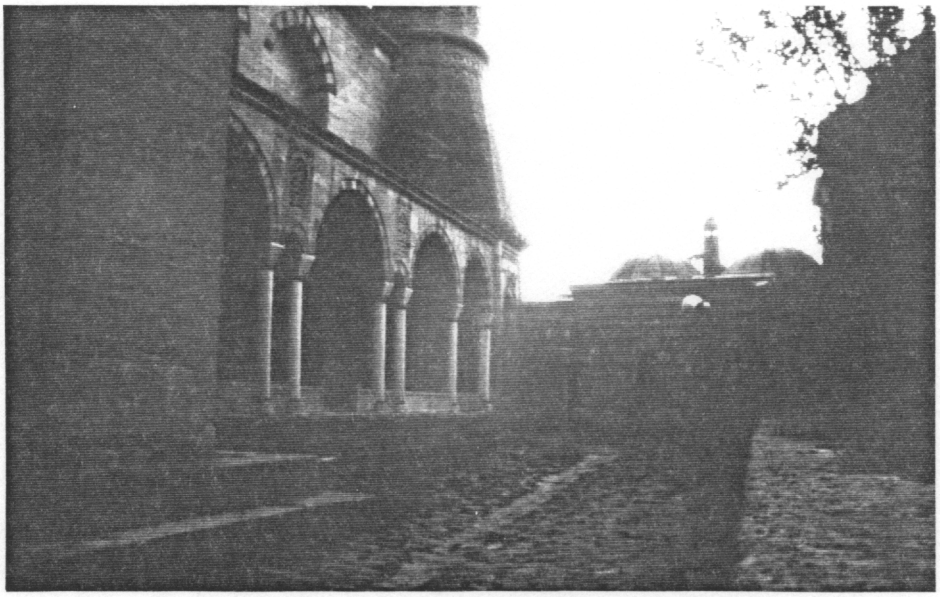


Figure 6-32:
This space is well defined by the walls of the mosque and medrese, a clearly defined opening leads to the central space after changing the direction again

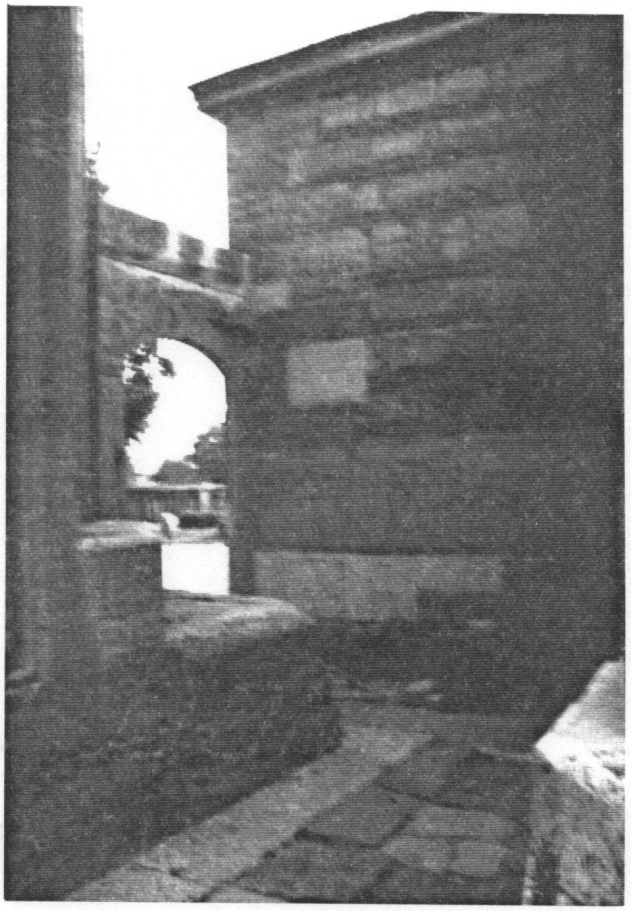


Figure 6-33:
The central space, a large and open space

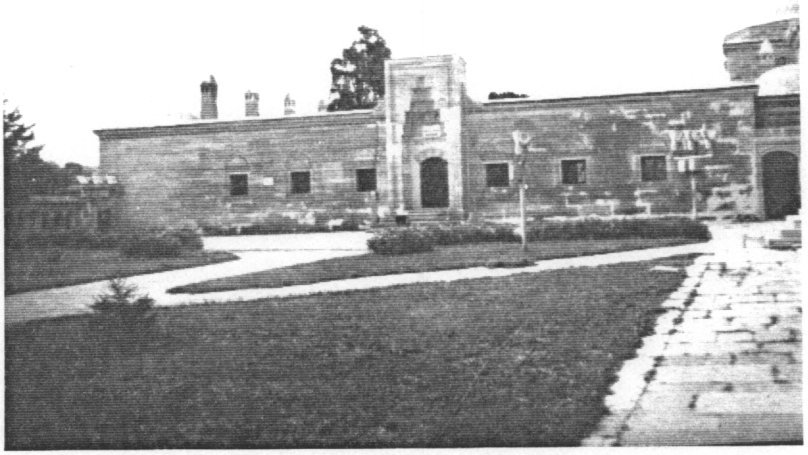


Figure 6-34 to 6-37:
Sokollu Mehmet Paşa külliye, Lüleburgaz; views at entrances

Figure 6-34:
The arasta, a linear open space, has a domed section under which the main entrance exists

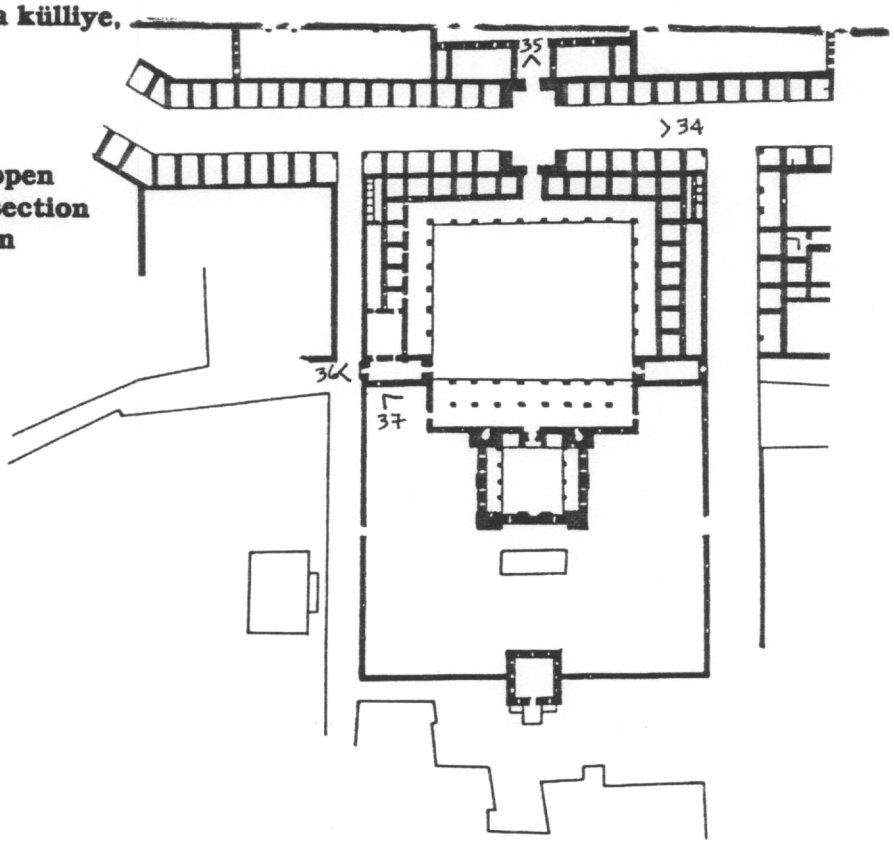


Figure 6-35:
Under the dome a stationary, enclosed space. One most change direction to enter either the mosque or the caravanserai; a change in direction, size, shape, and lighting

Figure 6-36:
A side entrance to the mosque's courtyard; a series of open and closed, linear and stationary spaces

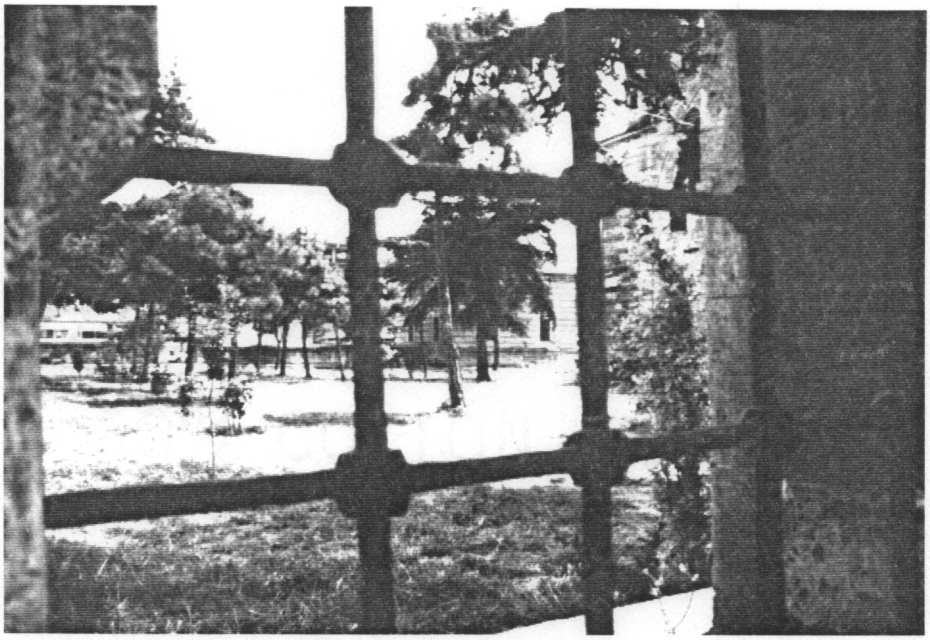
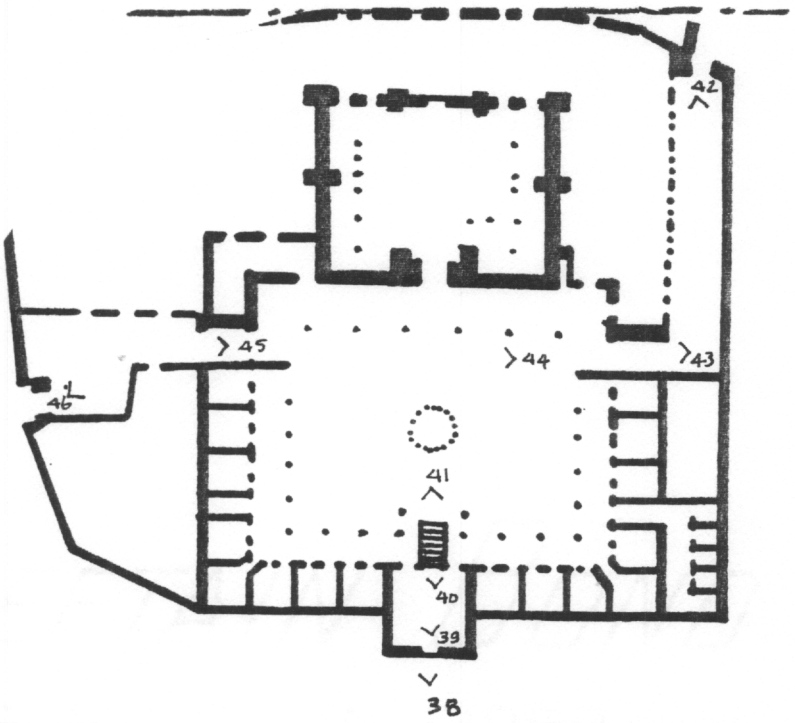
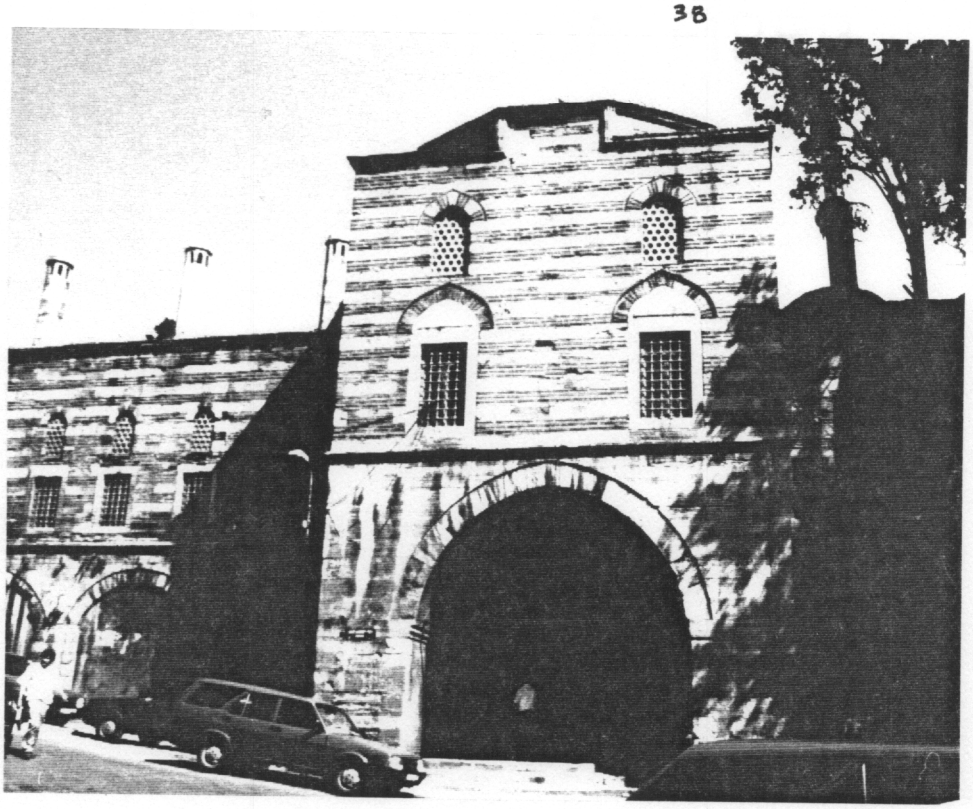


Figure 6-37: Along this entrance a window opens new perspective to the space behind the mosque

Figure 6-38 to 6-46:
Sokollu Mehmet Paşa külliye, Istanbul; visual trips through the külliye

Figure 6-38:
The northern entrance of the külliye; a solid wall with a relatively small gate





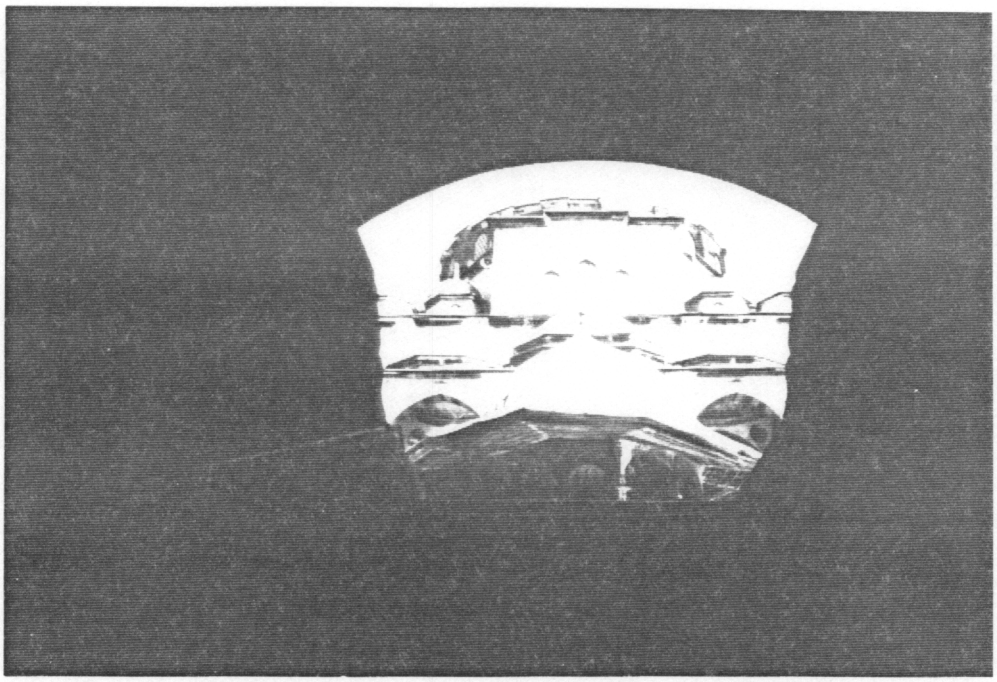


Figure 6-39: The gate leads to a small enclosed space, then a set of stairs at the end of which the şadirvan appears

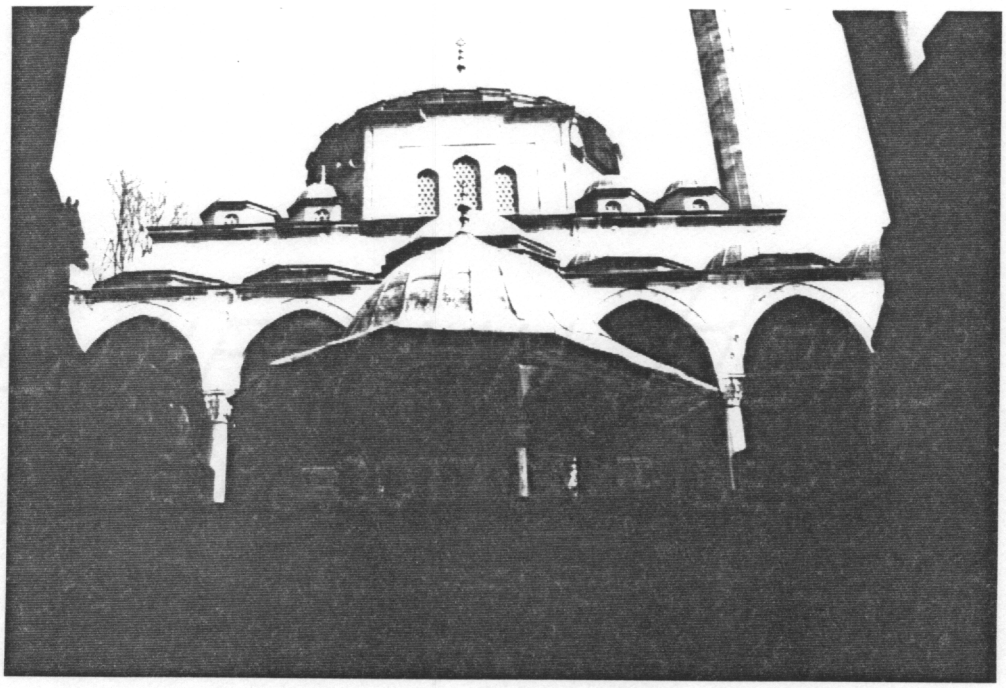


Figure 6-40: Moving up the steps, the mosque and its dome gradually appear

Figure 6-41:
A view back to the lower space and the gate, the darshane is over the entrance

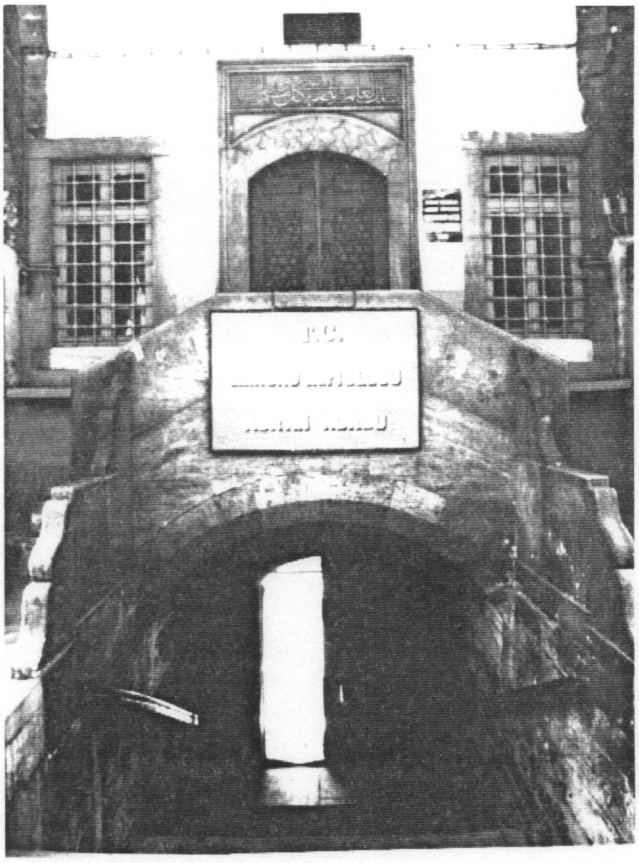


Figure 6-42:
The south western entrance; a linear open space with the türbe to right, a change of direction takes place at the end of this space

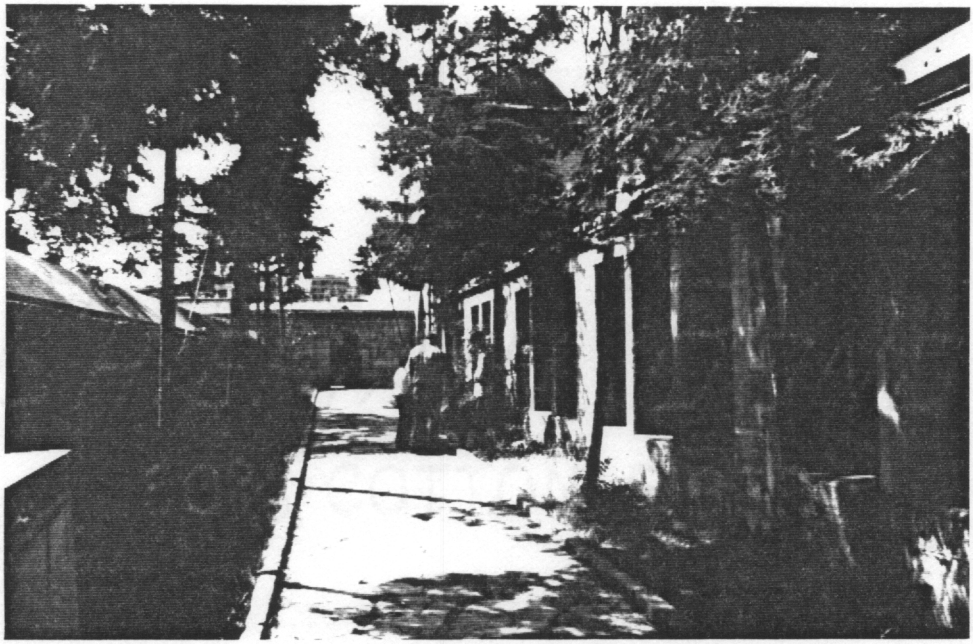


Figure 6-43:
At that point a stationary and covered space appears; at its end there is an open space

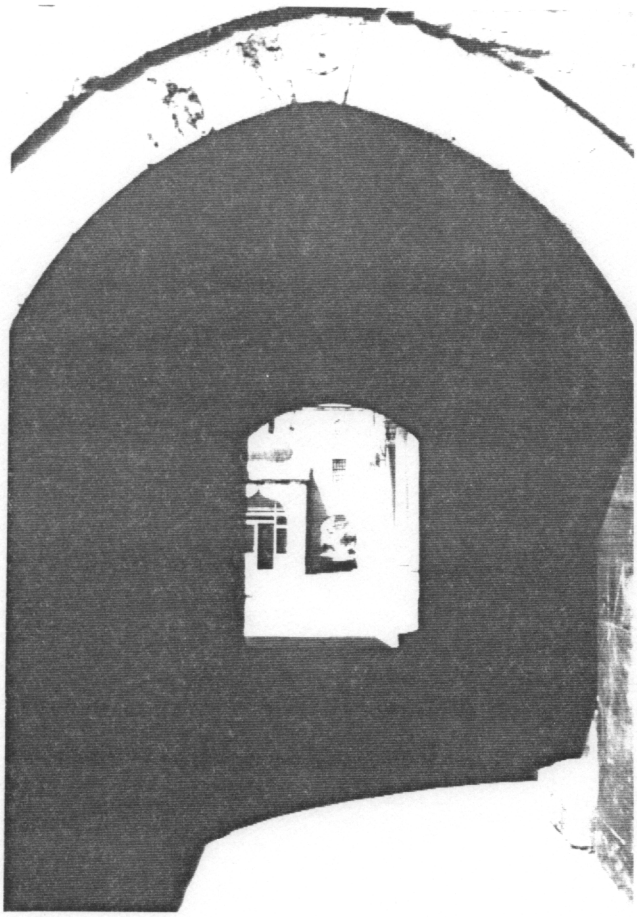
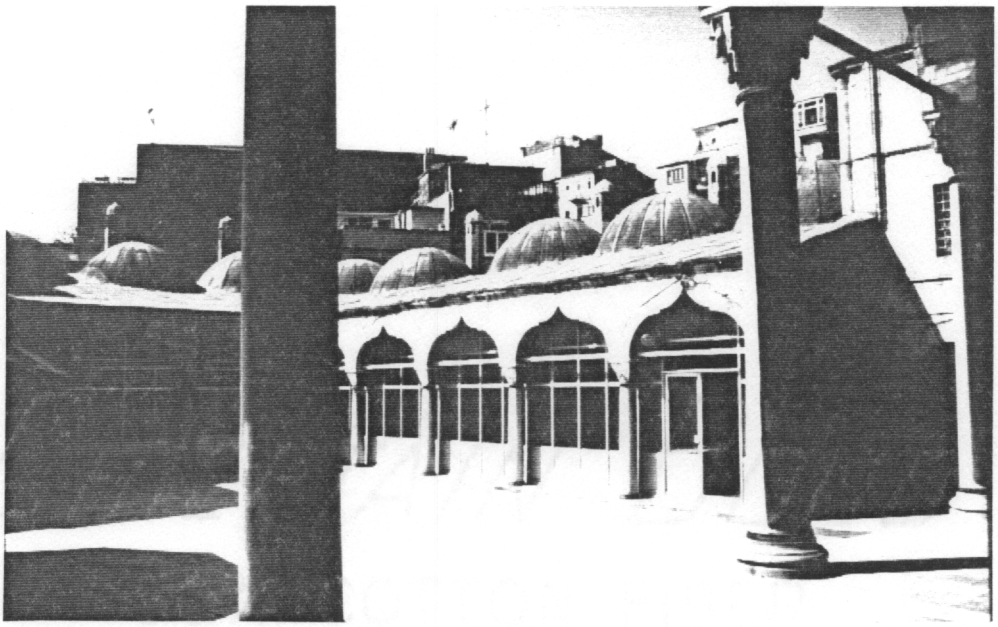
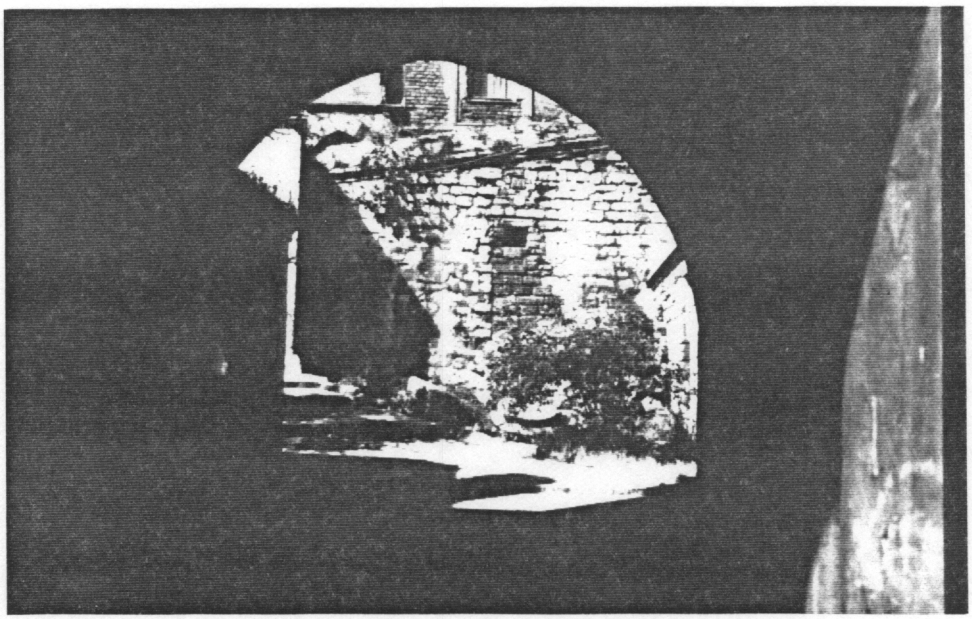


Figure 6-44:
The mosque's courtyard appears behind the columns of the portico





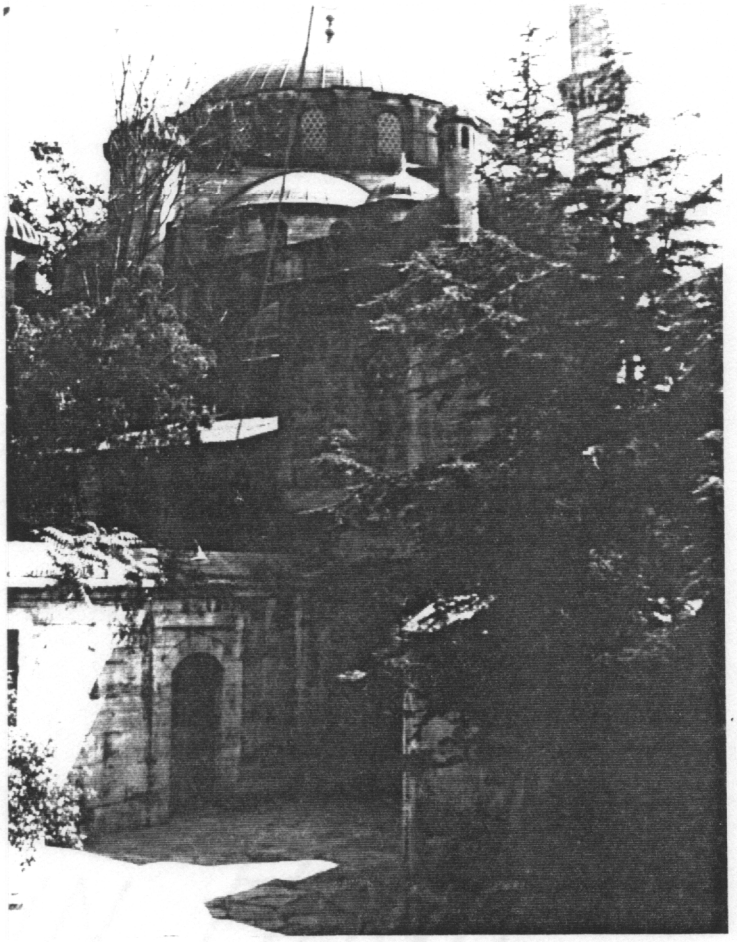


Figure 6-45:
At the other side of the portico the eastern entrance exhibits also change in direction, shape, and lighting

Figure 6-46:
A view of the eastern entrance from the gate

Figure 6-47 to 6-51: Murad II, Bursa; a visual trip in the külliye

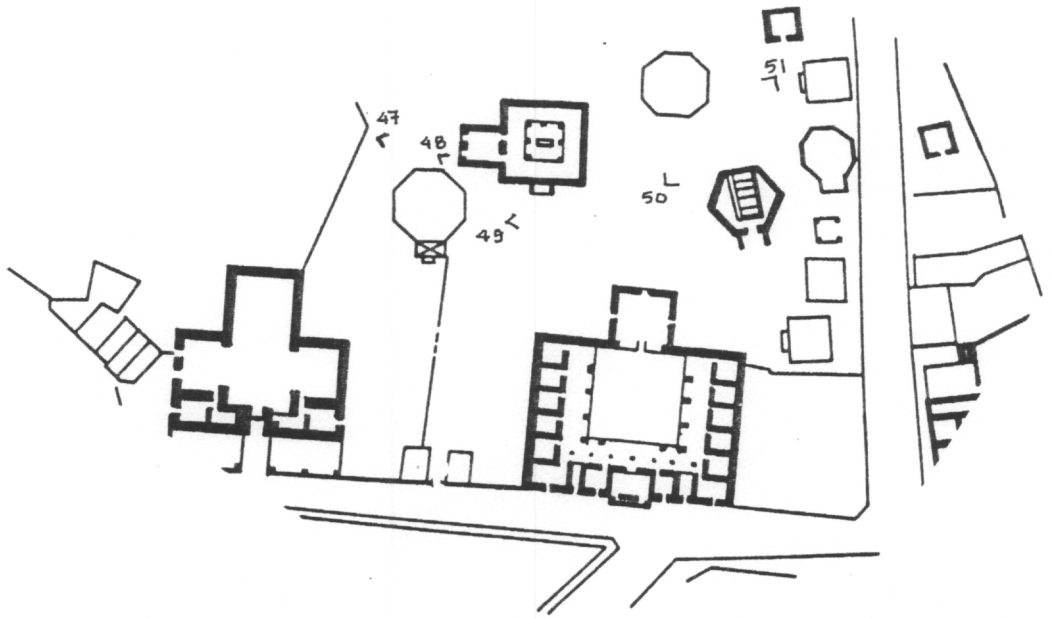


Figure 6-47: A vast open space of the cemetery; in the background is Murad II's türbe

Figure 6-48: A narrow walkway between two türbes acts as an entrance while the two türbes hide the space behind them

Figure 6-49: A small space infront of Murad II türbe; it has its own character, especially because of the small fountain

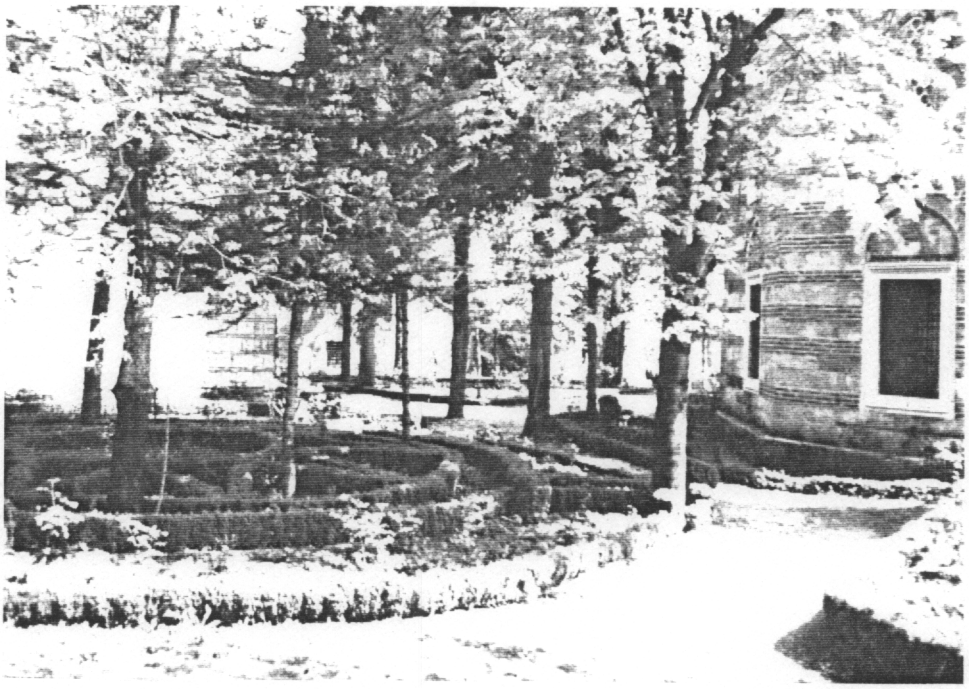


Figure 6-50: Another space created by the türbes

Figure 6-51: A view back towards the mosque showing a series of spaces

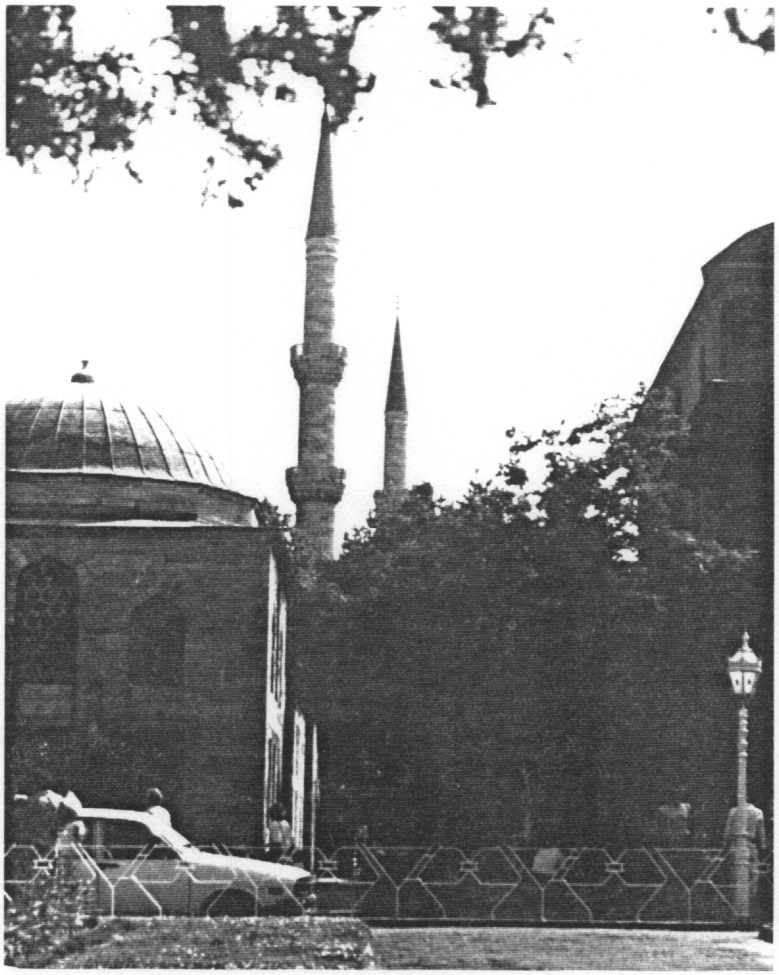


Figure 6-52: Sultan Ahmet, Istanbul; the two minarets are on axis with the passageway between the medrese and the türbe

is known to every Muslim, whether he or she has visited the Kaaba or not; thus it is very possible that Sinan was aware of it before his trip to Makka.

Another example with a different symbolism is found in Laleli külliye. The dome of the türbe is framed by the western and eastern gates of the mosque (figs. 6-53, 54). The visitor who approaches the mosque from its eastern side, or exits from the western side, will see that particular dome. Such a framing helps the worshipper remember death; a thing which he or she is asked to do on a daily basis. There is no physical axis connecting the two entrances of the mosque with the türbe. In fact, in plan, there is no connection between the two at all. The relationship is only visual and requires the visitor's conscious attention.

Gates have symbolic meanings attached to them also. It is through gates that believers enter paradise. There is a particular verse in the Holy Qur'an which is often used as part of the calligraphy over a mosque's gates.[1] The translation of the meaning of that verse is: "Enter ye here (paradise) in peace and security"... The gate, hence, is a symbol of entering the eternal life. The symbolism is further enriched by the fact that the mosque is considered simbolically God's house on earth. Entering a mosque is like entering paradise and meeting God. The main gate to the mosque in many of the sultans' külliyes enjoys a special emphasis. The mosque's main gate in the Süleymaniye at the northern side can be used as an example. The distance between that gate and the main gate of the central space is as such that a person who enters the central space sees only the mosque's gate. In other words, a visitor's cone of vision at that point encompasses basically the mosque's gate (fig. 6-55). Moreover, the gate to the central space is located at a point where the dome of the mosque is completely hidden by the mosque's gate. And, hence, the visual emphasis is directed only to the gate itself. The small dome over the entrance to the central space has two columns supporting it. Along with the arch connecting them, the

[1] The Holy Qur'an, Chapter 15, verse 46.

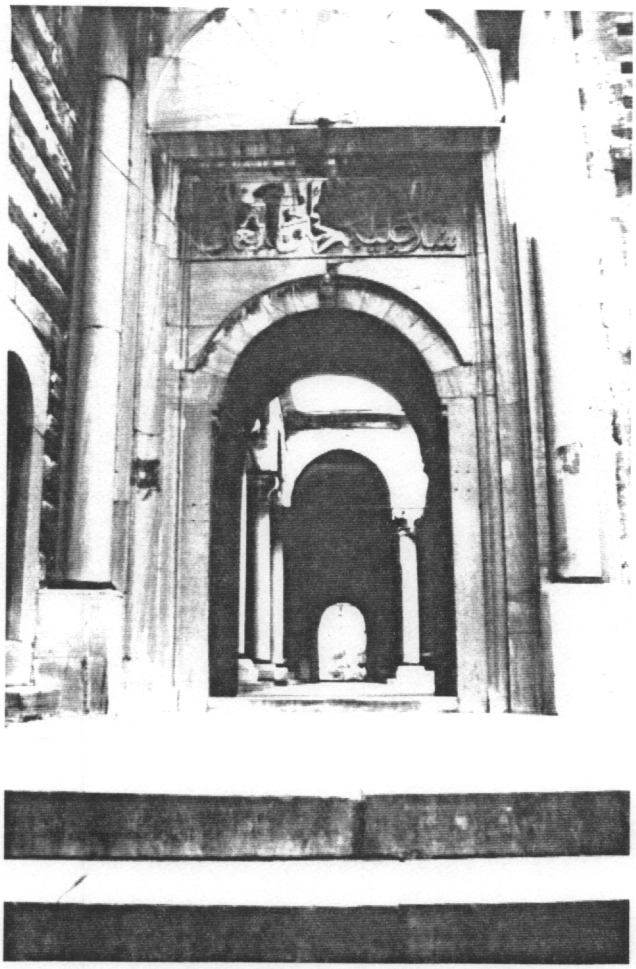


Figure 6-53: Laleli mosque, Istanbul; the two side entrances are aligned as in all sultan mosques

Figure 6-54:
Laleli mosque, Istanbul; the türbe's dome is aligned with the two entrances

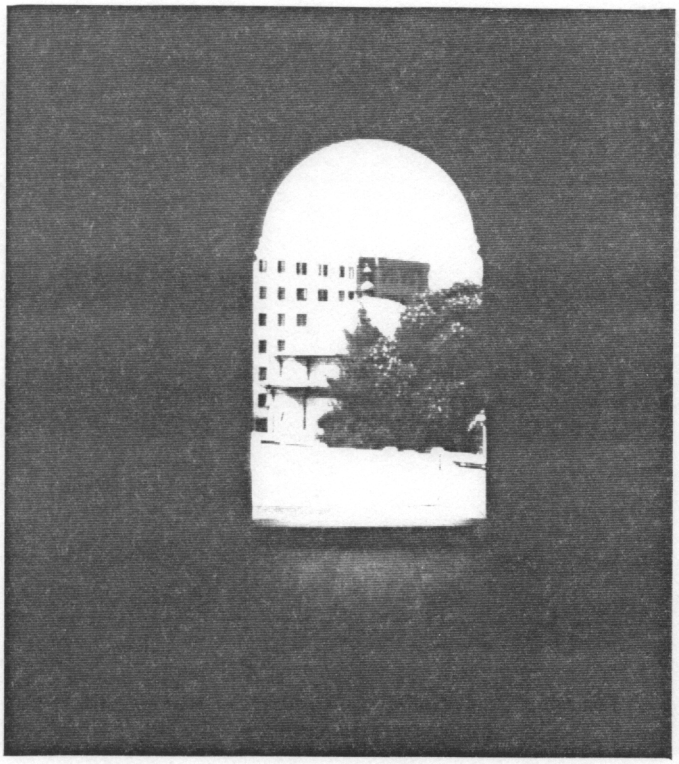
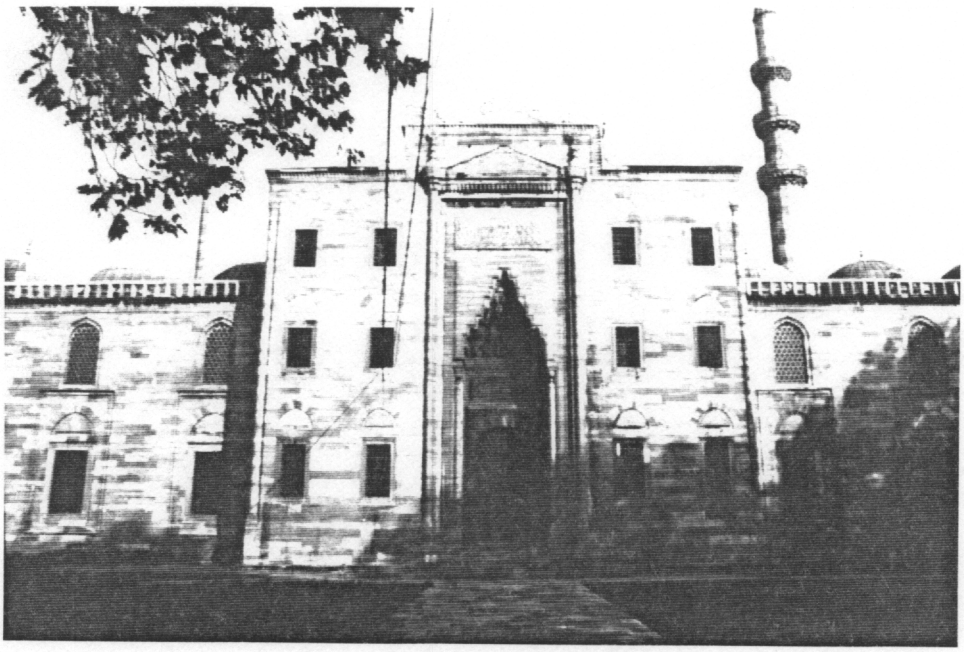


Figure 6-55:
Süleymaniye külliye, Istanbul; the northern gate to the mosque



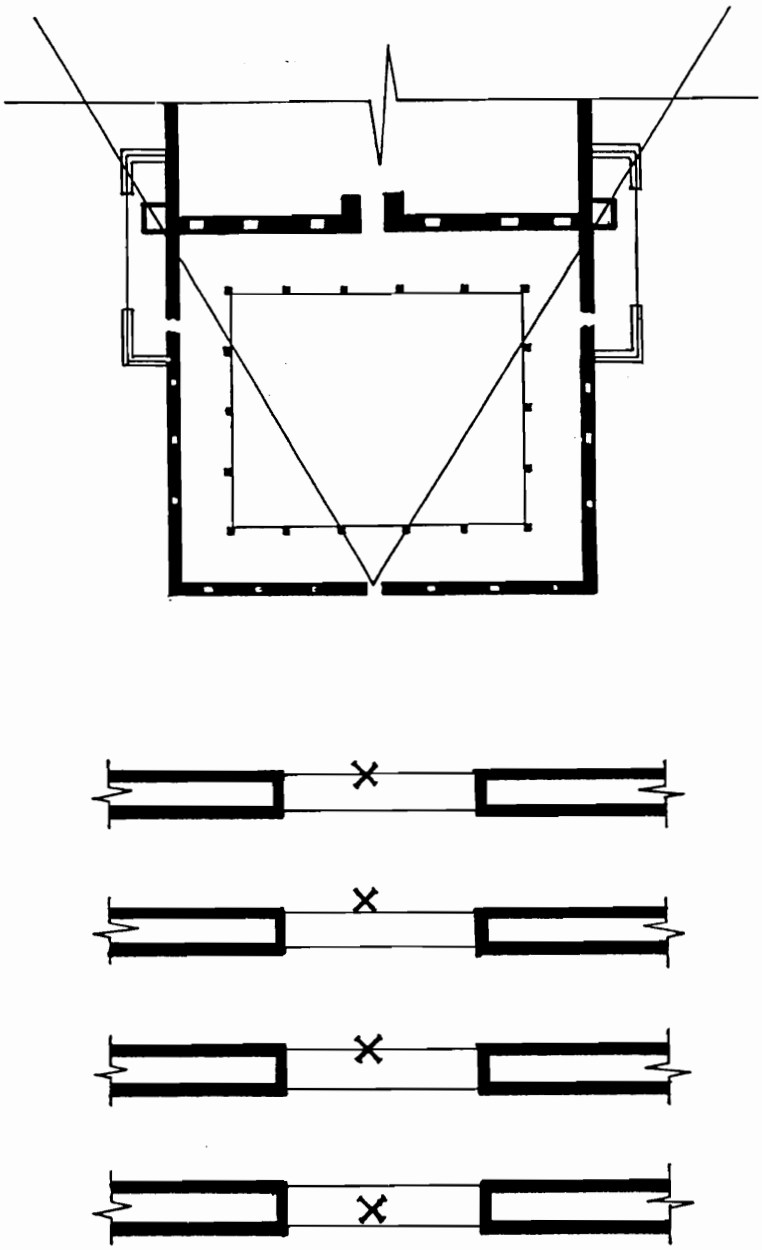
two arches provide a frame for the mosque's gate.[1] A similar setting can be seen in the Selimiye and Sultan Ahmet külliyes.

The dome represents the unity of the universe and its submission to God. Framing it, therefore, had a special symbolic importance, a fact which made it the main focal point in the composition of the külliye. It is the highest structure in the composition of the mosque except for the minarets. However, the minarets are of much less mass than the dome when looked at from a distance. Hence, the dome was able to surpass them. Indeed, the minarets worked to the advantage of the dome in the fact that they framed it visually in a cube. Such a framing further emphasized the superiority of the dome. It is to be noted that such a framing by the minarets may be seen when one is outside the mosque, whether in the central space or in other spaces in or around the külliye.

Inside the courtyard of the mosque, however, the picture is different. The viewer is not able to see the cube which surrounds the dome, and the minarets appear much larger from that vantage point. The competition between the dome and the minarets appears at its highest at the northern entrance to the mosque. The two minarets at the northern side of the covered part of the mosque may weaken the symbolic image of the dome, since they confuse its uniqueness with their strong vertical forms. The composition of the courtyard, however, permits a unique visual framing of the dome at the entrance point, a fact which symbolically is of crucial importance (plan 6-1). Such a framing allows the dome to be seen again by itself as the most powerful element in the composition. With this framing, the dome can again act as a symbol of the unity of the world under the one God.

It is at the point where the visitor enters the courtyard that the dome appears in its totality and most impressive perspective. Hence, hiding the minarets at this particular point is vital for the image of the dome. The design of many courtyards allows such a framing with

[1] Ashihara explains that a frame "gives a sense of scale and enlivens the intervening space to a far greater extent." Ashihara, Exterior Design in Architecture, p. 94.



Plan 6-1: Typical location of viewer where dome is framed by the entrance arch; 1. Fatih, 2. Şehzade, 3. Selimiye, 4. Yeni Cami, Eminönü

the minarets hidden. The center point of the entrance would be aligned with the two columns flanking the entrance and with the two minarets. Therefore, when one stands at the gate, one sees the dome framed by the two columns and the arch over them. The two minarets would be hidden behind the two columns. Thus, the dome is seen by itself with a blue background and a dark frame. The image of the dome in such a case is extremely powerful and impressive. Among the mosques which enjoy this arrangement is Yeni Cami, Eminönü; Fatih mosque; Şehzade mosque; and the Selimiye (figs. 6-56, 57, 58, 59, 60, 61). The Selimiye in particular has two more minarets at the southern side of the mosque. These two appear in the frame of the dome. However, they do not affect the image of the dome since they are in the background and appear relatively small.

6.2.6. LAYERING

Having walls around structures meant that these structures were set back from the passageway or street. And, hence, a passerby can see two planes: the first is the plane of the wall and the second is the building itself. In many cases there would be another building in the background which would provide a third plane. This quality is called layering of structures one behind the other. Examples of layering can be seen in many külliyes, such as in the passageway in the Süleymaniye between the central space and the imaret and the tabhane, the passageway between the medrese and the türbe in Sultan Ahmet (fig. 6-14), and the passageway in Ibrahim Paşa külliye, Nevşehir, 1726 (fig. 6-62). In all these cases the process of layering the elevation of the structure by moving it backward and introducing a wall in front of it made the scale of the street much more comfortable.

Layering can also be seen in other cases where small structures are located in front of larger ones and thus act as transitional points leading to the higher terminal point. Such an arrangement brings the larger structure in to a more human scale since the eye moves slowly from a point which is almost as high as it is to a point which is slightly higher, and then to a higher point, and so on until it reaches the highest point in the composition in

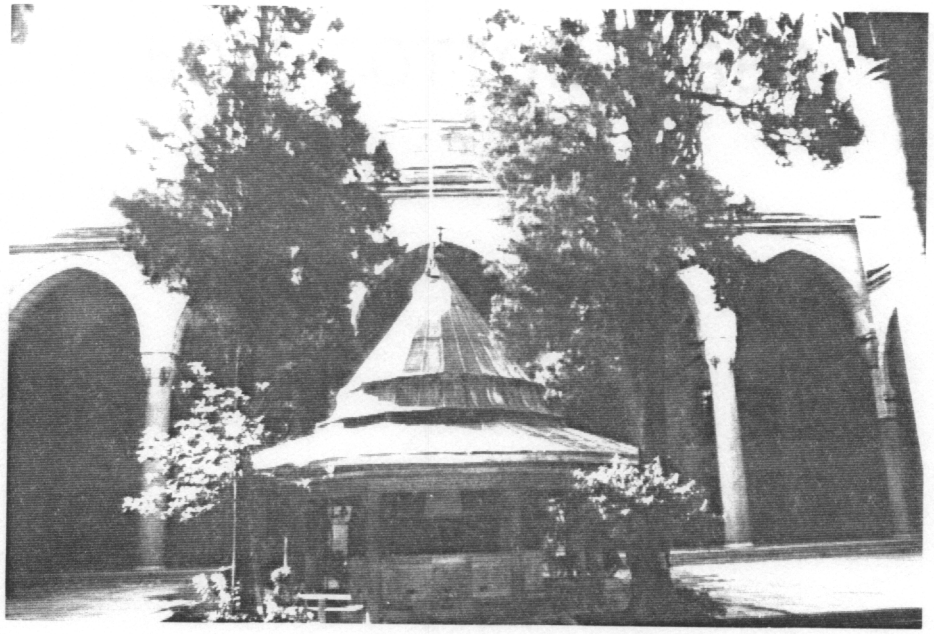


Figure 6-56: Fatih mosque, Istanbul; the dome from the main entrance

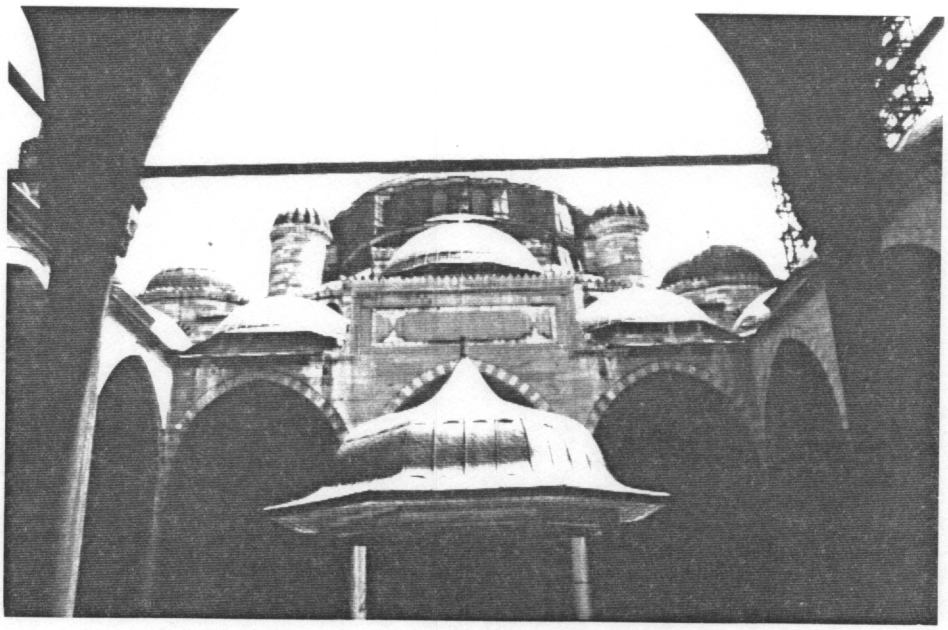


Figure 6-57: Şehzade mosque, Istanbul; the dome from the main entrance

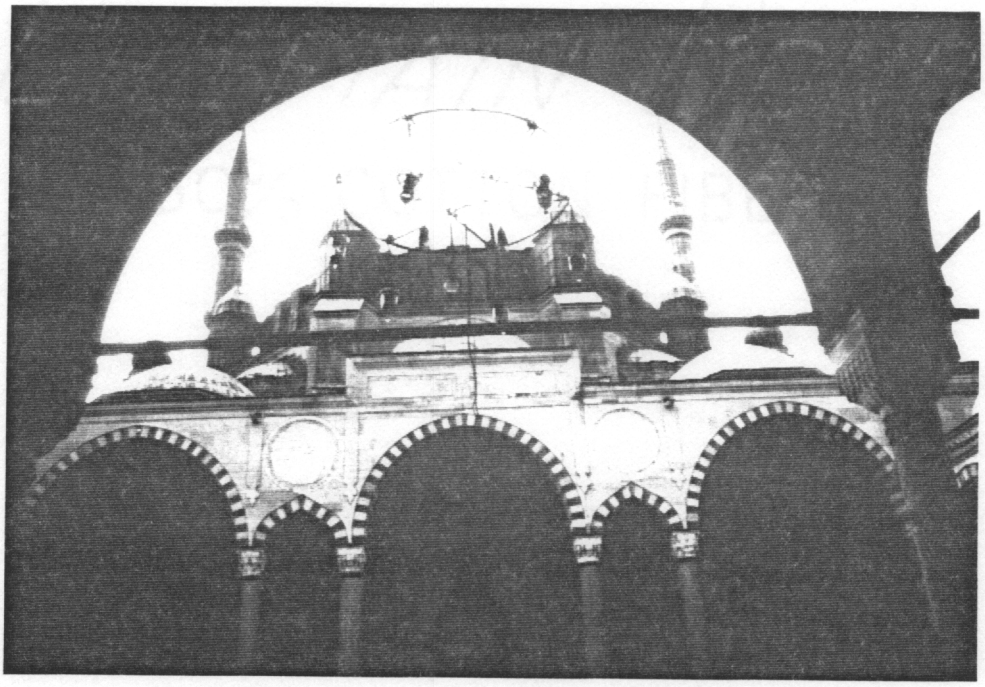


Figure 6-58: Selimiye mosque, Edirne; the dome from the main entrance

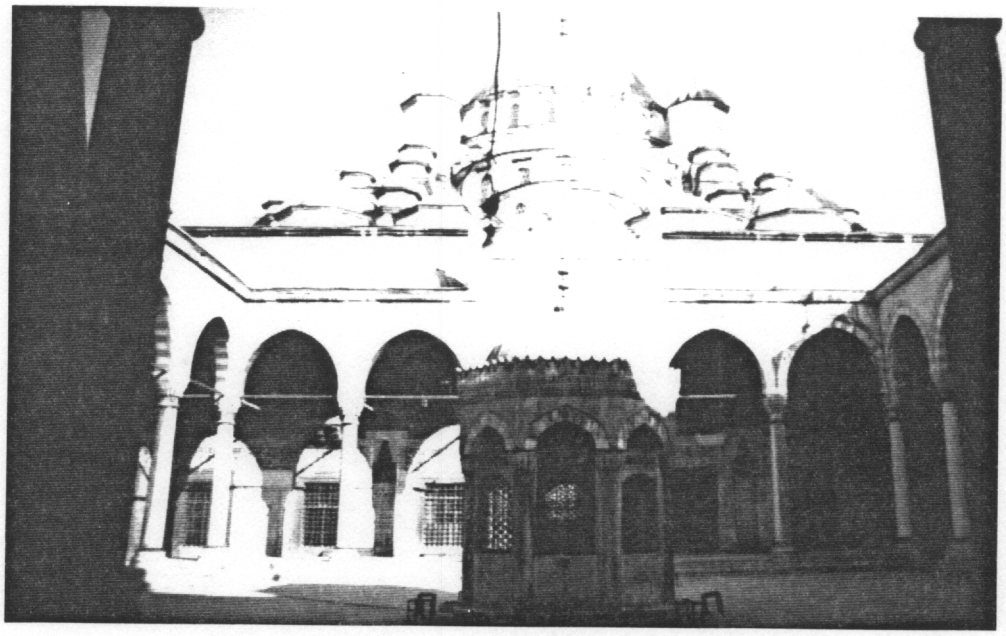


Figure 6-59: Yeni Cami, Eminönü, Istanbul; the dome from the main entrance

Figure 6-60: Sultan Ahmet mosque, Istanbul; the dome from the main entrance

Figure 6-61: Laleli mosque, Istanbul; the dome from the main entrance

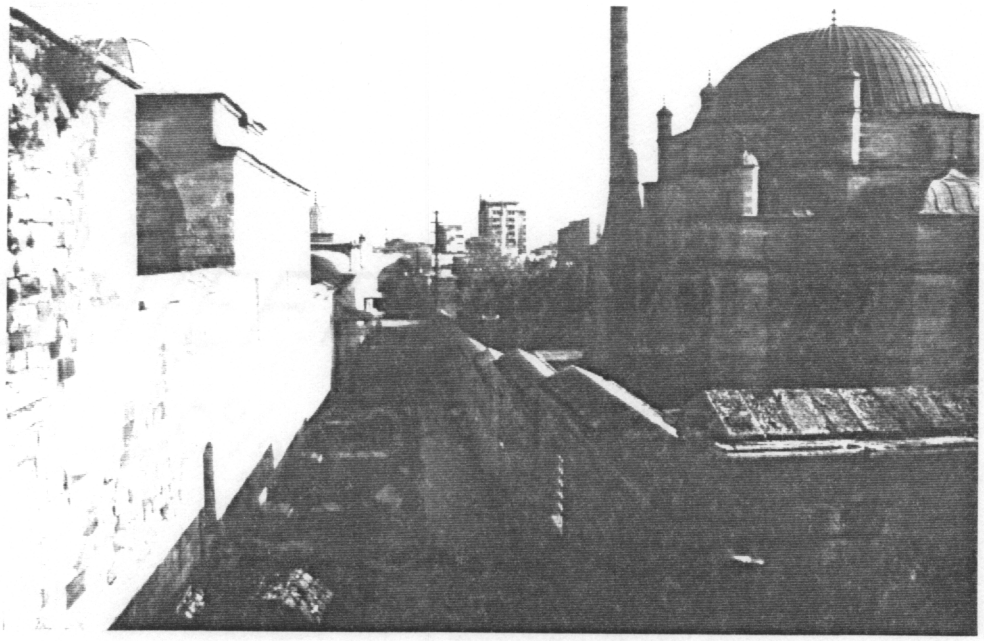


Figure 6-62: Ibrahim Paşa külliye, Nevşehir; passageway between mosque and medrese

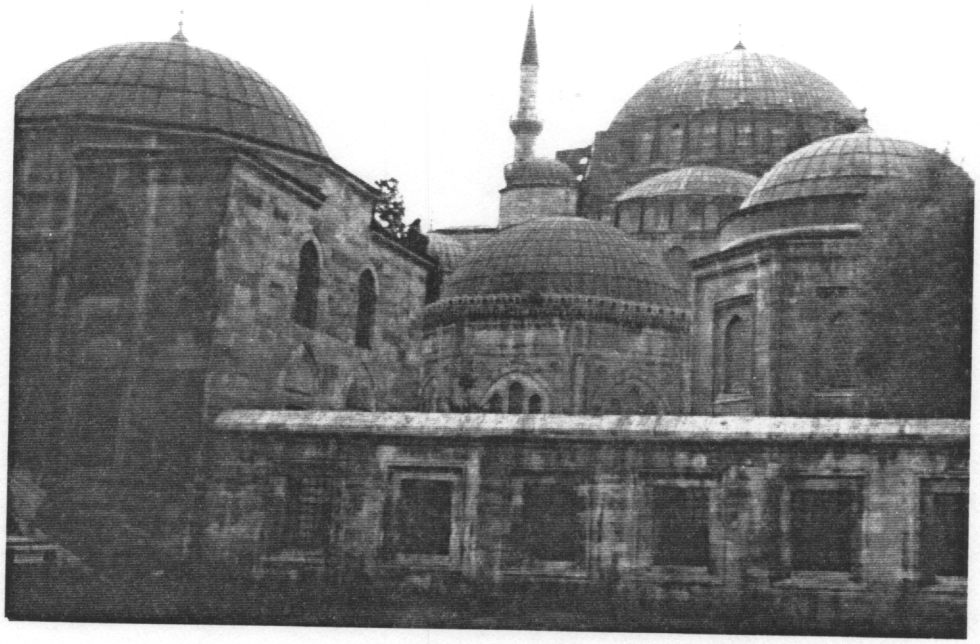


Figure 6-63: Süleymaniye külliye, Istanbul; a view from the south showing the türbes and the dome of the mosque

a very relaxed manner. The türbe in most of the sultans' külliyes plays the role of layering very nicely, especially since the southern elevation of the mosque is usually very flat and out of scale. Looking at the mosque through the smaller structures of the türbes allows the eye to have a more comfortable trip to the top of the dome.

Examples of such an arrangement can be seen in Süleymaniye and Şehzade külliye, where the eye moves from the wall to the first tomb, then the larger one, and then to the mosque itself (figs. 6-63, 64). Another example can be seen close to the western entrance to the courtyard of Eyüp mosque where a series of small structures exists and allows a smoother movement for the eye. There are many other examples of this kind; however, one of the best examples exists in the Süleymaniye at the eastern entrance of the central space. The uniqueness here is that the layering evolves through movement. The entrance at that point consists of a covered stairway which leads from the lower street to the central space. The first thing a visitor ascending the covered steps will see is the wall of darü'l-hadis. Moving upward, the perspective starts to open up and the visitor sees the dome of the smaller tomb, and then the dome of the larger tomb which belongs to Süleyman the Magnificent. Then the visitor's eye will move to the lower domes of the mosque which will prepare him for the highest point in the composition, the main dome, which will in turn appear only when the visitor is at the level of the central space itself.

6.2.7. STEPPING

Stepping has the same effect of layering; it allows for a more comfortable perspective within a space. The difference between layering and stepping, however, is that the latter takes place in the same building. In a case where structure has at least three main substructures, they would be stepped back from the main plane in a consecutive manner. Such a composition makes the facade appear much more in scale since it does not confront the viewer with its full height at a close plane. The visual effect is similar to what a person can feel in a typical modern street where high rise buildings are set back in order

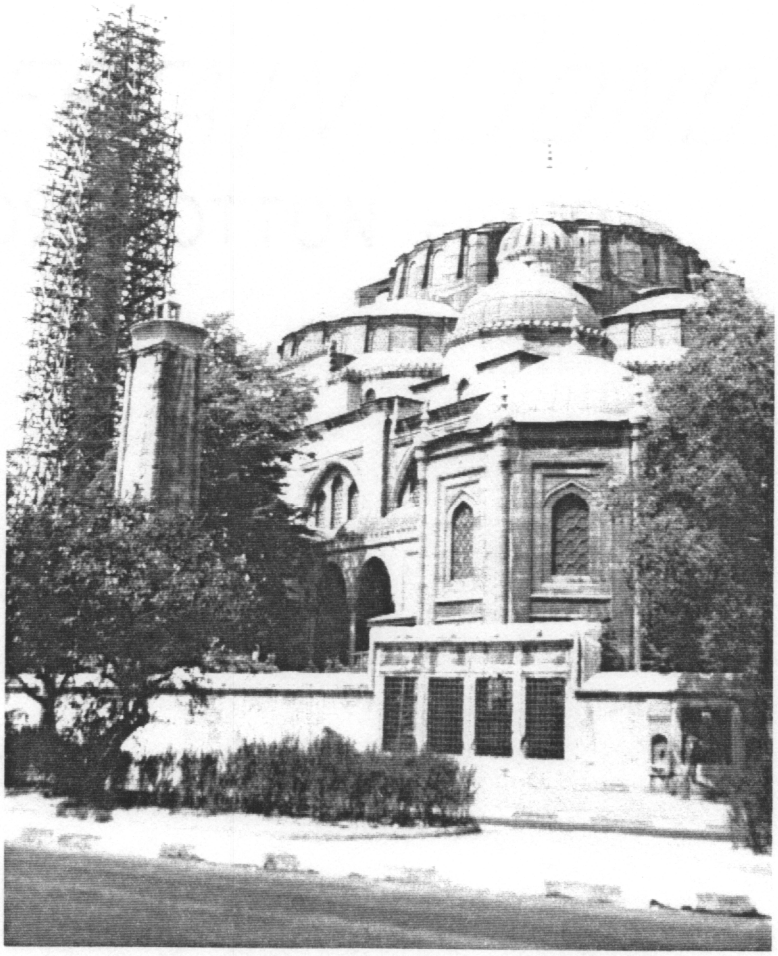


Figure 6-64: Şehzade külliye, Istanbul; a view from the south west

to avoid encroaching on the passersby because of their height.[1] It is difficult to judge whether this principle was consciously used by the Ottoman architect. However, its existence cannot be ignored and likewise its visual effect cannot be denied. Stepping is important particularly in the architecture of the mosque since it was the only major monumental building in the whole külliye. Other buildings were usually not higher than two stories. Even the türbes were not of such a large scale that would have required special attention. Stepping cannot be found in the earlier mosques since they consisted of one space covered by a dome. At that time, stepping was not needed because the mosque was small. The eyvan mosque was of a larger scale; stepping started to emerge with the domes of the side rooms.

In Istanbul, where the Ottoman architect was able to utilize more elaborate structural systems, a more impressive architecture was recognized. That system consisted of the body of the mosque, on top of which a secondary structure was erected to cover the wings of the mosque and carry the superstructure (the dome). That type of mosque, in general, had three distinctive levels of roofing. The first was the level of the porticos around the mosque, especially the one in front of its interior facade. The second was the level of the secondary structure which consisted of a combination of domes, half domes, and angled roofs. The third level was the superstructure itself, which was the dome. Visually, the eye moves from the openings of the arcades to the horizontal line on top of the arches, to the small domes of the arcades, to the horizontal line of the main body of the mosque. Then the eye steps up in a very relaxed manner from a lower dome to a higher one until it reaches the horizontal line of the superstructure. At that time, the eye will move smoothly on the spherical surface of the dome until it reaches the climax of the whole composition at the top of the dome where a small crescent is affixed and which also provides a sense of scale.

The eye's movement from the original plane of the building to deeper planes while moving

[1] Curran, Architecture and the Urban Experience, p. 77.

upward gives the building a more human scale. The overall composition of the facade shows a prominent horizontality because of the many horizontal lines in the composition, whether they are the bases of the different structural parts or the rows of windows. Horizontality aids in the process of making the facade more human in scale. In addition to horizontality and stepping, the transparency of the structure, especially apparent in the colonnades, makes the architecture even lighter and harmonious in scale.

Beyazit Paşa mosque in Amasya, 1419; Yeşil cami in Bursa, 1419; and Eski cami in Edirne, 1413, are all good examples of the earlier period when the Ottoman mosque did not have clear stepping (figs. 6-65, 66, 67). The size and height of the structure did not allow for it, nor did these mosques need it. Any major sultans' mosque in Istanbul would qualify as a good example of stepping. The Süleymaniye, the Fatih, Sultan Ahmet, and in Edirne the Selimiye show stepping in its full use(figs. 6-68, 69, 70, 71) . While layering is very instrumental in narrow passageways of any külliye, stepping is particularly important in the courtyard of the mosque itself. The space is limited in size; therefore, having a huge structure facing it would have made it very oppressive. It is noteworthy that when one enters the mosque's courtyard from the two side doors, one cannot see the superstructure because of stepping. Hence, one would feel that the four sides of the courtyard are of equal importance if only the issue of scale was considered. There are other design elements, however, which make the entrance to the covered area of the mosque well defined. One of these elements is the height of the mosque's portico which exceeds the height of the other three colonnades. Another element is the more elaborate design of the mosque's wall if compared with the walls of the other three sides.

A final development in the architecture of the Ottoman mosque had a special influence on stepping. Kuran states in his book, The Mosque in Early Ottoman Architecture, that the objective of the Ottoman architect was to: "create the largest single uninterrupted space disturbed by as few vertical structural elements inside the main prayer hall as possible."[1]

[1] p. 213

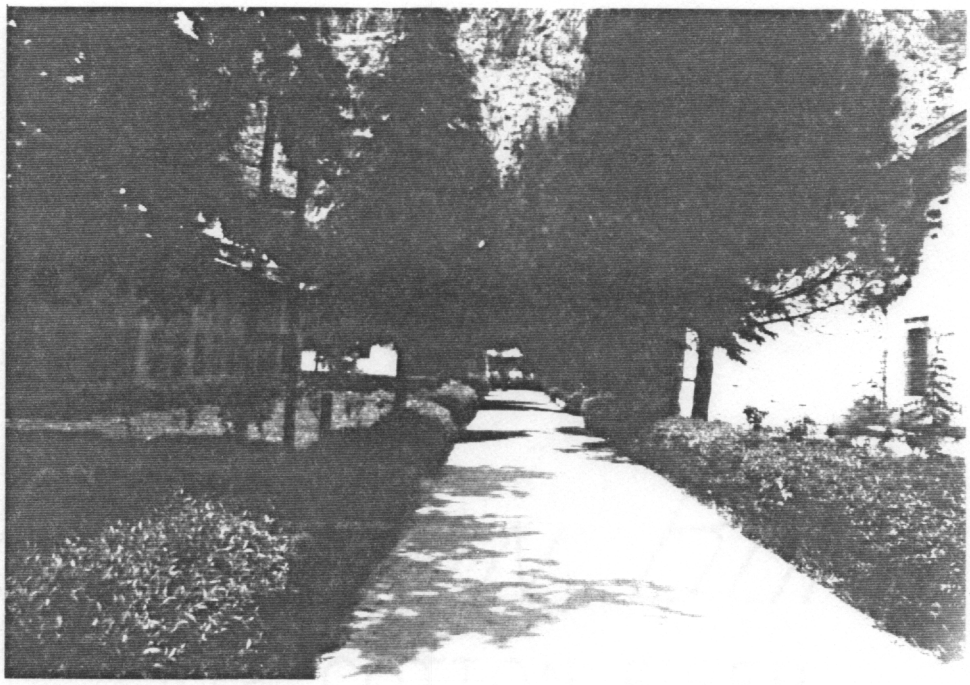


Figure 6-65: Beyazit külliye, Amasya; the mosque and the medrese

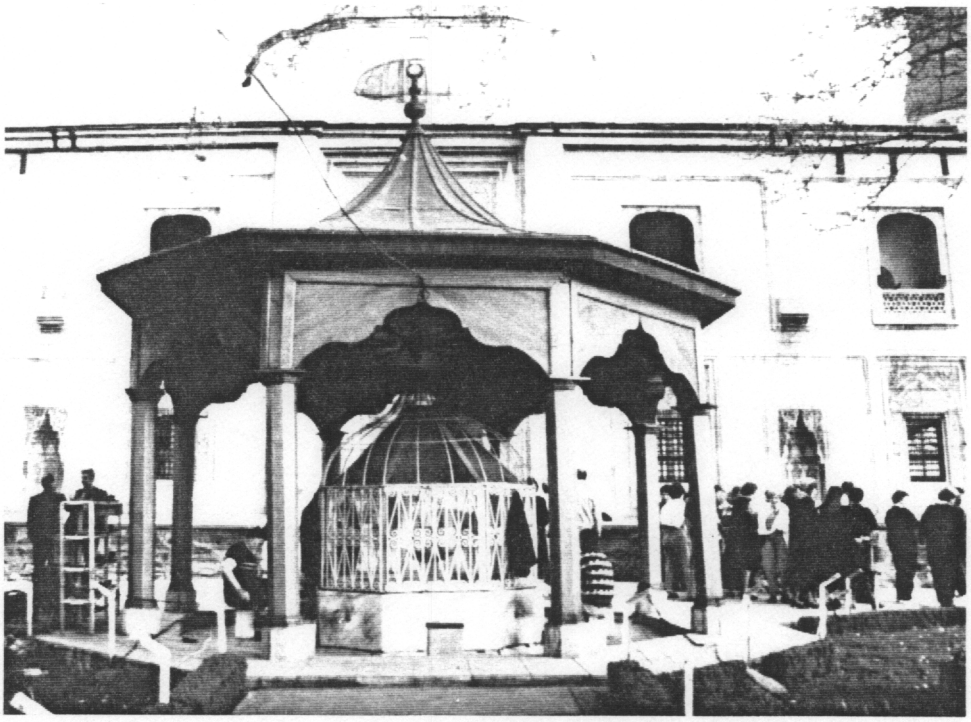


Figure 6-66: Yeşil mosque, Bursa; the main entrance

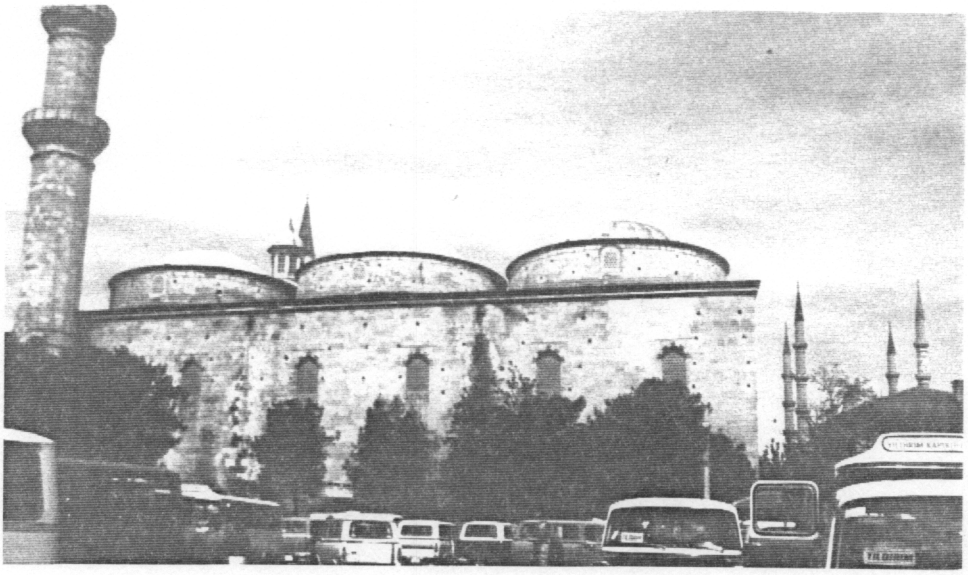


Figure 6-67:
Eski cami, Edirne

Figure 6-68:
Süleymaniye mosque, Istanbul; the mosque from the courtyard

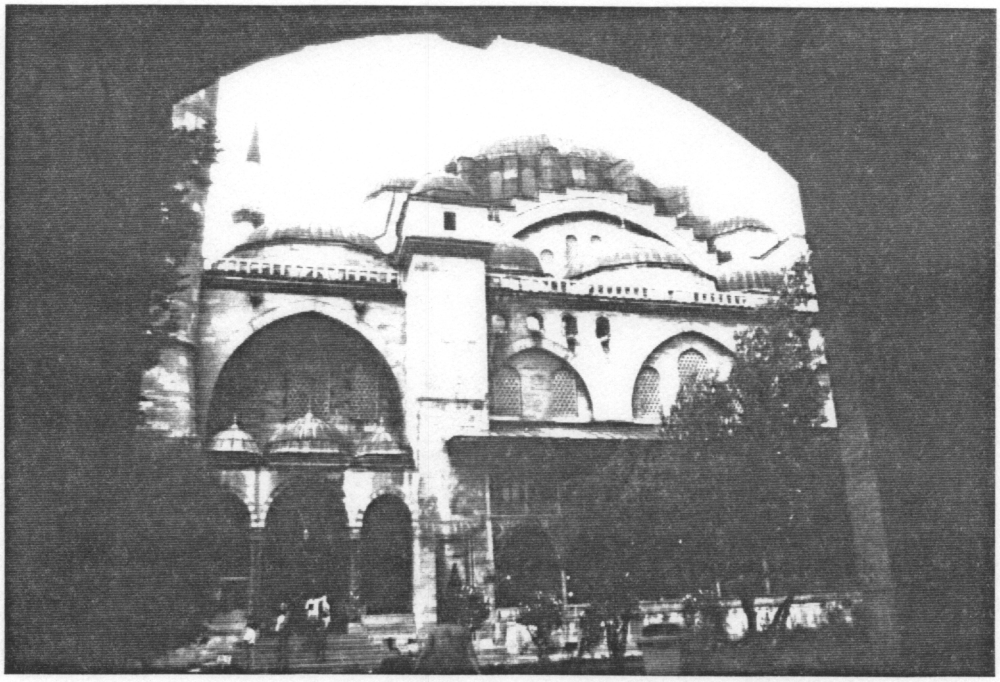


Figure 6-69:
Fatih modque, Istanbul; view from western entrance to the central space

Figure 6-70:
Sultan Ahmet mosque, Istanbul; view from the courtyard

This objective was definitely a strong moving force which directed the development of the Ottoman mosque. It took a long period of experimentation and learning until the Ottoman architect was able to build his great dream, the largest space with no vertical interruptions. The realization of this dream can be seen in one particular mosque: the Nuruosmaniye mosque in Istanbul, which was built in 1755. The interior of the mosque consists of one uninterrupted space; a fact which meant the removal of the typical wings of the Ottoman mosque. The two side wings and their overhead structures were the responsible agent in the development of the stepping principle. In the latter mosques, where these wings disappeared, stepping also disappeared. The south-western angle of the Nuruosmaniye mosque is a great example of lack of stepping at a corner which typically enjoyed this property.

Nuruosmaniye is perhaps the last mosque in a series of monumental mosques (fig. 6-72). Beyond this point all mosques, including those built by sultans, became much smaller. Nusratiye mosque, 1826; Yeni cami, Aksaray; and Dolmabahçe mosque, 1853, are all examples of mosques built by sultans which have one uninterrupted open space. However, all of them are very small if compared with the mosques of the classical period. Had the Ottoman architect continued to be able to build monumental mosques, most probably the Nuruosmaniye would have been the prototype of this last period and stepping would have been completely abolished. Layering and stepping also represented the idea of infinity. The large number of small domes and the different walls, which establish a layering, present a continuous repetition which is a means of symbolizing infinity.

6.2.8. MONUMENTALITY AND SCALE

In the early years of the Ottoman state structures were relatively small and of a human scale. The külliyes which were built by sultans in Bursa were also of a comfortable scale.

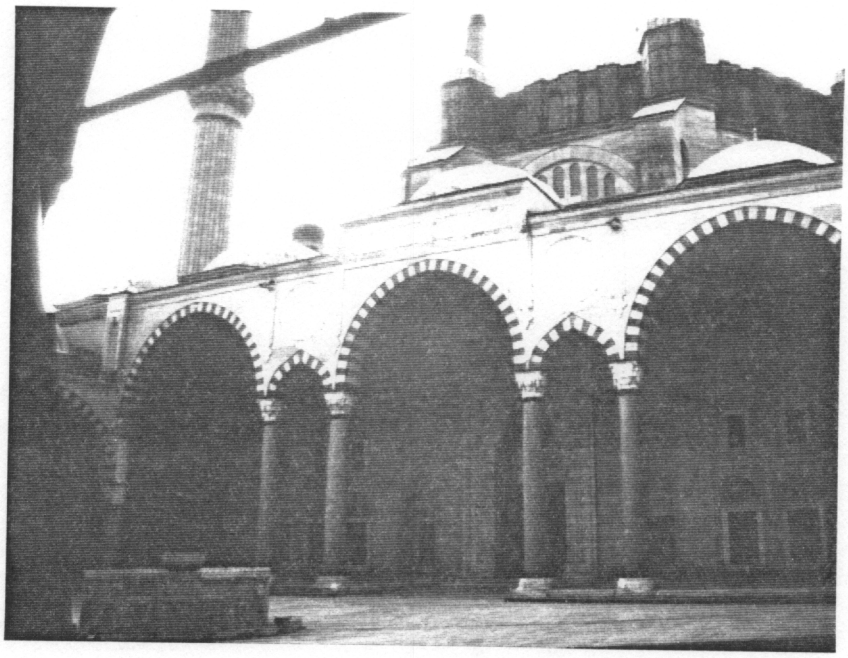


Figure 6-71: Selimiye mosque, Edirne; view from the courtyard

Figure 6-72: Nuruosmaniye mosque, Istanbul; view from the courtyard

The mosque was monumental, however, it was still not overwhelming.[1] It was in Istanbul that the great külliyes were built with superstructures covering the mosques. Süleymaniye's dome was 59.50 meters high,[2] Selimiye's dome was 43.40 meters in height,[3] and Sultan Ahmet had its dome as high as 43 meters.[4] These and other monumental mosques, such as Fatih and Şehzade, needed a special treatment in order to establish a feeling of human scale. At the vertical plane, stepping and layering were two principles used in order to bring about a more human scale. On the horizontal plane, it was the arrangement and design of spaces that assisted in that regard. A human or a comfortable scale can impress the viewer but it does not overwhelm him. In order for the Ottoman architect to create a human scale without compromising the need for monumentality, he used certain strategies.[5] These strategies were repeatedly used to become characteristics of open spaces in the Ottoman külliye. There are four characteristics used by the Ottoman architect that contribute to the establishment of such a comfortable and human scale. These characteristics are: simple shapes of spaces, complete enclosure of spaces, physical connection of structures, and appropriate proportion between structures and their surrounding spaces.

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[1] Regarding the issue of monumental scale, Kuban writes: "The nature of civilization in the Ottoman society was not similar to that of the Renaissance, and the idea of a monument to partake of human life was not strongly developed. That is to say, a monument, even one of the highest importance, was never the focus of cultural interest, except in very rare instances." See Kuban, "An Ottoman Building Complex of the Sixteenth Century: the Sokollu Mosque and its Dependencies in Istanbul," Ars Orientalis, no. 7, 1968, p. 38.

[2] Aptullah Kuran, Sinan, p. 93.

[3] Ibid, p. 169.

[4] Goodwin, A History of Ottoman Architecture, p. 346.

[5] Ernst Egli notes the use of the two scales by the Ottoman architect in his discussion of the Süleymaniye mosque. He explains that Sinan used opposites in order to express certain ideas, whether spiritual or structural. "One of these pairs of opposites is the two different scales - the human and the monumental. The human is exemplified in the interior by the delicate details on the ground level around the base of the pillars, by the placement of the columns and arcades along the walls with their balustrades and stairs... The minarets are in strong contrast to the mass of the mosque; they serve to define a lofty area which the dome, rising out of the mass of the building, can occupy." See Ernst Egli, "Sinan, The Architect," Landscape, vol. 7, no. 3, Spring 1958, p. 8.

In most cases, spaces have rectangular shapes which are easy to recognize and relate to. Because of the simplicity of the shape, which a visitor can quickly comprehend, a comfortable relationship with the space takes place.[1] A rectangle is a shape with which people are familiar; it is simple since it consists of four sides, each two are parallel. It has four corners and two sides longer than the other two; and hence, orientation in it is very clear. The rectangle is also easily comprehended since it can be seen in its entirety from any point within it. The central spaces in Fatih (1470), Beyazit II, Edirne (1488), Süleymaniye (1557), Selimiye (1575), Sultan Ahmet (1617), and Yeni Valide, Üsküdar (1710) are examples of külliyes with central spaces designed based on rectangular shapes. Nuruosmaniye (1755) and Laleli (1763) are two cases where the central space does not have a simple configuration; and hence the spaces look less familiar to the eye.[2]

Enclosure is a direct result of having walls connecting the structures.[3] Walls define spaces, as well as limit and focus the views within them; and, hence, they contribute to the process of establishing a comfortable scale in these spaces. The mosque, although it has a central location in the central space, is attached to the walls of the central spaces through the walls of the türbe which extend from the two eastern and western walls of the mosque to the southern wall of the central space. Such a configuration can be seen in Fatih, Süleymaniye, Şehzade, and Yeni Valide. Walls also connect other facilities together, such as medreses in the case of Fatih, Süleymaniye, Selimiye, Beyazit II in Edirne, and

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[1] Sitte does not think that a simple shape is good; in fact, he thinks exactly the opposite. It should be mentioned here that scale is not a consideration for him when he discusses this issue. He is only concerned with the aesthetic quality of the space and its appropriateness as a stage for free standing monuments. The regularity of the Ottoman spaces does not reduce their visual interest since these regular spaces are connected with each other in a variety of ways. The richness in the way these spaces are connected to each other provides diversity. (Sitte, City Planning According to Artistic Principles, pp. 47-53.)

[2] Plans: 4-16, 5-30, 4-13, 4-20, 4-17, 4-42, 4-21, 4-22, respectively, or see plan 5-28.

[3] Sitte devotes one chapter to the idea of complete enclosure of squares. He thinks of enclosure as "the main requirement for a plaza." Aesthetically, according to him, an open space cannot be a plaza until it is enclosed. Sitte does not mention the issue of scale, however. He talks about what he calls 'agoraphobia,' which in our terms is considered a lack of human scale; yet, he does not relate enclosure to this problem. (Sitte, City Planning According to Artistic Principles, p. 32 and p. 45.)

Nuruosmaniye. Because all structures are attached to each other, a sense of complete enclosure is achieved.[1] Gates leading to the central space are relatively small in order to maintain the enclosure (figs. 6-73, 74, 75, 76).

The third characteristic is physical connectedness of all structures, which is a direct result of the attempt to create a complete enclosure. Buildings are not just close enough to create a feeling of enclosure; they are attached to each other and form one continuous structure starting at the gate and ending in the dome and the minarets. These two characteristics together, complete enclosure and physical connectedness, bring the open spaces, as well as the architecture, to a more human scale. They create a continuity in the visual and physical experience of the visitor. This continuity means that a visitor who enters any of the great külliyes, such as the Süleymaniye or Fatih, would enter through a device which has a very comfortable scale: the narrow and small gate. The walls allow a visitor to see the physical connection between all structures in the composition; the eye moves from the gate, to the wall, to the türbe, (or medrese as it is the case in the Selimiye), and finally to the mosque. Being able to touch the gate and feel his scale in relation to it, the visitor gains a clear sense of scale.[2] Thinking of the monumental mosque as a continuation of the gate, he will gain a feeling of connection and relation to the monument.[3]

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[1] Ashihara asserts that a better sense of space is achieved through a better enclosure which he considered to be achieved by vertical elements which define the corners of the space. See Ashihara, Exterior Design in Architecture, pp. 78-9.

[2] Gebhard asserts that the Ottoman architect considered the human scale in his design; he wrote: "(t)he streets themselves were narrow and their perpendicularness led to an upward spatial thrust. When one enters the street entrance and passes through into the arched colonnade of the courtyard of the mosque, one encounters an intimate scale through the use of low passages, small doors and windows which open onto adjacent shops and rooms." (Gebhard, "The Problem of Space in the Ottoman Mosque," The Art Bulletin, vol. 45, no. 3, Sept. 1963, p. 275.)

[3] Sinemoğlu writes: "But the dome also cannot be separated independent of this structure, to which it is attached firmly. The roof of the edifice is reflected in every detail outwards and the elements are gradually reduced to the height of a human being which is characteristic of this period." (Sinemoğlu, "Unity of Turkish Art in General in the 16th Century," IV Congres International d'Art Turc, 1976, p. 217.)

Figure 6-73:
Sokollu Mehmet Paşa külliye, Lüleburgaz; west side entrance

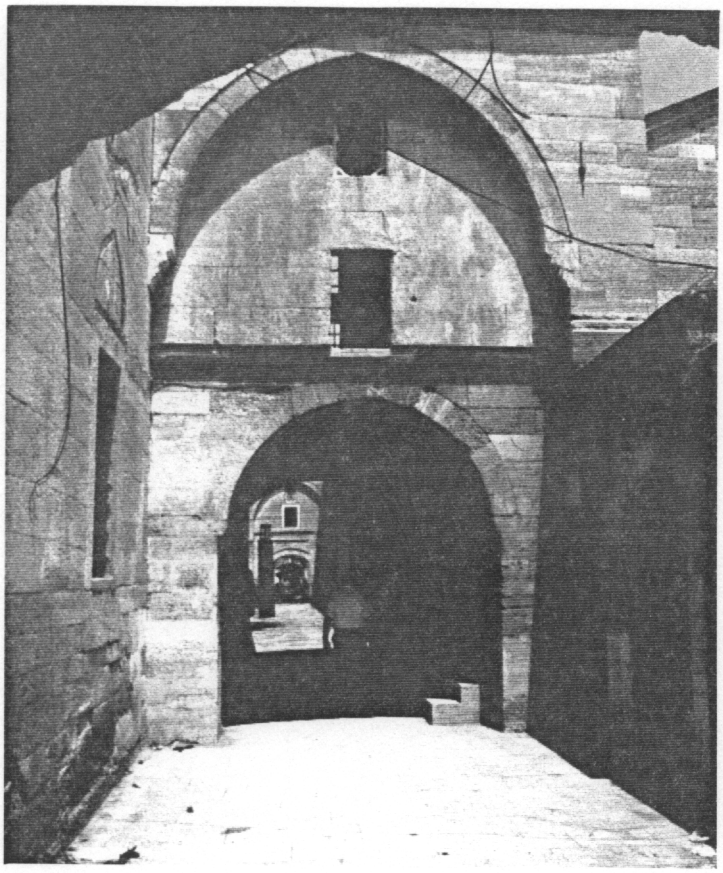


Figure 6-74:
Yeni Valide külliye, Üsküdar, Istanbul; east side entrance

Figure 6-75:
Laleli külliye, Istanbul;
west side entrance

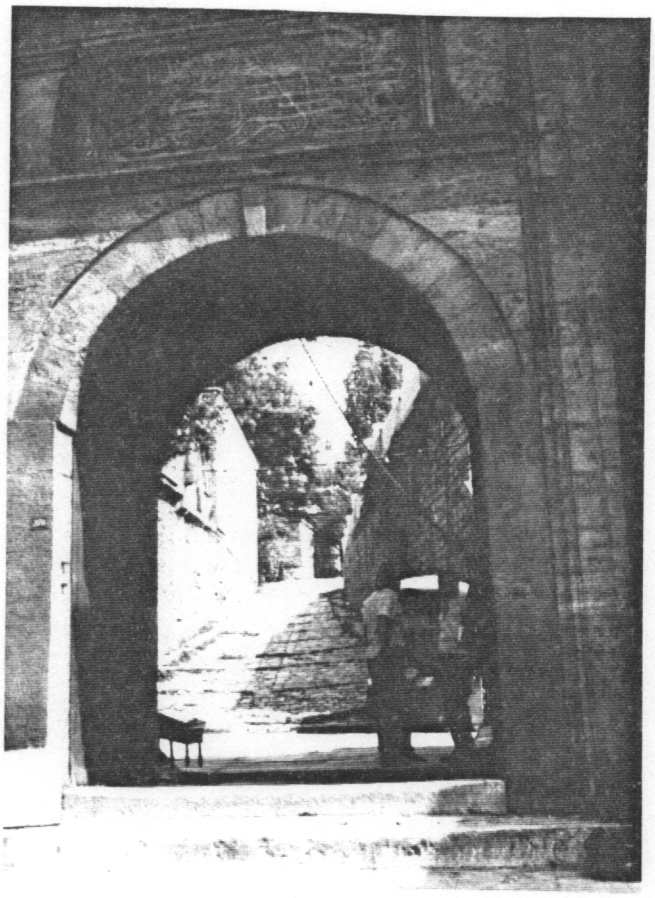
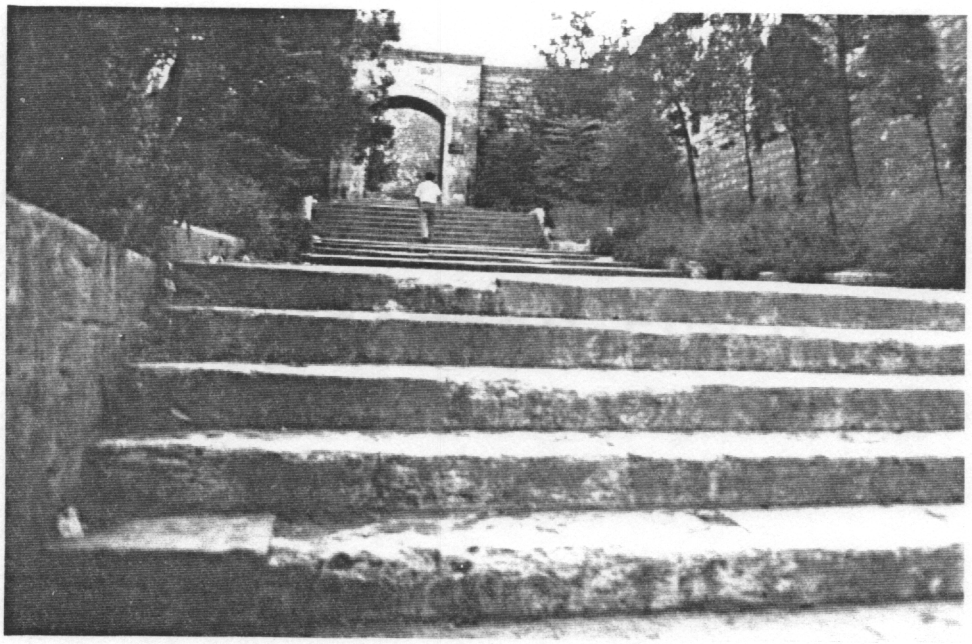


Figure 6-76:
Fatih külliye, Istanbul;
west side entrance



The fourth characteristic has to do with the proportion between structures and their open spaces. The central space provides a stage for the most important monument; it also provides the viewer with a plane of reference. The central space becomes a means by which the eye establishes its relationship with the building. The critical points are at the entrances where the viewer establishes his or her first impression of the building. If the space allows enough distance for the eye to view the structure within its cone of vision, a better sense of scale can be achieved. The sense of scale in this case is a result of the fact that the eye is able to see, and hence comprehend, the structure in front of it. The point which is to be considered here, then, is whether the mosque is located within the visitor's cone of vision when entering the central space. The Selimiye can serve as a good sample to study since its central space is the most compacted one among the spaces of the major sultan külliyes of the Istanbul period. The height of the side facade is approximately 17.8 meters. Beyond this point, the stepping of the superstructure begins. The critical height, therefore, is 17.8 meters. The narrower side of the central space is the western one. Accordingly, the western gate which connects to the arasta has the shortest distance to the structure of the mosque, which equals 31 meters.[1] Plan 6-2 shows that such a composition keeps the facade within the cone of vision of a visitor who would enter the central space from the western gate.[2] In fact the whole mosque can be seen within the cone of vision at that point (the cone is only slightly larger than the mosque). The mosque fits also in the cone of vision of a visitor who enters from the eastern side. The dome is slightly out of the cone at the south-eastern gate. It is perhaps this precise visual fit that adds to the beauty of the Selimiye. In this case, the central space becomes part of the

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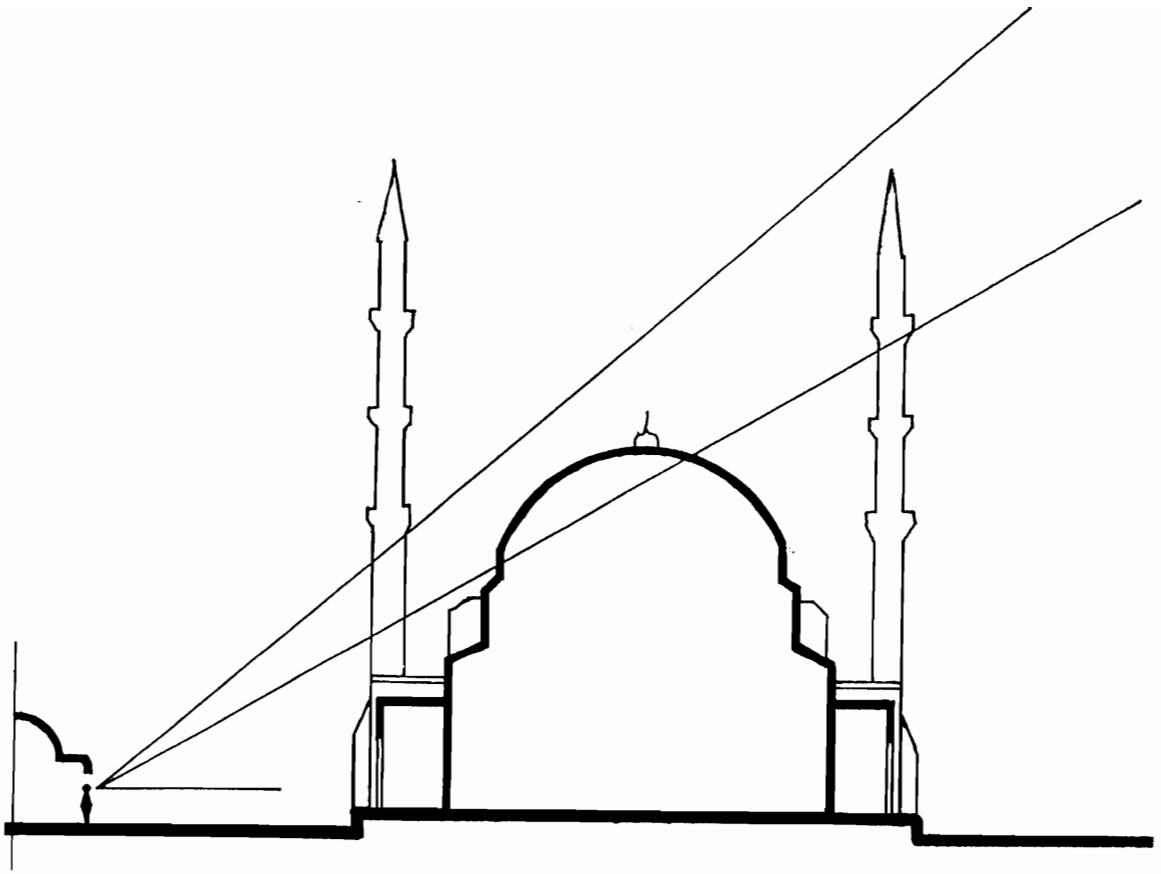
[1] All measurements are estimated from drawings presented in Aptullah Kuran's book, Sinan, pp. 169-72.

[2] In principle the cone of vision extends 180 degrees horizontally and 150 degrees verically (Philip Thiel, Visual Awareness and Design, Seattle and London, University of Washington Press, 1981, p.69. However, beyond a certain angle, objects cannot be seen with clarity. This angle is considered 30 degrees for perspective drawings. (Paul 5. Oles, Architectural Illustration: the Value Delineation Process, New York, Van Nostrand Reinhold Company, 1979, p. 36). Ashihara uses the nineteenth century German architect H. Märtens' figures for the field of vision. Theses figures were also used by Paul Zucker in his book Town and Square. Ashihara states that the field of vision falls with a 60 degrees angle, 40 degrees above the eye-level plane and 20 degrees under it. (Ashihara, Exterior Design in Architecture, p. 42).



The whole mosque fits inside the cone of vision considering it to be 40 degrees above the eye level. According to Märtens, the distance between the viewer and the object should be double the height of the object in order to be in the cone of vision. In other words, the angle would be 27 degrees above the eye level. The side facade fits almost perfectly within this angle.

Plan 6-2: Selimiye külliye, Edirne; section showing cone of vision at side entrances

mosque's composition as opposed to being a stage for it. Other külliyes such as Fatih, Süleymaniye, Şehzade, and Sultan Ahmet show a more loose composition in which the mosque fits comfortably in the cone of vision. It is in the later külliyes that this visual fit is missing. In Nuruosmaniye, as well as in Laleli, the central space gets too narrow at certain points so much so that the mosque appears very overwhelming.[1]

6.2.9. THREE LEVELS OF DESIGN

The architecture of the Ottoman mosque went through different stages of development. One particular issue in that process was the volumetric treatment of the mosque. The importance of such a treatment lies in the visual effect of the building on those who pass through the open spaces of the külliye. Again, it is the mosque which is considered here because of its monumental scale and visual dominance. What is meant by three levels of design is the fact that the building was composed at three levels. The first one is the level composed of the main volumes in the total composition. At that level, the mosque is seen as three main volumes: the mass of the mosque itself, the structure covering it, and the courtyard. The second level is the one which deals with the treatment of each one of these main volumes. In the case of the mosque's mass, there would be a set of sub-masses whose sum brings about the mass of the mosque. Such sub-masses include the mass of the entrance, the main body of the mosque, which is usually divided into three sections (three masses), and the mass of the arcades. In the case of the covering structure, the main dome would be a sub-mass; the half-domes supporting it would be a second sub-mass; and the smaller domes of the wings would be a third one (fig. 6-77). The third level treats the individual details of the sub-masses. At this level, the architect considers the design of doors, windows, and ornamentation (fig. 6-78).

[1] The issue of the cone of vision in the Ottoman külliye needs a critical investigation; the simple analysis presented here about the Selimiye is a good indication of possible valuable information. Related to the cone of vision is the issue of framed and directed views which was discussed earlier in this chapter.

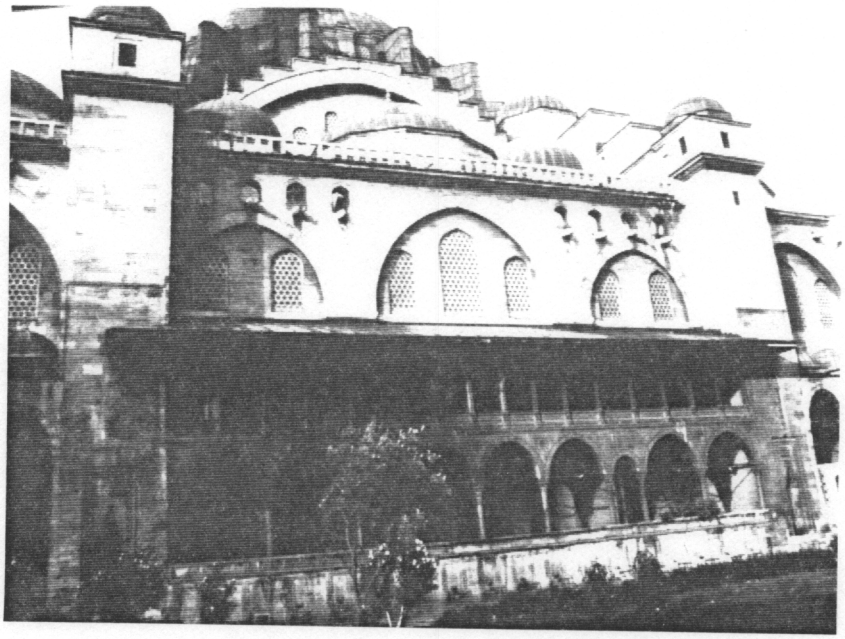


Figure 6-77: Süleymaniye mosque, Istanbul; three levels of design

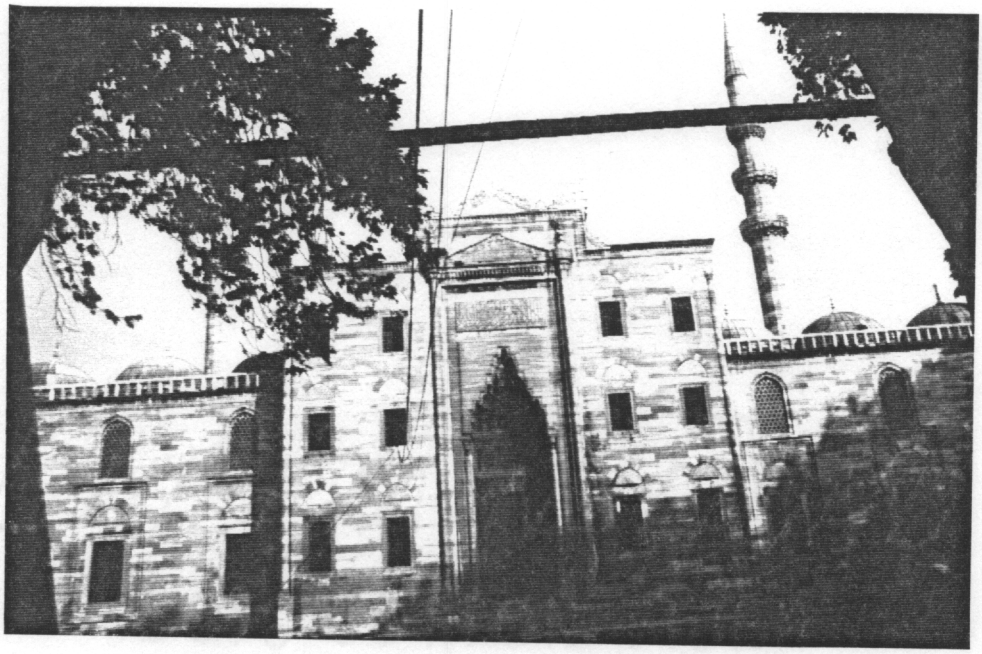


Figure 6-78: Süleymaniye mosque, Istanbul; north side entrance, the facade has three main masses, a central one and two sides (first level), the central mass is divided into three submasses (second level), submass has its own detailed design (third level)

The total composition appears to be of a human scale because of the eye's ability to move from a small object to a larger one and then to the largest. It is the middle level which gives this architecture its relaxing appearance although it is very monumental. With the absence of that middle level the jump between the small detail, to which the viewer can easily relate, to the overall structure would not have been as smooth. The effect is not just visual; it is physical, too. The existence of the third level where each sub-mass is very detailed, allows a physical contact with the building. The best example to illustrate the point are the gates to the open spaces. They are, in general, small enough to be considered private entrances. The different doorways to all major külliyes are all of a size whose width does not exceed three meters in most cases. The southern entrance to the Selimiye, the east entrance to Mihrimah Sultan, Edirnekapi, as well as the side entrances to the Süleymaniye, are typical examples (figs. 6-29, 79). The visitor touches the door and its sides; he very easily grasps its size and relates it to his own size. The physical relation expands from the smallest level to the middle one, and then it moves to the whole building. The physical relationship between people and architecture brings the latter closer to people and makes it appear more of human dimensions, even if monumental.

Şehzade mosque can be used as an example (fig. 6-80). The mosque has the main body, the covering structure, and the courtyard as the typical three main masses in the whole composition. The western elevation of the main body of the mosque consists of three sections: a central one, which relates to the area under the main dome; and two side areas, which represent the side wings. There are structural elements which break the facade into three distinguished sections. Moreover, the main section is divided into two sub-masses: the arcade and the upper wall which is pierced with windows. The covering structure also has the main dome as one sub-mass along with other ones. The sub-mass itself has a more detailed design. The arcade, as an example, has the arches, the railings, the steps, and the roofing as details. The wall over the arcade also has the three arches which house three small windows each. And the minaret can be taken as a sub-mass which has its own details. The Fatih, Sultan Ahmet, the Selimiye, and Yeni Valide, Eminönü are all good examples illustrating three levels of design (figs. 6-69, 70, 71, 81).

Figure 6-79:
Mihrimah Sultan külliye, Edirnekapi, Istanbul; the east side entrance

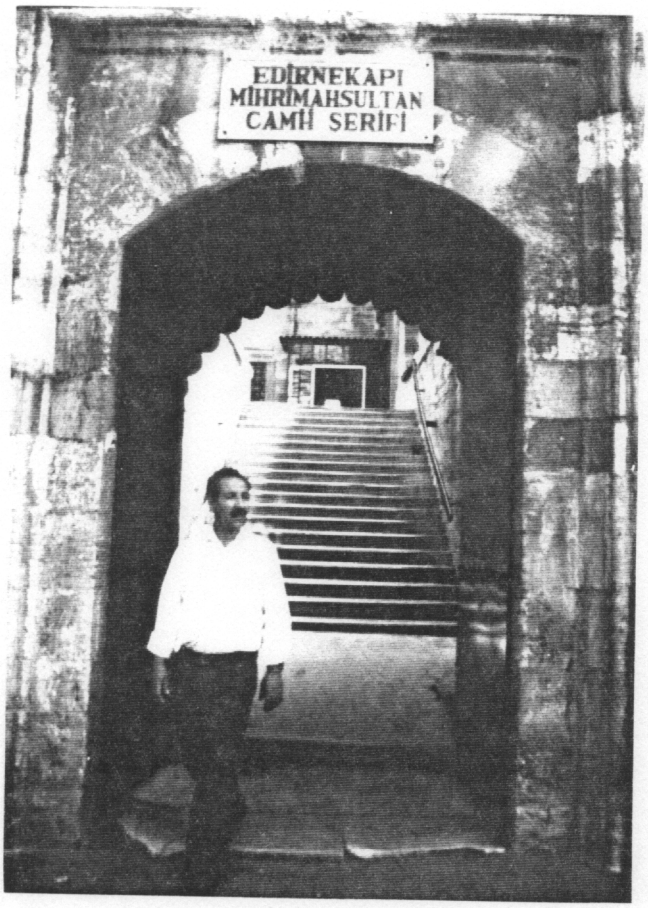
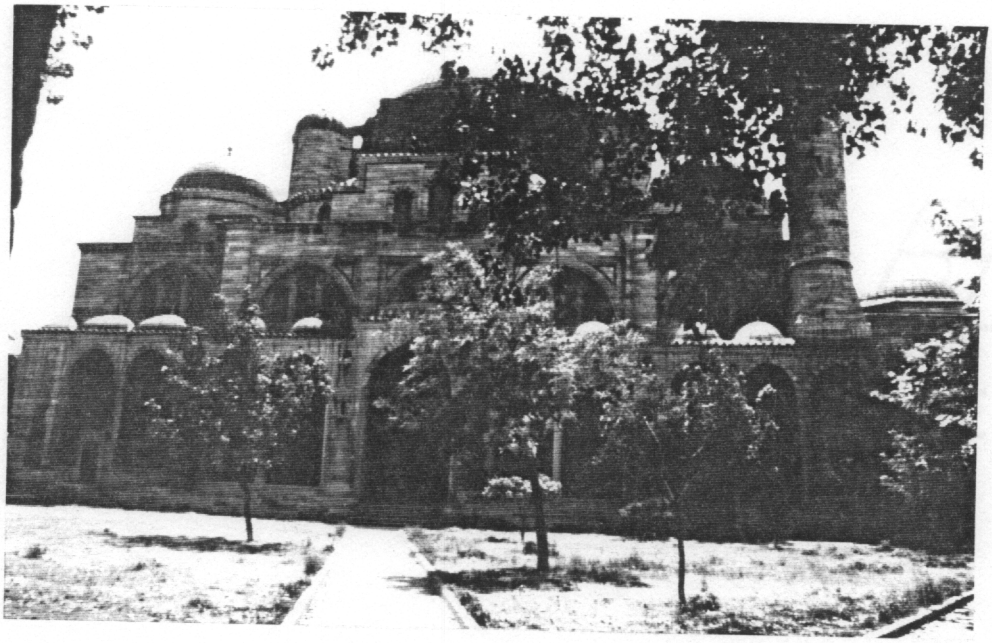


Figure 6-80:
Şehzade mosque, Istanbul; eastern facade



The different functional and structural considerations at the northern, eastern, and western elevations allow for a successful demonstration of three levels of design. The southern facade, however, cannot do the same because of the simple function it represents (fig. 6-82). While in the eastern or the western facade, there would be an entrance, a set of stairs, and an arcade; the southern facade has nothing but a wall with windows. This particular facade, hence, appears to be out of scale in most mosques. Perhaps that feeling was appropriate since it faced the türbe, a place where extreme monumentality was sought. The Selimiye, however, had a unique design for its southern elevation. It had arcades which led to no place. Nevertheless, they play a vital role in that they bring that facade into a human scale without destroying the monumental aspect in the composition. This arrengement was especially important since the spaces adjacent to the facade are very small (fig. 6-31).

The principle of the three levels of design did not exist in the earlier mosques, however, Yildirim Beyazit, Mudurnu 1382; Yildirim Beyazit mosque, 1395; Yeşil mosque, 1420; both in Bursa, as well as Beyazit in Amasa and Beyazit in Edirne, are examples of earlier mosques which do not exhibit the three levels. In these examples, only two levels can be seen: the first and the third; while the middle one is missing (figs. 6-83, 84, 85, 86, 87). Any of these mosques has its own major masses, which are the body of the mosque and the covering structure. The body is a simple box with openings for doors and windows. The covering structure is a dome with its base. The middle level does not exist because of the simplicity of the design both at a functional and structural level. This scale, however, was not critical for these mosques because of their relatively small size.

6.3. SUMMARY

Nine principles have been identified as influential on the design of the külliye. Five of these principles were more geared towards the visual experience in the külliye. They provided richness and excitement; they also provided a stage for concentration and contemplation. They also allowed some symbolic concepts to be expressed at an urban

Figure 6-81:
Yeni Valide mosque, Eminönü, Istanbul; north side facade

Figure 6-82:
Süleymaniye külliye, Istanbul; the southern facade with the türbe

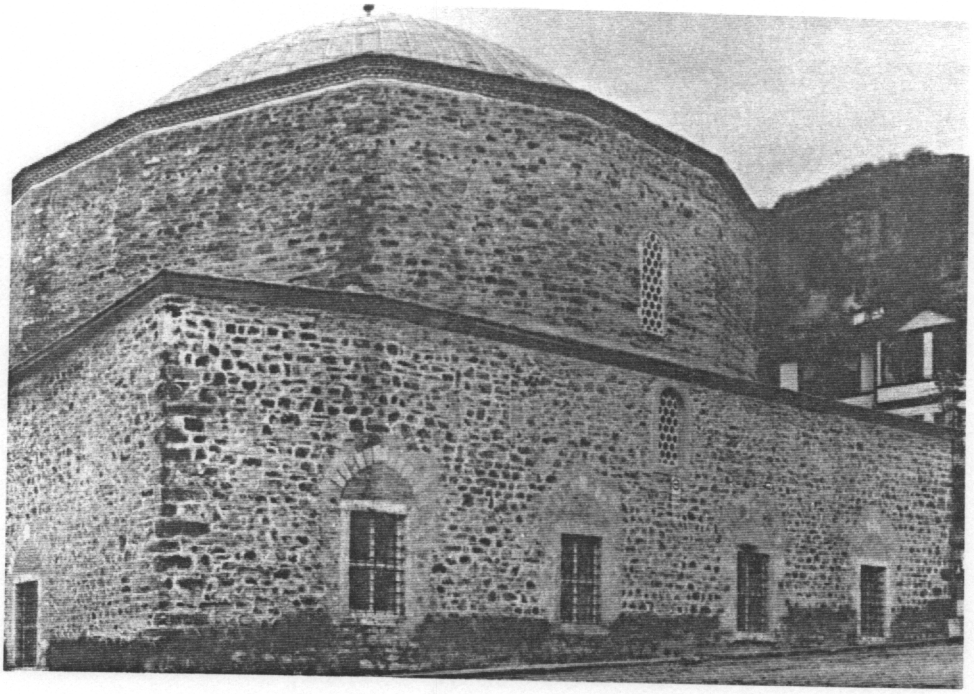


Figure 6-83: Yildrim Beyazit, Mudurnu (after Kuran, 1968)

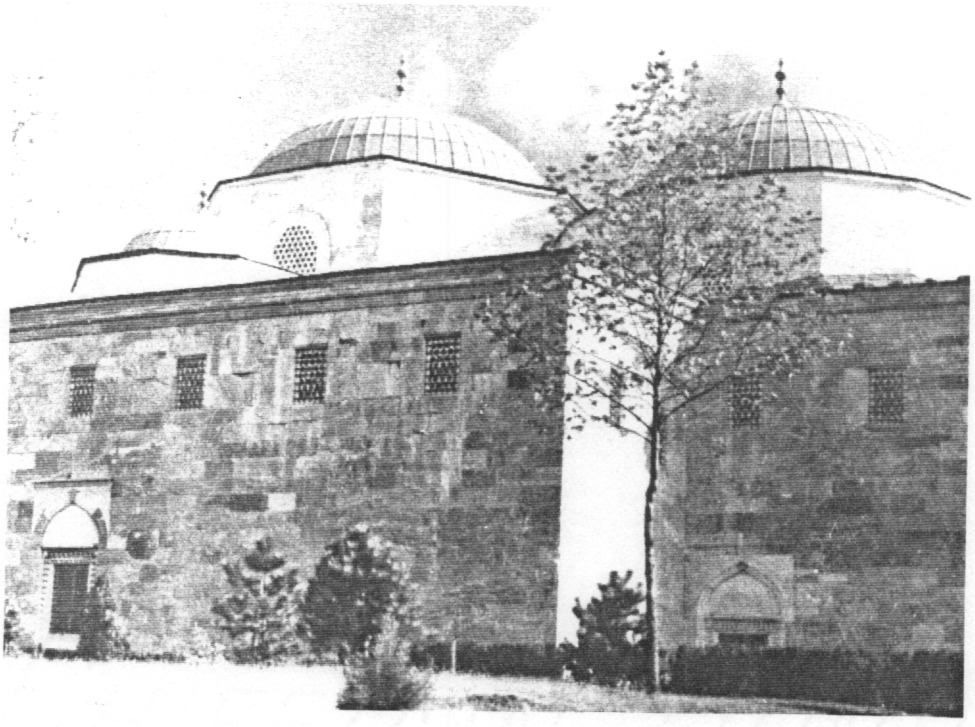


Figure 6-84: Yildrim Beyazit, Bursa (after Kuran, 1968)

Figure 6-85:
Yeşil mosque, Bursa
(after Kuran, 1968)

Figure 6-86:
Beyazit mosque, Amasya

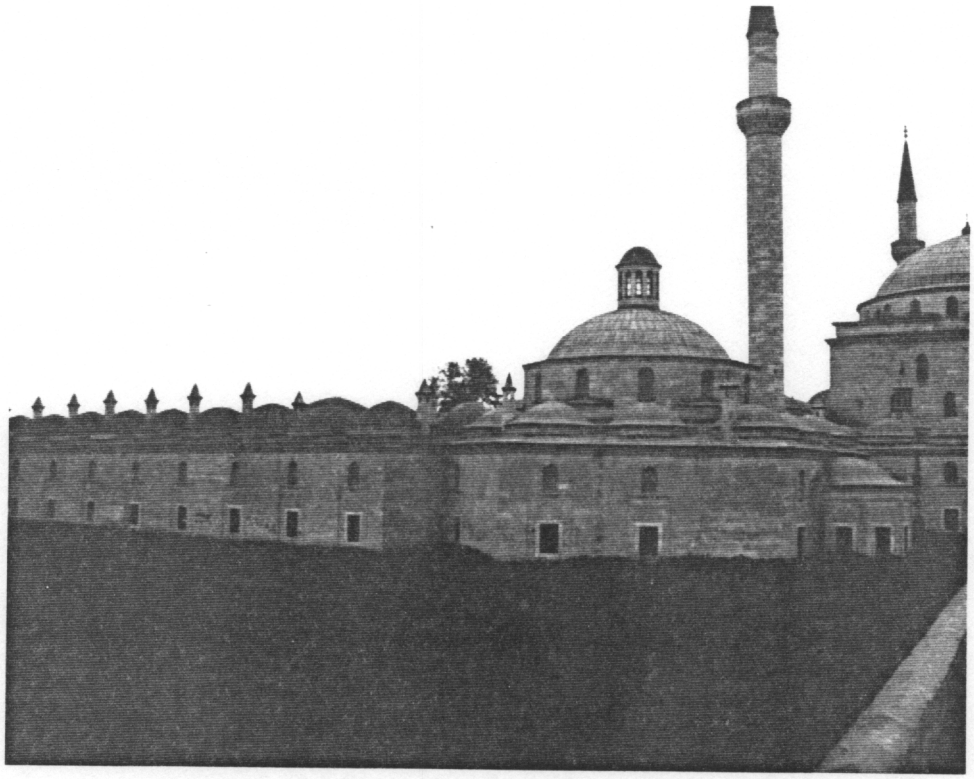


Figure 6-87: Beyazit külliye, Edirne; darüşşifa and the timarhane

scale. These five principles are: centrality, compartmentalization and enclosure, transparency, sequential spatial arrangement and continuous visual changes, and framed and directed views. The application of these principles is seen in the design of the külliye's layout.

The other four principles manipulated the scale of the külliye's monuments perceptually. The scale in the külliye became more human and comfortable because of these principles which are: layering, stepping, monumentality and scale, and three levels of design. These principles are related to the treatment of the buildings' facades. They were, therefore, applied only in the monumental buildings which were in most cases the mosques, and to a lesser extent the türbes.

The design principles which were discussed in this chapter may not be unique to Ottoman urban design. However, at least it can be asserted that they were used together by the Ottoman architect. The combination of these principles gave Ottoman spatial design its unique quality. The principles complemented each other in order to achieve the objective of the design which seemed to be the creation of a spiritual experience in the külliye through a series of comfortable and engaging spaces. Some of these principles can be found in the early külliyes and some did not appear until later periods. It was in the great sultans' külliyes in Istanbul, however, that all of these principles came to full development.

VII - SUMMARY AND CONCLUSIONS

7.1. THE QUESTION

Since the early days of Islam, the mosque played a vital role in the life of Muslim society; it was the religious, educational, social, and political center of the community. The mosque as one structure could not cope with the constantly developing Muslim society; thus, separate structures began to house certain functions of the mosque. The mosque maintained its status as a religious, social, and educational center, while the small buildings, which were usually located around it, served the same functions in a more specialized form. In other words, the concept of having a center for the community under the umbrella of the mosque was initiated by Prophet Muhammad himself; this concept was to be used throughout Muslim history only with constant development in order to fit the needs of a more sophisticated society. The final stage of this process of development was the foundation of the Ottoman külliye which is defined by this study as a set of three or more facilities of religious, educational, social, and commercial nature, built by one patron as a pious foundation for the benefit of a community. Külliyes were built mostly by the ruling family, officials, and in some cases well-to-do citizens. The great külliyes, however, were built by the sultans themselves. Each külliye was supported by a vakfiye which secured income to meet expenses which included the külliye's maintenance, salaries, and all costs of food, materials, and the like.

Architecturally, the Ottomans were able to establish a formal language which was unique to them; it had its own principles which were based on structural, spatial, and functional

factors. Their own language of architectural design benefitted from several surrounding cultures which were contemporary to the Ottomans or preceded them, such as the Seljuks, the older Muslim states in the Middle East, and the Byzantines. None of these cultures were able to stamp deep marks in the Ottomans' architectural world; the Ottomans were able to absorb lessons from other cultures and utilize what suited them. They did not copy from their surroundings; they observed their environment intelligently and examined it critically. They, at the same time, had their own programs and set of objectives which they allowed to shape their architecture. With this kind of attitude, they were able to generate their own genuine architectural language. Around the eighteenth century they slipped to the process of copying from other cultures; from that moment on they lost their own artistic identity and practically brought their unique architectural language to an end.

Külliyes were the greatest architectural works of the Ottomans; it was as if sultans and their families, as well as the high officials in the government, were competing in the process of building great architectural monuments. The külliyes of Fatih, Selimiye, Süleymaniye, Şehzade, and Sultan Ahmet, among many others, are landmarks in the skyline of Turkish cities, as well as in the history of architecture. These works have been extensively studied by scholars whose studies focused on the architectural, structural, and decorative aspects of the works. It is to be remembered, though, that these külliyes played the role of urban centers where all services were provided. The külliye, in other words, was not an independent building in the urban fabric; rather, it was a set of buildings which interacted with each other and with the urban fabric around them. Thus, the külliye cannot be studied from an architectural point of view only; its urban character should be equally addressed. This study looks at this point in particular; it examines the urban quality of the külliye. The research does not concern itself with the study of each individual structure in the külliye; instead, it attempts to explore the physical relationship between these structures from an urban design point of view.

The study examines the külliye at four different scales which can be categorized under two aspects of the urban quality of the külliye:

1. The relation between the külliye and its urban setting: at this level the külliye is examined, firstly, in terms of its relationship with the city as a whole, and secondly, in terms of its relationship with its immediate surrounding.
2. The spatial composition of the külliye: the külliye is examined at two scales here also; firstly, its overall layout and organization, and secondly, its spatial composition and open space system.

The study develops a typology for the külliye at the four levels in question. It also presents a set of design principles which influenced or inspired the composition of the külliye, as well as the visual experience in it. The study is by no means a descriptive one; the description of each of the studied külliyes is reduced to the minimum necessary to carry out the analysis. Thus, the functions of the different buildings, their structural systems, their construction materials, or their ornamentation and decoration are only considered if deemed necessary for the spatial analysis of the külliye.

7.2. THE OTTOMAN KÜLLIYE: A STUDY OF THE FORM

The size of the külliye was dictated by several factors, among which were its location, time, and commissioner. A külliye which was built in a critical location in Istanbul, such as the central area where the administration and commercial activities took place, was typically larger than a külliye located in a residential area far from the center of the city. Similarly, sultans built larger külliyes in Istanbul than in other cities because of the size and importance of Istanbul. The period which is considered the classical Ottoman period, during the fifteenth and sixteenth centuries, witnessed great construction activities. A majority of the most elaborate and largest külliyes were built during these two centuries, such as the Fatih, Süleymaniye, Şehzade in Istanbul, and Selimiye and Beyazit in Edirne. With the beginning of the eighteenth century, the Ottomans were already loosing power; their weakness was reflected in all aspects of their lives including their architecture. Smaller külliyes were built showing humbler programs and clear influence by European architecture. The status of the commissioner also had an effect on the size of the külliye;

sultans and their families built the largest külliyes; grand viziers build large külliyes which did not compete with sultans' külliyes. Other officials were able to build only small külliyes.

There was a certain level of planning awareness in relation to the process of locating külliyes at both the regional and city levels. Larger cities enjoyed a larger number of külliyes and a more complex program for their külliyes. Thus, Istanbul and Bursa, the two main capitals of the Ottomans, had a majority of the külliyes; on the other hand, smaller cities, like Amasya or Manisa, had an appropriate number of külliyes which matched the needs of such communities. At the level of the city itself, külliyes were distributed in a manner which provided services for every section of the city. In fact, külliyes were used in many cases as seeds for new quarters in the city, such as the case of Yildirim Beyazit külliye in Bursa which was built to allow the growth of a new Muslim community. In Istanbul, major külliyes were located in key points of the city, well apart from each other in a manner which provided each section of the city with a major külliye. Smaller külliyes were located in between the major ones in order to provide services on a more local scale. There were other factors which played a role in the site selection process, such as the elevation and nearness to water. Since the külliye was a focal point in the community, it was always located at a prestigious location. A site on a high elevation atop a hill or a mountain. Or close to a seashore, or a river was a favored location.

The relationship between the külliye and its immediate surrounding took four different forms:

1. Külliye meshed with its surroundings: in this case the külliye's different structures would be located within the urban fabric in an intermingling manner.
2. Külliye separated but not isolated from its surroundings: the structures would be grouped together; yet, they would not be isolated by a wall or a fence from the rest of the urban fabric.
3. Külliye partly isolated from its surroundings: some of the facilities would be enclosed by a wall, while others would have a direct relation with the urban fabric.

4. Külliye completely isolated from its surroundings: a wall would completely enclose the facilities of the külliye from the urban fabric.

It is to be mentioned, though, that in all of these cases the walls and gates did not cause an actual isolation of the külliye from its surrounding urban fabric. The gates were usually planned to correspond to the existing street system so that a feeling of continuity was achieved. A passerby moved from the public street to the open spaces of the külliye, then back to the public street very smoothly. The külliye, in other words, became part of the fabric in all cases; in fact, it was an important part of that fabric since it provided open spaces which acted as nodes within the linear street system.

The overall design of the külliye followed one of two languages of design:

1. Vernacular language: the design of the külliye here respected, in particular, the existing urban fabric in such a way that it did not alter it for its advantage; rather, it worked with the existing condition of the fabric. Thus, buildings were located in empty lots as close to each other as possible; they were also oriented in respect to the street system. In the vernacular language, topography was also respected. Buildings were located to fit within the existing topography; accordingly, many of the külliyes which followed the vernacular language had their buildings on different elevations as opposed to one man-made flat area. There is no geometrical order used in the design of these külliyes because of the fact that respect to topography and existing urban fabric were given a higher priority. All buildings in the vernacular külliyes were closer in size; the mosque is the larger structure in the composition, yet, it is still of a humble scale.
2. Geometric language: külliyes based on this language show a clear geometric concepts, such as centrality, alignment, and rhythm. Other geometric principles, such as symmetry and axiality, can be seen; however, they were not sought by the designers. The most important principle used in this language is centrality; the whole layout shows an arrangement which runs around the central point, which is the mosque. The mosque itself also showed centrality; the open courtyard had

the şadirvan as a central point and the covered part of the mosque had the dome around which the whole composition evolved. What is unique in the külliyes which followed this language is that they also observed the principles of the vernacular language. As an example, the layout of any külliye is freely altered in order to respect the existing urban fabric.

Earlier külliyes which were built outside Istanbul, especially in Bursa, followed mostly the vernacular language. Basic alignment of buildings can be seen in the later külliyes in Bursa, such as in the case of Murad II. Istanbul was where the geometric language was fully utilized.

The design of the külliye and its open spaces was mostly influenced by the mosque and its own open space. The way facilities were organized on the site was affected by the space in front of the mosque. Thus, it was possible to develop a typology for the Ottoman külliye based on the relationship between the mosque, the open space in front of it, and the other facilities in the külliye. Four types can be distinguished:

1. Külliye with no special space for the mosque: in this case the space in front of the mosque is loosely defined, if any, and the facilities are located either parallel to the mosque, as was the case in the Murad II in Bursa, or located at different platforms with no clear relationship amongst each other, as was the case in Yildirim Beyazit in Bursa. The vernacular language is used in this type.
2. Külliye with a shared space between the mosque and other facilities: a well defined space can be seen of this type in front of the mosque. This space, however, is shared with other facilities in the külliye. In general, this type was used in Istanbul by viziers during the seventeenth and eighteenth centuries. It was preferred at that time since it did not require a large area at a time when Istanbul was fully built and open empty spaces were scarce. This type was used outside Istanbul, also, where the sizes of the külliyes were larger than those of the same type built in Istanbul. Examples of külliyes in Istanbul of this type are Çorlulu Ali Paşa and

Ahmadiye; Çoban Mustafa külliye in Gebze is an example from outside Istanbul, which was much larger than those built in Istanbul.

3. Külliye with a shared space for the mosque and medrese: the open space is well defined and shared only by the mosque and the medrese. This space is very similar to the open space which the mosques of the sultans in Istanbul had. The space has a colonnade and two entrances at the two sides between the mosque and the cells of the medrese. In some cases, such as in the case of Sokullu Mehmet, külliyes in Istanbul and Luleburgaz, the open space has a third entrance in the center of the northern side. These külliyes were mostly built in Istanbul during the sixteenth century.
4. Külliye with a special space for the mosque: these were külliyes built by the sultans during the Istanbul period. They were the most elaborate, the largest, and the most monumental. These külliyes were definitely designed according to the geometric language and exhibited the climax of Ottoman architecture. The mosques of these külliyes have their own open space as part of the mosque proper. They also have more than one minaret -- two, four, or even six. The mosque has a space which surrounds it; this space is defined by a mixture of free standing walls and the walls of the other facilities in the külliye. This space is called in this study 'the central space', because of its role as a public open space for the community.

While the layout of the külliye was developed from being loose and simple to being articulate and geometric, certain design principles were also developed. These principles helped in the process of making the külliye appear more in human scale without losing its monumentality. They also made the trip through the külliye a much more interesting and visually exciting one. The principles, moreover, allowed a continuous change in directions and views, a fact which helps the visitor concentrate and prepare for worship and contemplation. Finally, some of the principles obtained symbolic power, such as centrality and transparency which both can be related to the unity of the universe under the one Truth. The principles which were documented in this study are:

1. Centrality: where all elements of the design are arranged around a central point, be it the mosque at the overall scale of the külliye, or the dome at a small scale which concerns itself with the enclosed part of the mosque only.
2. Compartmentalization and enclosure: large külliyes have walls which separate different sections of the külliye from each other. Such an arrangement brings the spaces of the külliye onto a more human and comfortable scale.
3. Transparency: the walls which divide the spaces of the külliye are pierced with a large number of windows. These windows allow continuous lines of vision through space; and thus, the visitor does not feel that he is isolated in one particular area. At a symbolic level, the ability to see through different spaces brings to mind the concept of infinity, which is very often represented in the Islamic arts.
4. Sequential spatial arrangement with constant visual change: the trip through the külliye shows change in direction, size, shape, lighting, and levels from one space to the other. Such constant change brings excitement to the trip in the külliye.
5. Framed and directed views: certain elements in the composition of the külliye are framed and attention is brought to them, examples are main entrances or the superstructure of the mosque.
6. Layering: the walls which separate the different parts of the külliye are lower than the walls of the structures behind them. A series of surfaces consisting of at least two walls is composed because of this arrangement. Such an arrangement brings the higher walls into a more comfortable scale since the eye will stop at the lower wall and then moves upward towards the higher one.
7. Stepping: the mosque was the largest structure in the composition. Its scale, therefore, was the most difficult to deal with. However, the Ottoman architect utilized a unique structural system where the largest dome rests on a series of smaller domes which in their turn rest on the walls of the mosque. This design created a series of steps which allow the eye to slowly and comfortably move from one to the other in a way which makes the mosque very human in its scale.
8. Monumentality and scale: compartmentalization, transparency, layering, and stepping were used to create a human scale without destroying the monumentality

of the architecture. The walls that connect all buildings together also help create the feeling of a human scale. The entrances to many of the largest külliyes are very small, so that one feels that one is entering a private house. The physical connection between this entrance, which the visitor can actually touch at all its points since it is barely larger than him, and the monument itself make that monument more easily approachable, and thus, more in tune with the human scale.

9. Three scales of design: the treatment of the buildings, which are of monumental scale, show three levels of design: the overall composition of the general forms of the building, the treatment of the individual forms by dividing them into smaller elements, and the detailing of each one of these smaller elements. Such a way of design also helps make the building more comfortable visually.

All these principles show the mastery of the Ottoman architect in the ways he dealt with the design of the spaces, as well as pieces of architecture, in order to develop a special experience. The visitor is slowly taken away from his daily life, through the richness in the spatial composition, to a calm, tranquil environment where he or she can concentrate on the act of worship.

The Ottoman külliye presents an advanced sample of urban design where the architecture and the open spaces are treated as a whole for the process of creating a more cohesive and meaningfully built environment. The design of the külliye throughout time shows respect to the environment, urban fabric, and the humans who are using it. The külliye was never considered from a functional perspective only; it was always treated as a work of art.

7.3. THE STUDIED KÜLLIYES: A CLOSER LOOK

This study was based on about sixty külliyes out of which forty-four were analyzed in more details. Although they were clearly classified according to the four main types of külliyes presented in this study, a cross reference between the külliye's typology, which was based

on the külliye's main open space, and other classification was only briefly mentioned. The two other classifications advanced in this study were: the language of design and the relationship between the külliye and its surroundings. In this section, the three classifications are addressed together through these forty-four külliyes. Also, the design principles are addressed in relation to the four types.

7.3.1. AN OVERALL LOOK AT THE THREE CLASSIFICATIONS OF THE KÜLLIYE

7.3.1.1. THE VERNACULAR KÜLLIYE

Out of the forty-four külliyes only six are vernacular in their design. The other thirty eight külliyes are geometric (table 7-1). All geometric külliyes observe some of the vernacular principles, especially the respect for topography and existing urban fabric. It seems that the number of vernacular külliyes is small if compared with that of the geometric ones. However, the vernacular külliye should be seen as a late development of the old tradition of gathering several facilities in one location -- a tradition which led to the creation of what is called, in this study, a center. Thus, although the number of vernacular külliyes is small here, all the centers in the Ottoman towns can be considered as part of the vernacular language.

All the vernacular külliyes belong to the first type of külliye (külliye with no space for the mosque). Actually, these two categories, vernacular and no space for the mosque, seem to be strongly related to each other. They were both utilized at the early stages of the külliye's development. At that time, there was no particular scheme behind the design of the külliye but respect for topography and existing urban fabric. The only formal idea which can be observed in the design of the külliye was the centrality of the mosque. This centrality, although noticeable, was not yet carried to an advanced level of formality. The mosque was located in a relatively central position, while the rest of the facilities were fitted into the urban fabric around it. Out of the six külliyes studied, five were built in

KÜLLIYES WITH NO SPECIAL SPACE FOR THE MOSQUE				KÜLLIYES WITH A SHARED SPACE BETWEEN THE MOSQUE AND OTHER FACILITIES			
MESHED	SEP-ARATED	PARTLY ISOLATED	ISOLATED	MESHED	SEP-ARATED	PARTLY ISOLATED	ISOLATED
Murad I Timurtaş Yeşil Murad II		Mihrimah (Üskudar) Yıldırım					
	Haseki H.		Muradiye (Manisa)				Ahmadiye Hekimoğlu
			Beyazit (Amasya)			Beyram	Çoban M. (Gebze) Koca Sinan Şemsi P. Kop. Ali Kara Mus. Amcazade Corlu. Ali Beşir Aga

KÜLLIYES WITH A SHARED SPACE FOR THE MOSQUE AND MEDRESE				KÜLLIYES WITH A SPECIAL SPACE FOR THE MOSQUE			
MESHED	SEP-ARATED	PARTLY ISOLATED	ISOLATED	MESHED	SEP-ARATED	PARTLY ISOLATED	ISOLATED
Aişe Hafsa (Manisa)					Pertev Yeni Valide (Eminönü)		Nuru-osmaniye Laleli
	Ishak Paşa (Inegöl) Sokollu M. (Lüleburgaz)	Kara Ahmet Mihrimah S. (Edirnekapi)	Sokollu M. (Istanbul) Zal Mahmut Sinan Paşa	Üç Şerefli Beyazit (Istanbul)	Süleymaniye Atik Valide S. Ahmet	Fatih Şehzade Kiliç Ali Ibrahim P. (Nevşehir)	Beyazit (Edirne) Selimiye Yeni Valide (Üskudar)

Table 7-1: A classification of the külliyes according to mosque's open space, the language of the design, and the külliye's relationship to its surroundings; the first row is for vernacular külliyes, the middle row is for vernacular/geometric külliyes, and the third row is for geometric külliyes

Bursa during the time when the city was the Ottoman capital. It was in Bursa that the concept of the külliye was brought to its maturity. The formal representation of that concept was still loose, though. A külliye in the early days in Bursa was merely a grouping of facilities in one physical location under one governing body. Examples of such külliyes are Murad I (1391) and Yildirim Beyazit (1395). Soon after that, a certain level of formality started to appear. Yeşil (1420) and Murad II (1426) feature the mosque and the medrese with a simple formal relationship -- the two are parallel to each other. The concept of a formal relationship was the root for the geometric külliye; in the mean time, that particular arrangement of the mosque and medrese was to be repeated in other külliyes of the first type of külliye (no space for the mosque). Beyazit in Amasya (1481) and Muradiye in Manisa (1592) are the examples studied in this type whose physical arrangement is based on the idea of facilities parallel to each other.

Four out of the six vernacular külliyes, which belong to the first type of külliye (no space for the mosque), are meshed külliyes. Again, such a case is expected since this particular group was the middle ground between the early centers and the developed külliyes. Both Mihrimah in Üskudar (1548) and Yildirim in Bursa (1395) are special cases. Yildirim was built outside the city limits and, therefore, it was necessary for it to be surrounded by a wall for safety reasons. When the city grew around the külliye, the walls disappeared and it became a more separated rather than a partly isolated külliye. Mihrimah is unique in the fact that it had such a limited site that no real space was possible to be shared between the mosque and the medrese. However, it actually should belong to the second or third type of külliye, especially since it was built in the same period as these two types.

7.3.1.2. THE GEOMETRIC KÜLLIYE WITH STRONG VERNACULAR TENDENCIES

Out of the thirty-eight geometric külliyes there are nine which come close to being vernacular in their appearance. They are not considered as such, though, because of the fact that they show only one feature of the vernacular language, namely, their strong

influence by the existing conditions of the urban fabric. Thus, all these külliyes show monumentality and order, yet this order is altered for the advantage of the site's outline. In every one of these külliyes one structure or more is located in alignment with the site's property lines and not with the rest of the composition. This one character of these külliyes does not qualify them to belong to the vernacular language; however, it puts them in a separate category within the geometric language.

Topography was used in this kind of külliye the same way it was used in the geometric külliye. Nuruosmaniye (1755) and Laleli (1763) are two examples for this point. They both were designed at two levels: the lower one is used as a marketplace, while the upper level houses the central space with the facilities of the külliye. In such a design the slope is used to its full advantage in a way which allows easy access to both levels. Such a solution can be seen in earlier geometric külliyes such as the Süleymaniye (1557) and the Selimiye (1575).

The nine külliyes of this category are spread almost evenly across the four types of külliyes. Four of them belong to the fourth type, though --külliye with a special space for the mosque. Five out of the nine are isolated külliyes (Muradiye in Manisa, 1592; Ahmadiye, 1722; Hekimoğlu, 1734; Nuruosmaniye, 1755; and Laleli, 1763); three are separated (Haseki Hürrem, 1539; Pertev Paşa, 1579; and Yeni Cami, 1663); and one is meshed (Hafsa Sultan, 1522). Although none of the four types is clearly dominant, there is a tendency to have the külliye in this category separated from its surroundings.

7.3.1.3. THE GEOMETRIC KÜLLIYE

Twenty-nine külliyes out of the forty four belong to this category (table 7-1). Beyazit in Amasya (1481) is the only külliye in this category which belongs to the first type of külliye (külliye with no space for the mosque); it is also an isolated külliye. This külliye is a junction point between the simple arrangement of structures and the more elaborate configuration of the külliye. Its design is similar to Murad II and Yeşil in Bursa, yet it

surpasses both of them in terms of the precision in aligning the structures. The second type of külliye (külliye with a shared space for the mosque and other facilities) presents a strong pattern. All but two külliyes of this type follow the geometric language; eight out of the nine geometric külliyes are isolated ones; the ninth (Beyram Paşa) is partly isolated. Beyram Paşa (1634) has one of the two medreses separated from the rest of the külliye by a narrow passageway. The other eight külliyes have all their facilities inside the main walls. To have the majority of the second type geometric in its design and isolated from its surroundings seems to be no surprise. The second type was built mostly by viziers in residential areas and during a period when the geometric language was well established and widely used by the Ottoman architect. This type of külliye is the only one of all other types which shows a very unified pattern for its design language, relation with the surroundings, and its own layout.

Külliyes of the third type (külliye with a shared space for the mosque and the medrese) are all geometric in their design; Hafsa Sultan is considered a geometric külliye with vernacular tendencies only because two of its facilities do not parallel the rest of the composition. The two different orientations were most probably caused by the existing urban fabric. Nonetheless, Hafsa Sultan shows all the signs of a geometric külliye. The eight külliyes of this type seem to have different relationships with their surroundings; therefore, no clear trend can be recognized. It is apparent, though, that the general tendency is more towards isolation or separation from the surroundings. Five out of the eight külliyes are partly or fully isolated from the surroundings, while two are separated; only one külliye is meshed with its surroundings (table 7-1). The fourth type (külliye with a special space for the mosque) is also geometric; four külliyes out of the sixteen in this type are considered geometric with a tendency towards vernacular language. These four (Pertev Paşa, 1579; Yeni Cami, 1663; Nuruosmaniye, 1755; and Laleli 1763) were influenced in particular by the size and shape of the site. The twelve geometric külliyes of this type are also diverse in their relationship with the surroundings; two of them are meshed with their surroundings (Uç Şerifli, 1447 and Beyazit in Istanbul, 1506), three are separated but not isolated (Süleymaniye, 1557; Atik Valide, 1583; and Sultan Ahmet,

1617), four are partly isolated (Fatih, 1470; Şehzade, 1548; Kiliç Ali Paşa, 1580; and Ibrahim Paşa, 1726), and three of them are isolated (Beyazit in Edirne, 1488; Selimiye, 1575; and Yeni Valide, 1710). Again, though, it seems that külliyes of the fourth type are mostly separated or isolated from their surroundings. As was mentioned earlier, this separation or isolation was not actual; the many gates which connected the külliyes with the surrounding streets made these külliyes part of the urban fabric.

In an overall view, it is possible to assume that earlier külliyes were vernacular and meshed with their surroundings. The more elaborate külliyes were geometric and exhibited clear separation from their surroundings. The location of the külliye does not seem to have any role in dictating its language, its relationship with the surroundings, or its type. The respect to the urban fabric is considered a major principle in the vernacular language; its influence on the geometric külliye cannot be denied; nevertheless, this principle by itself could not change the overall language of the külliye. All that one can see is a strong influence in certain cases; these cases were considered in a separated category here and were called geometric külliyes with vernacular tendencies.

The location did not affect the relationship with the surroundings either. Külliyes in the central areas of the city can be meshed as was the case of Hafsa Sultan, separated as was the case in the Süleymaniye, partly isolated as was the case in Fatih, or isolated as was the case in Beyazit in Edirne. Külliyes can be on a high elevation and exhibit the four possibilities of relationship with the surroundings; Murad I (meshed), Süleymaniye (separated), Ibrahim Paşa (partly isolated), and Selimiye (isolated) are all located on high elevations. Similarly, proximity to water bodies did not affect the relationship of the külliye with its surroundings. There are five külliyes among the studied ones which have a close relation with water; two of them are separated (Yeni Cami, Eminönü and Sultan Ahmet), one is partly isolated (Mihrimah Sultan, Üskudar), and two are isolated (Beyazit in Amasya and Şemsi Paşa in Üsküdar). The only possible speculation can be made in relation to the külliyes of the second type (külliye with a shared space for the mosque and other facilities); this type is geometric, isolated, and typically located in residential areas. The location of

the külliye did not have any role in determining the type of the külliye; the exception to this rule is the second type, whose külliyes were mostly located in the residential areas of Istanbul. Külliyes of the first, third, and fourth types can be seen in the middle of towns, close to a water body, or on high elevations.

7.3.2. THE DESIGN PRINCIPLES IN THE KÜLLIYE'S FOUR TYPES

Centrality, compartmentalization, transparency, and sequential spatial arrangement and framed and directed views are the principles which had a major role in creating the visual experience in the külliye; they can be referred to as the visual principles. The other four principles (layering, stepping, scale and monumentality, and three levels of design) participated together in providing a human scale for the külliye; therefore, they can be called the scale principles. These principles can be seen in külliyes in all locations, the relationship of the külliye with the surroundings did not have any effect on their use. On the other hand, the type of the külliye had some correlation with the use of these principles. In general, these principles were developed through time while the külliye was becoming more geometric; they reached their full development with the sultans' külliyes in the Istanbul period (table 7-2). The visual principles can be seen in almost all külliyes while the scale principles appear only in large külliyes of the third and fourth type for understandable reasons.

The visual principles can be recognized in the first type, however, they were not as obvious as in later külliyes. Centrality was used in Murad I, which is the earliest külliye in this type; it was also used in the Muradiye in Manisa, which was the last külliye in this type. Centrality in some cases of this type was more conceptual than it was physical; Murad I and Yeşil are examples of such a case. Centrality became more obvious in the following three types because geometry was more applied in their design. Külliyes of the fourth type such as Fatih, Süleymaniye, and Selimiye, present the climax of centrality. Another principle which has a similar pattern to centrality is compartmentalization. Murad II and Yildirim Beyazit are good examples of the use of levels for compartmentalization. The fact

DESIGN PRINCIPLE	TYPE OF KÜLLIYE			
	TYPE 1	TYPE 2	TYPE 3	TYPE 4
CENTRALITY	◒	◒	◒	●
COMPART-MENTALIZATION	◒	◒	●	●
TRANSPERANCY	○	◒	●	●
SEQUENTIAL SPATIAL ARRANGEMENT	◒	◒	●	●
FRAMED VIEWS	○	○	◒	●
LAYERING	○	○	◒	●
STEPPING	○	○	◒	●
SCALE AND MONUMENTALITY	○	○	◒	●
THREE LEVELS OF DESIGN	○	○	◒	●

● Fully utilized ◒ Partly utilized ○ Not utilized

Table 7-2: The use of the design principles in the four types of külliye

that the külliyes of the first type were in many instances meshed with their surroundings made compartmentalization unnecessary; having facilities of the külliye as part of the urban fabric can be seen as a special case of compartmentalization. Compartmentalization was used in all other types but more so in large külliyes. Its role was not only visual but it was influential in creating a human scale.

Transparency was very much related to compartmentalization; in all cases in which a physical barrier was utilized in order to divide spaces, a visual connection between these spaces was achieved through transparency. The lack of compartmentalization in the first type meant that no transparency would appear. Külliyes such as Amcazade and Şemsi Paşa of the second type show transparency; nonetheless, like compartmentalization, transparency was not heavily used in the second type. The third, and more so the fourth type, present more cases of transparency. Sequential spatial arrangement was used in all külliyes. This principle was not as recognizable in the first type as it was in the other types. The reason is that buildings of külliyes in the first type were scattered and, thus, a well planned visual experience could not have been easily achieved. Külliyes like Amcazade, Başir Aga, and Çoban Mustafa, of the second type, obtained certain areas with unique visual experiences. The third and fourth types, however, provide more possibilities; almost no külliye of these last two types lacks a special visual experience created by the composition of the facilities.

The scale principles were mostly used by the last two types. In particular the fourth type needed them because of the monumental architecture which it had (table 7-2). Layering, stepping, or three levels of design were of no major importance in the early külliyes which belonged mostly to the first type. The size and height of the buildings, including the mosque, were not as strongly distinguished from the size and height of other buildings in the urban fabric, including the houses. Scale and monumentality is a principle which required a special treatment of the structures so that they would be attached in one way or another. The size of the külliye's gates was instrumental in creating the sense of scale; it was small and, through a series of walls or buildings, it was connected to the

monumental building. Such an arrangement brought the monument to a human scale. In the first type buildings were separated, gates were not used as much, and thus, the instruments needed to bring about a human scale were not available. It is to be mentioned though that there was no pressing need for treating the issue of human scale in both the first or second type since the buildings were not very lofty. In fact, buildings in the second type were the smallest of all other buildings. The third type shows some cases where the principle of scale and monumentality was used, as was the case in Sokollu Mehmet in Luleburgaz and Mihrimah Sultan in Edirnekapi. Külliyes of the fourth type feature all the scale principles. Their use was almost a must for the creation of a human scale in these külliyes.

A final note is related to table 7-2. It should be seen as a model rather than a perfect presentation of the use of the design principles in the four types of the külliye. The three categories (not utilized, partly utilized, and fully utilized) are general terms representing the majority of the cases in one particular situation. Thus, as an example, transparency is considered as not utilized in the first type; however, it still can be seen used in some cases in that type such as in the case of the medrese's north wall in Beyazit külliye in Amasya. **In conclusion, with the move from the Bursa period to the Istanbul period, the Ottoman külliye became more geometric, more separated from its surroundings, and observed more of the design principles identified in this study.**

7.4. BEYOND THE FORM

This study examined in particular the form of the külliye and its development; it did not, however, examine in detail the roots of that form. The fact that such an examination is not presented should not mean in any way that such roots did not exist. The premise of this study stemmed from the fact that the form of the külliye and its development were not systematically studied before, and thus this study was meant to concentrate on this aspect of the külliye so that it can function as a base for more involved studies which will address the roots or the meaning behind the form.

The iconography of Islamic art and architecture has been discussed by a good number of writers. Nader Ardalan, Laleh Bakhtiar,[1] Keith Critchlow,[2] as well as Seyyed Hossein Nasr,[3] are but a few names of scholars who wrote in this area. Their works, however, dealt primarily with Islamic art and architecture. A recent study on the symbolism behind the Islamic city has been completed by Waeil Samhouri[4] who advanced the thesis that "the architecture of the Islamic city corresponds and reflects the three major Universal Theophanies: Man, the Cosmos, and Revelation, hence its sacredness."[5] Whether it is at the scale of an architectural detail, a layout of a mosque, or a city structure, the idea of unity manifested in the concept of centrality seems to be the most dominant in any design composition. Turgut Cansever asserts that: "(s)ince unity-oneness is the basic fundamental assumption in Islam, it also forms the basis of styles."[6] More specifically, and in the context of Ottoman architecture, Kuran wrote: "centrality in Ottoman architecture was a function of unifying the inner space under a big dome which symbolized the totality of the universe and the oneness of Allah."[7] Another concept which was widely introduced in Muslim art and architecture is eternity. It was represented by the infinite repetition of an object, such as an architectural element or motive. The repetition of the column in the Umayyad mosque in Damascus (7th century), 'Amr mosque in Cairo (7th century), and Cordoba mosque (8th century) are classical examples illustrating this point.

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[1] Ardalan and Bakhtiar, The Sense of Unity, Chicago, University of Chicago Press, 1973.

[2] Critchlow, Islamic Patterns, an Analytical and Cosmological Approach, London, Thames and Hudson, 1976.

[3] Nasr, Islamic Art and Spirituality, Cambridge, 1987.

[4] Samhouri, Sacred Dimensions in the Architecture of the Islamic City, a Ph.D. thesis presented to the Royal College of Art, London, England, 1990, (unpublished).

[5] ibid, p.249.

[6] Cansever, "The Basic Issues of Islamic Architecture," Issa and Tahaoğlu (eds.), Islamic Art: Common Principles, Forms and Themes, Proceedings of the International Symposium held in Istanbul in April 1983, Dar Al-Fikr, Damascus, Syria, 1989, p. 119.

[7] Kuran, "Interiority and Exteriority in Turkish Architecture," Issa and Tahaoğlu (eds.), Islamic Art: Common Principles, Forms and Themes, Proceedings of the International Symposium held in Istanbul in April 1983, Dar Al-Fikr, Damascus, Syria, 1989, p. 88.

The Ottoman külliye was an Islamic work of art which exhibited symbolism in a variety of ways. Such symbolism elevated the külliye from a mere functional structure to a sacred place. The issue of centrality in particular was discussed at length.[1] The dome was the central point under which the composition of the whole mosque was organized; the mosque was the central element around which the whole composition of the külliye evolved; similarly, the külliye itself was also a central point for the Muslim community. This consistency and persistence in the use of centrality does suggest a symbolic meaning. At the simplest level, the külliye as a whole, which provides services of all kinds to the community, symbolizes the dependency of the people on one authority which provides substance for the body (food and water) as well as for the spirit (education and worship). The closer one gets to the center of the külliye, the more spiritual the relationship becomes. At the mosque, the architecture reaches its utmost symbolism; the monumentality, the centrality, and the verticality work together in order to make the experience not only symbolic but also sacred.

The idea of infinity was also discussed in regard to the külliye.[2] The visual transparency through spaces achieved by a series of windows in every wall of the külliye creates a feeling of infinity. The visitor to a külliye can wander with his eyes through a series of spaces which reveal themselves in every step he takes. The unlimited number of perspectives which a visitor encounters in his or her visit intensifies the feeling of infinity. Although the mosque presents a major focal point, which may seem to contradict the idea of infinity that is achieved by the multiple layers of spaces, it actually does not diminish the concept of infinity in the külliye. The mosque does not appear in its majesty and grandeur until one reaches the central space; the layering and stepping which the architecture of the mosque enjoys reduces the over scale which the mosque might exhibit. Thus, the mosque, with all its dominance, does not overshadow the other elements in the külliye. Furthermore, the mosque itself presents several design details which strengthen the idea

[1] See section 6.2.1. (Centrality).

[2] See section 6.2.3. (Transparency).

of infinity, such as the repetition of the columns and windows as well as the architectural ornamentations and decorations.

Centrality and infinity are but two aspects which are symbolically presented in the design of the külliye. A more thorough analysis is needed to examine the symbolism in the design of the Ottoman külliye. The geometry of the külliye, as well as its overall design principles, can lead to a deeper understanding of this side of the külliye. This research, which concentrated on the study of form, can act as the stepping stone for more indepth studies in this area.[1]

7.5. THE ARCHITECTURE AND THE PEOPLE

A certain relationship between architecture and users grows with time; an inexplicable attachment brings the architecture and its user closer to each other. Walls, steps, doors, windows, and every element of the building extend beyond their ordinary capacity of being "objects in a building" to become part of the users' experiences and memories. With continuous contact with the architecture, it becomes so familiar to the user and so meaningful to him that it does not limit itself to its physical role. A bonding between the user and the architecture takes place. Such a bonding cannot be developed through one or two visits; it takes time until the architecture and the user get acquainted together, so to speak. The other condition required for this bonding to exist is the presence of an underlining idea, concept, or feeling which can nurture the relationship between the architecture and the user. Feelings such as hope, safety, serenity, or belonging develop with time and usually are attached to a particular physical setting; with time, that physical setting becomes a symbol of these feelings and even a generator for them. At that point the bonding between the physical setting, or architecture, and the user emerges.

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[1] See appendix E for a geometrical analysis of the Fatih külliye. Also see section 6.2.5. (Framed and Directed Views) which discusses the idea of framing certain views for a symbolic significance.

It is perhaps through this bonding that one's home is the most "beautiful" place even though it may not exhibit the "approved and accepted" measures of beauty. It is also perhaps because of this bonding that the place of worship enjoys its unique status in the minds of the worshipers. A typical building, such as a hospital or an office building, is usually utilitarian in nature, aiming to serve a certain function;[1] it does not intend to move the user emotionally or spiritually. On the other hand, a piece of sculpture or a monument, such as a triumphal arch or a war memorial, brings a value or an image to the mind of the viewer; a monument does not have any particular function but to evoke a particular image. Architecture in its ultimate conditions brings the aspects of building and sculpture together. A home has the special potential to become a piece of architecture for its residents when it goes beyond its simple function and establishes a special relationship with its users. A place of worship has the same kind of ability. It usually has a simple functional program; however, its major role is to be able to enrich the spiritual experience of the user through the generation of a special relationship with that user. This relationship is the one which was described above and called bonding. In such a relation the architecture provides a stage for the act of worship; it provides the appropriate environment for this act. In more direct and simple terms, the architecture participates in the act of worship; its forms, spaces, details, lighting, and decorations act in a special harmony along with the worshiper, and thus the whole comes together in a uniquely orchestrated experience.

The two conditions for such a bonding are: first, the existence of a special feeling which the architecture can provoke; and second a period of time for interaction between the architecture and the user. The feeling will be influential in establishing the bonding only if it means something for the user; and, therefore, the home for one particular user will touch only that user, and a place of worship may touch only those who believe in the particular religion of that place. What is special about this bonding is that it can be felt by any person. Each aspect of a piece of architecture can be enjoyed by a specific group

[1] Function or utility is used here in its wider meaning, which includes aesthetics also.

of people; the structural system, the beauty, and the symbolism are three levels of architectural enjoyment beyond the simple functional aspect. They are understood and enjoyed by specialized groups of people. On the other hand, the bonding between the user and the piece of architecture may exist with any user. And thus, the importance of this level of interaction with a work of architecture is that, although it is very sophisticated, it can be felt by any person.[1] The bonding which may exist between the architecture and the user plays a role in making the architecture more understandable and approachable; it allows the architecture to be felt on a more human scale. This point in particular is critical in the case of the Ottoman külliye, or any religious architecture for that matter. The monumentality of a cathedral or a sultans' mosque is relaxed eventually through the bonding which will be established in time between the people and that cathedral or mosque. In the case of the külliye, besides the other factors which contributed to the establishment of a human scale such as layering, stepping, and working with three levels of design, the bonding aids in the establishment of such a more human scale.

7.6. FINAL REMARKS

This research project addressed the morphology of the Ottoman külliye, an issue which was not systematically studied before. It presented several typologies for the külliye at different levels: the overall relationship with the immediate surroundings, the general layout, and the specific formal composition of the külliye. The study was based on two hypotheses: first, there were different types of külliyes which can be categorized, and second, there were specific principles which guided the design of the Ottoman külliye. The

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[1] Kevin Lynch in his book, What Time is This Place?, discussed the same idea of attachment to the surrounding built environment. He examined the issue of change and its effects on people; he also suggested several ways of making a necessary change less painful for people, such as allowing the residents to participate in that process even at the very passive level of just watching it. See Kevin Lynch, What Time is This Place?, The MIT Press, Mass., 1985, pp. 190-214.

There are numerous studies related to the social and psychological effects of moving people during the sixties when the highway system was built in the American cities. One reason for the psychological problem was the destruction of the bonding between the built environment and the people. See for example Hewood T. Sanders, "Urban Renewal and the Revitalized City: a Reconsideration of Recent History" in Urban Revitalization, p. 107.

findings of the study validated these two hypotheses; however, these findings opened more areas for research. There are several questions which were either touched upon, but not fully examined, or not addressed. Some of the questions which can be generated from this research are:

* What were the factors which played a role in the development of each one of the four types?
* What are the iconographical aspects of the different forms of the külliye?
* Were there any sacred geometrical patterns which were followed in the design of these külliyes?
* The külliye was an urban center for all kind of civic activities; how can it be compared with other urban centers such as the Roman Forum?
* Historically, which cultures influenced the formal development of the Ottoman külliye?
* Beyond the factors which were advanced in this study, what were the factors which aided the designer in the process of selecting the site for the külliye?
* Can the Ottoman külliye be categorized in a different way than that presented here?
* What were the historical roots of the design principles that were suggested in this study?
* Beyond the boundaries of modern Turkey, what kind of külliyes did the Ottomans build?
* At the same time the Ottoman külliye was evolving, and the time when it reached its full development during the sixteenth century, what was the form of city centers in other Islamic states such as in Iran, India, and North Africa?
* Similarly, was there any exchange of ideas between the Ottoman state and Europe regarding the design of külliyes and monasteries?
* What were the differences between a külliye, a ribat, and a monastery?
* This study examined all major külliyes which are usually presented in Ottoman historical or architectural studies, and it also addressed a good number of külliyes

which are rarely, or not at all, studied; yet the study did not exhaust all külliyes in Istanbul or outside it. In particular, where do these small külliyes, or centers as they are called in this study, fit in the course of the Ottoman külliye, architecturally and on an urban scale?

* The study examined in particular the urban külliye; how does the countryside külliye differ from the urban külliye, conceptually, functionally, and architecturally?

Each one of these questions deserves critical analysis and study. The outcome of such studies will definitely lead to a better understanding of the külliye itself, as well as the Muslim urban fabric in the Ottoman city.

7.7. EPILOGUE

Does the study of the Ottoman külliye provide any guidance or directions for the urban designers? It seems that it does; it seems that many of the lessons which the Ottoman külliye presents are forgotten in our time although they might by very applicable. At a planning level, the külliye was located in different parts of the city so as to provide services to all sections of it. In the many cases when the Ottomans wanted to establish a new neighborhood, they first built a külliye so that around it the residential quarter could grow. Such a simple planning process guaranteed a better place for living since services were provided before hand; Yildirim Beyazit külliye in Bursa is a good example of an awareness of this planning consideration. Any major city in the Middle East presents an indisputable reality: this simple planning consideration is not appreciated. Residential areas grow constantly around the city with a serious shortage of necessary services. Occupants of such new residential areas have to travel to the center of the city in order to obtain their basic needs.

Sensitivity to the urban fabric as well as to the topography should be understood at its wider perspective; this sensitivity is to mean conservation and attendance for the

betterment of the natural, as well as the built environment. The continuous destruction of the natural surroundings and carelessness regarding the architectural heritage have resulted in major losses in the urban environment in Middle Eastern cities. It could definitely be beneficial if the sensitivity which was observed in the days of the Ottomans could be observed in our days. Another planning issue of critical importance is the idea of mixed-use zones in cities. The separation of uses has resulted in having empty downtown areas during the night and deserted residential neighborhoods during the daytime. The külliye was an urban entity which included a mixture of uses; the variety of functions made the külliye an active place at almost all times. The concept of separate uses is under a process of re-examination; in the Middle East it has proven its failure, since it does not fit the culture or the present conditions of life. Again, the example of the külliye can be useful for urban designers and planners in that part of the world.

From an urban design perspective, the külliye exhibited a series of principles which are still as applicable as they were at the time of the Ottomans. The interest in creating humanly scaled buildings, although they may be massive, and the objective of creating interesting and exciting visual experiences in public space are all issues which modern design is struggling to find ways to achieve. Needless to say the objectives behind the design principles are not particular to the Middle East; they are common to all cultures. Thus, the design principles are not only applicable in Turkey or the Middle East; they are also useful in other cultures.

Because of the appropriateness study to modern urban design issues, and because the Ottoman külliye has proved itself to be a well developed urban entity, it is hoped that this study is not taken only as a documentation of historical works. In fact, this study was never meant to be such; it was meant to be a source of inspiration for urban designers. The aim of this study was to inform designers about the many design possibilities which are available at their disposal through the understanding of the Ottoman külliye.

APPENDIX A:

LIST OF STUDIED KÜLLIYES IN ISTANBUL AND THEIR FACILITIES

	Eyüp	Mahmut	Fatih	Davut Paşa	Atik Ali Paşa	Beyazit II	Selim I	Haseki Hurrem	Dragman
Date	1458	1464	1470	1485	1496	1506	1522	1539	1541
Commissioner	Sult.	Offi.	Sult.	Offi.	Offi.	Sult.	Sult.	Sult.	Offi.
Mosque	1	1	1	1	1	1	1	1	1
Medrese	1	1	8	1	1	1	1	1	1
Mekteb		1	1	1		1	1	1	1
Library			1						
Darü'l-hadis									
Darü'l-kurra									
Medical School									
Hospital			1					1	
Imaret	1	1	1	1	1	1	1	1	
Sebil			1						
Mehkeme		1							
Hamam	1	1				1			
Tabhane			1				2		
Caravanserai	1	1	1						
Tekke					1				
Türbe	1	1	2						
Burial Ground						1	1		1
Market									
Muvakkithane									

Information for Appendix A and B was compiled from different sources, in particular from: Gabriel (1934, 1940, and 1958), Goodwin (1971), Kuran (1987), and Sumner-Boyd and Freely (1973).

	Şehzade	Mihrimah (Üsküdar)	Ahmet	Süleymaniye	Mihrimah (Edirnekapi)	Sokollu Mehmet (Eyüp)	Sokollu Mehmet (Kadirgi)	Kiliç Ali	Şemsi
Date	1548	1548	1554	1557	560's	1569	1571	1580	1581
Commissioner	Sult.	Sult.	Offi.	Sult.	Sult.	Offi.	Offi.	Offi.	Offi.
Mosque	1	1	1	1	1		1	1	1
Medrese	1	1	1	5	1	1	1	1	1
Mekteb	1	1	1	1	1				
Library									
Darü'l-hadis				1					
Darü'l-kurra						1			
Med. Sch.				1					
Hospital				1					
Imaret	1	1		1					
Sebil									
Mehkeme									
Hamam		1		1	2			1	
Tabhane	1			1					
Caravanserai	1			1					
Tekke									
Türbe		2	1	2	1	1	1	1	1
Burial Ground	1					1	1		
Market					1				
Muvakkithane									

Sult.: Sultan or a member of his family
Offi.: Any officer in the Ottoman state, mostly viziers

	Zal Mahmut	Atik Valide	Habşi Mehmet	Koca Sinan	Sultan Ahmet	Bayram Paşa	Cinili	Koprülü	Yeni Valide (Eminönü)
Date	1581	1583	580's	1598	1617	1634	1640	1660	1663
Commissioner	Offi.	Sult.	Offi.	Offi.	Sult.	Offi.	Sult.	Offi.	Sult.
Mosque	1	1	1	1	1	1	1	1	1
Medrese	2	1		1	1	1	1		
Mekteb		1			1	1	1		1
Library								1	
Darü'l-hadis		1	1						
Darü'l-kurra		1							
Medical School									
Hospital		1							1
Imaret	1	1			1				
Sebil						1			2
Mehkeme									
Hamam		2	2				1		1
Tabhane					1				
Caravanserai		1							
Tekke			1			1			
Türbe	1		1	1	1	1		1	
Burial Ground		1							1
Shops					1				1
Muvakkithane									1

	Kara Mahmut	Amcazade	Ali Paşa Çorlulu	Yeni Valide (Üsküdar)	Ibrahim Paşa	Ahmadiye	Ismail Efendi	Hakim Oğlu	Beşir Aga
Date	1690	1702	1708	1710	1720	1722	1724	1734	1745
Commissioner	Offi.	Offi.	Offi.	Sult.	Offi.	Offi.	Offi.	Offi.	Offi.
Mosque	1	1	1	1	1	1	1	1	1
Medrese	1	1	2			1			1
Mekteb	1	1	1	1			1		
Library		1			1	1		1	1
Darü'l-hadis					1		1		
Darü'l-kurra									
Medical School									
Hospital									
Imaret				1					
Sebil	1	1		1	1			1	1
Mehkeme									
Hamam									
Tabhane									
Caravanserai									
Tekke			1						1
Türbe	1			1				1	
Burial Ground		1		1	1	1			
Market		1					1		
Muvakkithane									

	Nuruosmaniye	Laleli	Beylerbay	Emirgan	Şebsafa	Mihrişah	Haydar Paşa	Nusretiye	Küçük Efendi
Date	1755	1763	1778	1781	1787	1796	1804	1825	1826
Commissioner	Sult.	Sult.	Sult.	Sult.	Sult.	Sult.	Sult.	Offi.	Sult.
Mosque	1	1	1	1	1		1	1	1
Medrese	1	1							
Mekteb			1	1	1	1			
Library	1							1	
Darü'l-hadis									
Darü'l-kurra									
Medical School									
Hospital									
Imaret	1	1				1			
Sebil		1				1		1	2
Mehkeme									
Hamam		1							
Tabhane									
Caravanserai		1							
Tekke								1	
Türbe		2				1			
Burial Ground									
Market	1	1							
Muvakkithane			1	1				1	

APPENDIX B:

LIST OF STUDIED KÜLLIYES OUTSIDE ISTANBUL AND THEIR FACILITIES

	Çoban Mustafa	Hafsa Ayşe	Selim	Sokollu Mehmet	Selim II	Selimiye	Pertev	Muradiye	Kara Mustafa
Date	1391	1395	1400	1420	1426	1447	1481	1482	1488
City	Bur.	Bur.	Bur.	Bur.	Bur.	Edir.	Ama.	Ineg.	Edir
Commissioner	Sult.	Sult.	Offi.	Sult.	Sult.	Sult.	Sult.	Offi.	Sult.
Mosque	1	1	1	1	1	1	1	1	1
Medrese	1	2		1	1	2	1	1	
Mekteb									
Library							1		
Darü'l-hadis									
Darü'l-kurra									
Medical School									1
Hospital		1							1
Imaret	1	1	1	1	1		1		1
Sebil	1								
Mehkeme									
Hamam	1		1	1					
Tabhane								2	1
Caravanserai									
Tekke									
Türbe	2	1		1	1	1		1	
Burial Ground					1				
Market									1
Muvakkithane							1		

	Murad I	Yıldırım Beyazit	Timurtaş	Yeşil	Murad II	Uç Şerifli	Beyazit II	Ishak Paşa	Beyazit
Date	520's	1522	1563	1569	1574	1575	1579	1592	1666
City	Geb.	Mani.	Kara.	Lüle.	Pay.	Edir.	Izm.	Mani.	Merz
Commissioner	Offi.	Sult.	Sult.	Offi.	Sult.	Sult.	Offi.	Sult.	Offi.
Mosque	1	1	1	1	1	1	1	1	1
Medrese	1	2		1		1		2	1
Mekteb		1				1	1	1	
Library								1	
Darü'l-hadis									
Darü'l-kurra						1			
Medical School									
Hospital									
Imaret	1							1	
Sebil			1						
Mehkeme									
Hamam		1	1	1	1		2		
Tabhane									
Caravanserai	1		1	2	1		1		
Tekke	1								
Türbe	1					1			
Burial Ground									
Market				1	1		1		
Muvakkithane									

	Amcazade	Ibrahim
Date	1700	1726
City	Şeh.	Nev.
Commissioner	Offi.	Offi.
Mosque	1	1
Medrese	1	1
Mektep		
Library	1	1
Darü'l-hadis		
Darü'l-kurra		
Medical School		
Hospital		
Imaret		1
Sebil	1	
Mehkeme		
Hamam		
Tabhane		
Caravanserai		
Tekke		
Türbe	1	
Burial Ground		
Market	1	
Muvakkithane		

Offi.: Official
Sult.: Sultan

Ama.: Amasya
Bur.: Bursa
Edir.: Edirne
Geb.: Gebze
Ineg.: Inegöl
Izm.: Izmit
Kara.: Karapinar
Lüle.: Lüleburgaz
Mani.: Manisa
Merz.: Merzifon
Nev.: Nevşehir
Pay.: Payas
Şeh.: Şehzadebaşi

APPENDIX C:

EXAMPLES OF VAKFIYES

The following is a translation of an outline for a vakfiye written for a school built by Sultan Selim II and a translation of sections from a vakfiye for Lala Paşa, one of Sultan Selim II's viziers.

1. Translation of an outline for a vakfiye written for a school built in 1558 by Sultan Selim II in Nebra located in Sarat Al-Mahmiya.[1]

* Praise to Allah and prayers.
* The importance of knowledge.
* The importance of studying the Holy Qur'an.
* The importance of Hadith (the Prophet's tradition).[2]
* The importance of sciences in general.
* The family of Osman took good care of the issue of knowledge, they built mosques and medreses and provided for them so that they could flourish, and thus they benefitted the people.
* Conditions of people change, and people are becoming corrupted.
* Introduction and praise of Sultan Selim Khan.
* Three things (whose benefits) continue after death: charity, knowledge, and a child.

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[1] The names of localities mentioned here are taken from the Arabic text; therefore, the spelling, as well as the pronunciation may not be accurate. The outline is copied from the vakfiye itself where it was written as margin notes most probably by a student of vakfiyes. The vakfiye is taken from the Vakiflar Genel Müdürlüğü (the General Administration of Vakif) in Ankara, under the label "Mujallad Anadolu," volume 608, vakfiye 22.

[2] What is in parentheses is added for explanation and is not from the original text.

* The Sultan has the second and the third, but he lacks the first.
* (Therefore), he ordered the building of a house (medrese) in which the Qur'an and Hadith can be studied, and the Qur'an can be recited in Nibra. This medrese is to be better than any place of teaching in "Sarat al-Mahmiya."
* Listing of all vakifs provided by the Sultan in order to maintain the medrese and other similar projects. Vakifs included lands and buildings.
* Salary for the administrator (al-mutawalli) and the writer (treasurers).
* Hiring teachers and their salaries.
* Hiring a librarian and a custodian.
* Hiring a doorkeeper.
* Administrative work related to the way to deal with the vakif and the possibilities of changing it.
* A warning that if any person changes the vakif, he or she will receive the curse of Allah and the angels.
* The date of this vakif is the end of Sha'ban, nine hundred and sixty five years after the Hijra (June 1558 A.D.).

2. Translations of parts from Lala Paşa's vakfiye in Damascus.[1]

After the vakfiye describes the different facilities provided by the project which were built by the vizier, it continues to say that:

"... since he (Lala Paşa) knew and was certain, for his knowledge continued to guide him to the good of the people, that the survival of these prominent buildings and impregnable places, and the continuity of their known benefits and good deeds, (all that) cannot take place without vakifs which bring income, and properties which can be beneficial (for income) and not harmful so that the income and revenue can be spent on these facilities so that they can continue to exist through the times and ages; (From these incomes and revenues) there would be salaries for those who direct the facilities, and jobs for their

[1] Lala Paşā was one of Sultan Selim II's viziers.

servants. (For these reasons) he (Lala Paşa) set apart from his own money and of what he likes (from his belongings) many properties, old and new, which will continue to exist; he set apart houses and shops, orchards and gardens, and public baths, and mills, and cultivated villages, and a variety of agricultural fields, after he owned them through just and legal selling transaction, and clear contracts which are documented and witnessed by the judges of the people. He spent on these properties monies (to improve and take care of them), all that so that he would gain the pleasure of his generous Lord..."

The vakfiye describes the vakifs in detail; a long description of the mosque includes the following parts: "and let us first describe the mosque, and what surrounds it of buildings, and what buildings are attached to it... and let us describe its borders. About the blessed mosque itself that is kept alive by the continuous mentioning of Allah (prayers), and which is located in the village 'Qunaitira' in the area known as 'Al-Shawa', the vākif (the one who provided the vakif, i.e. Lala Paşa)... ordered that it includes a courtyard which can be entered through an eastern gate whose beauty is commended, it has a cut stone arch and an iron chain. On top of the gate there is the mektep for the teaching of the Muslim children correctly the Qur'an and writing. (The mektep) includes doors and a seat, and a fireplace. (The mektep) can be reached by a stone staircase, and is enclosed by its own door. In the direction of the Qibla at the courtyard, there is the mentioned mosque which exceeds the mosque of all places and includes an interior and a colonnade. The interior includes a dome well built with all kinds of machinery... and raised on four arches of cut stone. Underneath it there is the mihrab which is built by different kinds of stones which are engraved. To the right of the mihrab is the minber with a dome on top of it, all of which are built of decorated and painted wood. On top of the dome there is a crescent of brass covered with gold. In the north side there is the mahfil[1] for the readers and prayer-callers, made out of wood which is decorated and raised on pillars of stone... On the two sides of the mahfil there are two rooms, an eastern one and a western one..."

[1] A small wooden structure usually raised above the floor level of the mosque for the readers of the Holy Qur'an.

The vakfiye continues to describe all other parts of the mosque in detail. Then it addresses the administrative aspects of the vakif. It states the way the vakif should be administered. It then notes a job description for each employee in the vakif. The vakfiye states that: "the administrator of the vakif is the owner himself, then his children, then his children's children, generation after generation... the further (of the relatives) cannot come before the nearer (in administering the vakif) unless he has special credentials, and he is well equipped. The stipend of each one of them is thirty dirhems which cannot be increased even if the vakif is increased and enlarged. If no heir is left, then the administrator will be appointed by the judge and ruler of the town, and he should be qualified for the job... and his stipend would be thirty dirham, and he is responsible about the trust, and must honor the conditions of the vakif regarding the jobs he made available (for the vakif), and spend according to the vakif's prescription; he should collect all incomes and revenues, and repair and take care of the vakif. The administrator will have two writers (treasurers?) who know arithmetic, are intelligent, who keep record of all the vakif's money; review (the books of revenue) in order to stop any misuse in the vakif; they would leave neither a small nor a big quantity of the revenues without counting and recording it. One of them should live in the village of Qunaitira itself, and the other in Damascus, Al-Sham. They earn from this job what is written by the pen: ten dirhams for the one who lives in Qunaitira and three dirhams for him who lives in Damascus."

The vakfiye describes the job of the khatib[1] among other jobs:
"The mosque should have a khatib, who has a beautiful voice, and exceeds the majority of the people in his religious devotion and chastity, he would advise the wise and remind the absentminded by his speech. He can be from any school of fiqh and not necessarily a Hanafi. His stipend is five dirhams daily. The mosque should have two prayer leaders by whom the group will be organized (in prayer). They should watch for the five times of prayers, perform them at their exact time; they would enrich the souls (of the believers) by the prayer. They are to take turns in the mihrab (leading the prayer) so that they do

[1] Khatib is a person who is qualified to give a speech during the Friday noon prayer gathering.

not get tired and so that both of them can gain the reward. The stipend of each one of them is three dirhams daily. Each one is to strictly attend to his job. One of these two prayer leaders should be the khatib so that his job would be more complete, and his income would be even greater..."

The vakfiye includes a description of the meals to be provided in the imaret:
"Moreover, the generous vākif who gave and was given by Allah and guided to feed the people, he ordered that in his imaret... must be cooked every day a hundred cups of soup, known to people as shurba, for the poor and needy handicapped who visit the imaret from all places. The soup is to be offered once daily at dinner time and not at lunch, as is the case in other imarets and tekkes. (The vākif) ordered twenty cups for twenty servants, and he ordered fifteen (?) of sheep for the soup... and he ordered eight ratls [1] of rice to be cooked every other day and wheat to be cooked in the other day. In case one is unavailable the second can be cooked in its place... Eight ratls for the rice, two and a half ratls of cooking butter, two and a half ratls of honey, and five ratls of meat..."

The vakfiye ends with a statement which gives the authority to the original vākif during his life: "The vākif, after finishing the description of all services and jobs and conditions as stated above, gave himself, as long as his soul is in his body, the right to change, modify, define what he stated in the conditions, and what he allowed for expenditures; he maintains the right to reduce the amounts or increase them as he pleases, stop and start as he wants; nobody can challenge him in this authority, or stop him from what he intends (to do). This privilege (of being able to change and modify) is not shared with any of the administrators who comes after him..."[2]

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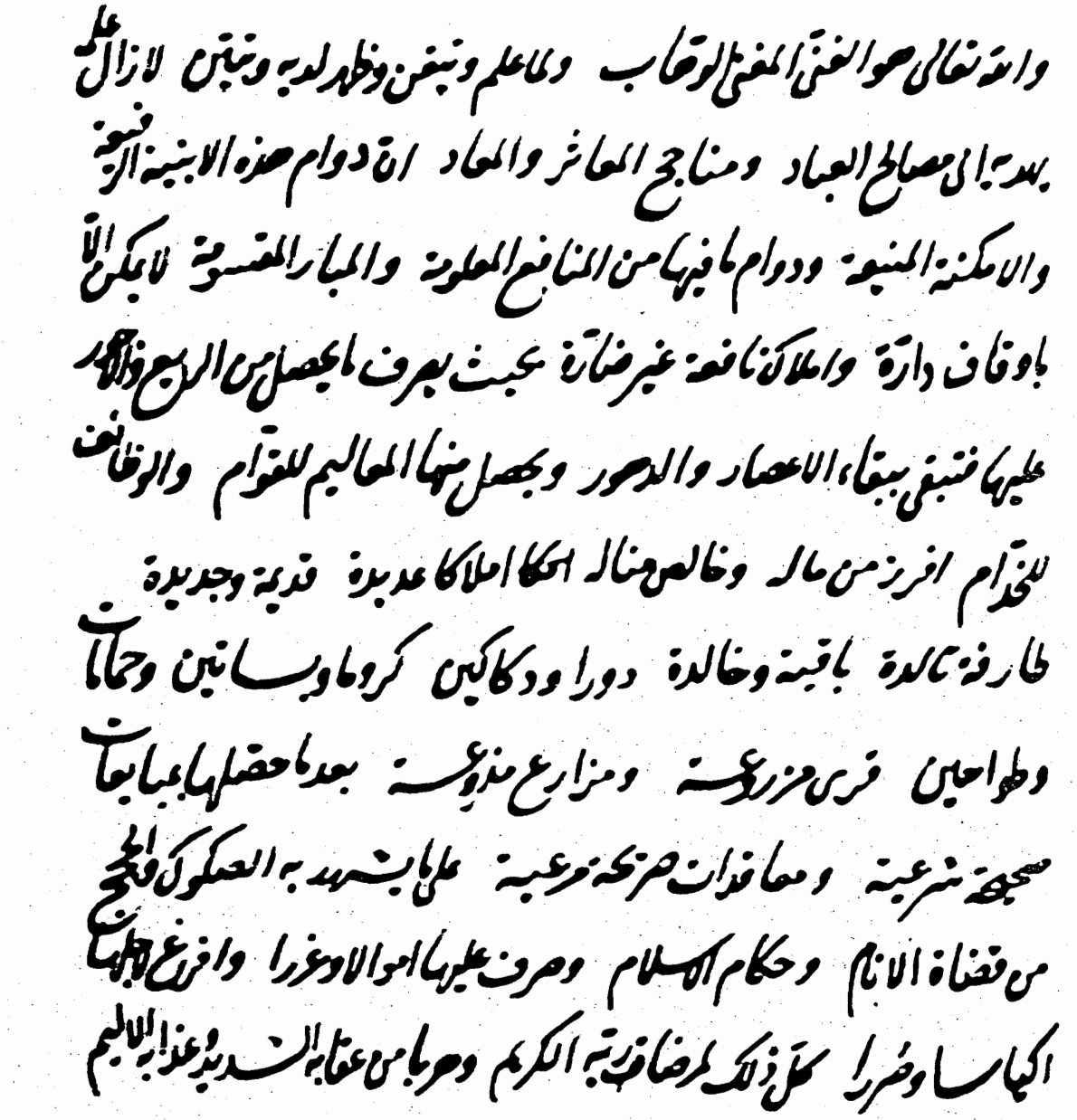
[1] Ratl is a unit for measuring weight.

[2] This vakfiye is kept in the Sūleymaniye Kūtūphanesi (The Library of the Sūleymaniye) in Istanbul. The vakfiye is taken from a volume under the title Şehid Ali Paşa 943, pp. 70-87.

The following is a photocopy from the original wakfiye of the translated parts.



نظمت نظم الدرر في السلاك ولنذكر اولا وصف الجامع وما يقرب به من العمارة الفاخرة
وسائر الابنية المتصلة به التي صب عليها سحب نعمه الفاخرة ولنبين حسانها
بخفائها ولنكشف عن حدودها وحقائقها اما الجامع المبارك المعمور بذكر الله
تعالى وتباركه الواقع في قرية قنيطرة الكائنة في الناحية المعروفة بالشوا
فقد جعله الواقف السابق ذكره الطيب الجاري على العالمين سحاب نواله
الصيب جعل الله تعالى مجمع الخيرات في الدنيا ديوانه ومحل في الآخرة من
مبراته ميزانه مشتملا على ساحة يدخل اليها من باب شرقي بالحجر موصوف
منعوت مقنطر مبني بالحجر المنحوت عليه سلسلة من حديد صلب في اللمس
شديد ويحلوه المكتب برسم تعليم اطفال المسلمين على وجه الاصابة
القران والكتابة ويشتمل على ابواب ومقعد وداخل به كانون فيه يوقد
ويصعد اليه في سلم من حجر راض ويتلو عليه باب خاص وبالساحة من جهة
القبلة الجامع المذكور المرتفع على جوامع الآفاق المشتمل على داخل ورواق
فالداخل مشتمل على قبة معقودة بالمون والآلات مرتفعة ظاهرا من جميع الجهات

ثم لاولادهم نسلا بعد نسل وفرعا بعد اصل ما يتقدم البعيد على القريب الا ان يكون لمن
الاجلية حظ ومن الاستعداد نصيب ومعلوم من يليها منهم كل يوم ثلثون درهما لا يزيد
عليه وان كان الوقف كثر وني فان انقرضوا ولم يبق منهم احد فلمن يراه الحاكم والوالي
بالبلد اهلا لذلك وعرضه على السامع العزيزة السلطانية فانعم عليه بالانعامات
الخاقانية وله ثلثون درهما وعليه الوفاء فيما يستعمل من الامانة واتباع شرط الواقف
فيما عينه من الوظائف وبينه من الجهات والمصارف والاجتهاد في تحصيل الغلال
والاجور وترميم ما عرض له الخراب والدثور وان يرتب له كاتبان من الكتاب
عارفان بطريق الحساب خاذقان ضابطان جامعان للاوقاف رابطان كل
منهما اذا رأى خيانة في الوقف ابعدها وافصاها فلا يغادر صغيرة فلا كبيرة من
الحصولات الا عدها واحصاها ويكون احدهما كاتبا بتربة قبطرة والآخر بدمشق
الشام ولهما من الوظيفة ما يجري بذكره الاقلام لكاتب القبطرة فلاعشرة
ولكاتب الشام ثلثة من الدراهم لان الاصل في العمل هو الاول والثاني كالشارك

وان يكون للجامع خطيب حسن صوت ويطيب بخوف اكثر الناس برجده وعفته

يعظ الغافلين ويوقظ الغافلين في خطبته في اي مذهب كان من المذاهب
وليس كونه حنفيا ضرة لازب يكون له من المعلوم اللازم كل يوم خمسة دراهم
وان يكون له امام يؤمهم للطاعة وينتظم بهما امر الجماعة يراقبان الصلوات
الخمس في اوقاتها ويغتديان الارواح بطيب اقواتها بيتا وبان في المحراب
تقليلا للتعب وتكثيرا للثواب يكون بكل منهما ثلثة من الدراهم ليواظب كل منهما
على وظيفته في تؤيمه ويداوم ونعطي احدى حانتين الامامتين لمن يكون خطيبا
بالمنبر حتى يكون وظيفته ازيد ومعلومه اكثر وجعل درهما في كل يوم لمن يكون رئيسا

ذا الانعام الذي انعم الله عليه بتوفيقه للانعام والاطعام امر وشرط ان يطبخ
في عمارته العامرة التي حطت عليها سحب انعامه العامرة كل يوم مائة طاس
من المرق المعروف بشوربا عند الناس للفقراء العاجزين المحتاجين الى الانفاق
الطارين عليها من الآفاق كل يوم قرة واحدة بالغا، لا بالغدوات كما يكون
في بعض العمائر والتكايا وعين عشرين طاسا لعشرين من الخدام وعين خمسة
عشر منا من لحم الضاء المستكمل المستعمل في هذا الشان اعني ما سمنه الاردام تحتي

ومبين من الارز الطيب ثمانية ارطال كل احد يومين من الايام ويطبخ اليوم الاخر
من الخطة كيل لهذا الطعام وان تعذر احدهما يطبخ الآخر منه في زمانها وان تعذرا

لهذا الطعام ثمانية ارطال من الارز النقي الطيب وللسمن رطلين ونصف رطل
والعسل كذلك واللحم خمسة ارطال والخبز اخونة اثنا عشر خمسة امنان من الدقيق

الواقف الناصي ادام الله تعالى عليه سحاب انعامه الهامي تمام امر الجهات
والوظائف والشروط على النهج المذكور والنسق المسطور جعل الله التيسير مادام نفسه
ببدنه انيسه - ولاية التبديل والتغيير والتحويل والتحريف فيما قرره من الشروط
وعينه من المصاريف ينقص ما شاء، ويزيد ويبدي ما اراد ويعيد على وفق
ما يستغني ويريد لا ينازعه احد فيه ولا يمنعه عما يقصده ويتجه وليست هذه الولاية
للمتولين بعده ادام الله تعالى سعده وتمام هذا ايضا وفاضت هذه العوارف

APPENDIX D:

THE COURTYARD OF THE MOSQUE

The courtyard of the mosque is a unique invention which appears to be a sudden addition to the mosque proper. In order to be able to see the relationship between the courtyard and the mosque it is important to look at the development of the mosque throughout the Ottoman period. What is presented here is not a historical account of the mosque; it is, rather, an attempt to examine the spatial composition of the mosque at a more comprehensive level. Two of the best known studies on the typology of the Ottoman mosque are by Gabriel and Kuran. Gabriel's typology was based on cases in Istanbul, as opposed to Kuran's which was based on cases from all over modern Turkey. For that reason Kuran's study will be used as the basis for the following analysis.

Kuran categorizes the early Ottoman mosque in three major types: the single-unit mosque, the eyvan mosque, and the multi-unit mosque.[1] The single-unit mosque has typically one square or near square room under one dome. The multi-unit mosque is usually a series of equally sized units attached together to create a larger interior space. The design of the eyvan mosque is derived from the architecture of the medrese, which is arranged around a central courtyard. Like the medrese, the eyvan mosque has a central hall to which the main hall of prayer is attached. This spatial composition existed in the Seljuk medrese; the central hall had either two attached spaces along one axis, or four spaces along the two axes. The central hall was domed in the Seljuk medrese; however, the Ottomans

[1] Kuran, The Mosque in Early Ottoman Architecture, The University of Chicago Press, Chicago and London, 1968, pp. 202-213.

preferred an open space (courtyard) in the center of their medreses.[1] Kuran concludes his study by stating that:

> (t)he objective was not to discover the ideal upper structure, but to create the largest single uninterrupted space disturbed by as few vertical structural elements inside the main prayer hall as possible... the common denominator in early Ottoman mosques is not the form of the interior... but the nondirectional containment of the inner space by four walls.[2]

In other words, the Ottoman mosque went through different stages of development in order to achieve a space which is large, square, and free of visual obstacles. Accordingly, the multi-unit mosque was less used with time since it was disrupted by columns, although it provided a large space. The structural advancement produced much larger domes which were to take the place of the old process of repeating smaller domes. Similarly, the new larger domes were able to take the place of the eyvan mosque. Kuran considers Şehzade or the Fatih mosque to be multi-unit mosques with unequally sized units. Such mosques came after the eyvan mosque period; and they were, it is proposed here, a direct development of the eyvan mosque from a spatial point of view. When larger units were possible to be built, the prayer space got its independence from the central hall. This independence was achieved by introducing a wall which separated the two spaces from each other. The separation was possible since the prayer space became large enough to be autonomous functionally and visually. The separation was also needed so that a nondirectional composition of the mosque can be produced instead of the linear composition found in the eyvan mosque.

Keeping in mind the similarity of the mosque to the medrese, one can see the logic behind having an open courtyard in the new multi-unit mosque instead of its predecessor's domed central hall. In fact, the eyvan mosque shows a clear desire to have the eyvan more open

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[1] Ibid, p. 27.

[2] Ibid, p. 213.

than the prayer hall. Mosques such as Bayazid Paşa in Amasya, 1419, Beylerbeyi in Edirne, 1428, Hudavendigar in Bursa, 1385, and Yeşil in Bursa, 1419, are good examples of where the dome of the eyvan has some kind of fenestration hinting to a future development towards complete opening. Kuran's concluding remarks related to the eyvan mosque mention a shift in emphasis from the central hall to the prayer hall. Examples of this process are the change in the roofing structure of the prayer hall from a barrel-vault to a dome, a process which made the space a stationary and independent one; and the increase in the size of the prayer hall's dome to the point that it became equal to the dome of the central hall.[1]

The interior design of the eyvan mosque differed from one mosque to the other. These differences show a continuous process of experimentation which led to the superiority of the prayer hall and opened the way for the new multi-unit mosque to be seen in the sultans' mosques. The elevation of the prayer hall became always higher than that of the central hall for example. The fountain in the center of the central hall reminds one of the fountain in the courtyards of the sultan's mosques. Such subtle changes, and others, direct the views to Sultan Beyazid mosque in Amasya whose spatial composition seems to be a strong connection between eyvan mosques and sultan mosques. The central hall is entered from three points located in a similar fashion to those of a typical sultan mosque; similarly, the small rooms at the side of the space can be seen as the arcades around the courtyard. One can also add the fact that the dome of the prayer hall is larger than that of the central one.

The above analysis does not suggest a chronological development. It only points out that the spatial composition of the sultan's mosque shows a strong resemblence to the composition of the eyvan mosque. An emphasis on the prayer hall strengthened the idea of centrality in mosque architecture, and made possible the structural advancement, allowed the sultan's mosque to happen. Accepting such an argument means that the

[1] Ibid, p. 135.

courtyard in the sultan's mosque is part of the mosque proper and not an addition to it. It is for this reason that the mosque is considered here to be of two parts: the domed space and the courtyard. The domed space cannot be considered by itself the mosque according to this discussion.

The architectural and visual composition of the sultan's mosque suggests a strong unity of the two parts even if the historical unity can be disregarded. The treatment of the facades of the domed space and the courtyard is very similar. The side doorways to the courtyard share the same sets of stairs leading to the covered part in many cases. Doorways to the courtyard are treated with the same care and detail as those of the domed space. The material used in building the courtyard is usually the same one used for the domed space. The courtyard is raised as much as the domed space is above the central space. The treatment of the eastern and western facades of the courtyard, which includes elevations of both the courtyard and the domed space, bring a complete unity in the visual experience since no distinction between the two part is emphisized. The portico of the domed space acts as a step between the superstructure and the lower row of domes of the courtyard and thus unify both parts. And finally, the arches of the portico and those of the courtyard are of the same design.[1]

The mosque's courtyard is considered in this study to be the open part of the mosque which is located to the north of the domed area and has in general, a rectangular shape. Five out of the twelve studied mosques have square courtyards, the other seven have rectangular courtyards which, because of their proportions, come very close to being squares. Table 1 shows that in five cases, out of the seven, the rectangular shape is achieved by making one side only one unit longer than the second. The proportion which

[1] Although this study advertises the existence of two parts for the mosque proper as opposed to the idea of a mosque proper to which a courtyard is attached, the domed space is not studied here since it is beyond the scope of the work. It is to be mentioned, however, that the issue of achieving an open, uninterrupted space for the mosque seems to continue to be a major concern throughout the history of Ottoman architecture. The mosque of Nuruosmaniye is a good example of a later development of this concept where the entire mosque is designed under one dome.

MOSQUE	RATIO OF TWO SIDES OF COURT	NUMBER OF EXTRA UNITS
Üç Şerifli	3:6	3
Fatih	4:5	1
Beyazit, Edirne	4:5	1
Beyazit, Istanbul	5:5	0
Şehzade	3:3	0
Süleymaniye	5:7	2
Selimiye	3:4	1
Sultan Ahmet	6:7	1
Yeni Cami	5:5	0
Yeni Valide	3:3	0
Nuruosmaniye	3:3	0
Laleli	3:4	1

Table D-1: The ratio of the two sides of the mosques' courtyards

comes out of this alteration ranges between 5:6 to 8:9; in other words, the most linear courtyard of this group has its longer side one fifth longer than the shorter side. The two exceptions to this group are the Süleymaniye, which has a proportion of 7:9, and the Uç Şerefli with a proportion of 3:6. Uç Şerefli has the most linear courtyard of the group, while Süleymaniye does not look that linear, especially with the şadirvan in its center.

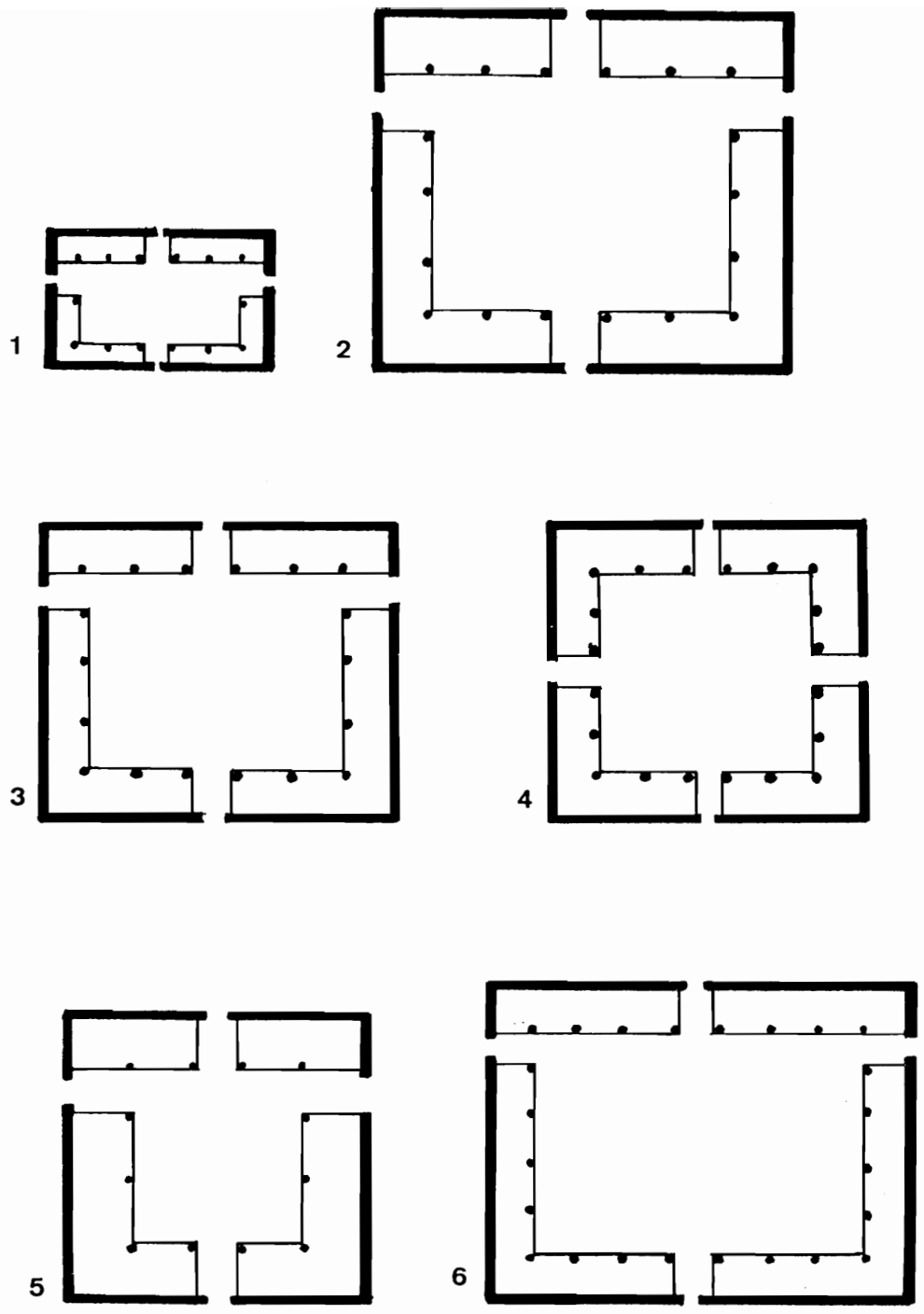
It is not possible here to say why the courtyard did not always have a square shape, especially since the Ottomans were interested in centrality. However, as was explained earlier, these rectangular courtyards were very close to being squares. The feeling of centrality, therefore, was achieved but without limiting the design options to only one

shape. In all these courtyards the şadirvan plays a role in bringing a stronger feeling of centrality. The equal treatment of the courtyard's four sides (e.g. having arcades at all sides) also contributes to the process of creating a centralized space.

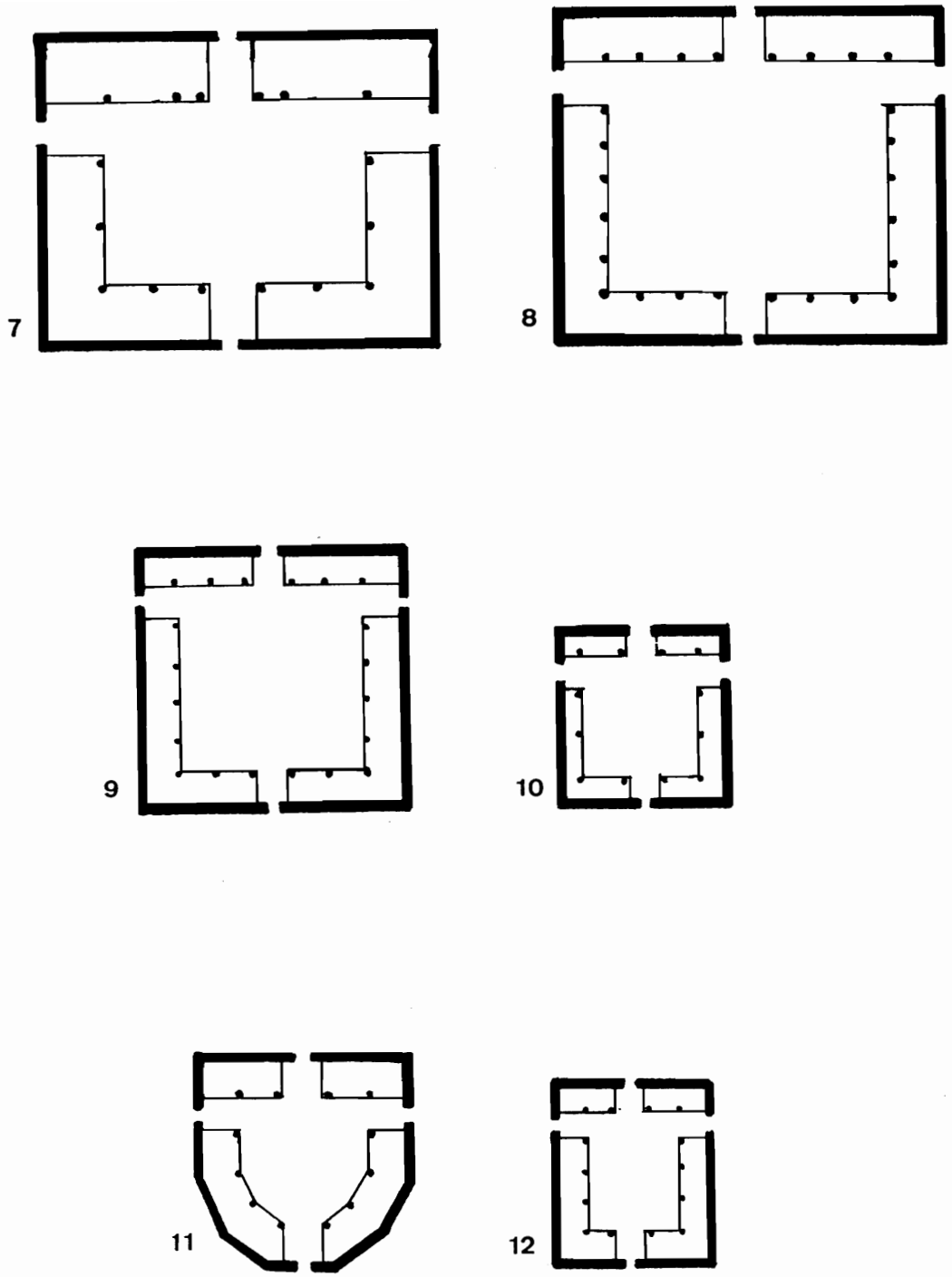
The rectangular courtyards have their longer side parallel to the east west axis of the domed area, while the side which runs parallel to the kibla's direction is shorter. This is true especially in the earlier mosques, such as in the Fatih, Beyazid II in Edirne, and the Süleymaniye. In later periods there were more mosques with square courtyards such as Yeni Cami and Yeni Valide, Üsküdar. The square became a rectangle later on, but with its longer axis parallel to the kibla's direction instead of being perpendicular to it. Laleli is a good example of this later development and so is Nuruosmaniye, whose courtyard is not rectangular, yet presents a strong feeling of linearity. Whether Laleli was a beginning of a new trend is a question which must remain unanswered.

In all cases, however, there is one architectural articulation which is enjoyed by all courtyards. The courtyard has a colonnade running along its four sides. The colonnade, which connects the courtyard to the domed space, is slightly higher to establish a smoother transition to the superstructure of the dome. The colonnaded area is elevated by means of a step, which varies in height between 30 to 70 centimeters. This arrangement creates a separation between the open area and the colonnades in a way that gives each some independence and autonomy. One can clearly define the open space as an entity surrounded by the colonnades, as opposed to reading the whole courtyard as one space with part of it colonnaded (plan D-1).

The courtyard has four doors, one at each side. The north and south sides have their doors centrally placed. Doors in the east and west side, on the other hand, are located under the second dome from the south side. Hence, one always enters the open space of the courtyard at its south-eastern or south-western corners. The only exception to this arrangement is the courtyard of Beyazid II in Istanbul. The doors there are also located at the center of the eastern and western sides. Centrality in Beyazid's courtyard is



Plan D-1: The courtyards of the sultans' mosques; 1. Üç Şerefli, 2. Fatih, 3. Beyazit, Edirne, 4. Beyazit, Istanbul, 5. Şehzade, 6. Süleymaniye



Plan D-1: The courtyards of the sultans' mosques (continued); 7. Selimiye, 8. Sultan Ahmet, 9. Yeni Cami, 10. Yeni Valide, 11. Nuruosmaniye, 12. Laleli

enhanced by this arrangement where one faces the center of the composition from any point one enters the courtyard. It is surprising that no other mosque has a similar configuration especially since the issue of centrality is very well established in Ottoman architecture. It should be noted also that there are some cases where courtyards have more than four doors; however, these extra doors would be of less importance since they lead to the side balconies of the domed area in the mosque, as is the case in Laleli mosque.

The şadirvan provides a physical center to the courtyard in a way that enhances the centrality of the whole composition. The şadirvan captures the eye's attention and draws the viewer to the center the same way the mosque does, being in the middle of the central space of the whole külliye. Being in the center of the courtyard, the şadirvan also breaks the linearity of the composition and aids in providing a feeling of a stationary space.

The size of the courtyard is, generally speaking, related to the size of the domed area. Its size followed the fluctuation of the size of the domed area. However, the courtyard was in no case equal to the domed area; it was either slightly smaller or slightly larger than the domed area. The only two exceptions are Beyazid II, in Edirne, and Laleli, in Istanbul. In the first case the courtyard's size was double the size of the mosque in order to allow for the two side wings to be also encompassed by the courtyard's southern side. In the case of Laleli mosque, the two side balconies squeezed the domed area and made the courtyard appear larger.

Since there was no clear pattern relating the size of the domed area to that of the courtyard, the sizes of the domed areas do not correspond to the sizes of the courtyards. In other words, the mosque with the largest domed area does not necessarily have the largest courtyard. Süleymaniye, which has the largest domed area, does not have the largest courtyard; it has the second largest. Fatih, which has the largest courtyard, has the third largest domed area. What is noteworthy, though, is the fact that fluctuation of size is not severe. The order in size of the total area of the mosques follows almost exactly

the order of sizes of the domed areas. The only exception is Beyazid II in Edirne, which has, as was mentioned earlier, an unusual design for this type of külliye.

There is no relationship between the size of the courtyard and that of the open area (the area in the center and uncovered by the colonnades). The ratio of the sizes fluctuates between 1:2 to 1:3, with some exceptions. On one hand, Sultan Ahmet has the ratio of 1:1.92, which makes its open area appear very large; similarly, Süleymaniye has the ratio of 1:1.92. On the other hand, Şehzade has the ratio of 1:3.82, Nuruosmaniye has the ratio of 1:3.53, and the Selimiye 1:3.04. Spaces in these courtyards appear to be small and enclosed. Studying the ratio of the two sides of the courtyard and those of the open area shows no indication of any special pattern. The only observation which can be made is that these areas are either squares or very nearly squares.

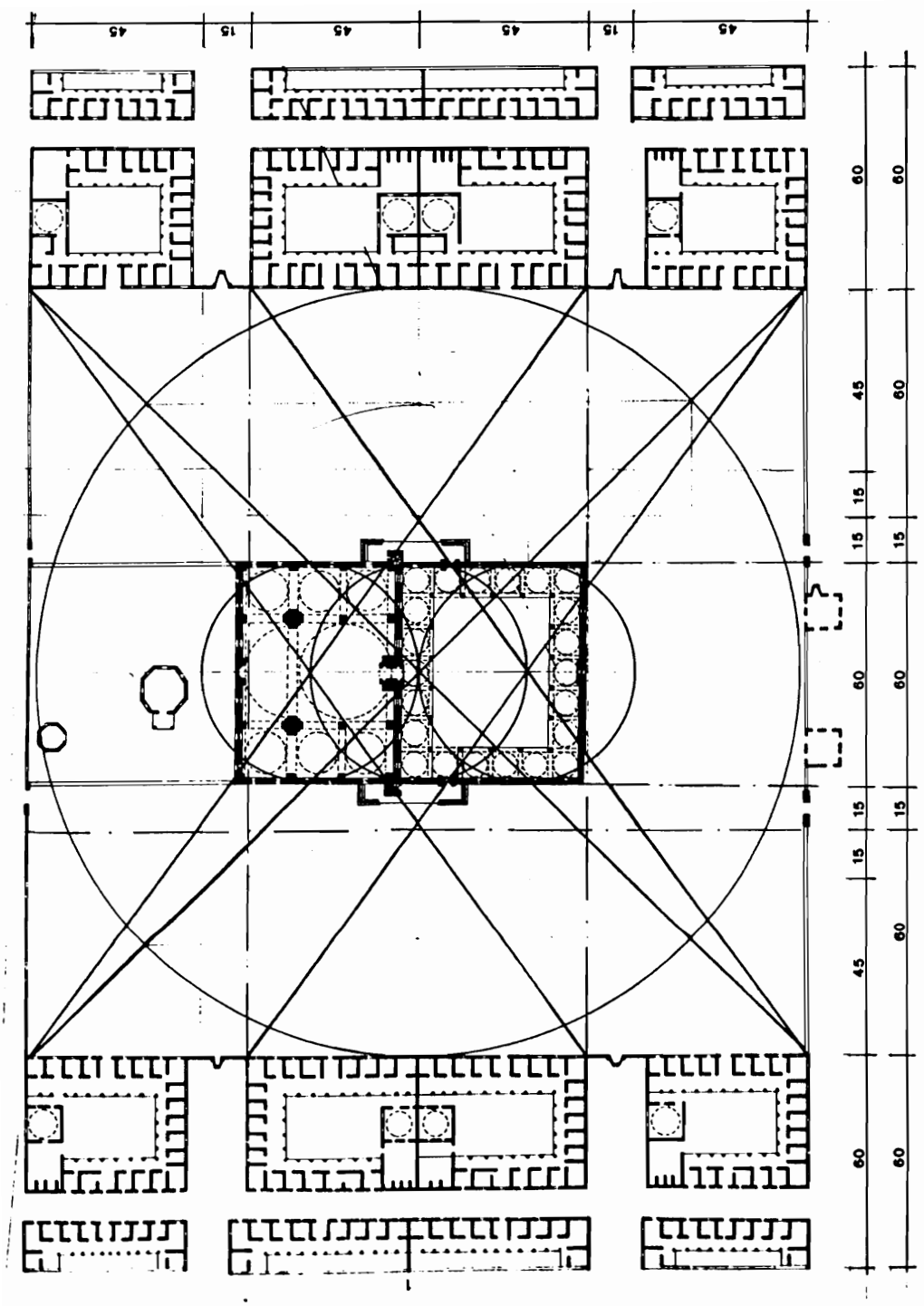
APPENDIX E:

THE SACRED GEOMETRY IN FATIH KÜLLIYE

It is difficult to read any clear geometry in the Fatih külliye from a first glance. All that appears is that all buildings are parallel to each other and that the mosque is roughly in the center of the central space. However, a more careful examination of the plan reveals a few interesting geometrical relationships (plan E-1).[1]

* The central space is practically a square measuring 210 X 210 meters.
* The distance between the northern wall of the central space and the northern wall of the mosque is 60 meters.
* The two attached medreses at the eastern and western side are aligned together and with the mosque, except that the mosque domed area extends slightly beyond the block formed by the medrese. The length of the two medreses is 90 meters.
* The width of the mosque is 60 meters.
* The width of the two blocks of medrese to the east and west of the central space is 60 meters.
* Each of the corner medreses and the entryway beside it form a square of 60 X 60 meters.
* The line which extends between the two walls which separated the two attached

[1] The presented study is based on plans of the Fatih külliye collected from several sources. In particular, it is based on the plan of the whole külliye found in Goodwin's history of Ottoman architecture and Kuran's study of the mosque in early Ottoman architecture. More detailed and accurate plans are needed for such a study; however, the available plans can be trusted. I had the opportunity to ask Professor Kuran about the way he prepares his plans. He explained to me that he personally draws them several times and checks their accuracy before he, also personally, draws the final drawings which go to print; therefore, I think that a study of the kind presented here can be based on his plan. I did not have the opportunity to explore the way Professor's Goodwin's plans were prepared; however, his plan of the Fatih mosque did not contradict Professor Kuran's plan.



Plan E-1: Fatih külliye, Istanbul; the geometric order in the külliye

medreses goes through the center of the southern colonnade of the mosque's courtyard. It divides the 90 meters into two sections, each equal to 45 meters; in other words, it divides the central spaces into two equal sections.

* The distance between the mosque and the two eastern and western walls equals 75 meters, or 60 + 15 meters.

From the above relationships and numbers, it can be predicted that a module was used for the layout of the whole külliye. Along the north-south axis, the length of the central space can be easily divided to 60 - 90 - 60 meters. It is possible to divide the other axis according to the same proportion, 60 - 90 - 60; such a division, however, puts the module line 15 meters away from the mosque's two longer sides. At this point the mosque itself must be examined.

* The line which was mentioned earlier and divides the central space into two equal sections is also the axis of the dome located in front of the main entrance to the domed area from the courtyard.
* The intersection of the two axes of this dome enjoys a central location in the mosque's composition.
* A circle drawn around this point with a 30 meter radius will have the two longer sides of the mosque as tangents.
* At the point where this circle intersects with the north-south axis of the central space, which is the axis of the mosque, two more circles can be drawn with the same radius.
* These two circles will touch the longer sides of the mosque and go 15 meters beyond the block of the two medreses.
* A circle which is drawn from the center of the whole composition and has a 45 meter radius is going to touch the block of the two medreses and extend 15 meters beyond the two longer sides of the mosque; in other words, it will touch the two lines of the module which run north-south.

Thus, the whole composition can be based on a 15 meter module. A more specific module

which is used and developed as a rhythm is 45 - 15 - 45 - 45 - 15 - 45. This rhythm can be seen at both sides of the külliye and extends at the east-west axis to include the medreses. The size of the original Fatih mosque is not precisely known. Based on the advanced geometry, however, it is possible to assume that the southern wall of the mosque was originally aligned with the two medreses.

There are other relationships which can be discovered in this plan. However, a final word is to be mentioned here in relation to the symbolism behind the plan. The whole design is based on a series of circles and squares which dictated the placement, sizes, and shapes of the elements in the whole composition. What is unique is that no circle or square can be readily recognized; they are all hidden, forming an underlining pattern which as it hides itself may also be hiding a sacred meaning behind the composition. The three circles which intersect with each other over the layout of the mosque provide an example of that sacredness. Geometrically, they overlap together the way the three sacred circles overlap.[1] There are many meanings given to these circles by the Sufis in the Islamic tradition. They are seen as Earth in the bottom circle and Heaven in the upper circle, while Man is in the middle trying to achieve the balance (plan E-2). The three circles are seen also as Nihility at the bottom, Absolute Existence at the top, and the In Between in the middle (Barzakh). It is at the center of the middle circle that one moves from Nihility to Absolute Existence, or from Earth to Heaven. It is at that point in the Fatih mosque that one moves from the outside (Earth or Nihility) to the inside (heaven or existence). That point is not enclosed, neither is it open, rather it is in-between, just as it should be in order to fit the sacred composition. Looking closer (plan E-1) one can see that the absolute Nihility is in the area between the outside of the mosque and the courtyard. The Barzakh, or the area in between, is in the mosque itself, in which man moves from almost nihility to almost Absolute Existence through going from the courtyard to the space under the dome which has it own symbolism. The Absolute Existence takes place in the türbe itself, man's strongest physical relationship with Heaven or the Absolute Existence.

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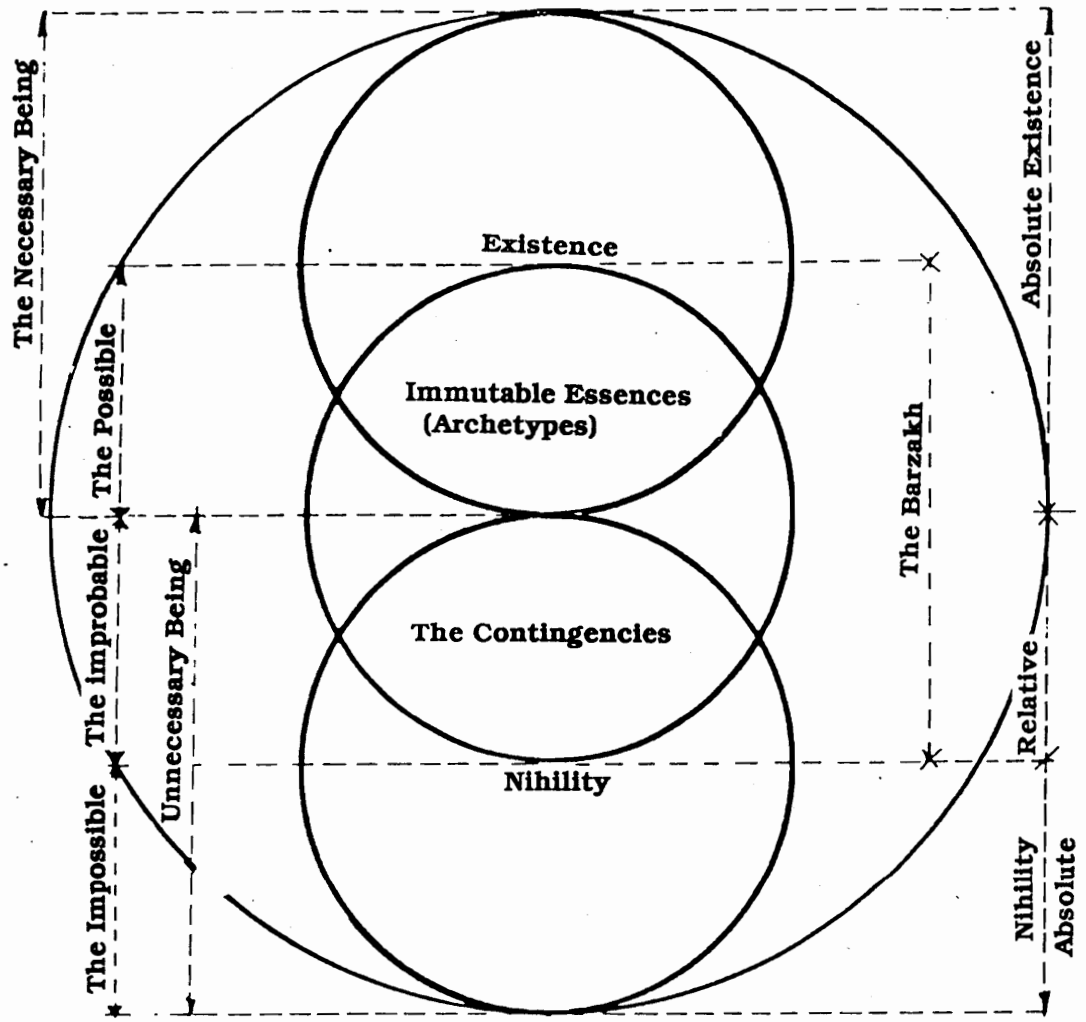
[1] See Wael Samhouri, 1990, pp. 37-53.



Plan E-2: The three aspects of existence (after Samhouri, 1990)

GLOSSARY[1]

Ağa	Chief, master
Arasta	An open or covered shopping street generally occupied by tradesmen selling the same type of merchandise
Bedestan	A covered market for the sale of valuable goods
Bey	Governor of a district
Beylerbeyi	'Bey of the Beys', governor general of a province
Cami	Mosque with a minber
Çelebi	Gentleman, a title of respect given to educated men
Darü'l-hadis	Medrese for for the study of hadith
Darü'l-it'am	Soup kitchen of a külliye
Darü'l-kurra	School for the study of the Holy Quran
Darü'ş-şifa	Hospital
Darü't-tib	Medical college
Dershane	Classroom
Emir	Commander
Eyvan	Vaulted or domed space recessed from a central hall or courtyard
Gazi	A warrior fighting on behalf of Islam
Grand vizier	The chief vizier, deputy of the Sultan
Hadis	A recorded tradition of the saying and actions of the Prophet Muhammad
Hamam	Bath
Han	Inn
Haseki	A woman in the palacereceining the Sultan's special favors; also, an officer in the prestigious Guards Company of the Janissaries
Imaret	A soup kitchen
Janissary	The Sultan's standing infantry troops
Lala	A tutor of an Ottoman prince
Medrese	A higher institute of Muslim education
Mescid	A small mosque without a minber
Mihrab	A niche in a mosque indicating the direction of Macca
Minaret	Tower from which the Muslims are called to prayer
Mimar	Architect

[1] The following are selected items, with minor changes, from the glossary compiled by Professor Kuran in his book Sinan, pp. 302-3.

Nişanci	The secretary of the Imperial Council who controlled the tuğra
Paşa	General
Sebil	A public fountain
Şadirvan	A reservoir with faucets at the sides for ablutions, usually attached to a mosque
Şehzade	Prince; a Sultan's son
Şeyhülislam	The head of the hierarchy of ulema
Tabhane	Winter hospice
Tekke	A lodge of a dervish order
Tuğra	The Sultan's official monogram
Türbe	Tomb, mausoleum
Ulema	The doctors of Muslim canon law, tradition and theology
Ulucami	Great mosque; Friday mosque
Vakfiye	A deed of endowment
Vakif	A grant of land or real property given for pious or charitable purposes
Valide Sultan	The mother of the reigning Sultan
Vizier	A minister of the Sultan and member of the Imperial Council
Zaviye	A convent in which travelling dervishes are accomodated
Zir'a	Cubit (the Ottoman zir'a was 75.8 centimeters)

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Member, Undergraduate Curriculum Committee, 1990-91
Program Newsletter, Faculty Coordinator, 1990-91; 1991-92
Design Elective, Internship and Study Abroad Advisor, 1990-91
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Member, LAR Program Computer Committee, 1990-91
Member, Faculty Search Committee, 1987
Advisor, independent studies in landscape architecture design, history, urban design, Computer Aided Design, 1987, 1988, 1989, 1990, 1991

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