

**Emergent Design: Rethinking Contemporary Mosque Architecture
in Light of Digital Technology**

by

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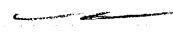
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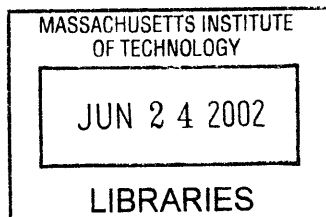

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FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE
IN ARCHITECTURE STUDIES

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Abstract

In the digital age many notions which we take for granted, such as distance, time and space have changed dramatically. This change in perception introduces new metaphors and understandings which require a new mosque architecture to evolve that corresponds to the 'spirit of the time.'

The virtual space creates opportunities for new kinds of interaction and communication. Now the 'village well' is the computer interface which connects us with the rest of the world. How can these emerging notions enrich and shape mosque architecture? How would it affect and/or change existing metaphors? How can new mosque architecture transform existing practices and rituals without falling astray to theological teachings? What kind of social, cultural and religious implications would it bear?

The thesis is divided in three main parts; first it questions the holistic mosque paradigm and explains the accumulation of religious architectural elements over centuries, second it investigates the Kocatepe Mosque experience in Turkey in more detail, which shed light onto the evolutionary process of the praying space and finally proposes a new mosque paradigm which converges virtual and physical spaces.

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Introduction

1.1 Subject and aims of Thesis

The starting point of my thesis was ‘Why can we not build mosques in Turkey, which reflect the spirit of the time?’ a justified question for a country, where a 16th century ottoman mosque imitation in various sizes and in different climatic regions is built every six hours. (Milliyet) Without doubt, the classical Ottoman mosque constitutes a strong typology and reflects ‘the’ mosque paradigm in the minds of most Turks; a building that has essentially a dome, cylindrical minarets with conical hats and serefes (projecting balconies on minarets from which the muezzin calls to prayer), arched windows, ‘marble-like’ columns and capitals, decorated with painted tiles, Ottoman inscriptions etc.

How did that typology create such a strong paradigm? ‘A Turkish architect would put the blame on the great Mimar Sinan.’ (The Economist, 1998:93) Architect Sinan was court architect for three expansionist emperors in the 16th century, among them the well-known Sultan Suleyman the Magnificent. Sinan designed many mosques and tombs, but also utilitarian edifices, such as baths, aqueducts etc. which all comprise the breathtaking cityscape of Istanbul. With his talent and creativity he built huge unifying spaces ‘by integrating body and dome in ways European church-builders had not dreamed of.’ (The Economist, 1998:93) His structures bear witness to the empire’s most glorious time and mirror the splendor and power which the ottomans once enjoyed. Sinan’s buildings were always a source of pride and attraction for many Turks, and not only for those who long for a ‘nostalgic’ ottoman past.

Certainly it is difficult to neglect the impact of Sinan on the collective memoirs of the Turkish society; visually as well as mentally. However, for my thesis I will rethink the holistic mosque paradigm and question the accumulation of religious architectural features over centuries. With a rather ‘functionalist’ approach I will propose an interpretation that converges virtual and physical spaces. In the information age notions such as distance, time and space have changed dramatically. This

change in perception introduces new metaphors and understandings which require a new type of mosque paradigm that is in line with the contemporary age.

Virtual domains generate new ways of interaction and communication around the world. In a virtual environment, the mosque could re-gain its communal aspects, as it was the case in the time of the prophet where the mosque was not just a silent place of worship, but also a place of discussion, of knowledge-exchange and a place of gathering for various mundane purposes. In other words, it could function as the new ‘village well.’ Theoretically the entire Islamic community, from Jakarta to Sarajevo and beyond, could be brought under one umbrella in ways we could not have imagined prior to the digital age. In what way then, would virtual ‘reality’ affect existing mosque features? How would it transform practices and rituals without falling astray to theological paradigms? What kind of social, cultural and religious implications would it bear with?

1.2 An overview of chapters

While pursuing answers for these questions I will place my proposal into a broader context of religious architecture and structure my thesis in three main parts.

First, I will shortly explain the formal evolution of mosque architecture to show the constant progress, innovations, changes and transformation throughout Islamic architecture history. Obviously there are mosque typologies around the world which differ from the ottoman scheme. According to Hasan Uddin Khan’s classification there are five different mosque typologies:

1. ‘The hypostyle hall with a flat roof and possibly with one or more small domes. (as seen in Arabian and African examples) [Also early Anatolian examples];
2. Buildings with a very large central space often covered by a massive dome provided with lateral support by weight of half domes (such as those in the ottoman style) or having pyramidal pitched roofs (as in Indonesia);
3. The layout with an *ivan* (vaulted hall) placed on each side of a bi-axially divided central rectangular courtyard (as

- developed in Iran and Central Asia);
4. The triple-domed mosque with large courtyard (typical of Mughal architecture in India);
 5. The walled complex within which a number of pavilions are set in enclosed spaces (as found in China) (Fig.1). (Frishman and Uddin-Khan; 1994:12)

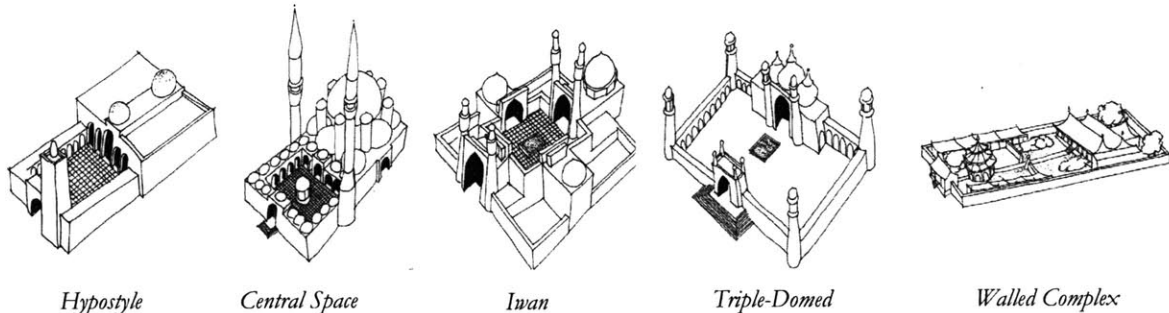


Fig.1 Various mosque typologies.

Such a variety in mosque typology shows that many features we take for granted are actually relative to region and time and maybe based on non-Islamic roots. We often forget the fact that the first mosque ever built was just a basic house with a flat roof. As a matter of fact there is no prescribed architectural typology for Islamic rituals. Therefore certain architectural features, their sanctity and contemporary functionality are open to questioning. Moreover, problems of the contemporary mosque, such as the dilemma between ‘traditional’ and ‘innovative’ design will be discussed in this part.

Secondly, as a concrete example I will analyze the Kocatepe Mosque experience in Turkey that mirrors a global problem of mosque architecture in the 20th century. With the foundation of the modern secular Turkish republic in 1923 religious buildings and religion itself were no more in the political agenda of the new ruling class. Ataturk introduced the basic principles of the ‘six arrows’: populism, republicanism, nationalism, secularism, statism, and reformism. On this basis he deposed the sultan, abolished the caliphate, ended the traditional education system and religious ministries, abolished the separate religious schools and colleges, did away with the religious courts that applied Islamic law, and abolished the Arabic alphabet. Instead, he established a ‘western’-type republican system of political

authority and a unified system of public education, introduced the Roman alphabet, the Gregorian calendar and a new legal system based on the Swiss civil code. In short, he redefined the national, political, religious, and cultural identity of ‘Turkish’ people. To achieve his goal he made extensive use of ‘modern’ architecture, loading it with political and ideological meanings with the assumption of ‘transforming society according to the official ideology of the regime.’ (Bozdogan, 2001: 299) Anything pre-republican, ranging from clothes to architecture was considered ‘an emblem of ignorance, negligence, fanaticism and hatred of progress and civilization’ (Ataturk as quoted by Bozdogan, 2001:56), and obviously the focus of public buildings had shifted from mosques, kulliyes, medresas, tombs to western modeled schools, opera houses, theatre halls, museums etc. because ‘the public buildings of the new republic were identified with the republic itself.’ (Bozdogan, 2001:298)

However, the ‘new set of education and nationalism, could not bring together the resources of narrative background, of construction for personal identity and mysterium, that Islam had provided’ (Mardin, 1997:126), and soon the secular regime in Turkey relaxed on religious issues in the 1950’s. At that time Turkish architects looked to Sinan and Istanbul for inspiration. One of these pioneering architects was Vedat Dalokay (1927-1991). He graduated from the Mühendisi Mekteb-i Ali (later renamed as Istanbul Technical University) and was one of Prof. Paul Bonatz’s students; trained in the rationalist-modernist school, he reinterpreted the classical ottoman mosque scheme with contemporary building techniques and materials.

His mosque proposal (Fig.3) for Kocatepe, Ankara’s most prestigious site, won the first prize in the competition held by the Religious Affairs in 1957. However, the project was abandoned and its’ already built foundations torn down for technical but also hidden political reasons. In 1967 another competition was held. Husrev Tayla and Fatim Uluengin won the competition with a replication of a classical ottoman mosque, praised by the Religious Affairs as being ‘a product of 20th century technology with a 16th century sense of beauty’ (Erzen-



Fig.2 'Modern' architecture for the modern republic.

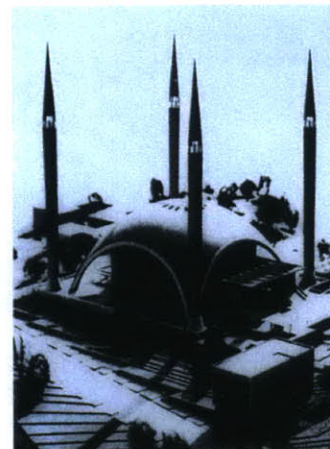


Fig.3 Kocatepe mosque proposal of Vedat Dalokay, 1957.

Balamir, 1996:110) This decision of the jury should initiate the chain of imitations, which wrapped Turkey's terrain with thousands of pseudo-ottoman mosques in the following decades.

Although Dalokay's design was merely an interpretation of the classical ottoman style, it was generally refused by the larger community in Turkey. Dalokay's design was harshly criticized by conservative circles, for its 'rocket-like minarets,' (Hasol, 1991:8) 'garage-like look' (Tercuman, Aug.5, 1967) and accused of being 'a copy of a pub in Belgium.' (Tercuman, Oct.3, 1967). Despite these facts, 'Dalokay had become Turkey's most admired mosque-maker [before his death in 1991], and his challenging reinterpretation of old forms were known in Pakistan, Saudi Arabia and the Gulf States. It is a source of shame that none of his designs found a home in Turkey.' (The Economist, 1998:94)

Even though the chance to build Dalokay's mosque in reality is gone, it can be virtually reconstructed with the utilization of digital design technology. How would Dalokay's proposal fit into Ankara's cityscape? Would it blur architectural differences between the 'shrine of Kemalism [Mausoleum of Ataturk] and the shrine of Islamism [Kocatepe Mosque]?' (Meeker, 1997:157) and soften the dichotomy between 'nationalism-religion,' 'modernity-tradition' and 'state as opposed to society' at least visually? Digital design technology might be a tool in answering some of these questions. I will also discuss what computer aided representation offer to 'unbuilt monuments' in general, how far the realization of virtual environments could and should go, and if a correct digital representation can help understanding architectural history, culture, and maybe even political inclinations better.

Finally, having explained the existing architectural context in a broader evolution of the praying space, I am going to unfold my proposal of a convergent mosque design. I will explain the highway masjid I developed at the Internet and Architecture course at the Graduate School of Design at Harvard University.

The application of emerging digital technology enabled me to rethink

the mosque paradigm and understand the architectural fundamentals of Islam. What are the necessary features in mosque architecture? In what way can digital technology alter existing 'mediating' structures? What sort of implications would technology in the broader sense have on religious paradigms and on its rituals? The digital age, similar to the early visionary modernist age, gives a chance not only to shape and change the physical environment but also to question social and cultural issues and propose new social paradigms.

The construction of mosques is certainly necessary today and will be in future. It is unfortunate that the secular intelligentsia of modern Turkey dismissed the subject of mosque building and design. Religion was for a long time a taboo; a difficult subject to talk about let alone work on. 'The mere act of going to a mosque was sufficient for someone to be labeled 'reactionary' in the early years of the [Turkish] republic.' (Iltus-Topcuoglu, 1976:67) Therefore mosque design was not satisfactorily investigated and worked on. I hope that my thesis will contribute to the study of mosque architecture and generate further work on this subject.

The Formal Evolution of Mosque Architecture

2.1 The mosque: a paradigmatic type of 'Islamic architecture'

The question 'what is Islamic architecture?' is much debated among architectural historians. A dilettante would directly think of minarets, domes, intricate decorations etc. and point to a mosque if asked what Islamic architecture is. A 'keyword' search in any library or on the World Wide Web would bring you infinite matches. While the debate is always around: 'is there such an architecture that can be recognized as different from other architectures outside Islam?' (Grube, 1984:10) almost all answers are in line with: Islamic architecture has 'adopted the indigenous style, but in addition, embellished it with its special form of decoration and ornament.' (Khwaja, 1978: 39)

What makes a building 'Islamic?' According to Grube it is difficult 'to correlate the physical appearance of Islamic architecture in the various parts of the Muslim world with the 'spirit' of Islam as it prevailed in any given region and period.' (1984:10) A different response to this question has been given by Ismail Serageldin. In a diagram (Fig.4) he depicts the local characteristics derived from climatic, geographic, traditional or other differences and shows them in the first row. In the second row he puts a common layer that he calls 'what Islam brings.' (Serageldin, 1990:13) In the bottom row he ends up with various schemes resulting from the superimposition of the first two rows. He thereby claims a 'common spirit' in various physical appearances of 'Islamic architecture.'

Amos Rapoport relates variations of forms to physical and socio-cultural causes, whereby the latter, such as social, cultural, ritual, economic values are ranked primary and the former, such as climate, topography, material, construction technology etc. secondary or modifying. Serageldin's 'common spirit' would be one of Rapoport's socio-cultural aspects. Yet both Serageldin and Rapoport vaguely explain the physical appearances of non-physical causes. To understand 'Islamic architecture' on religious grounds, which is according to Rapoport just one factor among others would be imprecise, and even

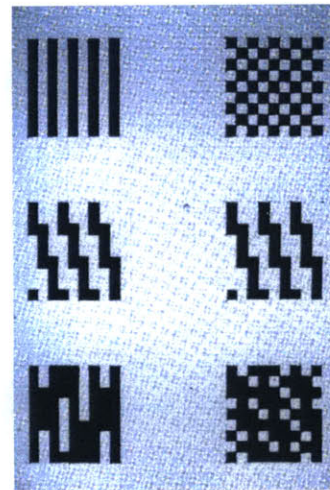


Fig.4 Diagram showing variations of Islamic architecture.

religion is not a constant parameter, but is interpreted differently from place to place and society to society. Therefore the statement of a 'common spirit' in mosque architecture throughout the entire Islamic world is rather obscure.

The term 'Islamic' is also ambiguous; it refers not only to a religion as 'Jewish' or 'Christian' do, but also incorporates cultural characteristics. Alternative terms, such as 'Moorish, Mohammedan, or Saracen, have long been properly rejected as inadequate or positively misleading.' (Hillenbrand, 1994:8) Therefore non-religious buildings such as caravanserais, tombs, medresas are also fitting into the term 'Islamic architecture.' However, the mosque is acknowledged as the main paradigm of Islamic architecture, and my concern is the spatial evolution of the mosque typology. This chapter should give background information and make it clear that certain architectural elements in mosque architecture are not derived from, and are not physical manifestations of theological teachings or a 'common spirit,' but grew from pragmatic needs, which are related to the technological, cultural and regional context in a particular time and particular place.

I argue therefore, that mosque design is open to change and innovation. Indeed, Islam as a religion attacks blind conformity to the tradition and uncritical adherence to the past. 'The voice of the Revelation is always and invariably the voice of modernity, in that it is a voice that assails the hegemony of customs and of fossilized habits of thought and feeling.' (Esmail, 1990:23) My methodology will be the 'fragmentation' of the mosque into its main elements to understand the early rationalist, functionalist and minimalist approach over today's emotional, mystical and rather complicated mosque architecture. In short, the theological plausibility of a future mosque that converges virtual and physical spaces should be seen as a progressive step and not as a replacement of existing models.

2.2 The birth of the mosque

2.2.1 The expression of 'mosque'

'Mosque' is an English translation of the terms masjid and jama; the former being used for smaller and the latter for larger mosques in the Muslim world. The word masjid derives from the Arabic root 'to prostrate' and literally means a place to pray. Besides a place for worship, the early masjids were also used as gathering points for troops. This congregation-character, therefore, was the main reason why each city was supposed to have just one masjid, thus the whole community could gather at one location. Yet sometimes cities grew out of districts which already had masjids, and inferentially there happened to be more than one masjid next to each other. Therefore the term 'jama' was introduced in the 9th century to describe larger city mosques and distinguish them with the smaller ones. In spite of that, masjid remained in use for certain important mosques, such as the Masjid al-haram in Mecca or the Masjid-i Juma in Isfahan.

2.2.2 The spatial requirements of prayer

The ritual of praying does not necessitate a mosque or any special space to be executed. According to one Hadith (sayings of the prophet) the entire world is a mosque for the pious (Sahih Muslim: 810), another one says: 'Whenever the time comes for the Prayer, pray wherever you are, for that is a mosque.' (Sahih Muslim: 808) The worshipper is only supposed to clean the body (ablution), pronounce the intention for prayer and keep the prostrating space dirt free. A floor cleaned from stones and thorns, and overlaid with a mat or a piece of fabric which is directed towards Mecca, is enough to create a 'space' for prayer; an edifice is not necessary for that matter.

However, Islam is not just about private confession, but also has a communal aspect that manifests itself in the conjointly rites, which require a space for assembly. Early congregational prayer spaces were cleaned floors with varying boundaries, i.e. a thorn pile, a pit or a low wall. (Fig.5) The prophet himself used such a simple ground in Medina, and after his death many similar spaces have been constructed around the world.



Fig.5 Prayer space defined with stones.

2.3 The Prophet's house as a first mosque paradigm

In AD 622, the prophet built his own house in Medina that constituted the model for mosques in the coming centuries. The house as a type and an institution served a set of purposes.

'Very early in recorded time the house became more than shelter for primitive man, and almost from the beginning "function" was much more than a physical or utilitarian concept. Religious ceremonial has almost always preceded and accompanied its foundation, erection and occupation. (...) If provision of shelter is the passive function of the house, then its positive purpose is the creation of an environment best suited to the way of life of a people-in other words, a social unit of space.' (Rapoport, 1969:46)

The prophet's house was not only a 'home' of the leader, but also a social center for the community and certainly a place for worship. However, the Prophet's house has always kept its mere physical simplicity and functionality. According to Ibn Sa'd, the prophet once said: 'The most unprofitable thing that eateth up the wealth of a Believer is building.' (Ibn Sa'd quoted by Creswell, 1989:4)

According to Creswell, the Prophet's house had a sahn (courtyard), was enclosed with mud brick walls, and had a canopy that was covered with palm tree trunks and leaves on the south side, along where rooms for his wives were lined up. On the north side it had another covered space providing shelter for the poorest of the community. All these spaces looked into one courtyard. (Fig.6) Abd Allah ibn Yazid reports the house before it was demolished in AD 707 as such:

There were four houses of mud brick, with apartments partitioned off by palm branches plastered with mud, and five houses made of palm branches plastered with mud and not divided into rooms. Over the doors were curtains of black hair-cloth. Each curtain measured 3 by 3 cubits. One could touch the roof by hand. (Ibn Yazid quoted by Creswell, 1989:4)

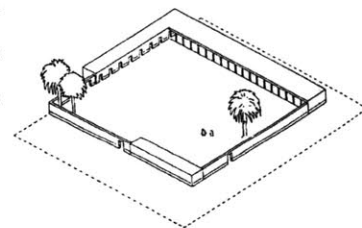


Fig.6 Prophet's house in Medina, reconstruction after Creswell.

2.4 The liturgical elements and their development

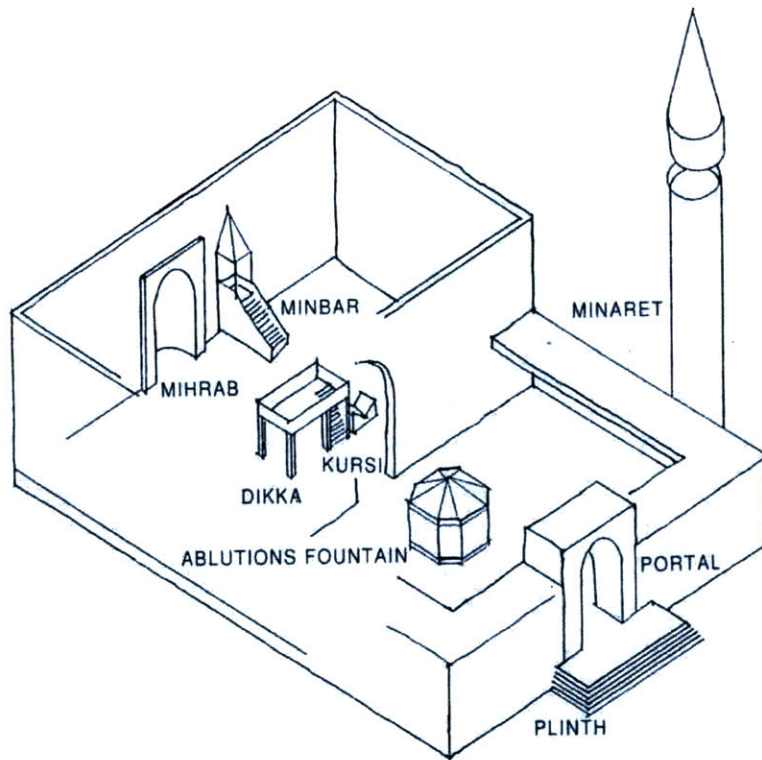


Fig.7 Components of the mosque.

2.4.1 The Ka'ba and the concept of the qibla

The most distinct feature of mosque architecture is obviously its direction towards the Ka'ba in Mecca, called the qibla.

From whencesoever Thou startest forth, turn Thy face in the direction of the sacred Mosque [Ka'ba]; that is indeed the truth from the Lord. And Allah is not unmindful of what ye do. (Surah 2, Vers 149, The Qur'an)

The Ka'ba (Fig.8) is literally a basic cube (11m x 11m) that is believed to have been built by Abraham, and is considered by Muslims to be 'the house of God,' basically the center of the universe.

And (remember) when We made the House (the Ka'ba at Mecca) a place of resort for mankind and a place of safety. And take you (people) the Maqâm (place) of Ibrâhim (Abraham) [or the stone on which Abraham stood while he was building the Ka'ba] ..." (Surah 2, Vers 125, The Qur'an)

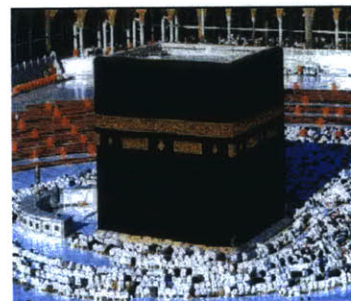


Fig.8 The Ka'ba in Mecca.

As this verse in the Qur'an verifies, the Ka'ba was built long before Islam was revealed. Indeed it was used earlier by pagan Arabs as a site for pilgrimage and sacrifice. This continuing notion of a center of universe and worship, not only had an impact on the design of individual buildings but also tacitly on the layout of whole cities in Muslim societies.

2.4.2 A pulpit for the imam: the minbar

The minbar is a pulpit from which the weekly oration, Khutba, is delivered at Friday prayers. The 'imam,' religious leader of the community, had to stand on a raised platform to be seen in the mosque while he was preaching. For that purpose the minbar, a basic staircase, with a door at the flight and a baldachin above the landing was developed. However, initially not religiously significant, 'it was a chair consisting of three steps, on the third and last of which the Prophet used to sit, keeping his feet on the second.' (Creswell, 1958: 5) The caliph Mu'awiyya raised the minbar in 670 AD, which became the conventional pattern for minbars, although Mu'awiyya's act was strongly opposed. 'There were numerous disagreements on whether a mosque should have a minbar when there was no ruler around to ascend it.' (Encyclopedia of the Orient) Nonetheless, in the 8th century it was already an irremovable, 'traditional' structure in even smaller mosques.

2.4.3 Accentuating the quibla wall: the mihrab

The mosque does not focus to a central feature such as to an altar in a church for example, but it emphasizes the central point on the quibla wall with a niche: the mihrab. It is the structure in front of which the imam leads the congregational prayer, and is by most Muslims considered the most holy spot in the mosque. Probably, it would have been sufficient to have had a stone indicating the direction of the Ka'ba, as the Prophet himself practiced it. Why was the mihrab then introduced? The most common explanation is that it emerged with the transformations of churches into mosques. In the early years of Islamic expansionism existing religious buildings like churches or temples were converted or shared.

In Syrian churches at that time, the use of decorated niches on the apses was common practice (Fig.9), they illustrated the rising of the sun as a symbol for Christ (ex oriente lux). (Renz, 1977:45) When Muslims converted these churches into mosques they had to rotate the main orientation 90 degrees, because the buildings were directed towards the east whereas the qibla was towards the south. As a result the niche was used as a symbol to indicate Mecca. Even though initially there were rejections against the usage of mihrabs, it became a conventional feature after the 8th century. They were exceedingly illuminated with door motives, Ka'ba depictions, candles (symbolizing the light of god), gold mosaics, stones, wood, faience, colors etc.

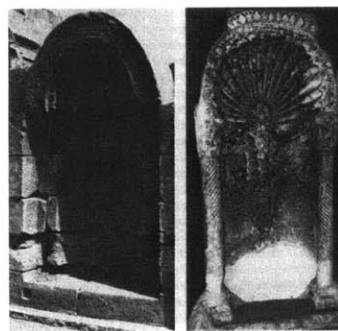


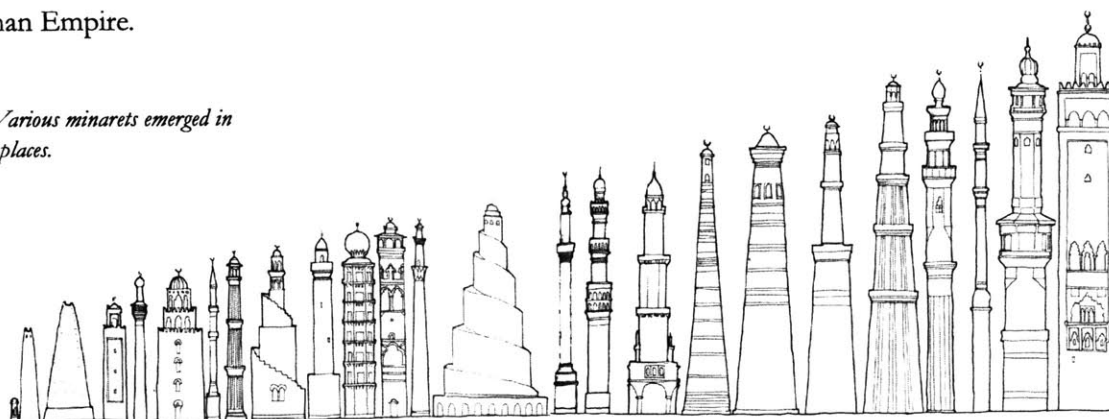
Fig.9 left: Niche in a coptic church in Dandera, 5th cen., right: mihrab of Al-Khasaki mosque in Bagdad, 8th cen.

2.4.4 The call for prayer: the minaret

The minaret, or in other words the mosque tower, might be the major external characteristic of mosque architecture. ‘Minaret’ derives from the Arabic word manara, meaning light tower, or fire tower, and madhana, meaning a place for the call for prayer. (Kuban, 1994:89) They were used as elevated points in space to call for prayer. Some minarets served also as beacons or markers for travelers. (Ashour)

The minaret, however, was not known in the time of Prophet, the prayers were called from the flat-roof of the Prophet’s house or directly from streets. The first Minaret appeared in AD 673 at the Amr Ben El- Aas’ Mosque in El- Fustat. It was inspired by the Syrian church tower, which had a square base. In North Africa these square minarets are still built, in other parts of the world different forms emerged (Fig.10); for instance the cylinder-shaped, pencil-like minaret in the Ottoman Empire.

Fig.10 Various minarets emerged in different places.



It is argued that the minaret also has metaphysical meanings besides its practical functions. According to some interpretations its vertical posture serves as a symbol that links heaven and earth. Moreover, the appearance of a single minaret means the numeral ‘1’ that symbolizes the unity and oneness of God, and furthermore it is related to the first long straight letter alif (Fig.11) of the Arabic alphabet, with which Allah’s name begins. (Ashour)



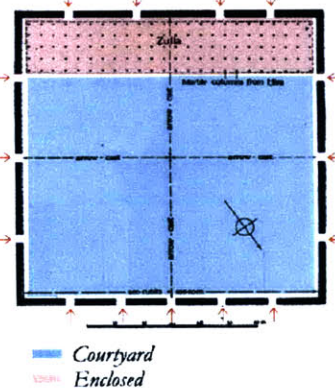
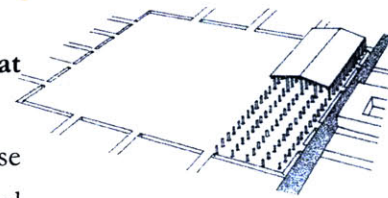
Fig.11 The letter ‘alif.’

2.5 Five cornerstone edifices in the development of mosque architecture

While I am trying to show the evolution of mosque architecture, I will not go through the whole history of Islamic architecture, but will restrict myself to the case of Turkey and explain five monuments that represent the key points of main changes and innovations in mosque architecture towards my argument. I chose for this purpose the Great Mosque of Kufa, the Great Mosque of Samarra, the Masjid-I Jumah of Isfahan, the Great Mosque of Divrigi and the Selimiye Mosque in Edirne.

2.5.1 Emergence from the Arab courtyard house: the Great Mosque of Kufa (638)

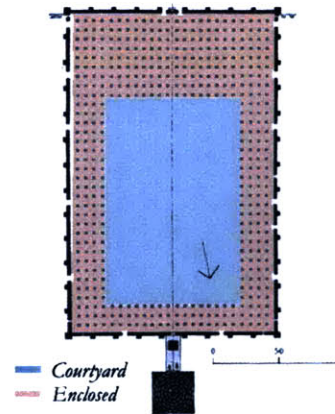
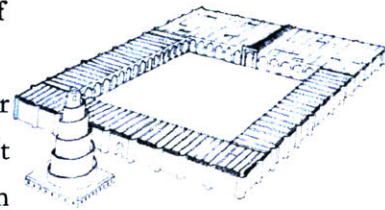
The early mosques emerged from the typology initiated by the house of the Prophet and followed the previously explained functional approach. The garrison mosque in Kufa-Iraq (Fig.12-13) for instance, was a basic hypostyle hall implemented into a rectangle structure. It had five aisles on the qibla side. The columns were made of palm tree trunks covered with leaves for sun-protection. The mosque space could be accessed from various entrances, including openings on the qibla wall, ‘which shows that the idea of an organized space had not yet been developed.’ (Kuban, 1994:79) It did not have a minbar or any indicator on the qibla wall, nor did it have any spatial arrangement that would reflect a social hierarchy. Therefore usually the use of the hypostyle hall is interpreted as a more equalitarian approach of early Islamic architecture.



above: Fig.12 3D sliced plan; bottom: Fig.13 plan of Great mosque of Kufa, after Creswell.

2.5.2 The addition of a local tower: The Great Mosque of Samarra (847-61)

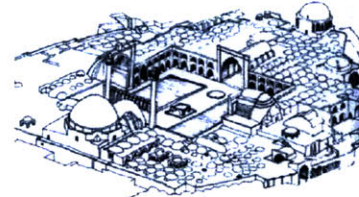
Built by caliph al-Mutawakkil, the great mosque of Samarra was by far the 'largest [mosque] known in the Islamic world.' (Grabar, 1987:86) It measured 376m x 444m, in comparison the Suleymaniye mosque is 59m x 58m, and built two centuries after the great mosque of Kufa, with the same hypostyle hall typology. (Fig.14-15) The main innovation was its impressive, spiraling, free-standing minaret. According to Creswell, the inspiration came from Mesopotamian Ziggurats, especially the 'Babylonian ziggurat, or Tower of Babel,' 'but this is hardly likely since none [ziggurats] has survived in its original shape and they were on an altogether different scale. In fact the source remains a puzzle.' (Grabar, 1987:88) Although the genealogy of the minaret might be obscure, 'it was for the first time in Islamic history, a new style reflecting the contribution of external influences was created.' (Kuban, 1994:94)



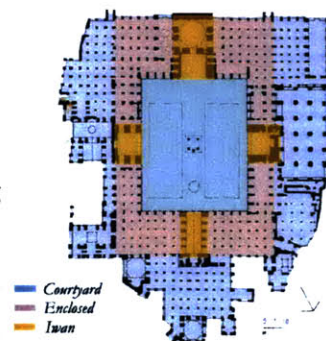
Top: Fig.14 axonometric view below: Fig.15 Plan of Great Mosque of Samarra.

2.5.3 The influence of Persian architecture: the Mesjid-i Jumah of Isfahan (1072-79)

Nearly two centuries after the Great Mosque of Samarra the Masjidi Jumah of Isfahan was constructed. It is a hypostyle-type mosque (Fig.16-17) and built in the 10th century. The Seljukids added two domes, one on the qibla side between 1072-75 and one on the northern side between 1088-89. It has four iwans overlooking a courtyard, thus the dome and the iwan were introduced by the newly converted Seljukid Turks. Even though the dome was known as a structural element and used as such in the Great Mosque of Damascus, it was never applied in large dimensions. In earlier mosques it enclosed usually one bay, whereas in the Masjid-i Jumah it covered 20 bays.



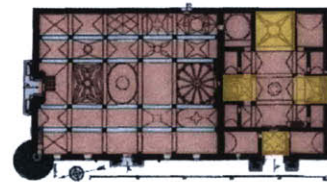
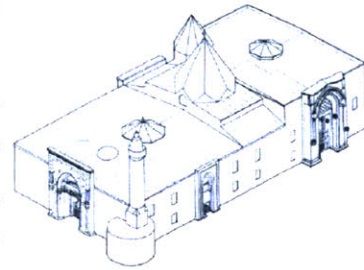
Features like 'the iwan, the iwan with a dome, and four iwans looking into a central court can be easily related to the pre-Islamic traditions of Iran and Iraq' (Grabar 1987:264) According to Grabar the innovation here is in the combination of a court which has a side entrance and four iwans. The significance in the Mesjid-i Jumah is the transformation from hypostyle plan to four-iwan plan, which is 'a novel innovation for its time and is another revolutionary development in mosque design.' (O'Kane, 1994:123)



Above: Fig.16 axonometric view of- bottom: Fig.17 plan of Mesjid-i Jumah in Isfahan.

2.5.4 The influence of Anatolian architecture: the Great Mosque of Divrigi (1228-29)

The Divrigi complex (Fig.18-19) comprised of a mosque and a hospital was completed in the early thirteen century. This mosque in east Anatolia shows the synthesis of an Arabian hypostyle hall, a Central Asian iwan combined with an Armenian basilica plan. For the first time the dome was used as a structural framework of the whole system. According to Kuban, the centralization of the building was an idea which related to the Classical spirit, and the creation of space as the main goal of architecture, an originally post-classical idea. 'Thus we might present our mosque as a mixture of columnar hall, reduced Iranian courtyard, maybe Centralasian kiosque motif and five aisled basilica, that is the outcome of a totally syncretic approach.' (Kuban, 1967:123) Anatolia, a melting spot for many cultures at that time, produced a mosque which shows the possibility of an extraordinary interpretation of prevailing building traditions.

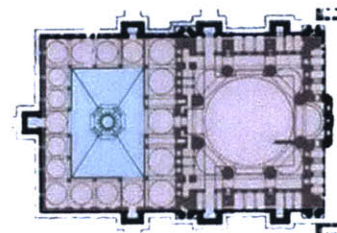
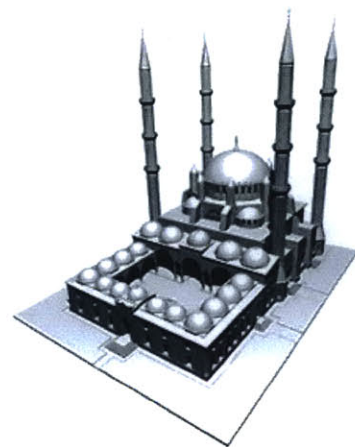


Enclosed
Iwan

Top: Fig.18 Axonometric view of - ; below: Fig.19 plan of Great Mosque of Divrigi.

2.5.5 The Byzantine legacy: the Selimiye Mosque (1568-1574)

The Selimiye mosque (Fig.20-21) was commissioned by Sultan Selim II and built by well known architect Sinan. This mosque has an octagonal supporting system that is based on eight pillars juxtaposed into a square shape. The Selimiye mosque is an important point in the development of mosque architecture. The space is not based on an axial but on a central symmetry. That is, Sinan created an introverted, 'calm' space that is freed from any axial orientation, 'orientationless' so to speak, 'which was the main goal of Islamic architecture from its very beginning.' (Renz, 1977:566)



Courtyard
Enclosed

Above: Fig.20 perspective of -(CAD visualization), bottom: Fig.21 plan of Selimiye mosque.

The inspiration and guide for Sinan's architecture was obviously the Hagia Sophia. In his autobiography he explains how he was impressed and motivated by the Hagia Sophia and Byzantine architecture. (Renz, 1977:568) Sinan merged the characteristics of the Hagia Sophia, such as space configuration and structure with the Islamic program, and refined the central space paradigm. 'The Selimiye mosque belongs to the masterpieces of architectural history, in which 'will' and 'being' of a religion, of a community, of a cultural epoch, agelessly manifests itself into perfect form.' (Renz, 1977:570)

2.6 Conclusion

It is evident that the development of mosque architecture was influenced by prevailing practices and nurtured from different cultures, thus the 16th century mosque was a result of a cumulative architectural practice, which relied on antecedent building traditions. Therefore I argue that there is no independent Islamic mosque architecture which is shaped from theological readings. The mosque paradigm is context based and is open to innovations and creative approaches. The Great Mosque of Kufa was inspired by the Arabic house, the Great Mosque of Samarra incorporated the Mesopotamian Ziggurat, the Mesjid-i Jumah in Isfahan integrated Zarathustrian Iwans and domes. The Great Mosque of Divrigi used the dome as a space creator and introduced the Armenian basilica, and the Selimiye Mosque in Edirne was largely influenced by Byzantine architecture.

The synthesis of regional architectural practices contributed to mosque architecture and brought it into a syncretic stage. After the 16th century, however, the development was more in the decorative arts and ornamentations rather spatiality. The mosque as a symbol of power was also gradually decreasing and the emphasis shifted to mundane buildings, such as palaces, railway stations, clock towers etc. In the 20th century, though, the 16th century Ottoman mosque again gained political significance with the construction of the Kocatepe mosque, although this time it was not a means for the sultan to show the rest of the world what the Empire is capable of, but a tool for the marginalized strata of the society to remind the 'secular' state what it once was.

The Kocatepe Mosque Experience

3.1 Mosque in the Republican era: Separation from tradition

Although the architecture created by Sinan is regarded as being the ultimate peak point of the Ottoman era, mosque architecture continued to develop throughout the 18th and 19th centuries. Baroque and Rococo style buildings emerged parallel to westernization movements in the late Ottoman Empire. The Nuruosmaniye Mosque built in 1755 (Fig.22), and the Nusretiye mosque built in 1822 (Fig.23) are often mentioned to represent the particular styles respectively, even though these later applications are regarded as ‘a detachment from classical architecture, a loss of ‘genuine’ identity, a sign of unease’ by many scholars. (Odekan, 1999:56) Moreover, they are not considered as independent western styles but rather as eclectic Ottoman buildings with western style ‘facades.’ ‘The product in the end is Ottoman that is an aesthetic object created in an Ottoman environment.’ (Ciner, 1999: 57) Indeed late Ottoman styles obeyed formal and spatial codes of the former 16th century classical era.

However, Turkish architecture in the early republican era (1923-46) completely diverged from Ottoman architectural traditions and especially the 16th century heritage. The ruling Republican People’s Party had an overall socio-cultural reformation in its agenda and rejected anything that mirrored the ‘old,’ during a time when ‘new modern national states identified themselves with the invented other.’ (Tanyeli, 1999:43) Inspired by Edward Said’s claim that the discourse of Orientalism established systematically the ‘other’ vis-à-vis the west, Tanyeli argues that the ‘other’ in the case for modern Turkey was the Ottoman Empire. But prior to ideological preferences there were certainly practical reasons for the abandonment of the Ottoman style.

‘The collapse of the markets of traditional construction materials due to long lasting wars, depletion of many of the local natural resources like timber, increased costs of materials and specialized labor have brought traditional construction activities to a grinding halt, during the early decades of the 20th century.’ (Balamir, 1994:3)

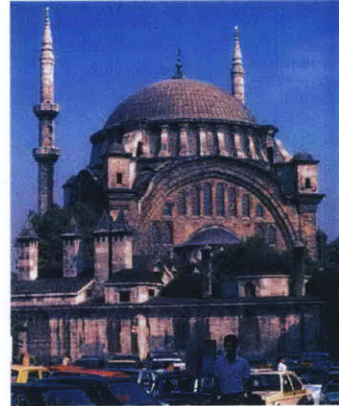


Fig.22 Nuruosmaniye mosque, Istanbul.



Fig.23 Nusretiye Mosque, Istanbul.

3.2 Ankara and the change of social patterns

3.2.1 Ankara: new capital city for the young Turkish republic

Ankara was a small town in central Anatolia in the early 20th century, when it was chosen by the Congress of Sivas in 1919 as the new capital city for the Turkish republic. The Congress preferred Ankara over the imperial city of Istanbul to circumvent Istanbul's historic, political and cultural connotations. The Turkish parliament made its inauguration in 1920 in Ulus, the historical town center of Ankara. (Fig.25) Even though there was an Ottoman parliament existing prior in Istanbul, this was the first time that the parliament dissociated itself from the Ottoman rule.

The modern city of Ankara was literally designed from scratch. For that purpose the new regime employed Austrian architect Clemenz Holzmeister in 1930 and two years later German city planner Hermann Jansen, who designed the entire city along one axis, the Ataturk Boulevard (Fig.24), which starts from Ulus the old town center, continuous through Kizilay and ends in Cankaya. Kizilay became the new city center and was named after the Turkish Red Crescent organization. It was allocated to house the main ministries and the new Turkish Parliament. In 1953 the mausoleum of Kemal Ataturk was erected on a hill top and afterwards the Kocatepe mosque on the opposite hill.(Fig.25)

3.2.2 Change of society and demographics.

After World War II, the one-party regime in Turkey gave way to a multi-party democracy. The elections in 1950 replaced the statist Republican People's Party with the liberal Democrat Party. In the meantime the population in urban areas increased drastically, and larger cities became more heterogenic in terms of income and social strata. Certainly, one main factor for the sudden growth was 'the migration of great masses from rural to urban areas ...' (Balamir, 1994:9) The demographics in Kizilay changed accordingly; once solely occupied by state officers, it began to be inhabited by the emerging rich bourgeois. According to respective census's the population counting 22.571 in 1945 grew rapidly to 210.394 in 1955. (Ilter-Topcuoglu, 1967:67)



Fig.24 Ataturk Boulevard in 1930.

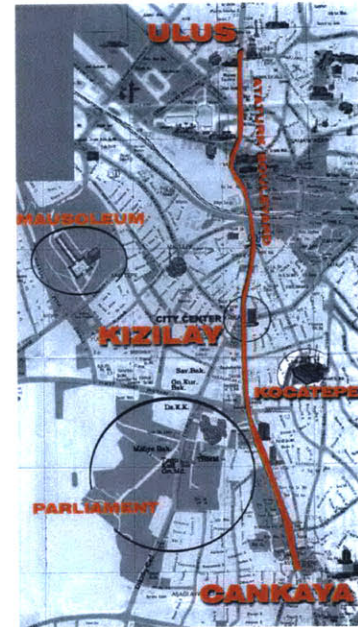


Fig.25 Ataturk Boulevard: Ulus-Kizilay-Cankaya. Location of Kocatepe Mosque and the Mausoleum.

3.2.3 Change of clientship

The problem of building a mosque in Kizilay emerged within that framework. However, the state itself no longer executed mosque constructions. From now on citizens themselves formed foundations, organized and financed mosque building. According to Mardin, the change in clientship can be explained with the esteem of western ideologies, such as secularism and individualism, which replaced the sophisticated Islamic culture of upper classes with the more fanatic, provincial, literal understanding of Islam; ‘...since the upper strata began to isolate themselves from communal religious ‘praxis,’ and attend ‘the creator-individual’ kind of religious understanding- like the way it appears in 18th century Europe, their demand for mosque construction has decreased.’ (Isikyildiz, 2000:22)

Thus ‘a group or groups of the society that never ventures to reason on the religion, reveal their expectancies about the ‘decorum’ of that religion; and the ‘intelligentsia’ now reclaims for the physical environment of which he once abandoned.’ (Tanyeli, 1994:84) Balamir as well observes a ‘provincial aesthetic sense’ apparent among ‘the dislocated society.’ (1994:9) But how does that ‘provincial aesthetic sense’ relate to the classical Ottoman architecture? According to Tanyeli, the main reason for the preference of the Ottoman style vis-à-vis local provincial styles by immigrants is due to their identity problem expressed in their aspirations to belong to the center.



3.3 Kocatepe Mosque unfolded.

3.3.1 The process of the project: Dalokay’s innovative proposal.

The process of the Kocatepe mosque project extends over a time period of 40 years. The site in Kizilay, as explained before, was a residential district with no commercial activities till the 1950’s, because it initially was allocated to solely house the state officers of the new republic. (Fig. 26) Surprisingly, however, is the fact that there was

Fig.26 Housing for state officers in the foreground, and the ministries in the background in Kizilay, 1930.

no religious building constructed either. The reason was partially ideological: ‘Being unreligious was a requirement for the modern Turkish bureaucrat. (...) The mere act of going to a mosque was sufficient to be labeled ‘reactionary’ in the early years of the republic.’ (Iltus-Topcuoglu, 1967:67)

Nonetheless, in 1944 the need for a mosque was openly voiced for the first time and the ‘Institution of Mosque Building in Yenisehir [Kizilay]’ established. This foundation announced a competition in 1947, but no entry satisfied the committee and no first prize was awarded. A second prize was given to the joint project of Orhan Alnar and Saim Ulgen. (Fig.27) In the meantime the institution searched for a suitable site and for a new name. In 1957 a hilltop in Kizilay was acquired and a second competition held. In 1960 the institution was renamed to the ‘Association of Building and Support for the Revolutionary Complex of Religious Affairs.’ (Yilanlioglu, 1988:6) Among 36 entries the joint project of Vedat Dalokay and Nejat Tekelioglu won the competition. (Fig.28) In 1963 the mosque foundation and two office buildings of the complex were completed. (Fig.29)

3.3.2 Obstacles to realize Dalokay’s vision: Structural difficulties or political reasons?

However, the main problem emerged when it came to build the shell structure. In the early 60’s few construction firms in Turkey and for that matter in the world had experience with concrete shell structures. The time coincided with an unsuccessful attempt of a shell roof for a sports hall in Ankara which collapsed. Just about the same time Jorn Utzon in Australia, was experimenting with a shell roof solution for the Sydney Opera House. The construction firm ‘Ove Arup and Partners spent about an estimated 350.000 hours on a solution for the shell roof.’ In the end, Utzon proposed an alternative ‘spherical solution,’ which basically resulted in mounting together the whole roof structure from prefabricated pieces in situ. ‘The task of erecting the Opera House’s roof has subsequently been described as “the most difficult task of prefabricated assembly in the history of building”.’ (Sydney Opera House Media Release)

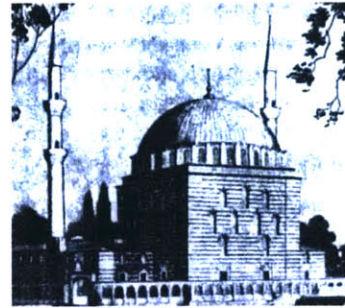


Fig.27 Orhan Alnar and Saim Ulgen's entry for 1947 competition.

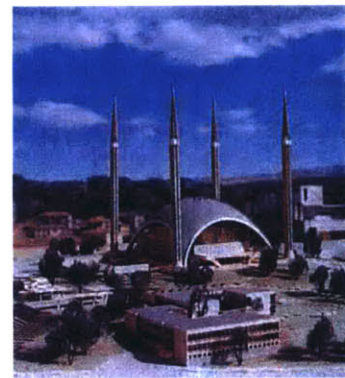


Fig.28 Vedat Dalokay and Nejat Tekelioglu's entry for 1957 competition.



Fig.29 Two office buildings of Dalokay's complex are realized. (Religious Affairs)

As doubts arouse from national and international observations, the Association asked the civil engineering faculty of the Middle East Technical University in Ankara to analyze the structure in the laboratory. The test caused cracks on the shell model, and ‘the university replied with a 35 page report that under these circumstances the project could not be executed.’ (Yılanlıoğlu, 1988:10) An additional obstacle for Dalokay’s design is argued to be the growth of population in the meantime. Dalokay’s mosque was designed to house two thousand people whereas new circumstances required a congregational space for twenty thousand. After all these observations and investigations the committee decided to abandon the project and as a consequence removed the already built mosque foundation.

However, according to Balamir, technical reasons were just ‘well-tailored pretext[s], (...) far from being convincing.’ (1994:8) Dalokay claims in an interview in *Milliyet*, a liberal newspaper (two days before the official opening ceremony of the mosque), ‘that he was asked to build a mosque, which overshadows the mausoleum in order to praise the Muslim character of the city, and this is the actual reason why his former project was rejected.’ (Isikyildiz, 2000:35) The dichotomy between the mausoleum and the Kocatepe mosque, facing each other from opposite two hill sides in Ankara, is often mentioned in popular as well as professional media. The contrast between ‘the shrine of kemalism’ and ‘the shrine of Islam’ suggest a polemical ground for mutually exclusive oppositions such as nationalism vs. religion, modernity vs. tradition, state vs. society etc. ‘One would look to the future, the other to the past.’ (Meeker, 1994:148)

Even though it is hard to comprehend what the real reason for the abandonment of Dalokay’s project was, it is clear from Yılanlıoğlu’s writings that the building committee had also personal objections to Dalokay. In 1966 when the future of the Hagia Sophia was widely discussed in Turkey, conservative groups supported the idea of re-opening the Hagia Sophia as a mosque, whereas the left wing wanted to keep it as a museum. In that environment Dalokay asserted that ‘...the Hagia Sophia should become a church and people who want to

transform it to a mosque should visit it for confession.’ (Yilanlioglu, 1988:10) The statement caused Dalokay’s expulsion from the mosque building foundation in 1966 and the Religious Affairs afterwards stressed in its later fund raising brochure a vers from the Qur’an that literally claimed that only believing architects have the right to design mosques: (Iltus-Topcuoglu, 1967: 70)

‘It is not for such as join Gods with God, to visit or maintain the mosques of God while they witness against their own souls to infidelity. The works of such bear no fruit: In Fire shall they dwell.’ (Surah 9, Vers 17, The Qur’an)

3.3.3 New competition announced

3.3.3.1 Return to tradition.

Consequently, the committee announced a last competition in 1967, which the joint project of Husrev Tayla and Fatin Uluengin won. (Fig.30) The foundations were led in the same year and the basement opened for prayer in 1969. The construction of the rest continued very slowly due to financial shortages till it finally got inaugurated in 1987.

Husrev Tayla’s project had to meet the following requirements: a main prayer hall to hold 15000 people, a courtyard for 9000 people and offices for the Presidency of Religious Affairs and the General Directorate of the Foundation of Religious Affairs. A spot to wash the dead, an auditorium able to accommodate six hundred people, a library, a supermarket and a car park for eight hundred vehicles was also included in the program.

Although the classical Ottoman era was Husrev Tayla’s personal field of interest, the emerging mosque form was pre-determined by the Committee. Yilanlioglu head of the competition commission, made it clear what he expected: ‘The capital city should have a mosque in proportion to the glory of the new republic, therefore we ask the architects to reflect the great styles of the Seljuk and Ottoman empires in their proposals.’ and continued: ‘Istanbul resembles a rose-garden in regard to mosques; the architects should make a bunch of



Fig.30 Husrev Tayla and Fatin Uluengin’s entry for 1967 competition.

it [for Ankara] that every visitor could admire.' (Yilanlioglu, 1988:11) Therefore it is not surprising, that Tayla's mosque reflected 16th century Ottoman mosque architecture, as the other five design entries to the last competition did. Indeed, Tayla and his partner used the Sehzade and Blue Mosque as a source for their plan schemes, the Suleymaniye mosque for their facades.

3.3.3.2 Quantitative Data of Tayla's project

The mosque is raised upon a platform under which ancillary parts of the complex including auditorium, administrative offices, shopping center and parking plots were placed. The main entrance is from the north, with auxiliary entrances on the east and west sides. The prayer hall is 4020 square meters, covered with a main dome that rest on four pillars and is supported by four half domes.

To give a sheer idea of the dimensions: the main dome is 45 m high and 25 meters in diameter, in comparison the dome of the Suleymaniye mosque is 47m high and its diameter 27,5m. The minarets are 88 meters high, each having 3 serefes (projected balconies), and the mihrab and minbar are about 10 meters high. The pillars are 3m in diameter (in the Blue mosque it is 6.5m). The prayer hall is surrounded on three sides with two storied galleries. There are ample stained glass fenestrations on each side of the mosque, whose interior decoration complements the classical ottoman style. Stone cladding is applied onto the façade up to the cover. The drums, turrets and minarets are constructed of exposed concrete, the domes are covered with lead and the crescents are in gold-plated copper.

3.4 Evaluation: Modernism vs. Tradition.

3.4.1 Different coverage from professional and popular media.

The majority of the Turkish public viewed the mosque as a great achievement. Without doubt, the building is the largest mosque built in the modern Turkish era. It is 'grand, [although] of an oppressive nature' (Balamir, 1994:8) and recognizable miles away due to its dominant location. Therefore it soon became a landmark that was evaluated by the foundation of the religious affairs as 'a product of

twentieth century technology with a sixteenth century sense of beauty.’
(Religious Affairs, 1987:9)

In professional circles however, the design received severe criticism due to the arbitrary use of traditional forms. According to Balamir the focus on the criticism lies in first ‘being a simulacrum of traditional models which denies the spirit of its age, [second] for form utilizing the potentials of new technology, it is said to end up with a meager dome for the sake of traditional image,’ and finally, ‘it is viewed as a symbol of conservatism.’ (1996-110) Aydin Boysan, a practicing architect, expressed his thoughts in *Arkitekt*, a professional architectural magazine, as follows:

‘Unfortunately the Kocatepe Mosque [Dalokay’s proposal] was attacked by strict reactionary people because it did not possess a dome. Afterwards they built a bad imitation of a 400 years old edifice and placed it over Ankara like a fez.’ (1991:58)

Also renowned art historian Dogan Kuban criticized the architects who justified building in ottoman style, in his article ‘For those, who think to build a 16th century mosque in the second half of the 20th century,’ and blame them for taking the following for granted:

- 16th century mosque is the best one to built,
- Mosque has to have a concrete style,
- He himself can built a good example of 16th century building,
- It is deniable that a building should reflect materials and techniques of its age,
- It is acceptable and possible to build a 16th century building in the social conditions of the time.
- A mixture of components from old buildings can compose a new style.
- While he himself lives in accordance with the conditions of the present day, he can wear the 16th century spirit like a garment [and concludes that] repeating the old only means that we could not exceed it yet. (Kuban, 1967:7)

While the architectural media responded negatively, popular newspapers in general welcomed the replica in headlines like, ‘the biggest in the near east, in the capacity of ..., ...meters tall, ...meters wide, costs so much... etc.’ which shows the emphasis on quantity



Fig.31 'Here is a pub in Belgium ...and here Dalokay's mosque.'



Fig.32 'Instead [Dalokay's] 'Garage-Mosque,' [Tayla's] mosque will be built, which will deliver the prayers of hundred thousands to God.'

rather than quality and rejected Dalokay's design in allegoric headlines for its 'garage-like look,' (Tercuman, 1967) 'rocket like minarets' (Hasol, 1991:8) etc. The conservative newspaper Tercuman in 1967 for instance, claimed that Dalokay copied his design from a Pub building

in Belgium (Fig.31), thereby stressing not only the ‘modern’ ethical problem of copying (because for that matter Tayla’s design would be a more obvious example), but also the relation of a mosque to a Pub that runs counter to Islamic values.

3.4.2 A critical approach: ‘Not to put the dome on the ground.’

Besides professional and popular media, the ‘rendition’ of ottoman elements was severely criticized by award-winning architect Turgut Cansever, who questioned Dalokay’s shell structure dome in his book ‘Not to put the dome on the ground.’ (Fig.33)

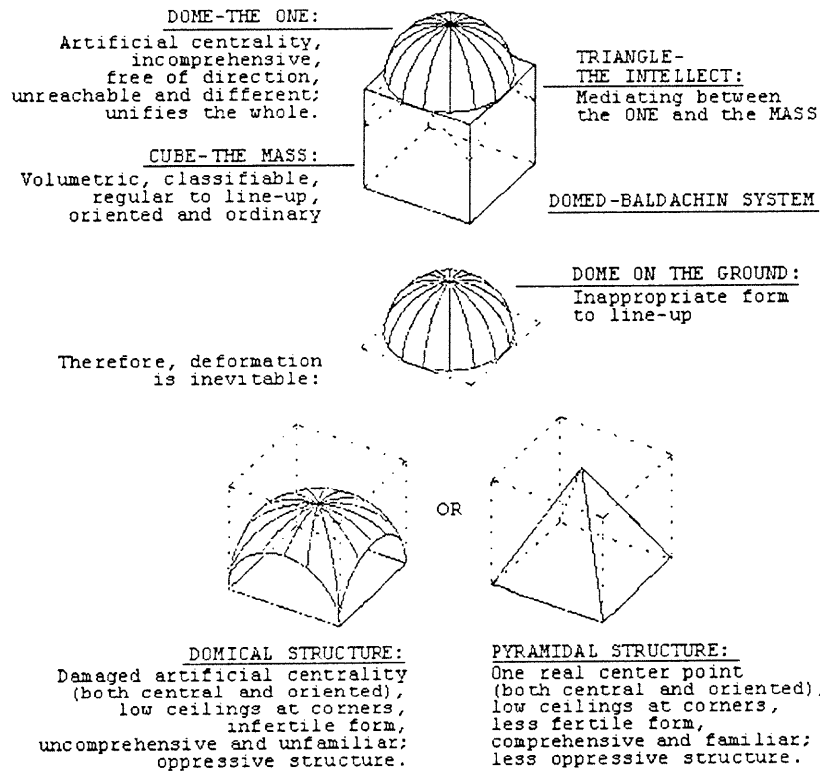


Fig.33 Cansever's criticism, 'Not to put the dome on the ground.'

(This figure visualizes the symbolism as mentioned in Laleh and Bahtiar's "The Sense of Unity" (1973: 23, 27-8), and Cansever's statement of "Not to put dome on the ground")

‘... These words seemingly criticize the ‘shell structure,’ which is presented as a progressive step on the way to ‘modernize’ our mosques in the 50’s and 60’s. But, this coherent critique is meaningful on another level that; these shell-structured ‘modernist’ mosques also a dilemma of keeping the visual memories of the Ottoman domes and, on the other hand, denying all historical references related to it. The dominant dome and minarets to accentuate corners would be

preserved, but they would be designed in a 'Modernist' vocabulary. (...) Do architects have right to select some useful components from this meaningful treasury and ignore others? Can a unity of architectural realities, which gives reference to religious or non-religious formations for over 500 years, be 'renewed' arbitrarily as such? Should dome, which is more than a plain structural element and carries rich allusions, be taken in hands irrespectively and 'put on the ground?' (Turgut Cansever as quoted by Tanyeli, 1991:87)

The muquarnas, for instance, is a three dimensional decorative element that is attached to the pendentive and connects the cubical ground with the upper spherical dome. It was a design challenge for architects throughout the ages, and might be one of the most creatively developed building parts of Islamic art and architecture. Beside its practical function, it bears the metaphysical notion of being a transition between the 'terrestrial' cube and the 'celestial' dome. Yet this metaphor was ignored in the 'secular' hands of Dalokay; he basically separated the mosque's spiritual connotations from its physical manifestations by 'putting the dome on the ground.'

3.4.3 Conclusion

It can be argued that Dalokay's design might have helped as a transitional project to reach a further 'genuine' model in the mosque evolution. In an environment in Turkey where 'a tendency to charge architectural forms ideologically and to lose sight of their basic autonomy vis-à-vis politics [which] unnecessarily politicized and polarized architectural culture...', (Bozdogan, 1997:139) Dalokay's project could have worked as a mediating structure between conservative and liberal groups and brought them together, by the help of a building on which both parts would have found common values. Not only did the competition committee lose this opportunity, but they also opened the door for pseudo-ottoman mosques to come and spread all over Turkey even exceeding national boundaries.

As a matter of fact, the religious affairs distribute various mosque schemes that theoretically fit into any topography, and climate in Turkey. Provincial foundations seek help by these models to avoid additional

costs which otherwise had to be paid to an architect. However it is surprising that larger mosque supporting organizations, which employ architects and are sponsored by states or larger cooperations still follow the 16th century Ottoman mosque paradigm. For instance the Suleyman Demirel mosque in Ashgabat (1993), the Sabanci mosque in Adana (1998), and the Great mosque in Tokyo (2000) are in line with the Religious Affairs' approach of mosque building.



Fig.34 Suleyman Demirel Mosque in Ashgabat, 1993.



Fig.35 Sabanci Mosque in Adana, 1998.



Fig.36 Great Mosque in Tokyo, 2000.

The Kocatepe Mosque as an Unbuilt Monument

4.1 Unbuilt monuments represented in virtual space.

4.1.1 Background

Prof. Takehiko Nagakura at MIT works on ‘unbuilt monuments,’ which are projects that were not able to be realized for various technical and/or ideological reasons. The most well known of his projects is Vladimir Tatlin’s Russian Constructivist Monument to the 3rd International (Fig.37) proposed to be built in St. Petersburg, Russia. Digital media technology in this particular case was an important tool to virtually re-construct Tatlin’s vision. The tower was designed to be 400 meters high and as such would have been by far the tallest construction of its time. Yet to construct such an enormous edifice in ‘brick and mortar’ might have been impossible due to insufficient construction know-how and funding. Also the intervention into the urban fabric of St. Petersburg might have been not welcomed by the entire community. Digital technology made Tatlin’s visions virtually possible, helped understanding the scale and dimension of the tower and showed the change it might have caused in the urban fabric would it have been built.



Fig.37 Visualization of Tatlin's Tower.

4.1.2 Evaluation of the process and relation to thesis

Some might question the ethic of such representations: Is it possible to distinguish between a digital reconstruction and a photograph? How exact should the realization of virtual spaces be? Is it necessary to construct the whole physical world in the virtual domain? I would argue that it is unnecessary to reproduce an already built environment, but there are opportunities to use digital media, for understanding and evaluating projects that otherwise could not have been scrutinized. The difference of contemporary digital media tools with still images or drawings of visionary ideas of the pre-digital era is the forth dimension of time that enables a more ‘real-like’ analysis of the vision by utilizing motion graphics in architectural representation.

Similar to the Tatlin’s tower project, the employment of digital media for Dalokay’s design proposal can demonstrate how his mosque fit into

its context and thus can enable spatial explorations with the model. Specifically, how does it relate to the ‘modern’ context of Ankara? Comparisons with the built mosque can be made and the varying impact of these two different design approaches analyzed. How would Dalokay’s proposal have effected the environment differently in comparison to Tayla’s project?

4.2 Kocatepe Mosque virtually reconstructed.

4.2.1 Research Process

I searched for documentation from sources such as the Religious Affairs, relatives of Dalokay, libraries and faculties of architecture in Turkey and the US. Surprisingly, it was very difficult to find any execution or competition drawing of Dalokay’s proposal. Even the Religious affairs, which carried out the competition, constructed two buildings of the complex and led the foundation of the mosque, had no copy of the project-drawing(s) in its archives. Written documentation seemed to be various interpretations of a single source. After long investigations I eventually found drawings of the competition entry in Dalokay’s cousin’s attorney office; in a separate room that was allocated to store some of Dalokay’s architectural projects and paintings.

4.2.2 Learning from Dalokay’s Design

Dalokay’s design was an interpretation of the classical ottoman mosque scheme, although some vital innovations and novel contributions of Dalokay, such as the play of light, interior-exterior relationship, the ablution fountain inside the prayer hall, the dome openings, etc. emerged while I was building the digital model. ‘Modern’ notions, like the free plan, continuous elevations, horizontal openings etc., coming from his formal education in the Istanbul Technical University under the supervision of Prof. Paul Bonatz, were implemented into his design.

4.2.2.1 The consideration of light.

Dalokay used concrete as a structural material, which liberated him from limitations of stone masonry and enabled him to experiment with space configurations. He designed four tectonically different

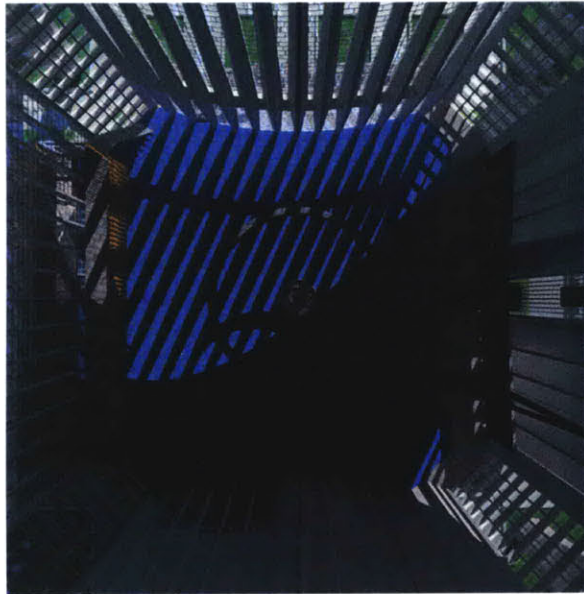
elevations for each side of the prayer hall. The facades were developed according to the changing sun-light conditions during the day. (Fig.38) In Fig.39 the change in the interior lighting condition for the noon, afternoon and evening prayers are simulated. Dalokay designed

Fig.38 Varying openings on four sides according to sun-light reception.

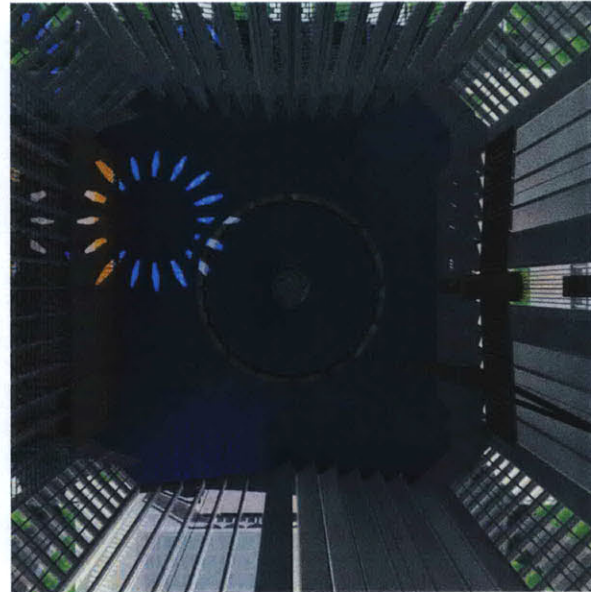


the north façade entirely transparent, and the south façade opaque although getting indirect light through slots created by the diagonal placement of the vertical wall elements. The west opening is half opaque and half transparent, by which he tried to avoid the harsh early evening sun light and at the same time enable the milder late evening sunlight penetrate into the space. The east façade is freely designed;

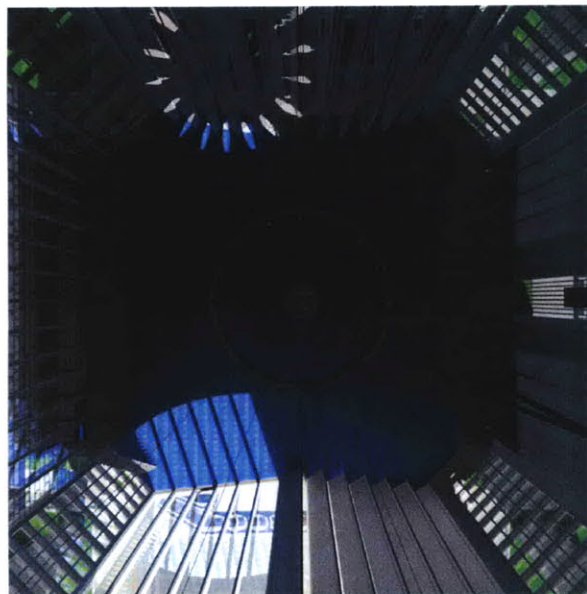
morning sun light is filling the space from this side and casting intricate shadows of the structural elements and the illuminated glazing into the prayer hall.



Noon prayer 12:49



Afternoon prayer 17:30



Evening prayer 19:25

Fig.39 Simulation of varying lighting conditions during the prayer times.

4.2.2.2 Exterior-interior relationship

Dalokay designed many instances where inside-outside relationships could be experienced. In particular the lower horizontal opening on the qibla side would have enabled people to connect to the green belt surrounding the mosque and further to Ankara's cityscape. The vision could be also metaphorically extended towards the Ka'ba. (Fig.40)

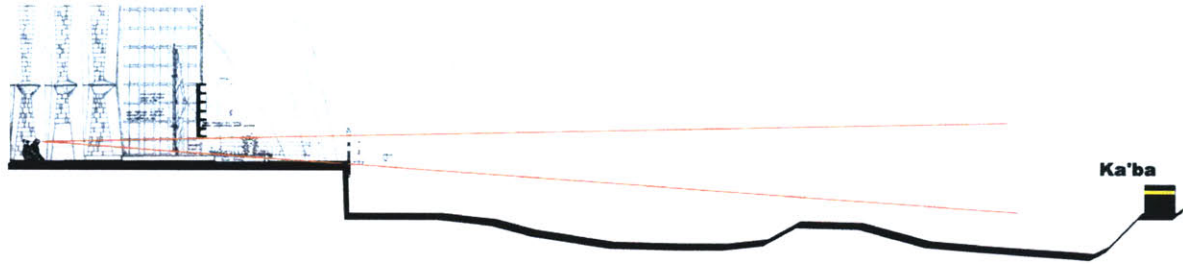


Fig.40 Metaphoric extension of view to the Ka'ba on the qibla wall opening.

4.2.2.3 The fountain in the main prayer hall

'Cleanness is half of the belief,' (hadith) is constantly repeated by the prophet. Every Muslim is supposed to clean his body from head to toes five times a day before entering the mosque. Nevertheless, fountains in prayer halls are not conventional mosque features. The prayer hall is regarded as sacred and cannot be entered without the ablution procedure before; therefore mosques usually have the ablution fountains outside prayer halls. One of the exceptions, is the Great Mosque of Bursa. It has an ablution fountain inside the prayer hall. (Fig.41) The fountain there is regarded as a 'mundane' spot in an otherwise religious space. Dalokay, however, uses the fountain not with a practical function attached, but as a marker, which accentuates the center of the space.



Fig.41 Ablution fountain in the Great mosque of Bursa.

The sound of water, moreover, adds calmness and spirituality to the space, symbolizing the metaphysical cleanness. Dalokay used such spiritual symbolism and expressed it in the prayer hall.

4.2.2.4 Sinan's legacy: The dome openings

Another symbolic feature that Dalokay made use of, are the openings on the dome. (Fig.42) The prayer hall is already filled with plenty of light penetrating from all four elevations; therefore the dome openings

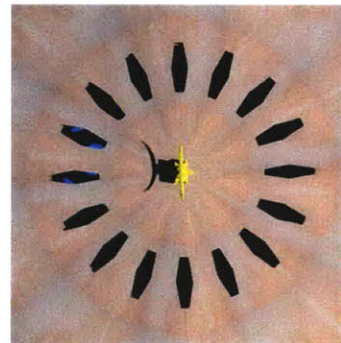


Fig.42 Dome openings.

do not have a practical function of illuminating the space, but rather tacitly refer to Sinan's dome fenestrations. (Fig.43)

4.3 Comparison of Dalokay's and Tayla's projects

4.3.1 Consideration of the urban context

Dalokay's proposal certainly had a more 'humble' interaction with its surrounding. The closer context played a crucial role in determining Dalokay's design; his mosque proposal implemented large green open spaces and social facilities that would have invited people to visit and spent time at the complex. On the other hand, according to Dalokay, Tayla's mosque acts like a 'grim tyrant' (Iltus-Topcuoglu, 1967:69), with its immense size and the way it 'occupies' the hill. (Fig.44) Financial considerations and a vicious contest on size and quantity rather than quality of space and social interactions were the causes of the outcome.



Fig.43 Dome openings at the Suleymaniye mosque, Istanbul.

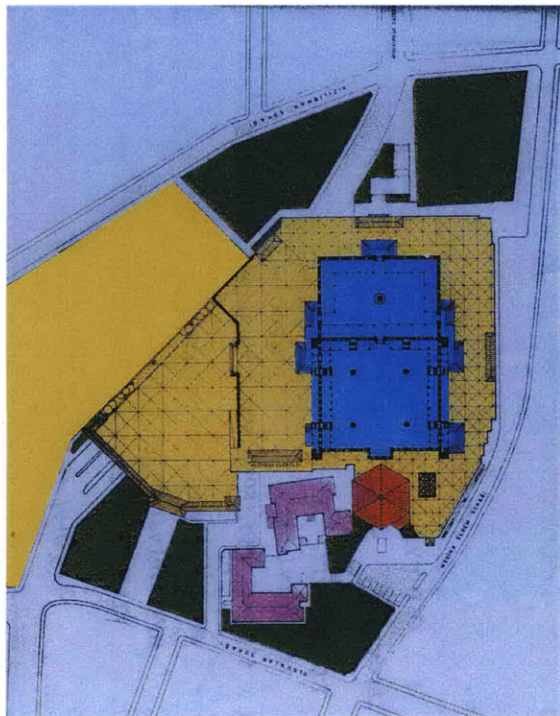


Fig.44 Occupation of space, left: Tayla, right: Dalokay.



Fig.45 'Tayla's mosque occupies the space like a grim tyrant' (Iltus-Topcuoglu 1967:69) above: Tayla, below: Dalokay.

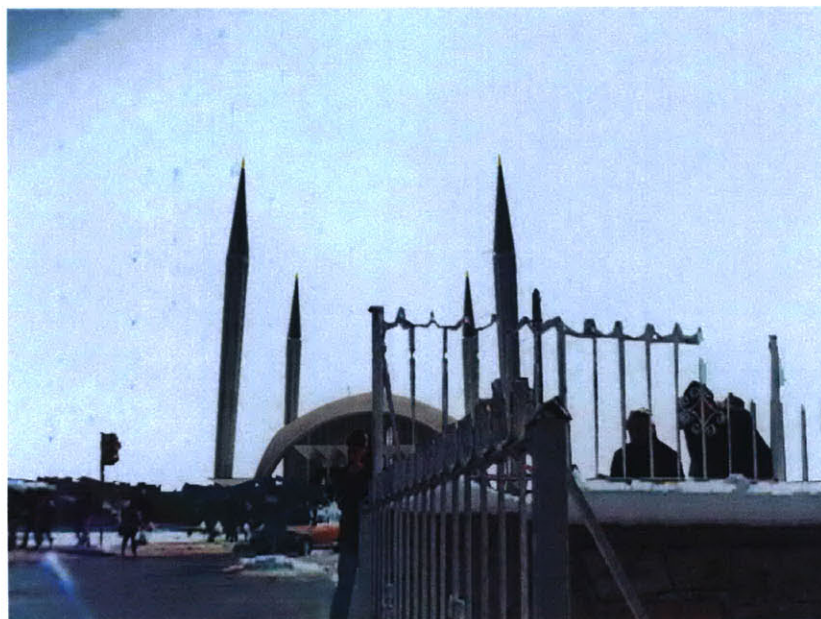


4.3.2 The spatial experience of the main approach

The main approach of Tayla's complex is from the north that also corresponds to the main entrance of the shopping mall. The scale of the mosque is experienced even larger due to the steep slope from the main access direction on the north. (Fig.46) The animation helps to understand the exterior and interior space and the scale of Dalokay's project, by showing the approach to the mosque and exhibiting the main features. (see animation)



Fig.46 Approach from the from the north.



4.3.3 Quantitative Comparison of Dalokay's project with Tayla's project.

Tayla's project differs drastically in size from Dalokay's proposal. It can house nearly ten times more people for prayer and exceeds Dalokay's project in every quantitative comparison, (Fig.47-48) and not only the dimensions of the mosque are different, but also the program. A main shift in the mind-set regarding the concept of the mosque occurred. Dalokay's program, in addition to Tayla's program, included a Higher Institute for Islamic studies, a policlinic for the poor, housing for the clergy, a museum and a bazaar which should serve as a financial source for the support and maintenance of the mosque.

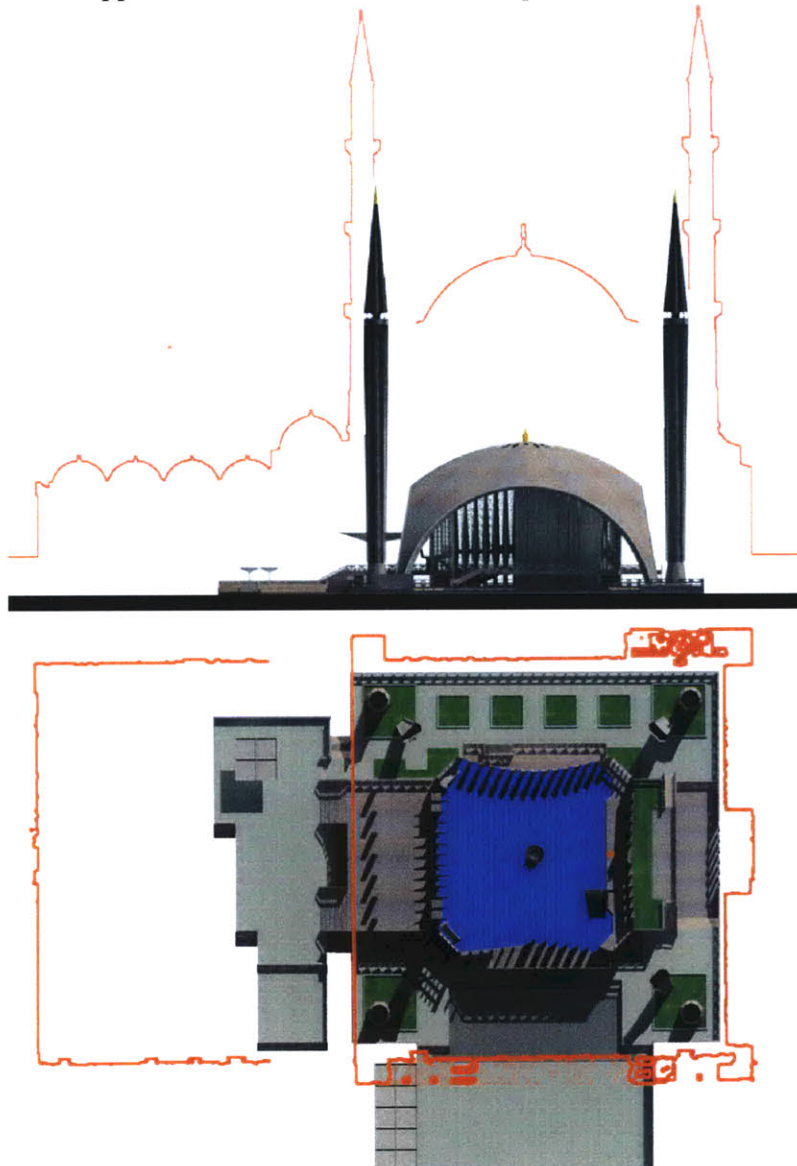


Fig.47 Superimposed elevations and plans shows the difference in size.

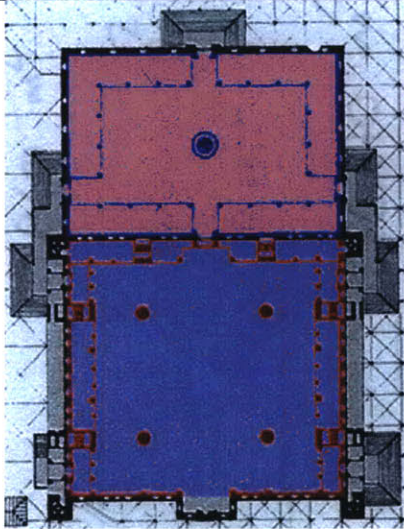
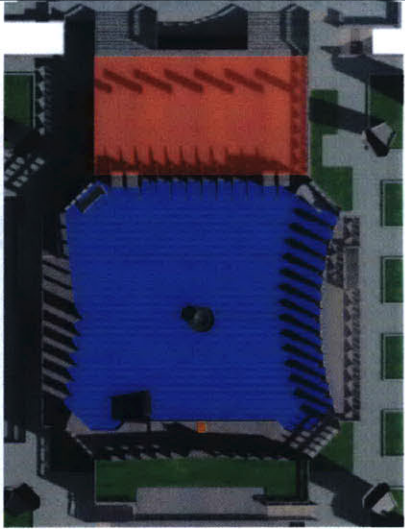
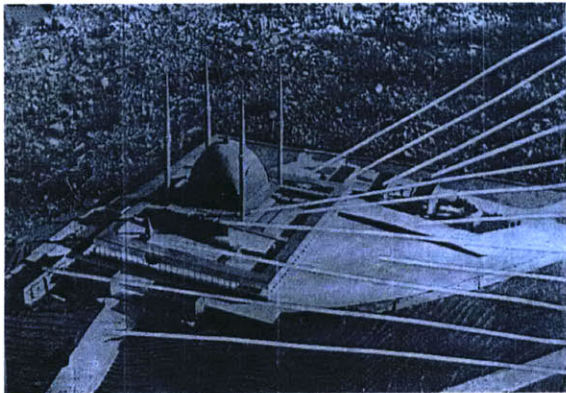
	Tayla	Dalokay
In plan: In red: open praying space. In blue: enclosed space.		
Enclosed prayer space:	64m x 67m = 4,288m ²	36m x 36m = 1,296m ²
Open prayer space:	39m x 60m = 2,340m ²	16m x 28m = 448m ²
Enclosed praying space for:	15,000 people	2,000 people
Open prayer space for:	9,000 people	500 people
Car Park	800 cars	200 cars
Green space	-	10,000 m ²
Height of minaret	88m	80m
Height of dome	48.5m	32m
Ancillary buildings:	<ol style="list-style-type: none"> 1. Offices for Religious Affairs, 2. Conference Hall, 3. Library, 4. Place to wash the dead, 5. Supermarket (for the maintenance of the mosque), 6. Car Park 	<ol style="list-style-type: none"> 1. Offices for Religious Affairs, 2. Conference Hall, 3. Library, 4. Place to wash the dead, 5. Tourist Bazaar (for the maintenance of the mosque), 6. Car Park, 7. Higher Institute for Islamic Studies, 8. Museum, 9. Housing for the priests, 10. Polyclinic (for the poor).

Fig.48 Quantitative Comparison.

4.4 The marginalization of religious space

Dalokay designed his project according to the 'kulliye' concept, that relates to a 'Gesamt' mosque idea; an agglomeration of various social buildings around the central mosque. (Fig.49)

DALOKAY-KOCATEPE



Kulliye Concept

- 1 Library
- 2 Secondary School
- 3 Dormitories
- 4 High. Inst. for Islamic Stud.
- 5 Main Prayer Hall
- 6 Funerary Prayer Space
- 7 Funerary slope platform
- 8 Open Prayer Space
- 9 Kitchen for the poor
- 10 Ablution court
- 11 Hospital
- 12 Bazaar

SULEYMANIYE

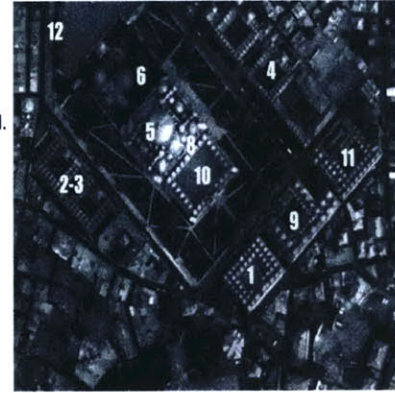


Fig.49 Dalokay's project relates to the 'kulliye' concept.

In Tayla's proposal those social institutions were relinquished in favor of car parks and a huge shopping mall. (Fig.50) As a matter of fact it was Dalokay's project which followed the Ottoman mosque paradigm, even though using a 'modern' form vocabulary. His project was 'prepared in light of extensive investigation of earlier built mosques, with the tools and technology the contemporary world provided.' (Religious Affairs Pamphlet, 1957:5)

If so, one important question emerges. Is the detachment of social functions from the mosque complex in Tayla's proposal deliberate? Was the Turkish state intentionally creating certain societal rituals and routines that would present historical continuity as an impediment of progress and change? The symbiotic relationship between the school, hospital, library, cultural center and mosque was destroyed, by which the mosque institution marginalized; as the attending people did during the process. Shortly, the mosque lost its cohesive social functions and became a historic monument that has no place in the future of modern Turkey but belongs to the past. I would argue that even though a deliberate involvement of the state is hardly palpable



Fig.50 Under the mosque, a shopping mall: Can any means be used for the financial support of a mosque?

and the reasons are more likely to be the ones explained in chapter 3, the outcome certainly served the secular ideals of the Turkish state.

4.5 Conclusion

Dalokay's Kocatepe Mosque concept is important, because it is an attempt to re-create the classical ottoman mosque with new means and as such constitutes a main point in the mosque evolution. While still bearing 16th century codes with its main dome and four minarets accentuating the corners, it brought creative details and new spatial qualities. The use of exposed concrete, the innovative play of light, the visual integration between inside and outside were 'modern' notions, which are absent or have different expressions in Ottoman mosques. Yet exactly these innovations within a broader Ottoman superstructure make this mosque a transitional building for a future design to evolve that could reflect 'the spirit of its time.'

Besides its physical importance, the ideological debates around the project gave insight to the political climate in Turkey. Particularly interesting is how certain architectural styles were charged with political symbolism. Modernism and the international style were equated with the young Turkish republic, reflecting the states' emphasis on statism, secularism, progressivism and westernization. Traditional local styles, on the other hand, represented the ideological 'other,' reactionary, backward, obsolete, ottoman par excellence. 'Yeni mimari, the new architecture, effectively legitimized the architect as a 'cultural leader' or an 'agent of civilization' with a passionate sense of mission to dissociate the republic from an Ottoman and Islamic past.' (Bozdogan, 1997:138) Consequently, as much the problem of the Kocatepe mosque is a matter of style, it is a struggle of ideologies. Certainly it is a lost opportunity which could have mediated between two oppositional groups, by creating a base on which both sides could have shared common values and be a part of a larger whole.

However, once ground for political debate, the concern nowadays seems to relate more to the formal expression of the mosque. The current spread of pseudo-ottoman mosques all over Turkey

dissatisfies not only liberal but also conservative circles. It is worth mentioning that the expectations and world view of the far right in Turkey has dramatically changed since the 50's. Once promoting the return to the 'fundamentals,' to the 'real Islam,' and advocating the sharia (Islamic law) over democracy, today Islamists are embracing liberal democracy, are hard-line supporters of joining the European Union, and of broadening civil liberties and human rights. This shift in the mind-set, due to the replacement of the provincial, uneducated partisans by the younger well educated generation, runs parallel to the change in aesthetic choices, which can be observed in architecture and also in transformations in clothing, music, the usage of technological appliances etc. Indeed, a recent poll shows that the majority %53 of the conservative population wants 'a mosque, which reflects the technology of its age' and only %8 favors a 'classical revival.' (Mimar'in Sitesi)

The Convergent Mosque

5.1 The convergence of spaces

Sinan's architecture certainly had an important impact on the collective memoirs of the Turkish society, which also can be observed in Dalokay's 'modern' mosque proposal. What is the importance of Sinan's architecture? In other words, what is the relevance of a mosque paradigm accumulated over centuries in the 21st century?

In the digital age the ubiquitous digital presence of people simultaneously at different places is challenging established architectural norms. The change in perception requires not only a contemporary rendition of the Islamic theological teachings but also a new mosque paradigm to emerge. The challenge for the contemporary architect, therefore, is to overcome formal dogmas regarding religious architectural traditions and propose new spaces that fit the digital age.

Chapter 2 illustrated that many mosque features we usually take for granted were actually context based and relative to region and time, and that there is no prescribed architectural typology for Islamic rituals; therefore liturgical elements invented over centuries are open to re-interpretation. How would virtual 'reality' affect existing mosque features? How would it transform practices and rituals without falling astray to theological paradigms? What kind of social, cultural and religious implications would it bear?

5.2 The redefinition of the mosque

5.2.1 Background: Internet and Architecture

I developed the convergent design for the highway chapel during the 'Internet and Architecture' course at the Graduate School of Design at Harvard University. The concept of the course was to develop new approaches for existing architectural models by redefining 'traditional' spaces for everyday activities such as shopping, learning, working, praying, playing etc. by converging physical spaces with virtual domains. The basic idea behind the course was to apply Vitruv's function (utilitas), solidity (firmitas) and aesthetics (venustas) to the future 'click-and-mortar' architecture, so to speak.

5.2.2 A new mosque paradigm: the highway masjid

The highway masjid is a type of mosque, which has emerged in Turkey over the last decades. The mobilization of the society and increasing construction of public roads were the main reasons for the creation of highway masjids, which serve solely for drivers and offer them a clean space for their religious needs.

Although the highway masjid is physically distant from the urban context it tries to connect by its very definition, to an 'imagined' community, which is physically non-present. The centralized rituals in Islam foster this idea of a global Muslim community. Thus the theoretical centralized model of Islam enables a strong symbiotic convergence of virtual and physical spaces, that is based on four main concepts: the correspondence of form with function, the visualization of users, customization of space, and the design of interconnectivity.

5.2.2.1 Correspondence of form with function

There are many institutions, companies and organizations that have both physical and online representations, for instance the bookstore Barnes and Nobles, has physical stores and an online portal barnesandnobles.com. Many other organizations, companies and higher education institutes have similar online outlets. Even though the physical and virtual appearances have common names and similar services in both environments, most of the physical spaces have weak or no relationships with their online outlets.

The convergent designs have to be viewed holistically, as a single entity. Therefore symbiotic relationships between the two different mediums have to be created.

In order to achieve such a symbiosis I decomposed the mosque into its particular functions and figured out which medium would suit them better. The mosque consists of the following activities: calling for prayer, ablution, preaching, praying, learning and socializing. (Fig.51) The determination of space would be according to appropriateness and richness of emotional experience and potential for data gathering and learning. Although some activities can be performed either

Functions of religious space	Physical aspects of function	Virtual aspects of function
Call for prayer	<ul style="list-style-type: none"> • Use minaret to broadcast the 'adhan' and to indicate the location of prayer space 	<ul style="list-style-type: none"> • Work with online and SMS 'adhan' service providers • List web-portal on affiliated web-sites and search engines
Ablution	<ul style="list-style-type: none"> • provide ablution fountain 	<ul style="list-style-type: none"> • list tutorials for how to execute ablution
Preaching	<ul style="list-style-type: none"> • provide screen and required equipment for the projection of preach from Ka'ba 	<ul style="list-style-type: none"> • open portals for listening and watching previous or/and future khutba's and preaches
Praying	<ul style="list-style-type: none"> • offer space for praying postures like sitting, bowing and prostrating 	<ul style="list-style-type: none"> • provide portals for people to attend prayers
Learning	<ul style="list-style-type: none"> • provide Imam for consultation and technical issues 	<ul style="list-style-type: none"> • provide portals for online educational programs • Supply multimedia applications in both audio and video
Socializing	<ul style="list-style-type: none"> • create new or modify existing spaces for socializing 	<ul style="list-style-type: none"> • Create chat rooms, billboards • Create visually an awareness of the presence of others

Fig.51 Break down functions into component activities.

physically or virtually, for instance one person cannot perform praying or ablution online, many activities can be distributed between the two realms. The bubble-diagram in Fig.52 shows the different functions and their relationships in order to define the priorities and hierarchies among activities and determine desirable proximities and connections.

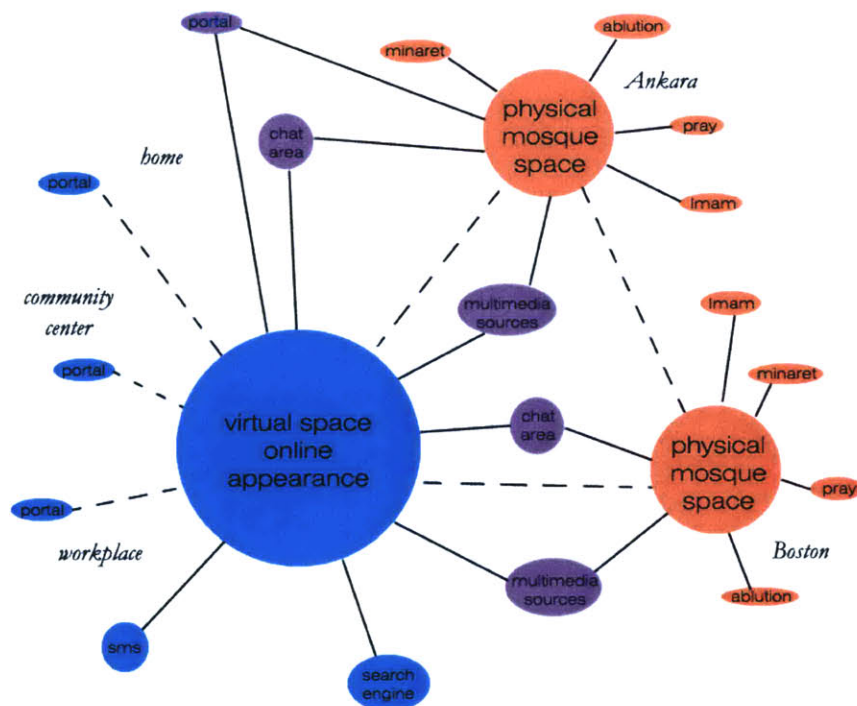


Fig.52 Bubble diagram showing relationship between physical and virtual spaces. While certain functions can be executed either in the physical space (red), or in the virtual space (blue). Some functions fit in both spaces (violet).

5.2.2.2 The visualization of users

The main challenge of the convergent mosque is to connect people in both virtual and physical realms and make the boundary of these spaces as thin as possible. Making people aware of the presence of other users is important, because the ‘togetherness’ is essential in Islam and fosters the community feeling. Physical mosques offer sensual and social experiences. Some people are spending the whole day at the mosque to socialize make new friends-without necessarily joining the mass. Islamic web-pages on the other hand, emphasize on efficiency and provide users with the easiest way to find any subject as quickly as possible and in most web-sites the presence of online users is absent.

This fact can also be observed in e-learning classrooms, virtual offices, online museums etc. Online visitors, therefore, spend no extra time in virtual spaces, basically because the motivation and the social glue is not there.

Similar to traditional mosques the convergent mosque should provide a ground on which online users can have a sense of visitors joining from other physical spaces. Digital video and conferencing technologies can overcome geographic boundaries and provide a place to see and pray with each other in real-time, even though they would be physically distant to each other.

5.2.2.3 Customization

Web-sites can be customized by users. Customization is currently not possible in physical spaces. 'But, indeed the hallmarks of convergent architecture will be its use of Internet technologies to personalize space.' (Huang, 2001:8) Architecture always had to compromise between rigidity and flexibility. On first sight it might be desirable to have space that can adapt many functions, but buildings tend to lose the integrality and coherence as they become more adaptable.

The structure, which integrates the physical and virtual realms in convergent designs, is the data. The database can quickly transform architecture to the needs and preferences of individual users, which in turn produce flexibility without compromising on coherency of a building.

5.2.2.3.1 The Interface of the Highway masjid

The convergence in the highway masjid works basically like that: A person enters personal information into the database and receives a password. While accessing a masjid on the highway he/she simply

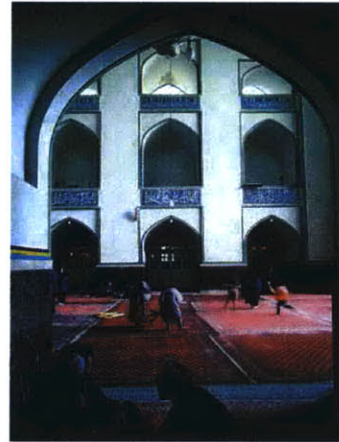


Fig.53 Mosque as a space for socializing, example of Gohar Shad Mosque, Iran.

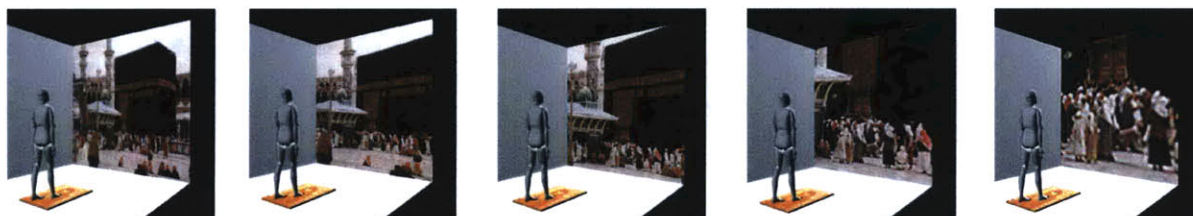


Fig.54 Sequence showing physical interaction with virtual space.

inserts the information and the proper interface appears, which would be basically a customized interactive real-time web-stream of the Ka'ba, that is based on two attributes: interactivity and data transmission. The application of virtual reality technology would respond and work according to the physical movements of the person, i.e. forward steps would work like zoom events. (Fig.54)

Mouse events are triggered through physical involvement of the human body and connected by micro controllers with the virtual space (Fig.55) reinforcing the 'reality effect.'

The design of connectivity in the highway chapel consists of login in - log out features that enable to customize the online experience with help of personal data input. The interface (Fig.56) could incorporate

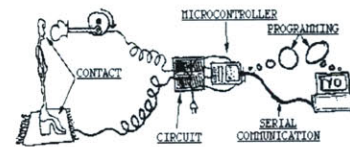


Fig.55 Communication between body motion and interface through micro controllers.



Fig.56 Interface of convergent mosque.

online sources that are already on the World Wide Web, such as the Qur'an, or educational religious movies or relevant preaches of the Religious Affairs. The language would adjust for the audio spread in the masjid. For instance, someone could exercise reading the Qur'an with the right pronunciation (tecvid) that is something esteemed in Islam, even though the person might not know Arabic and do not understand it. Details of every exercise could be stored in a database, ensuring that all masjids adapt to the persons progress. People could also access the online version at home and track their own process and might continue exercising.

5.2.2.3.2 The Ka'ba for web-streaming

The reason I chose the Ka'ba for real-time web-streaming is because the Ka'ba is not a mosque, but a symbol of God's house and is acknowledged by the Muslims as the most sacred place on earth.

Behold! We gave the site, to Abraham, of the (Sacred) House, (saying): "Do not associate anything (in worship) with Me; and sanctify My House [Ka'ba] for those who compass it round, or stand up, or bow, or prostrate themselves (therein in prayer). (Surah 22, Vers 26, The Qur'an)

All mosques, as explained in chapter 2, have to face the Ka'ba, and therefore it is the center of the Islamic faith. The projection of the Ka'ba would support my argument for a universal religious paradigm, because it is the only edifice on which every Muslim in any region in the world would agree upon. Streams of any local mosque would not create the universal impact; for instance a far eastern mosque could be more foreign to Turks than even a regional church. Therefore the most suitable edifice to web the Muslim community is the Ka'ba.

5.2.2.4 Designing connectivity

The access of the personal computer is limited mainly to a keyboard, a mouse and a monitor placed on a desktop. The problem of any conventional monitor is its scale; it is not in accordance to the human scale, which makes human engagement in the virtual space very difficult. In the digital age however, new ways of accessing information emerged, a lot of new interface devices, both fixed and mobile, such as walls, ceilings and even floors can become access points to the World Wide Web. The challenge for the contemporary architect therefore, is to choreograph the content into its context, which was an important consideration of architecture throughout the ages.

For example the Sumela monastery in Trabzon (Fig.57), in northeast Turkey blends perfectly into the landscape, by becoming an extension of the rock. The monastery is a very good example of the symbiosis that can be achieved between architecture and a site. 'a well designed structure underscores, amplifies and draws strength from unique qualities of place.' (Huang, 2001:11) The future mosque must achieve



Fig.57 Sumela monastery in Trabzon, 345 AD. Convergence of context and content.

a similar symbiosis between content and of information provided through the Internet and the physical context in which that content is accessed. For that matter there are three challenges, first selecting the right place for the interface, second choosing the right input and output devices and third making sure that the right content is delivered by proper means at the right time. For instance you don't want to have a mass from the Ka'ba broadcasted on a Palm handheld, or a simple dense text displayed on a large screen in a prayer hall. The content of data has to be appropriate to the means of display.

5.2.3 New ways of calling for prayer: the minaret reconsidered

The minaret had practical functions; being a structure for the imam to call for prayer, guiding people through the townscape, being at certain times beacons or watchtowers. It served also symbolically as vertical landmarks in otherwise horizontal settlements; expressed the religious identity of the place, and exhibited the spiritual associations explained in chapter 2.

In the digital age some practical functions of the minaret are no more valid. The muezzin never walks up the minaret-stairs, instead uses electronic audio equipment on the ground floor. In Turkey, furthermore, the adhan is called by a central system, which broadcasts the calls to each minaret in the town, so that calls for prayer start simultaneously at each mosque, and no chores of adhans occur. A more recent approach of technological applications is the utilization of the cell-phone as a new way to call for prayer. A Muslim affairs website 'Azzan,' offers a 'call to prayer' service that sends mobile-phone text-messages to 125,000 people who have registered for it. (BBC)

However the minaret still marks the position of a mosque and incorporates the symbolic connotations. If the needless functions were to be purged from the emerging minaret design it could gain an authentic expression of its remaining functions, that are reduced to indicate the location of the mosque and to call for prayer. The abundant street signs on highways can be a source for inspiration,



Fig.58 left: Minaret in south-eastern Turkey. middle: BP gas station sign on highway, right: Minaret on highway?

because they are designed according to speed, mobility and perception and utilize the impact of signs. (Fig.59)

5.2.4 The minbar and the mihrab: Outdated?

In the contemporary world the minbar is no more functional. As explained in chapter 2, the minbar was initially developed for the imam to have a raised platform for preaching. Nowadays, the khutba is already broadcasted over FM from a central mosque to smaller mosques in Turkish cities, yet the transmission is limited to audio. The existing interconnectivity can be extended to the whole Islamic community with the communication tools that the digital age provides: audio, video and interactivity. As explained before, instead of a Mess from a Turkish mosque the rituals at the Ka'ba are conveyed over the World Wide Web to any mosque. The use of such a projection would make the presence of the mihrab and minbar redundant, and would compensate their practical as well as symbolic functions.

5.3 Implications

5.3.1 Change in theological teachings

The convergent mosque establishes a centralized, lucid and direct religious paradigm. This would initiate the very fundamental Islamic notion of a universal practice, on which the Islamic community could agree upon.

5.3.2 Change in gender division

Traditional mosques physically separate woman and man. In a typical Ottoman mosque women are praying at the back or on a second floor to circumvent visual interaction. Only the Ka'ba has no gender separation; there, both genders are praying together. The convergent mosque functions as a spatial extension of the Ka'ba, thus the virtual presence of the Ka'ba could widen its physical features and alter gender divisions by creating a ground where both genders could pray on a more 'equalitarian' base.

5.3.3 Change in praying postures

The praying posture differs at the Ka'ba from other praying spaces.



Fig.59 New minaret (?) inspired by street signs.

Usually during the main praying postures, like standing, bowing (ruku), prostrating (Sajdah) and sitting the person is looking down to concentrate and not get disrupted. At the Ka'ba, on the other hand, the person always looks straight to the 'House of God.' The virtual extension of the Ka'ba could also change the posture accordingly.

5.3.4 Replacement of the qibla

The web-stream of the Ka'ba, converts the physical space into a virtual extension of the Ka'ba courtyard. In such a circumstance is it still vital to position the layout of the mosque according to the qibla? The use of the web-stream does not replace the necessity for a physical direction towards the qibla. The importance of the qibla direction is the physical involvement of the human body posed towards the Ka'ba and not the physical position of the edifice, because of that many churches were able to be altered to mosques without necessarily facing the Ka'ba and even today % 80 of mosques in Turkey are not exactly aligned to the qibla direction. Thus the relationship of body to Ka'ba would not alter with the introduction of the convergent mosque.

5.3.5 New role of the Imam

The traditional Imam, had to lead the prayer, had to preach on Fridays and make the call for prayer. Yet the convergent mosque no more requires the Imam to call for prayer or to assert the Khutba on Fridays. As a matter of fact, the employment of Imam's by the Religious Affairs to lead prayers, is actually theologically not suitable. Every Muslim is supposed to pray, and anyone from the Muslim community can theoretically lead the prayer. Therefore compensating the Imam for praying runs counter to Islamic teachings. Imam's therefore argue that they are employed by the Religious Affairs for maintaining the mosque, such as cleaning it, taking care of it, etc. and not for leading the prayer. The new role of the Imam would entirely fit into the theological model and would change the Imam's duties to maintaining the hardware and software equipment, instructing and teaching persons how to access information etc.

5.4 Conclusion

My proposal converges the physical and virtual realms in a mutually supportive way. The symbiotic relationship between the virtual Ka'ba and the physical praying space will require the presence of the other. Without the physical space the virtual Ka'ba projection would not satisfy the religious rituals; and without the projection the empty 'screen' would not create the required spiritual atmosphere and symbolism. Their 'togetherness' is the meaningful entity. Successful convergent projects in future will be the ones that create such relationships between virtual and physical spaces, because only they will conform to Vitruvius's tenets, and everything else will be redundant and constitute the decorative elements of the contemporary age.

Conclusion

6.1 The Mosque in the digital age

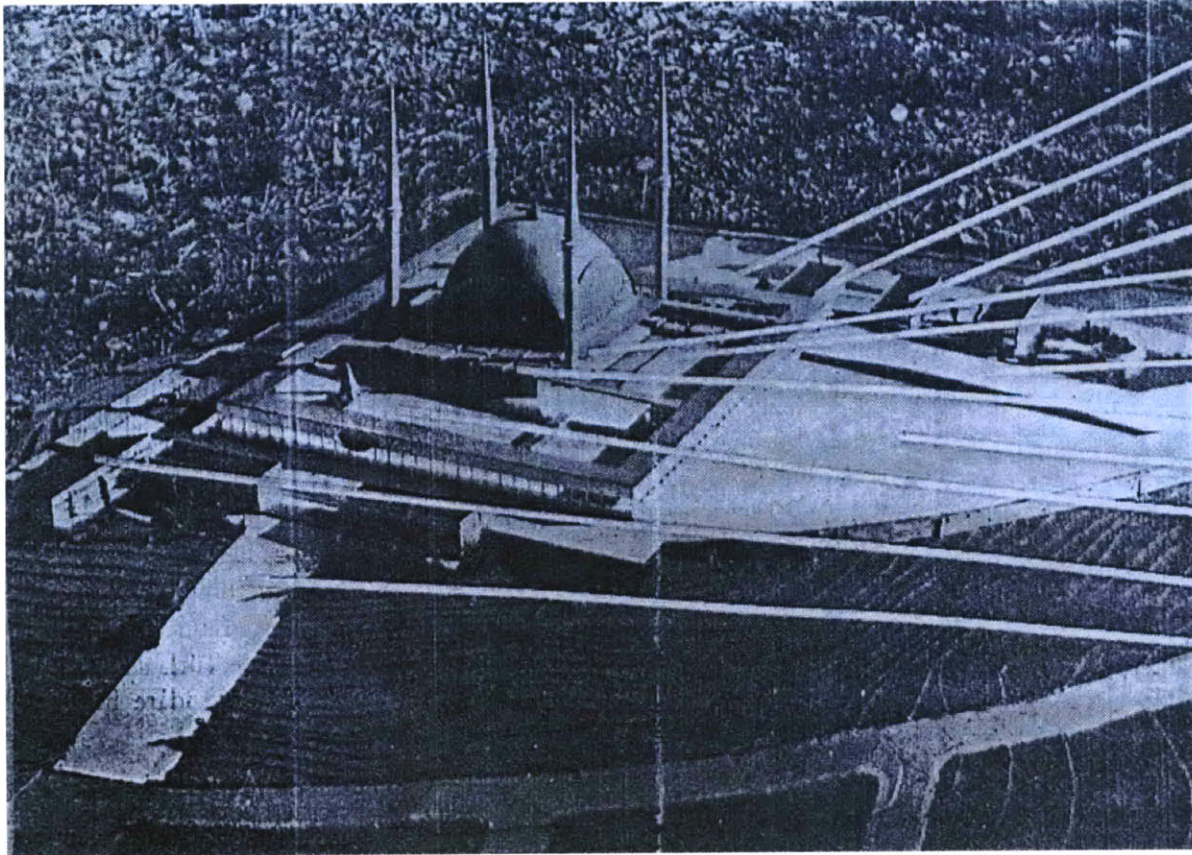
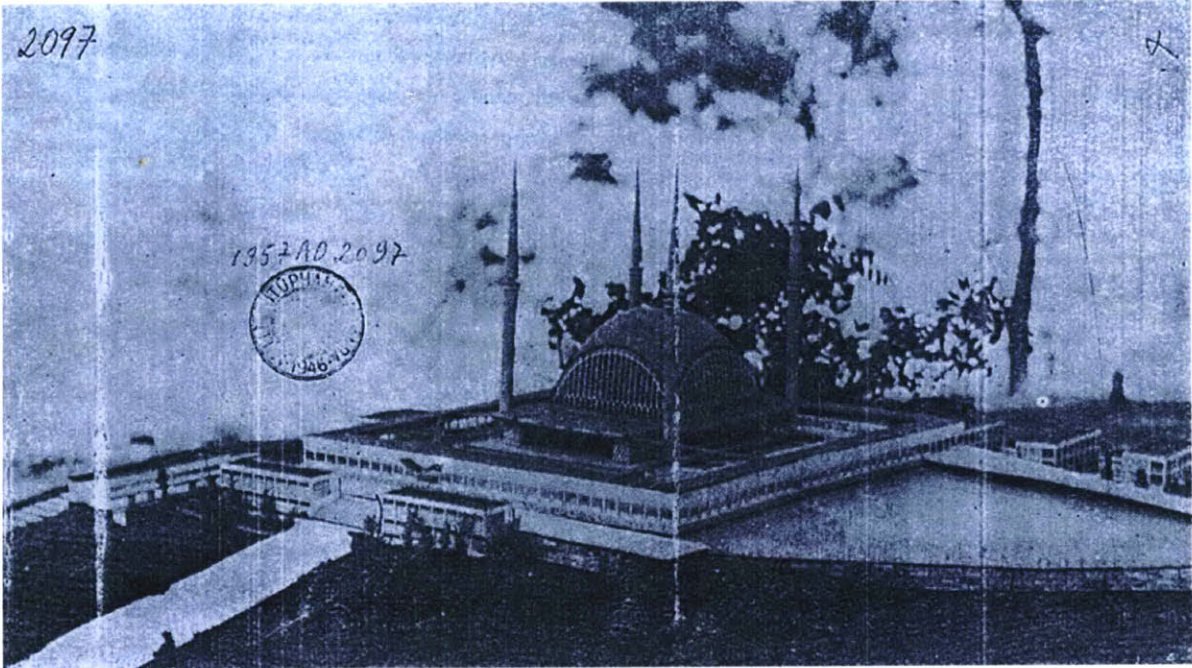
My thesis deconstructed and de-sanctified a lot of esteemed notions of 'Islamic architecture,' the ottoman classical style, the mihrab, the minbar, the dome, the minaret, etc. Instead I proposed a formless, faceless mosque; a blank projection wall, an interface reflecting the cold but yet important teachings of Islam, based on a universal theological system executed in a convergent space.

The digital age, similar to the early visionary modernist age, gives a chance not only to shape and change the physical environment but also to question social and cultural issues. The implications of the convergent mosque on social, cultural, political and religious levels are of great significance. Novel approaches hitherto have initially caused negative feelings. 'The railway, it was prophesized, would ruin the country side, the motor car the roads, and the airplane the upper-air.' (Le Corbusier, 1938:V) Some of the rejections might be inevitable, but the reality is that the human being is in constant change and always adjusts to new developments. As Le Corbusier argued, technological developments in the first site are repulsive, but they get part of life very soon if they have a vital reason for existence. Proper convergent designs for sure will change habits and behaviors of communities, alter political decision-making processes (maybe democracy itself will get a new understanding and application where the new "e-citizen" gets a bigger say), and it will certainly revise religious architectural 'traditions.' My goal was not to give an ultimate solution but rather trigger further studies in the field and maybe open paths for future theological works on the convergent mosque project.

Appendix

Dalokay's Initial Proposal

Above Fig.60 and below Fig.61:
Northwest view.



*Above Fig.62: South view; below Fig.63:
Southwest view.*

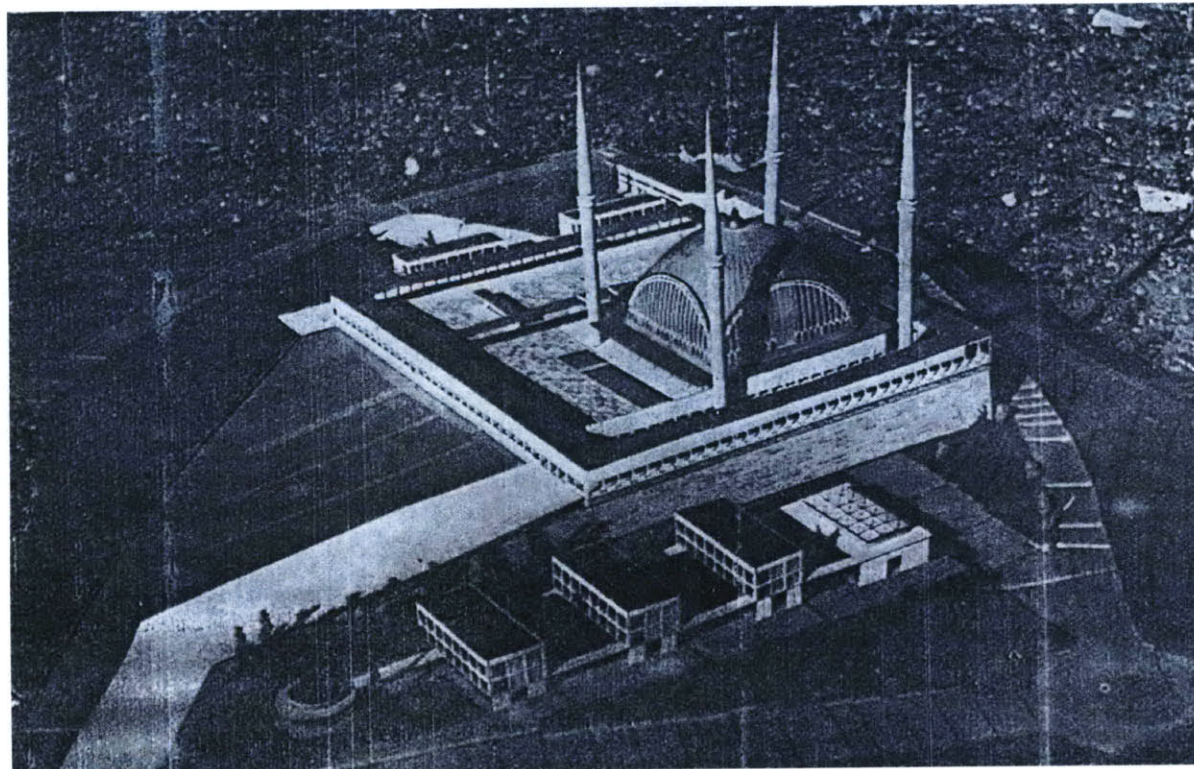
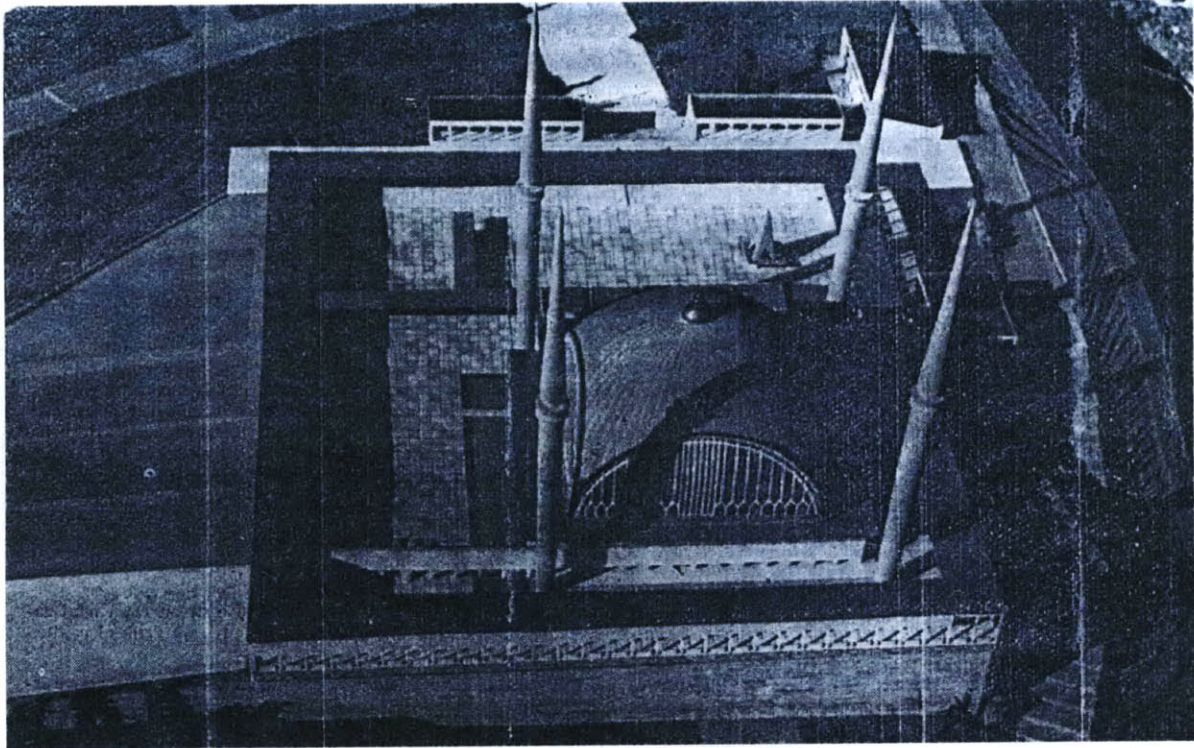
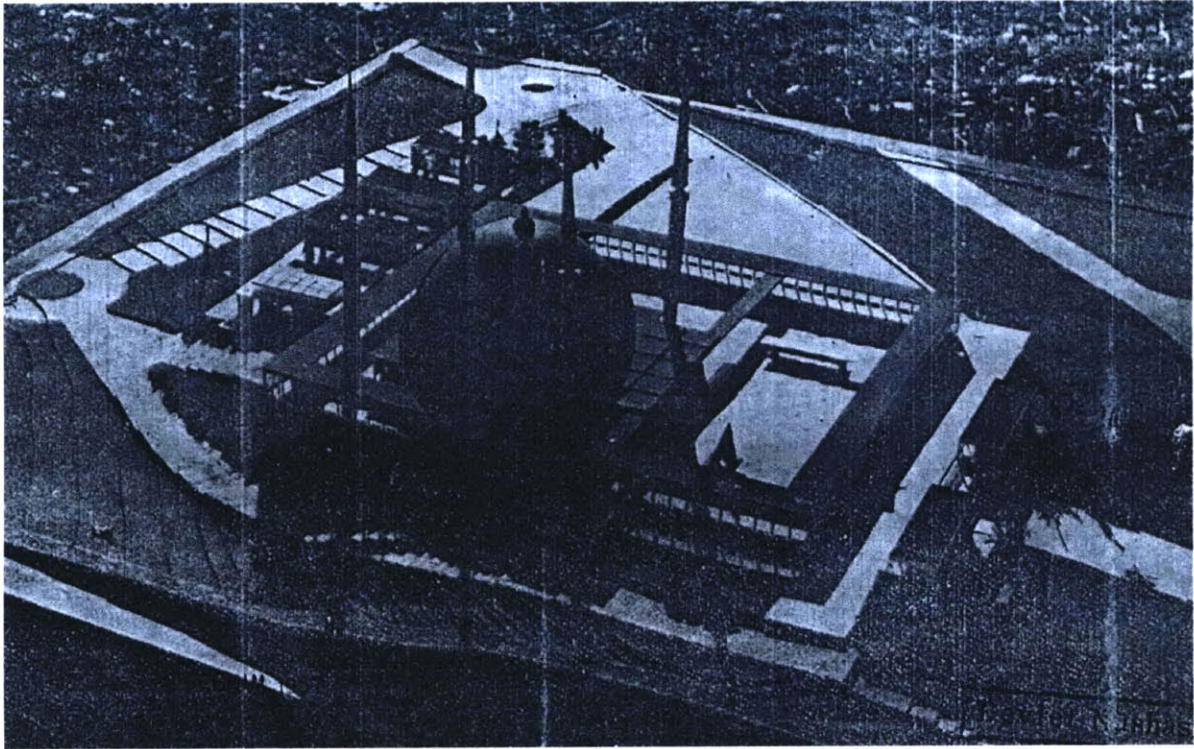
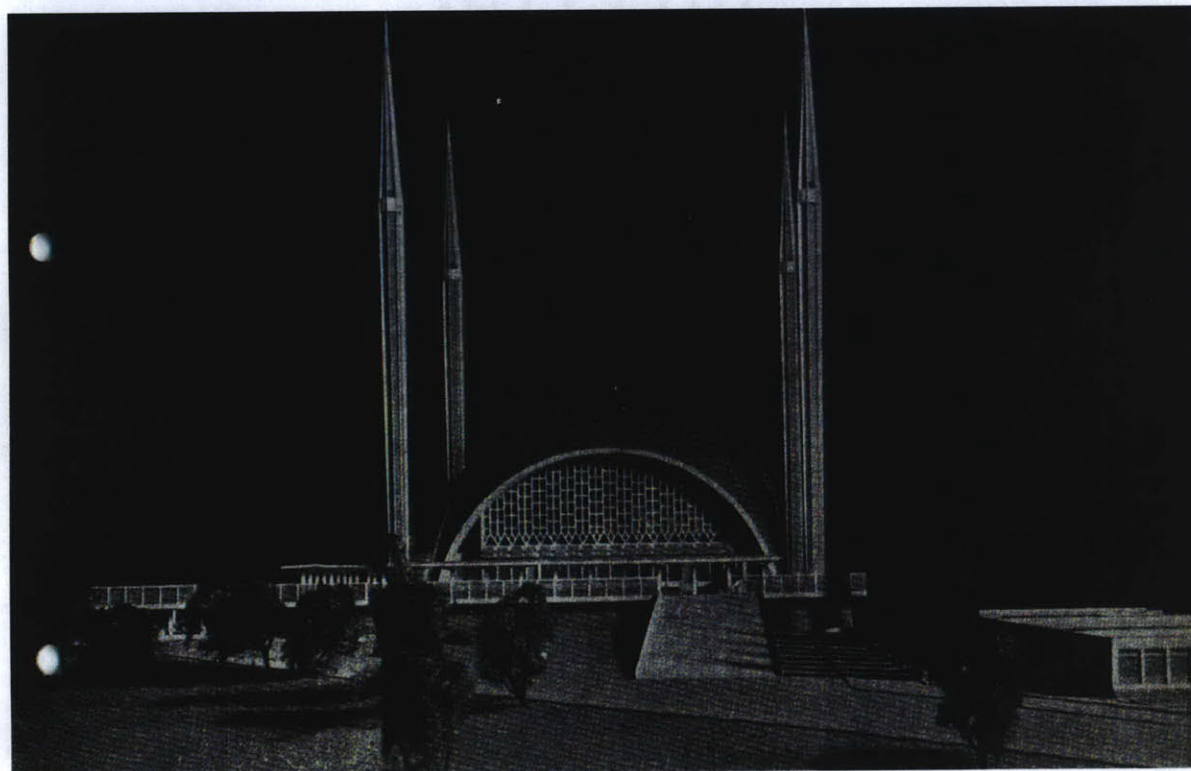
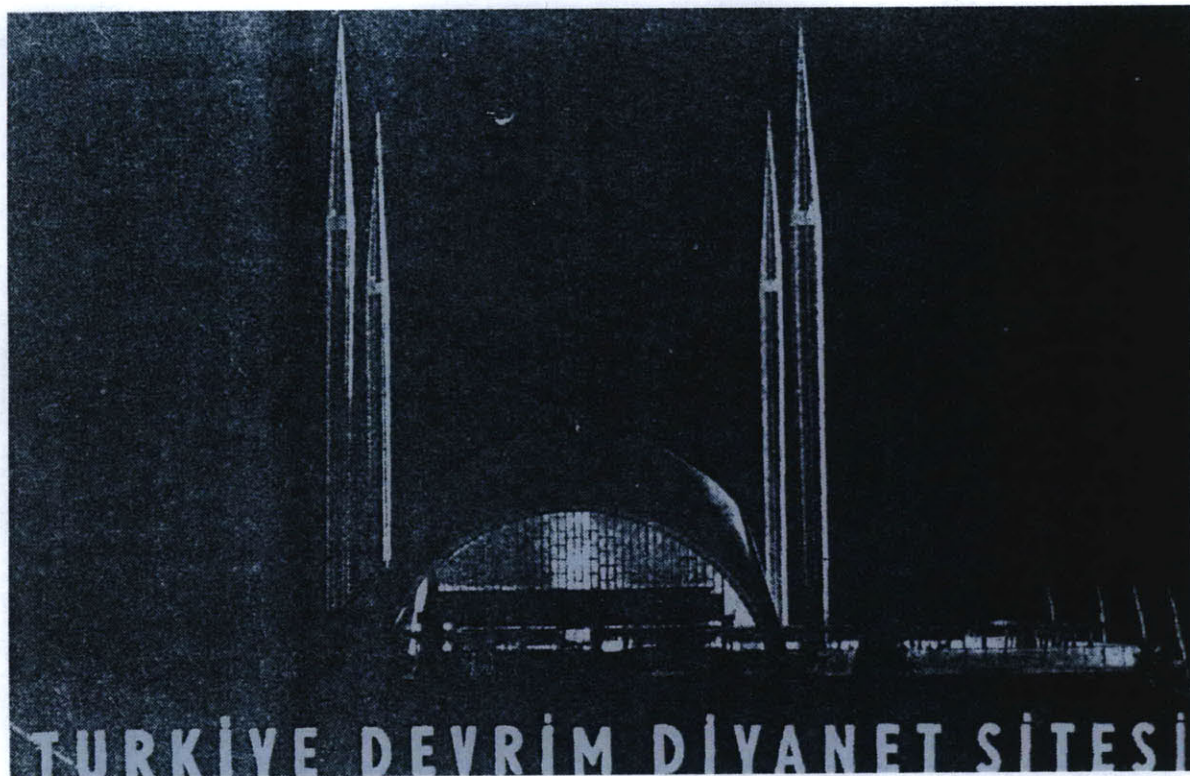


Fig.64 Northeast view.

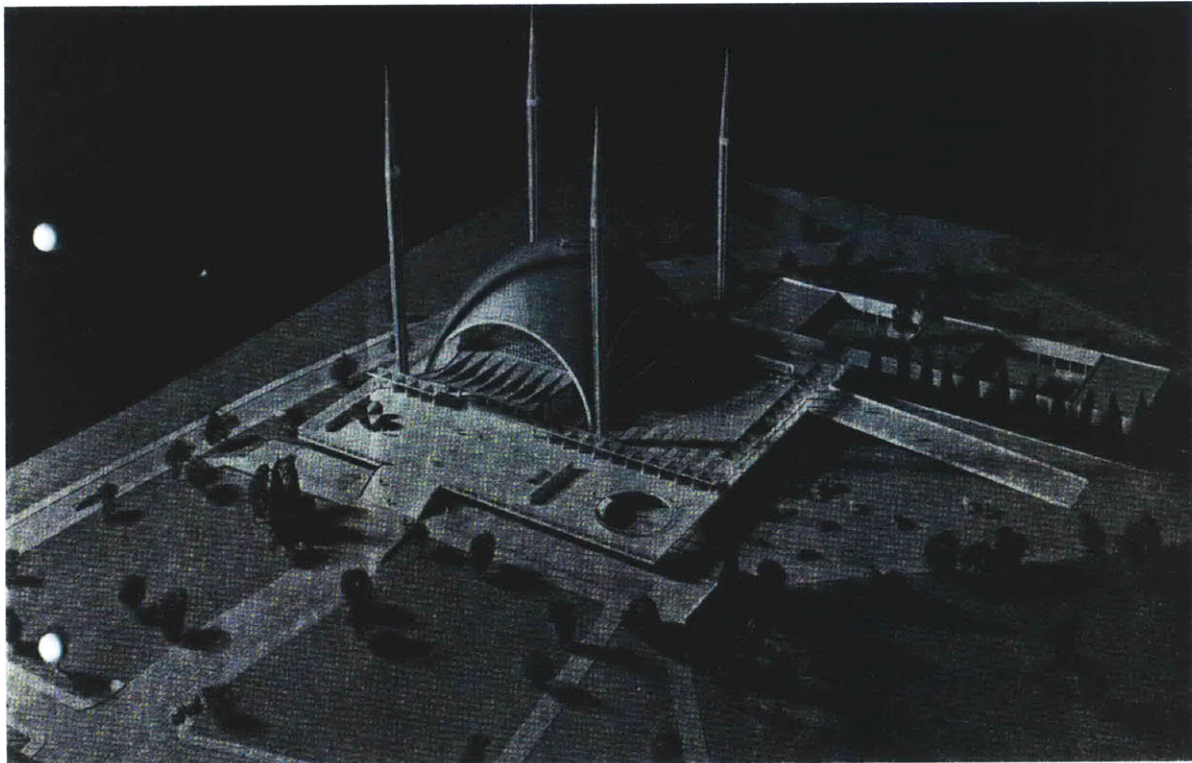
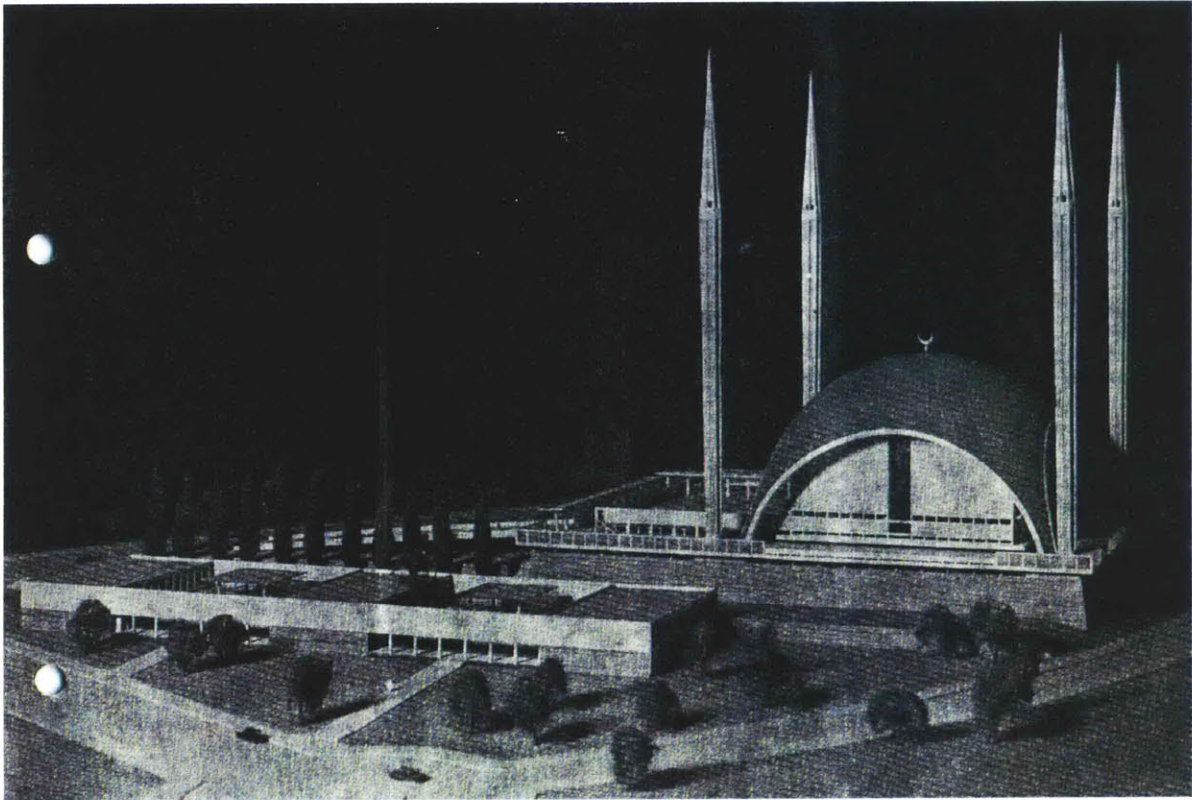


Dalokay's Revised Proposal

*Above Fig.65: North approach,
below Fig.66: West view.*



*Above: Fig.67 South view; below:
Fig.68 Northwest view.*



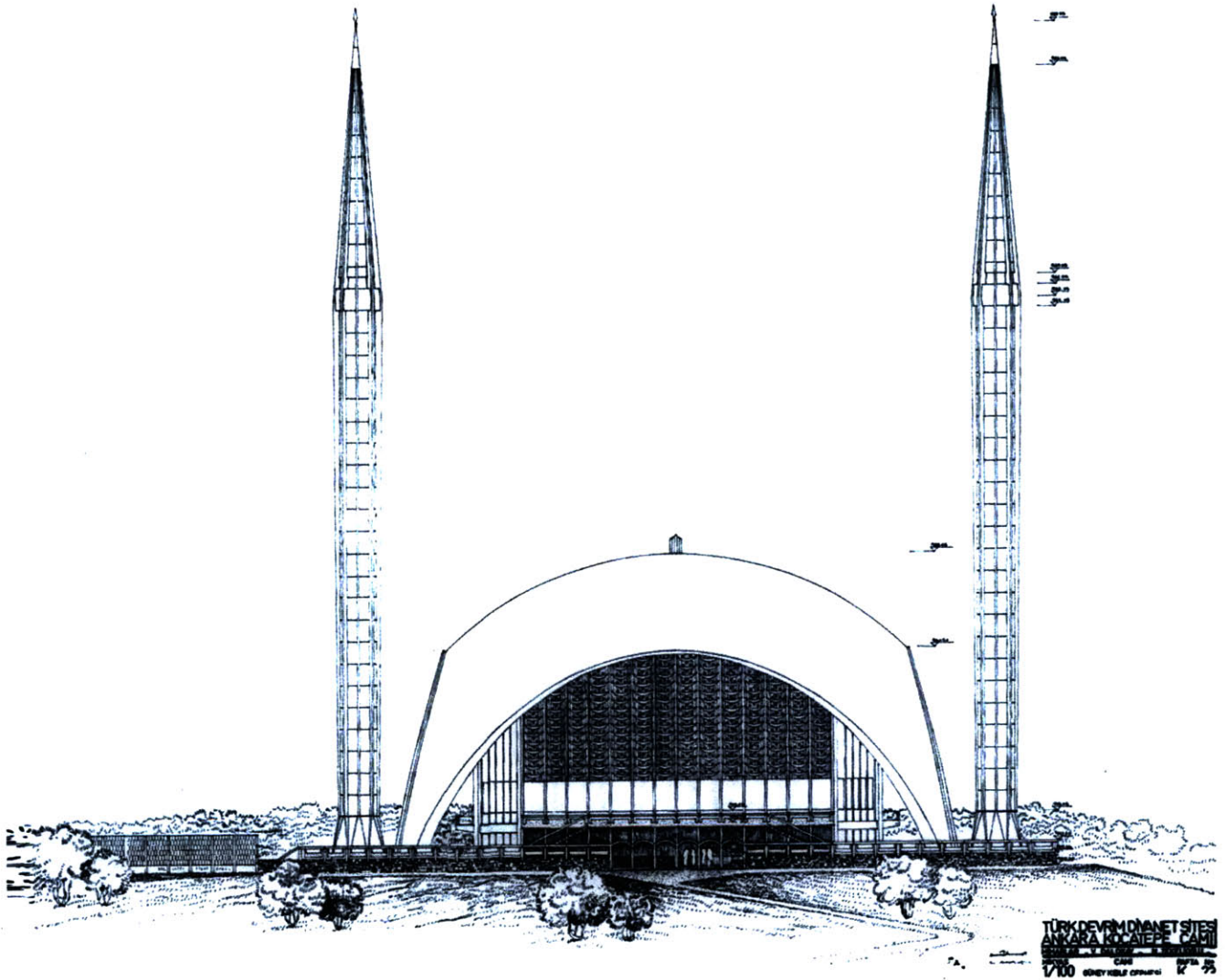


Fig.70: Basement Drawing.

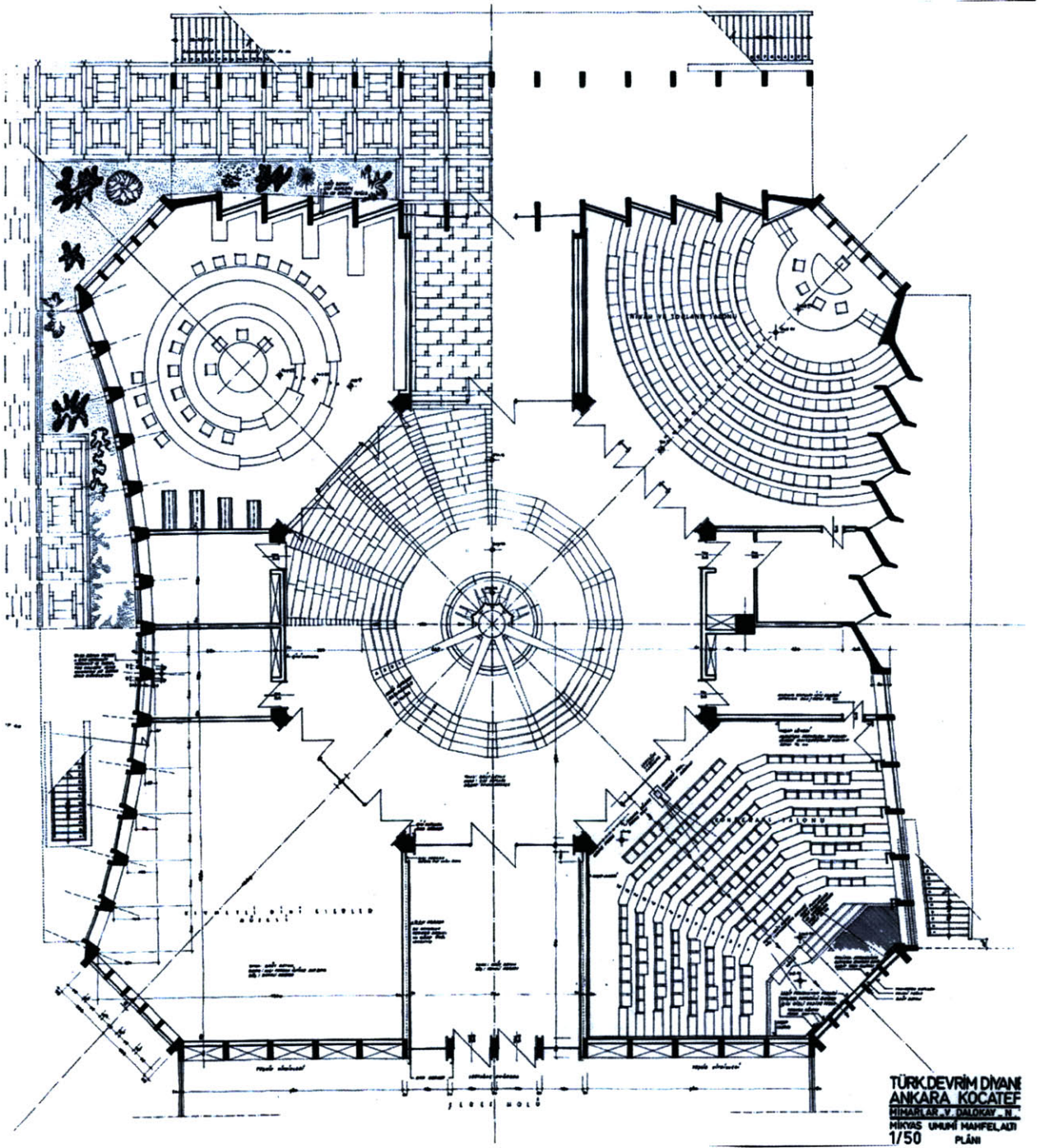
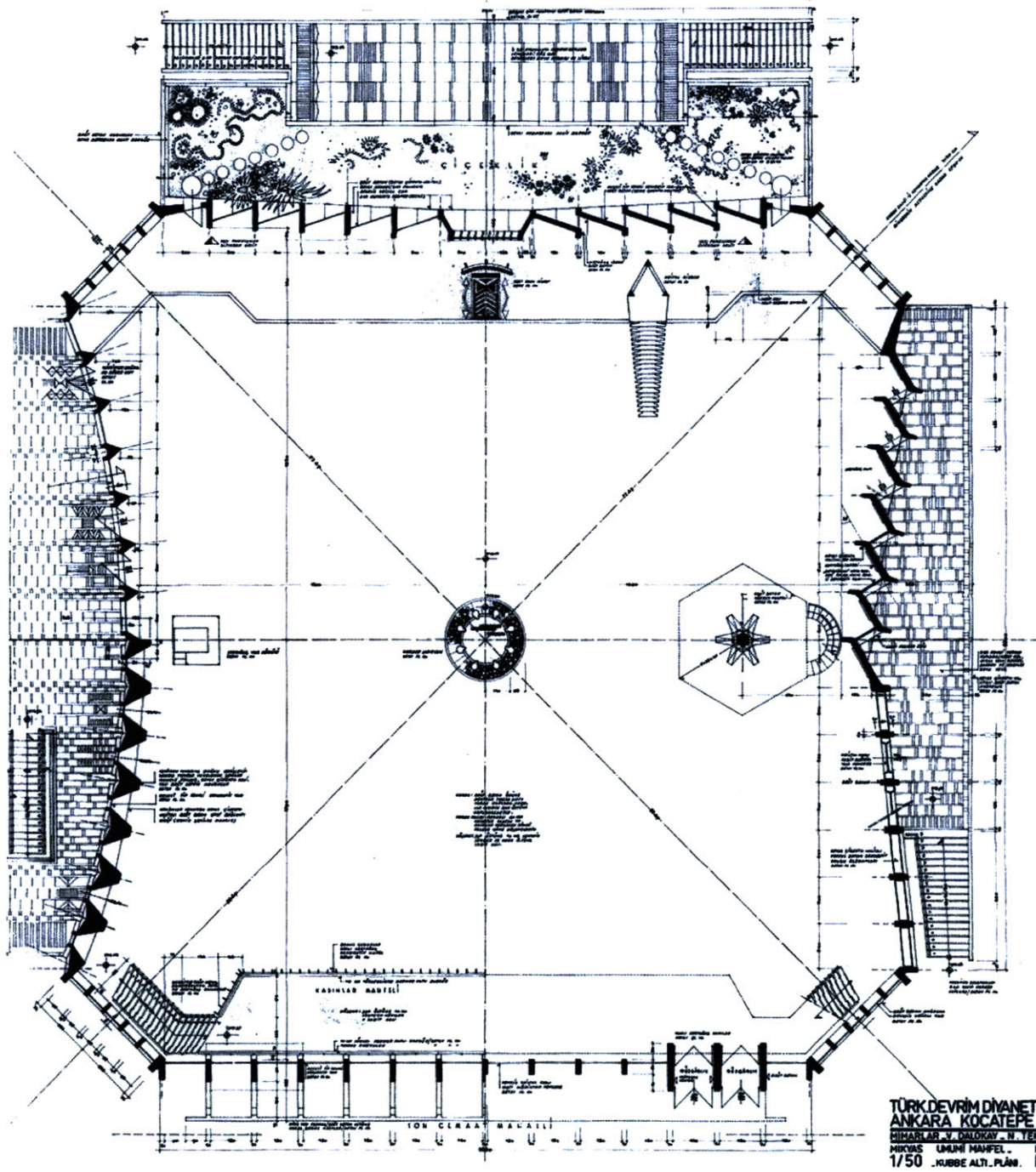


Fig.71: Prayer Hall Level.



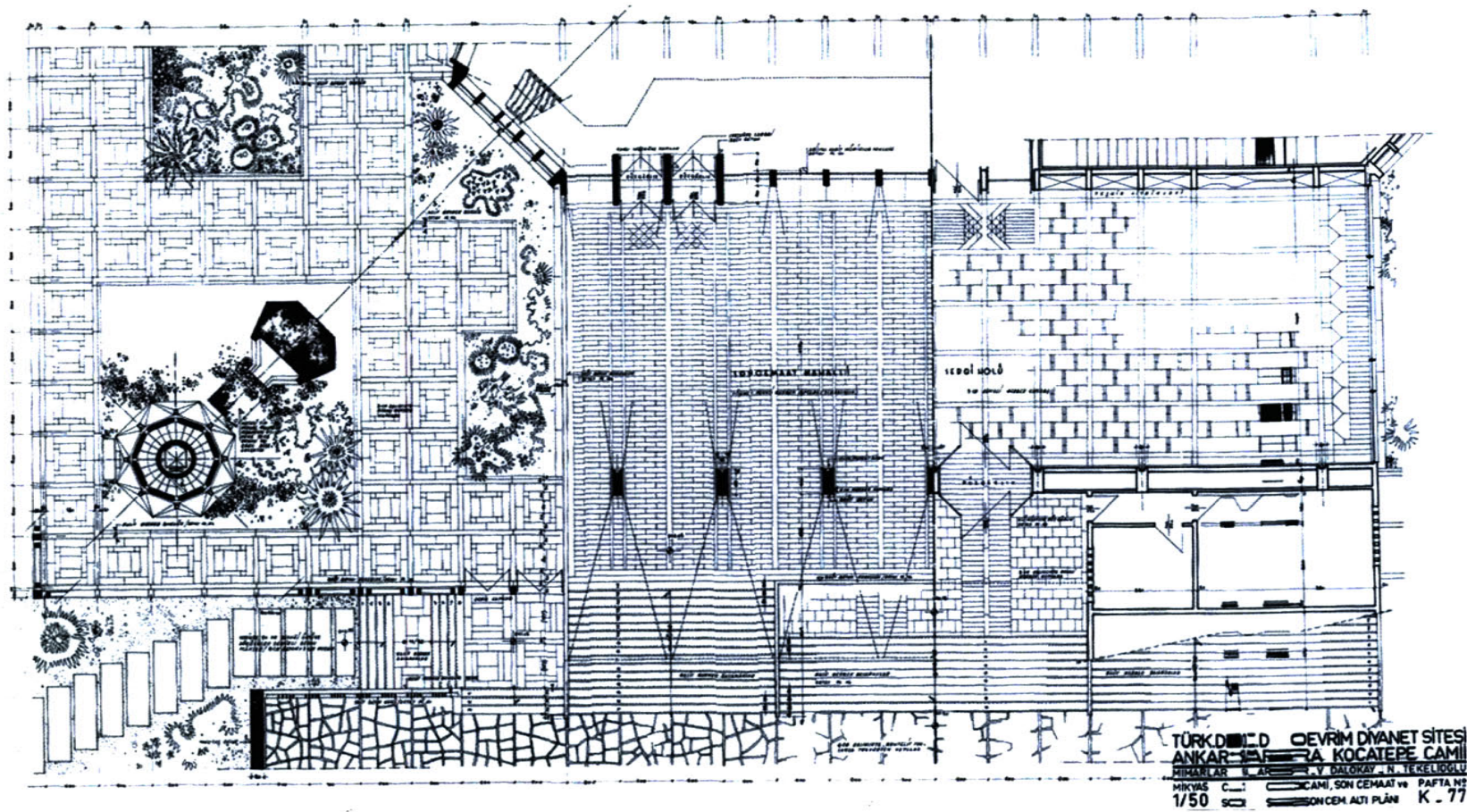


Fig.72: Detail Drawing.

Fig.73: Section drawing looking towards the North.

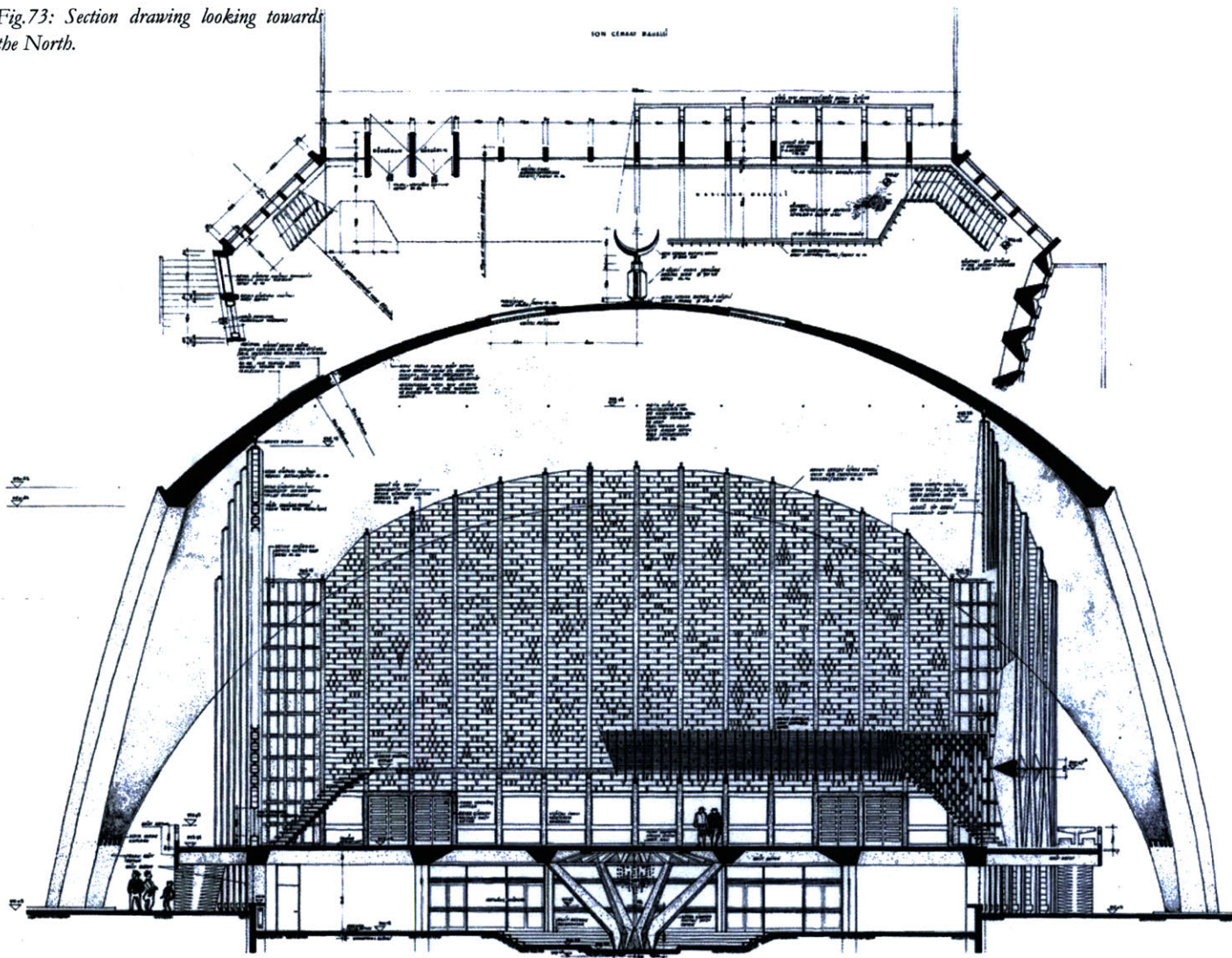


Fig.74: Section drawing looking towards the South.

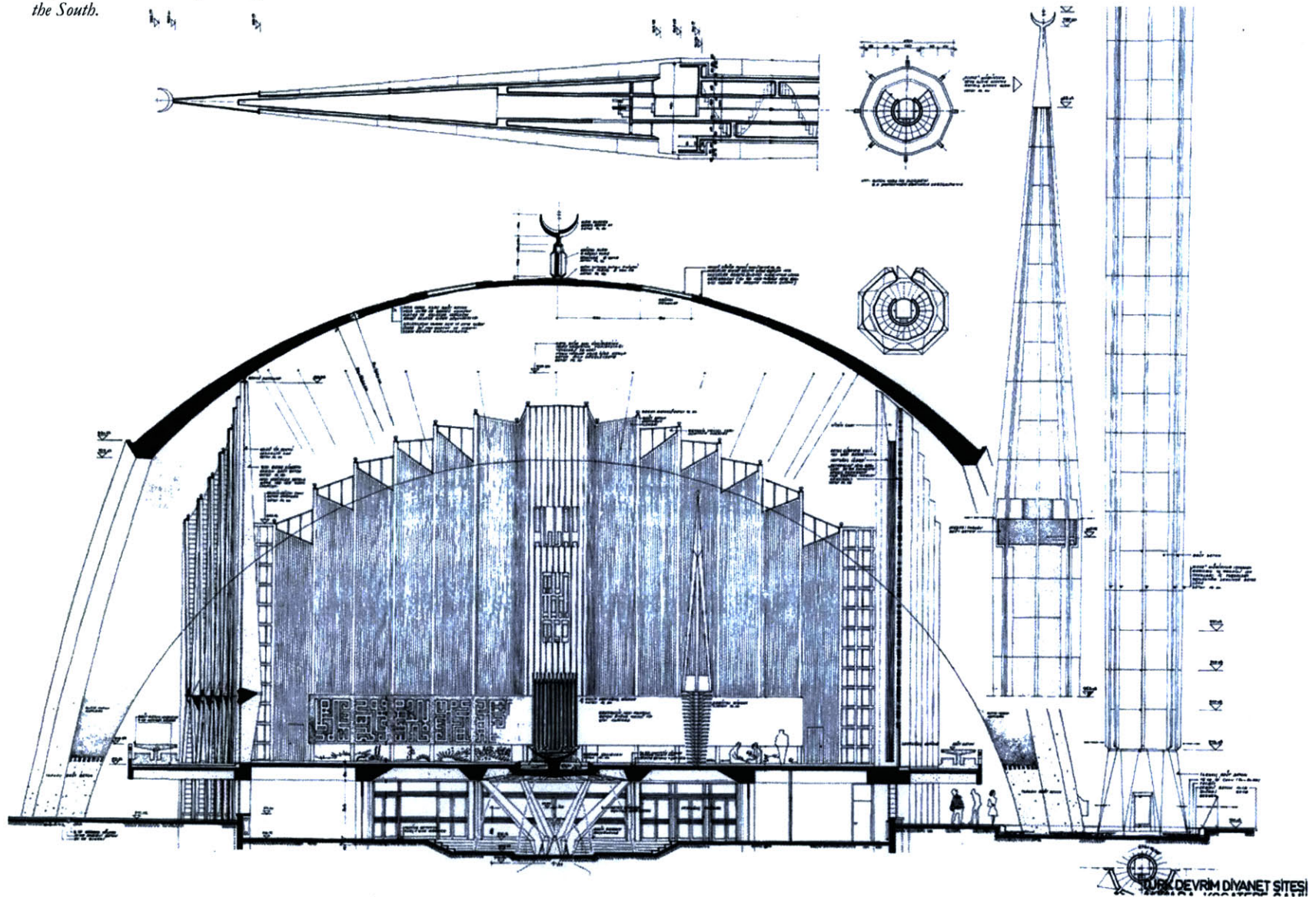


Fig.75: Section drawing looking towards the South. (Second Version)

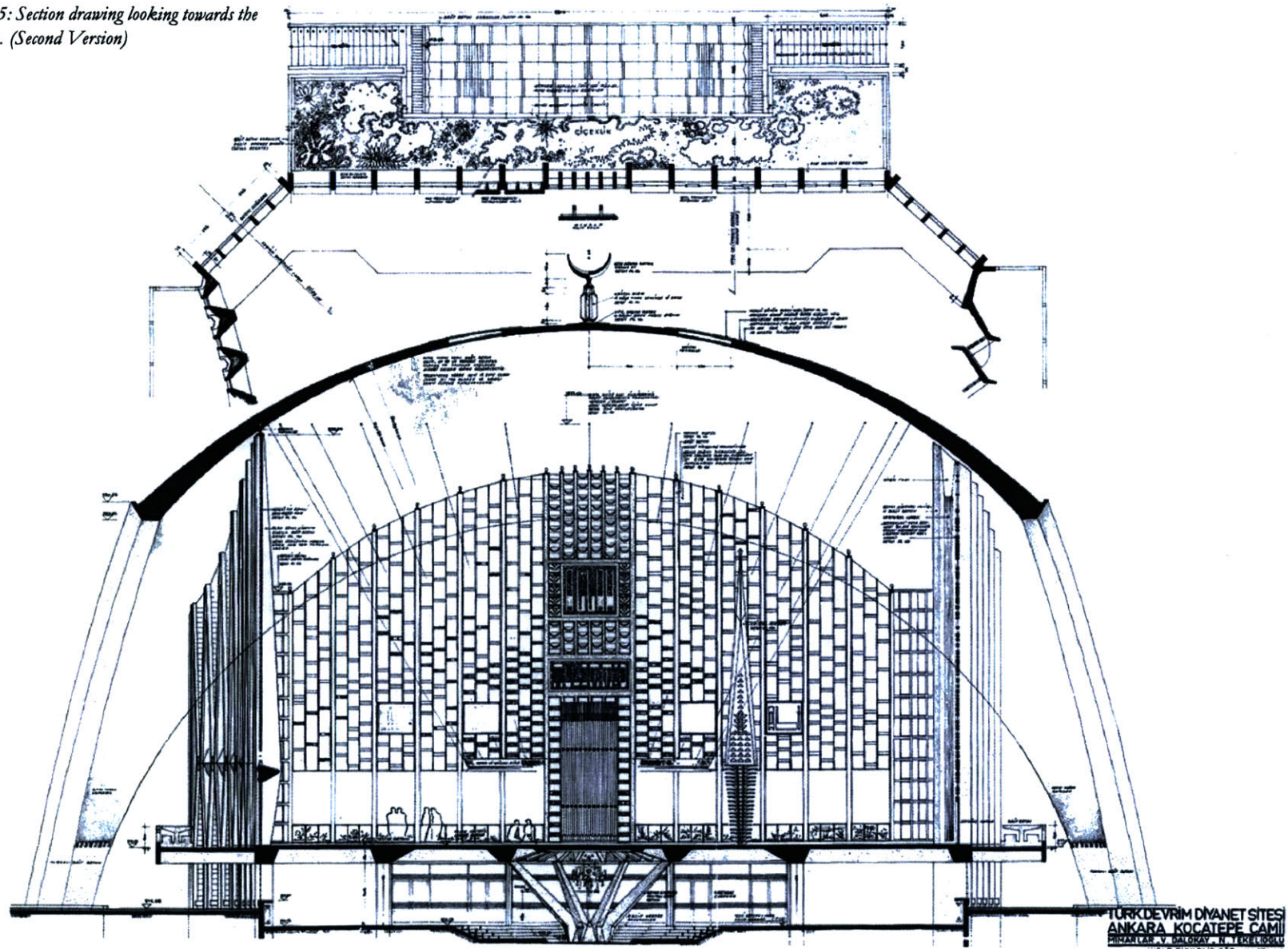
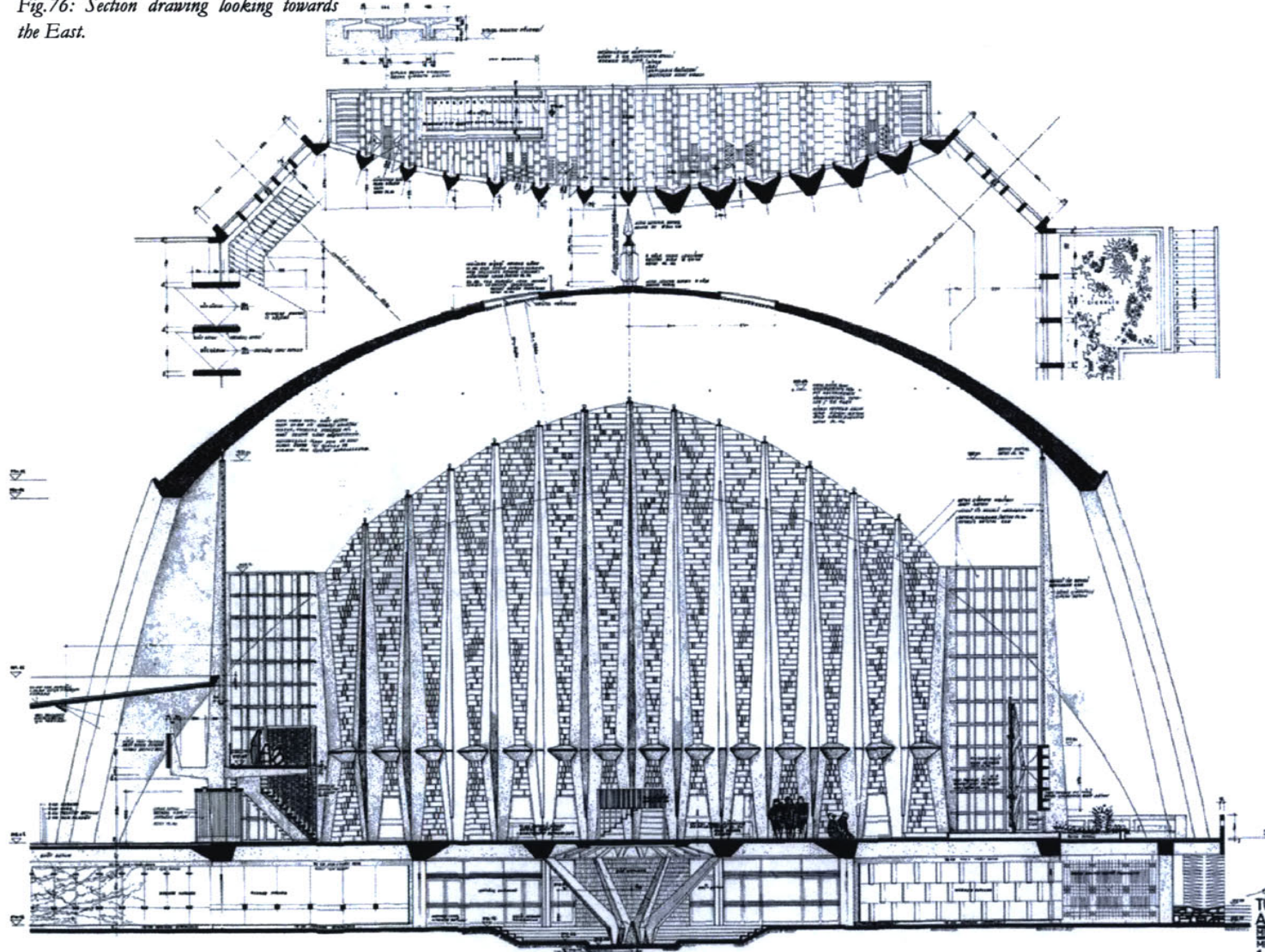


Fig.76: Section drawing looking towards the East.



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TÜRK DEVRİM DİYANET SİTESİ
ANKARA KOCATEPE CAMII
MİMARLAR VE MÜHÜRLEME BİRLİĞİ
MİKVAS SOL YAN, DOĞU DUNARI PAFTA, İC
1/50 İC GÖRÜNÜŞ K. 75

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