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As a practicing architect in the Islamic world, my views reflect the concerns of one who has practically and philosophically encountered the issues of traditional architecture and its potential integration within the contemporary context. My fifteen years of experience in this field have taught that Islamic art and architecture traditionally place the highest value on the achievement of beauty. This is a natural outgrowth of the Koran, the fountainhead of the Islamic perspective, which emphasizes goodness, truth and knowledge while placing the primary concern upon *aḥsan al-‘amala* (Beautiful Deeds). As another example of this emphasis, the ninety-nine Holy Attributes of God are referred to as *asmā’ al-ḥusnā* (Beautiful Names). Therefore, it is understandable that in Islam the fundamental mandate of architecture, apart from fulfilling necessary functional requirements, should be to manifest a purposeful sense of beauty. Meaningful beauty in Islamic architecture requires both a quantitative dimension of concern, achieved mainly through a process of pragmatic environmental adaptation, and a qualitative dimension, expressed principally through Islamic aesthetics.

This paper concentrates upon a few major themes of the aesthetics of Islamic architecture and is intended as a complement to the more quantitative considerations expressed by others in the seminar. In particular, it offers a preliminary survey of the visual language of symbolic forms found in the architecture of the mosque. The mosque has been selected for study because it occurs in varying shapes and sizes as a fundamental part of city planning in all Muslim cultures from Spain to China, and because it possesses the most charged set of visual symbols. An important reminder of the pivotal role of the mosque in Islamic thought is the saying of the Prophet inscribed upon the gateway of the Qūṭb Minār: "He who builds a mosque for God, God will build for him a similar one in Paradise."

To achieve an understanding of the visual language of mosque design, a two-part

methodology has been employed. First, by analyzing the origins of mosques and studying the transformation of ancient pre-Islamic building types into mosques, it is possible to discern a distinct set of generic "Islamic" forms and typologies of spatial organization. Second, a comparative survey of the major mosques of the Muslim world makes it possible to catalogue the relative occurrence of these generic forms and typologies over the last fourteen hundred years. The results of this preliminary study, while still in the process of completion, indicate the existence of a definite visual language possessing both a vocabulary and a grammar. The vocabulary basically deals with the aesthetic concepts and models of the parts of the mosque. It concerns such issues as constituent forms, surface pattern, colour selection and modes of material usage. The grammar, on the other hand, relates to various systems of organizing these parts into a coherent whole within the framework of Islamic concepts of place-making.

Some qualifying remarks are, however, necessary. First, while there seems to be a distinct visual language that is uniquely Islamic, there exists a multiplicity of dialects related to various ecological and cultural regions of the Muslim people. Second, some parts of the vocabulary and grammar have achieved, through accretion and evolution, highly charged symbolic meanings upon which there may still be general societal agreement, while other parts of the language are very regionally bound. An example of this is the dome, which receives a high emphasis in the zone of Persian culture but is rather undeveloped in the African, Saudi Arabian and Indonesian cultural zones. Third, the visual language to be presented is only a "kit of tools" related to a mode of architectural expression. Just as a dictionary and a handbook of style do not by themselves guarantee a masterpiece of literature, the different levels of aesthetic beauty depend upon the creative excellence of the user. Nevertheless, documenting the parts and structural systems of this visual language is necessary for build-

ing a bridge to the historical traditions of Islamic architecture that unfortunately have fallen into a state of obscurity. Without concentrating on issues beyond the present scope of this study, we will address briefly the vast subject of the meanings and intentions of this language. Our work supports the position that art in Islam is rooted in the principle of Divine Remembrance and that the value of true creativity lies in the ability of that art to resonate a profound accord between man, nature and the Absolute.

Transformations as Beginnings

The study of the transformations of pre-Islamic monuments is an important first step in the definition of what constitutes a visual vocabulary relevant to Islam. For example, lessons can be gained by observing those parts of pagan, Christian, Zoroastrian and Hindu buildings which were maintained intact and those which were modified or entirely removed to make them Islamic spaces. A similar lesson can be gained from the study of what has been added. Thus, through a systematic study of inclusions and exclusions, we can trace the birth of Islamic architecture.

In reviewing a number of notable transformations as representative samples of the different ecological/cultural regions of the Islamic world, primary emphasis will be placed upon the Masjid al-Haram at Mecca and the Hagia Sophia. A more brief review of mosques at Damascus, Cordoba, Delhi and Fars, Iran, will show both the multiplicity and the unity of the earliest beginnings of mosque architecture.

Mecca

In terms of sacred geography, Mecca is considered by the Koran to be the "mother of all cities" and, in a metaphorical sense, the "navel of the earth."

The *bait al-‘atiq*, the ancient house located in Mecca, is our primary source of knowledge of this most sacred Islamic place.

Mythology relates that Adam first built the great cube of the Ka‘ba, while the Koran records that Abraham was divinely ordered to construct this archetypal house of worship. It is instructive to remember here the Koranic admonition addressed to Abraham: “Behold, we gave the site to Abraham, of the [Sacred] House, [saying]: ‘Associate not anything with me.’” (Sura XXII, 26)

This affirmative act of providing “something” (the Ka‘ba), followed by a negating directive indicating “nothingness,” is an apparently paradoxical yet telling sign of the basic character of Islamic aesthetics. As a fundamental architectural criteria of mosque design, it is similar to the Islamic testament of the *shahāda*: *lā ilāha illā llāh* (There is no god, but Allah). The *shahāda* states a profound basic concept of a dynamic God, a simultaneously denying yet affirming perception of “Ultimate Reality.” Through the process of similitude, much used in Islamic logic, an extension of the *shahāda* concept regarding all manifestations of God may be possible. Taken in this light, the Koranic admonition to Abraham regarding the Ka‘ba assumes additional meaning and helps to establish the basic principle of transcendence observable in great Islamic art and architecture.

In addition to the philosophic implications of the Koranic references to the Ka‘ba, the historical transformations leading to the present Masjid al-Haram are instructive in our search for the basic vocabulary of Islamic forms. In this study it is valuable to distinguish the morphology of the Ka‘ba proper from peripheral place changes. Fortunately, both aspects have been meticulously recorded in history.

Legend has it that the Ka‘ba constructed by Abraham and Isma‘il was a roofless square about the height of a man with its corners set to the cardinal directions. In the eastern corner the Black Stone was

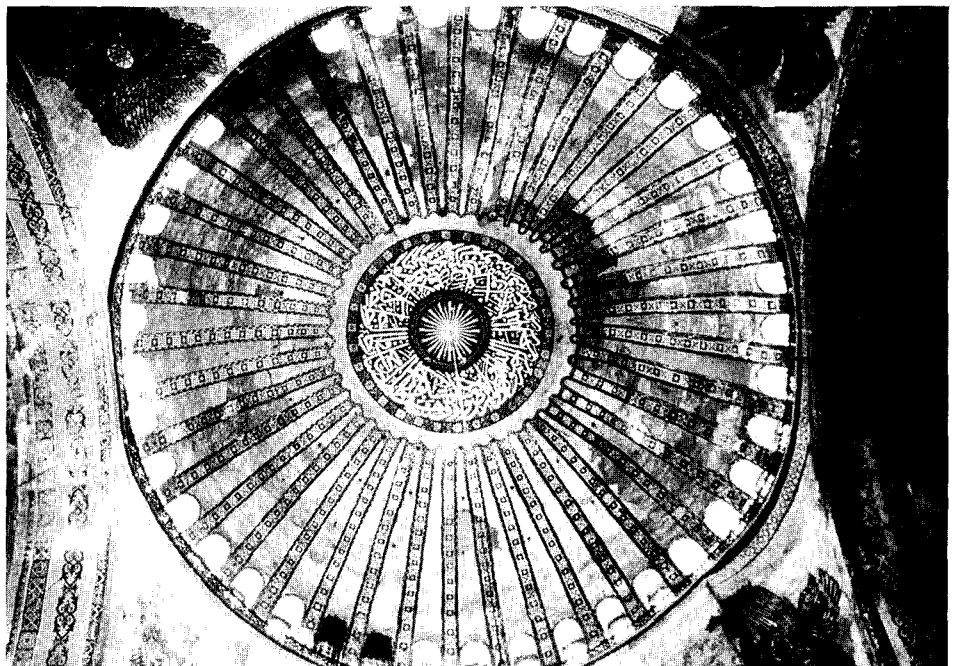
installed (*al-ḥajar al-aswad*) to mark the beginning of the circumambulation. From its primary shape, the form came to be known as the Ka‘ba: “the Cube.”

Some twenty-six hundred years later, by the time of the Prophet Muḥammad, the form had evolved into a flat roofed cube constructed of alternating courses of stone and teak wood. The interior walls contained pictures of Abraham, Mary and the Child amidst angels as well as trees and vegetal motifs. In the ensuing centuries the cube-like edifice was reconstructed several times, assuming different sizes, proportions, number of doors and varying interior structures and decorations. The present Ka‘ba dates nearly four hundred years to the Ottoman period, but it rests upon the foundation stones of Abraham’s first construction.

The walls of the Ka‘ba have been enshrouded since pre-Islamic times, and this tradition has continued to the present. The cloth has varied from a black and white striped pattern to all white, all red, red covered in black, and to the black brocade that now adorns the Ka‘ba.

The metamorphosis of the Ka‘ba attests to its essential constancy, for on the whole, very little has been added or taken away from this ancient house over the last four thousand years. Perhaps the only singular monumental act of exclusion was performed by the Prophet in eliminating from the outer perimeter the pagan idols which had surrounded the Ka‘ba.

Circumambulation of the Ka‘ba has been an associated act of this sacred place since its inception. However, the growing number of annual pilgrims, together with



Istanbul, Turkey Hagia Sophia, dome

Photo: V. Prentice

the growth in stature of the religion, has created the need periodically to expand and elaborate the surroundings of the Ka'ba. Originally, at the time of the Prophet, the Ka'ba, the associated Zamzam Well and the station of Abraham were located in a small, open courtyard, forty metres in diameter, surrounded by houses of the city of Mecca. Gradually, the space was enlarged to include other symbolic objects such as several *minbars* and the four pavilions of prayer representing the four schools of Islamic thought. Finally, an arcade and mosque emerged to encircle the Ka'ba. This was completely rebuilt by Sinan in the sixteenth century in a most modest manner. The Masjid al-Haram of the Ottoman period remained basically unchanged for nearly four hundred years until the recent major extension and modifications completed by the Government of Saudi Arabia. Today, the open space measures nearly 150 by 300 metres and the new Masjid al-Haram can accommodate more than 100,000 people at one time.

The evolving design of the Masjid al-Haram has been characterized by several distinct architectural forms occurring over the centuries: courtyard, arcade (portico), gateways, minaret and, in a minor yet definite way, dome. The latter is found in all of the Sinan arcades and in the contemporary Şafā-Marwa area of the mosque.

Hagia Sophia

In Constantinople, nearly eight hundred years after the Hijra, on May 29, 1453, one of the last Islamic transformations of significance took place. On that day, Sultan Muḥammad marched triumphantly into the great "Cathedral of the Heavenly Wisdom," the sum manifestation of the Byzantine Empire and the Eastern Holy Church, climbed upon the table of the sacraments, turned to Mecca, and said his prayers. This act inaugurated a series of changes whereby an architectural masterpiece of the sixth century was made into a

mosque. Of course, twentieth-century Turkish culture has relegated the Hagia Sophia to museum status, but our concern is with the five hundred years of its Muslim usage.

In the interior of the Hagia Sophia the altar and all liturgical objects of worship were removed; all biblical figures, such as the mosaics depicting the Virgin and Child and St. John the Baptist were covered in plaster; the faces of two seraphim and two cherubim in the four pendentives of the dome were transfigured by gilded stars, and most notably, the image of Christ in the dome was replaced by a sunburst medallion enriched with the Sura of Light.

Among acts of inclusion in the interior was the placement in the old apse of a *miḥrāb*, *minbar*, sultan's throne and raised places for the recitation of the Koran. These objects were situated with a slight orientational adjustment to the south in the direction of Mecca. Opposite the *miḥrāb* space great fonts for ablution were placed. Considerably later, in the nineteenth century, the series of large calligraphic discs that now adorn the interior were installed. In sum, however, the spherical geometry of the interior space was left unaltered. Rather, the direction, the "furniture" and the signs were changed, and hence, the particular symbolic meaning of space.

On the exterior, aside from the removal of the cross atop the great dome, additive steps predominate. Soon after the conversion of the Hagia Sophia, a wooden minaret was erected in the northeast, later replaced by a masonry minaret. Then a second minaret of stone was erected to the southeast. Finally, the twin minarets of Sinan were completed on the opposite corners in the sixteenth century. More than any other transformative act, the four minarets have changed the architectonic impression of the building. However, it is what has remained untouched—the space and form of a central domical plan—that has had the most lasting influence. All subsequent great mosques of Turkey have emulated the transformed and prototypical Hagia Sophia.

Damascus, Cordoba, Delhi

The mosque of Damascus offers an instance of a double transformation. A pagan Roman temple of the third century A.D., set within a temenos, was transformed first into a Christian and then a Muslim place of worship. The plan of the church lay on an east-west axis with the altar located in the apse to the west. With the Islamic conquest, the shell of the church was retained while an arcade was added to the north. In time, three minarets were also constructed. By virtue of its geographic location, the basilica space of the interior was dramatically altered by the placement of the *miḥrāb* and *minbar* on the southern wall, changing by ninety degrees the spatial orientation of the building. Instead of looking down the large hierarchical nave, the emphasis was placed on the breadth of a seemingly endless space of equality.

Cordoba represents a reverse transformation. An Islamic place was here turned into a Christian place. The original Moorish mosque was unusual for several reasons, but it was most unique by virtue of its "room *miḥrāb*" which remains even in the Christian period. Significantly, the small cathedral that now has been inserted into the vast arcaded space of the old mosque is oriented almost ninety degrees from Mecca toward the rising sun. Aside from the minarets that have become bell towers and the floral decorations that have remained virtually unchanged, it would be hard to discern the changes that have occurred.

The Quṭb ad-Dīn Aybak Mosque and the adjacent Quṭb Minār in Delhi of the twelfth century A.D. represent yet again another aspect of historical transformation. Here, as in many examples elsewhere in the Muslim world, transformation involved borrowing the parts of existing pre-Islamic buildings. Although all the elements of the classic mosque can be seen—gateway, courtyard, porch, minaret (in this case a towering giant of seventy-five metres), *miḥrāb*, dome and plinth—some of the actual stone columns and

masonry used in the building construction belong to the Hindu temples upon whose foundation stones the mosque was constructed.

Chahār Tāq and Eyvān

Rather than review a particular historical building, our final example of a transformation centres on two types of pre-Islamic building forms belonging to the Sasanian period: the *chahār tāq* and the *eyvān*. These have influenced nearly all later Persian mosques, culminating in such masterpieces as the Friday Mosque and the Masjid-i Shāh of Isfahan.

Formed by a cubic base of four supporting elements connected by arches and covered by a dome, the *chahār tāq* or tetrapylon was the sacred place of the Zoroastrian eternal flame. With the Islamic conquest, such sacred spaces were easily converted into mosques by the inclusion of a *mihrāb*. Such a simple transformation can be seen in the small mosque at Yazd-i Kasht in Fars.

From the great ceremonial halls of the Sasanians came the *eyvān* or great porch. An example of the form, which was quickly integrated into the architecture of Persian mosques, can be seen at Niriz in Fars in a mosque dating from 970 A.D.

Visual Characteristics of Mosque Architecture

From the preceding sample study of transformation, it is possible to deduce a basic list of recurring generic forms as well as some principles of spatial organization. There is a definite concern for orientation in space expressed both in the cosmic orientation of the Ka'ba (set with corners to cardinal directions) and in the terrestrial alignment of mosques toward Mecca. The architectural device for this purpose is the *mihrāb*. A second principle is introversion, characterized by courtyard and central dome planning. This concern is

also reflected in the gateway and portico, important parts of a "positive space" design attitude.

The domical, mandalic form highlights a third principle of centrality and symmetry. The dome, when in evidence, normally provides the special sacred space within which the *mihrāb* is located. In Southeast Asia and other forest ecologies, this sacred space often takes the form of a pyramidal roof with wooden rafters. Regardless of the particular shape, the idea of centrality remains constant.

From the ritual of daily and congregational prayer, two other generic forms have evolved: the minaret and the place of ablution. The plinth has come into being as a necessary consequence of single plane courtyard designs set upon land with a minimum degree of topographic slope. The symbolic value of a raised place is further in evidence in the placement of mosques on hilltops as in many Turkish and Indo-Pakistani examples.

To reiterate, the following recurring forms of mosque architecture constitute the major elements of inclusion that have evolved over the centuries: *mihrāb*, minaret, gateway, courtyard, portico, place of ablution, plinth and dome. Acts of exclusion are relatively few and are primarily restricted to the removal of specific imagery that would limit the transcendent unity of the Divine. This aspect is most telling of the eclectic and integrative nature of Islamic architecture.

In an effort to determine the prevalence of the aforementioned generic forms and the regional character of the spatial order of their organization, I have surveyed one hundred and thirteen major mosques throughout the Islamic world. In this survey, the Muslim world is categorized according to regional, ecological and cultural variations as expressed by the typology of their mosque design. Six groups have been identified at this preliminary stage, but the number of categories could grow as more information is collected about the zones and the typologies of mosques. Each mosque was analyzed according to plans, photographs

and, whenever possible, site visits to determine the relative level of emphasis of the eight generic forms and the regularity of adherence to a typology of spatial organization. In particular, information for Far Eastern mosques was inadequate and the results for this geographic zone are only tentative.

In reviewing the survey charts, some definite patterns are observable. For example, the Arab cultures of Arabia, Iraq, Syria, Egypt, North Africa and Moorish Spain are heavily represented by the hypostyle mosque with a flat roof or a flat roof with dome accents. In East and West Africa the flat hypostyle type seems to predominate, although great dynamics of design, which could in time alter this trend, are evident. The interpretations here may also be misleading, as the sampling for this large region was small and the buildings were investigated only through plans and photographs.

The Indian subcontinent (including Pakistan and Bangladesh) represents a unique cultural identity, although ecological variations have influenced the design of mosques there considerably. Mosques in Iran, Central Asia and Afghanistan show strong affinities of type. Predominantly of the four-*eyvān* variety, they rely heavily upon the *chahār tāq* concept of place-making. Turkey is also one of the more homogeneous areas, having evolved the central dome plan within its own regional borders and being basically of one ecological zone.

Despite the preliminary nature of this survey, it is important to note that all eight generic forms were found in each of the six geographic zones and that they appeared in no less than 83% of the mosques surveyed. The incidence of courtyards was 93%; minarets, 89%; domes (pyramidal also included), 83%; gateways, 100%; porticos, 86%; plinths, 87%; places of ablution, 97% and, of course, *mihrābs*, 100%.

In the mosque typologies, the results are for the most part regionally bound, but there is also a spread of cultural types beyond the regional borders. Turkish

central dome plans in North Africa and Egypt are the product of Ottoman stylistic imperialism. The presence of the Iranian four-*eyvān* plan in Iraq and the Indian subcontinent reflects similar historical processes.

One overpowering question for further inquiry arises as a result of this study. Is the prevalence of these eight generic forms a mere coincidence, the result of autocratic impositions, or does their repetition represent a natural Islamic language of visual forms for mosque design? Our preliminary evidence points to the latter.

Moreover, what can be learned from the study of mosque typologies of spatial organization? Assuming that an ecological imperative is at work with cultural identity, do the adaptive forms thus produced have applications beyond the mosque? A fruitful direction for future action lies in the development of a complete inventory of major Islamic buildings. If systematically undertaken according to the various ecological and cultural zones of the Muslim world, other building types such as the madrasa and caravanserai can be analyzed for their generic forms and ordering typologies. A compendium of such studies would provide a useful "road map" to the more relevant forms appropriate today for each of the ecological/cultural zones of Islam. With greater refinement, the study could address other architectural dimensions which have been forgotten. This much needed remembrance could help make explicit the multiplicity of expressions inherent in the world of Islam and, through an understanding of the generic nature of transcendent forms, surfaces and patterns, create a new sense of visual beauty worthy of Islamic culture.

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ZONE I Egypt, Iraq, Jordan, North Africa,
Palestine, Saudi Arabia, Spain, Syria

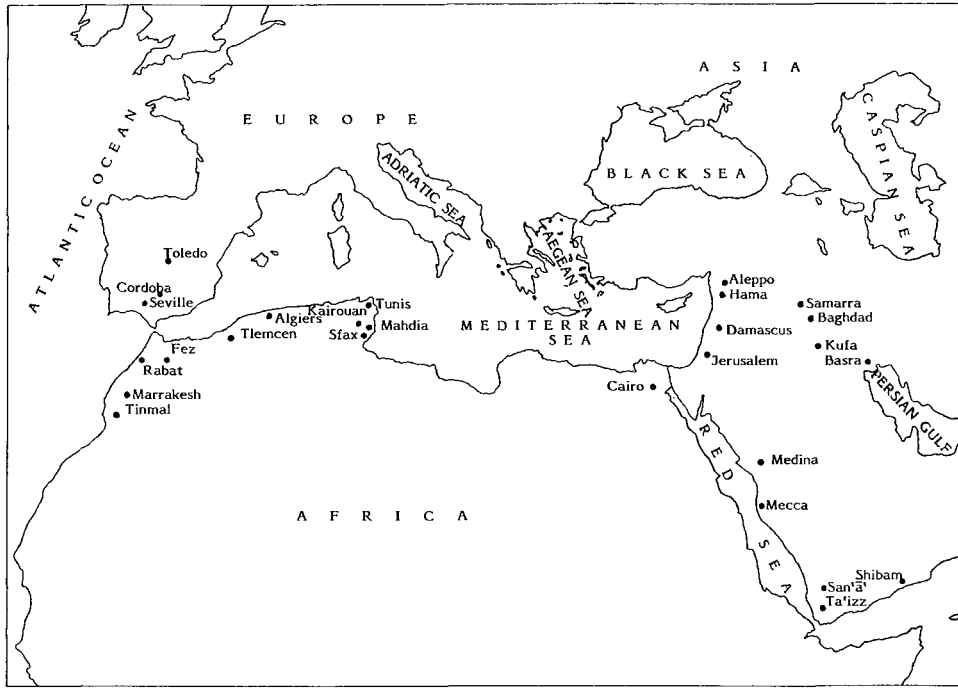
NO.	LOCALE	NAME	GENERIC FORMS								MOSQUE TYPOLOGY						Century of Construction-A.D.
			1	2	3	4	5	6	7	8	1	2	3	4	5	6	
			Mihrāb	Courtyard	Minaret	Dome	Gateway	Portico	Plinth	Ablution Place	Hypostyle	Hypostyle with Dome Accent	Hypostyle with Domical Vaulting	Four-Eyvān	Central Dome	Other	
1	ALGIERS	Mosque of the Fishery	●	○	●	●	○	○	○	○					X		17
2	ALEPPO	Great Mosque	●	●	●	○	○	●	○	●		X					11-13a
3	BAGHDAD	Mustansiriyya	●	●	○	○	○	●	○?	○				X			13
4	BASRA	Mosque of Umar	●	●	○	○	○	●	○	○		X					8
5	CAIRO	Al-Aqmar	●	●	●	○	○	●	○	○		X					12
6		Al-Azhar	●	●	●	○	○	●	○	○		X					10
7		Al-Hākim	●	●	●	○	○	●	○	○		X					10
8		Al-Mu'ayyad Sheikh	●	●	○	○	○	●	○	○		X					15
9		An-Nāsir Muhammad	●	●	○	○	○	●	○	○		X					14
10		Az-Zāhir Baybars	●	●	○?	○	○	●	○	○		X					13
11		Amir Altunbughā	●	●	○	○	○	●	○	○		X					14
12		'Amr Ibn Al-As	●	●	○	○	○	●	○	○	X						9
13		Ibn Tūlūn	●	●	●	○	○	●	○	○		X					9
14		Muhammad 'Ali	●	●	●	●	○	●	○	○					X		19
15		Sultan Hasan	●	●	●	○	○	●	○	○				X			14
16	CORDOBA	Great Mosque	●	●	●	○	○	○	○	○		X					8b
17	DAMASCUS	Great Mosque	●	●	●	○	○	●	○	○		X					8c
18	FEZ	Bū-'Ināniyya	●	●	●	●	○	○	○	○			X				14
19		Qayrawiyyin	●	●	●	○	○	○	○?	○		X					9-17
20	HAMA	Great Mosque	●	●	●	○	○	○	○	○		X					13-14c
21	JERUSALEM	Aqṣā Mosque	●	○	○	○	○	○	○	○						X	7
22		Dome of the Rock	●	○	○	○	○	○	○	○						X	7
23	KAIROUAN	Great Mosque	●	●	●	○	○	○	○	○		X					9-13
24	KUFA	Mosque	●	●P	○?	○	○	○	○	○	X						7-15
25	MAHDIA	Great Mosque	●	●	○	○	○	○	○	○		X					10
26	MARRAKESH	Kutubiyya	●	●	●	○	○	○	○	○		X					12
27	MECCA	Haram Al-Sharif	○	●	●	○	○	○	○	○		X					7d
28	MEDINA	Mosque of Prophet	●	●	●	○	○	○	○	○		X					7
29	RABAT	Hasan Mosque	●	●	●	○	○	○	○?	○		X					12
30	SAMARRA	Great Mosque	●	●	●	○	○	○	○	○	X						9
31	SAN'A'	Al-Bakiriyya	●	●	●	○	○	○	○?	○					X		16
32		Great Mosque	●	●	●	○	○	○	○	○		X					7-17
33	SEVILLE	Great Mosque	●	●	●	○	○	○	○	○		X					12b
34	SFAX	Great Mosque	●	●	●	○	○	○	○	○		X					9-18
35	SHIBAM	Mosque	●	●	●	○	○	○	○	○	X						9
36	TA'IZZ	Ashrafiyya	●	●	●	○	○	○	○	○			X				13-14
37	TINMAL	Friday Mosque	●	●	○	○	○	○	○	○		X					12
38	TLEMCEN	Al-Mansūr	●	●	●	○	○	○	○	○		X					14
39		Great Mosque	●	●	●	○	○	○	○	○		X					12-13
40	TOLEDO	Bāb Mardūm	●	●	○?	○	○	○	○?	○		X					10b
41	TUNIS	Hamūda Pasha	●	●	●	○	○	○	○	○			X				17
42		Zaytūna Mosque	●	●	●	○	○	○	○	○		X					9-15

Inventory of generic forms and typology of selected mosques

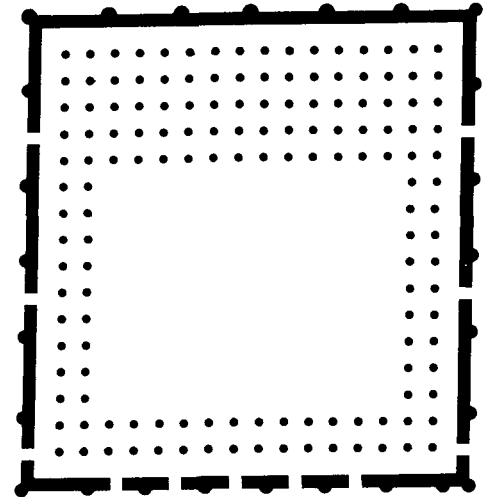
Compiled by N. Ardalan

KEY: ● Strong emphasis
 ○ Medium emphasis
 ○ Nonexistent
 ? Insufficient information
 P Pitched roof

a Converted from church
 b Converted to church
 c Roman structure converted first to church, then mosque
 d Pre-Islamic Arabian

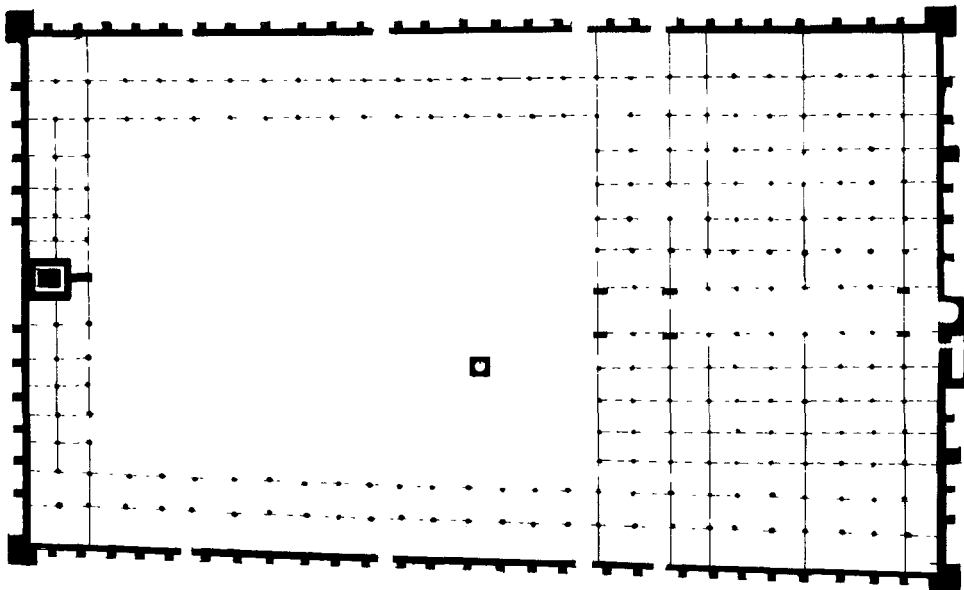


Location of principal mosques of Middle East, North Africa and Spain

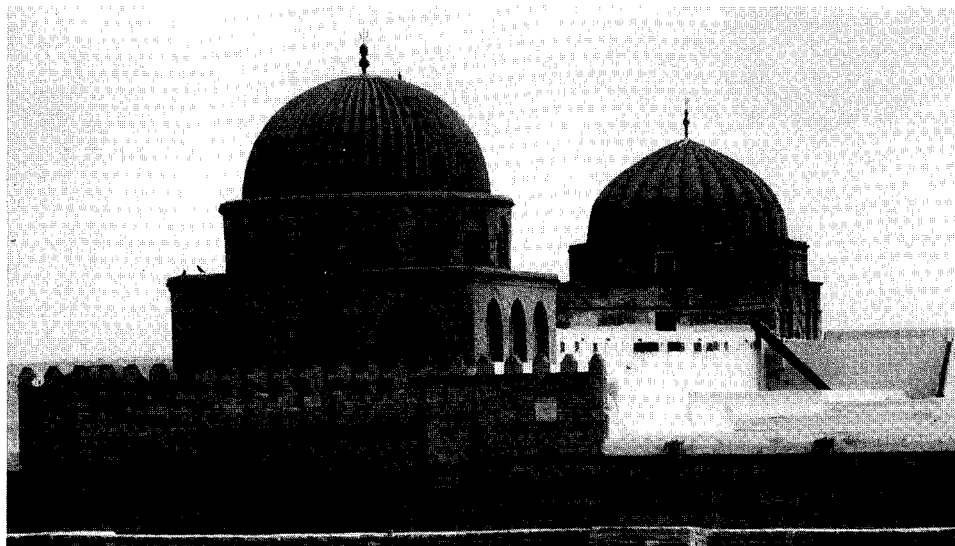


Kufa, Iraq: plan of Great Mosque as rebuilt by Ziyadh ibn Abihi in 670 A.D. An early hypostyle mosque

After K. A. C. Creswell

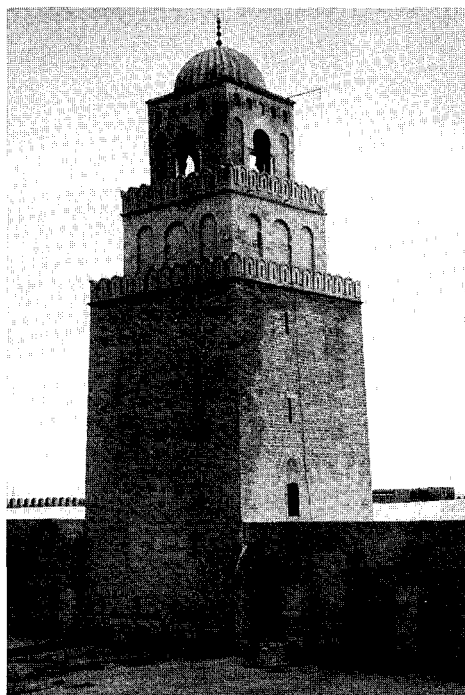


Kairouan, Tunisia: plan of Great Mosque. A hypostyle mosque incorporating dome over mihrab



Dome over mihrāb space of Great Mosque of Kairouan

Photo: S. Blair/J. Bloom



Minaret of Great Mosque of Kairouan as seen from northwest

Photo: S. Blair/J. Bloom



Interior of Great Mosque of Kairouan

Photo: S. Blair/J. Bloom

ZONE II Turkey

NO	LOCALE	NAME	GENERIC FORMS								MOSQUE TYPOLOGY						Century of Construction-A.D.
			1	2	3	4	5	6	7	8	1	2	3	4	5	6	
			Mihrāb	Courtyard	Minaret	Dome	Gateway	Portico	Plinth	Ablution Place	Hypostyle	Hypostyle with Dome Accent	Hypostyle with Domical Vaulting	Four-Eyvan	Central Dome	Other	
1	AMASYA	Beyazit Paşa	●	○	○	●	○	●	●	○R					X		15
2	BEYŞEHİR	Esrefoğlu Mosque	●	●	○	●	●	●	●	●		X					13
3	BURSA	Hüdavandigâr	●	●C	○?	●	●	●	●	●				X			14
4		Great Mosque	●	●C	●	●	●	○	●	●			X				14
5	DIVRIĞI	Mosque	●	●C	●	●?	●	●	●	●			X				13
6	EDİRNE	Selimiye	●	●	●	●	●	●	●	●					X		16
7		Üç Şerefeli	●	●	●	●	●	●	●	●					X		15
8	ISTANBUL	Hagia Sophia	●	●	●	●	●	●	●	●					X		15*
9		Nurosmaniye	●	●	●	●	●	●	●	●					X		18
10		Şehzade Mehmet	●	●	●	●	●	●	●	●					X		16
11		Sokullo Mehmet	●	●	○	●	●	●	●	●					X		16
12		Süleymaniye	●	●	●	●	●	●	●	●					X		16
13		Sultan Ahmet	●	●	●	●	●	●	●	●					X		17
14	KONYA	'Alā' Ad-Dīn	●	●	○	●?	●	○	●	●		X					12
15	MANISA	Muradiye	●	●	●	●	●	●	●	●					X		16

Inventory of generic forms and typology of selected mosques

Compiled by N. Ardalan

KEY:

● Strong emphasis

○ Medium emphasis

○ Nonexistent

? Insufficient information

▲ Pyramidal roof

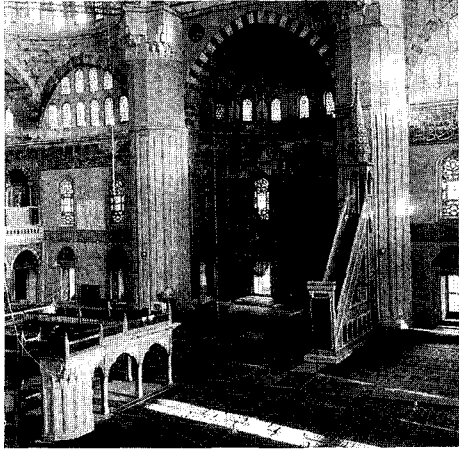
C Covered roof

R River

* Converted from church

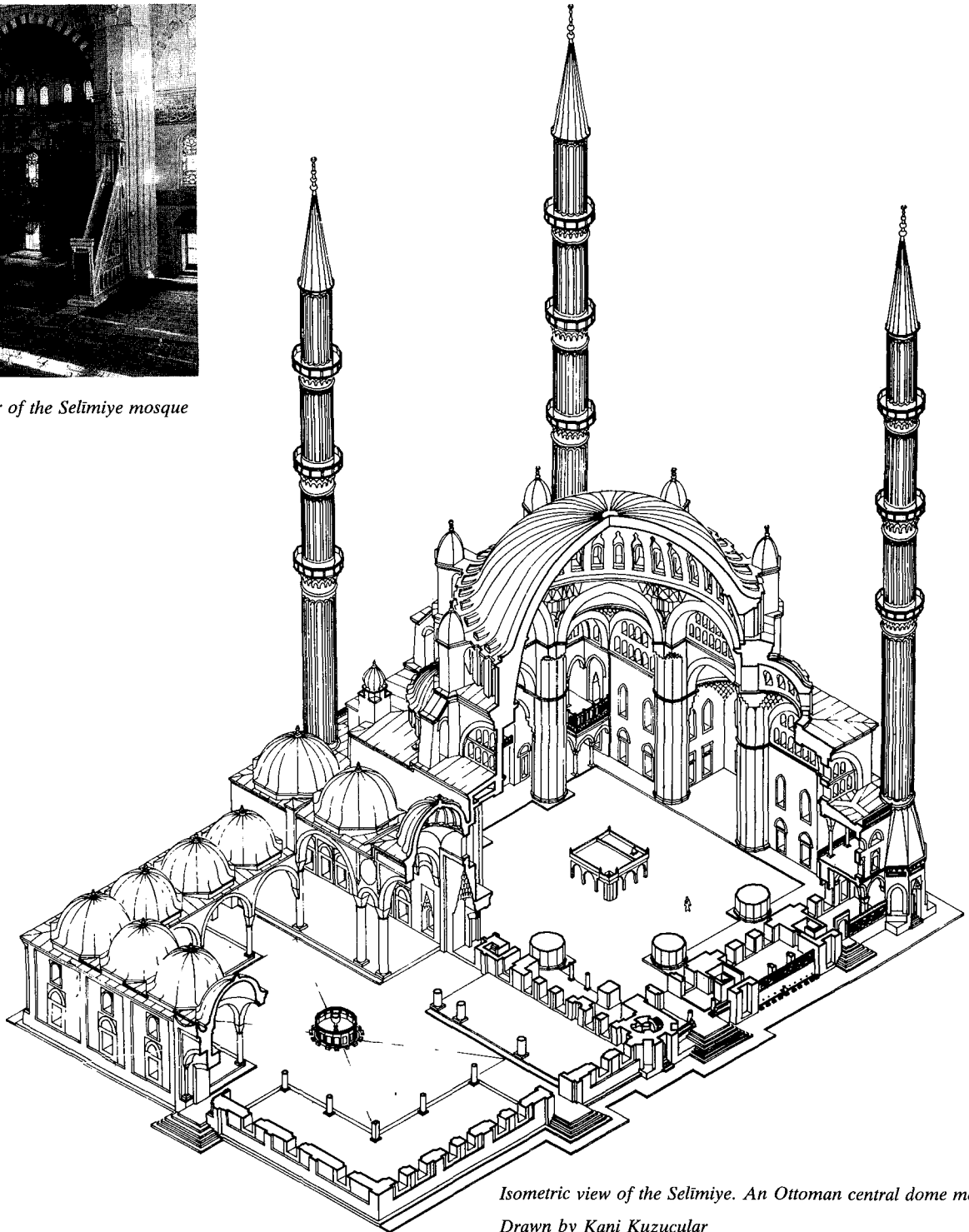


Location of principal mosques of Turkey



Edirne, Turkey: interior of the Selimiye mosque

Photo: M. Niksarlı



Isometric view of the Selimiye. An Ottoman central dome mosque

Drawn by Kani Kuzucular

Reproduced courtesy of Doğan Kuban

ZONE III Afghanistan, Central Asia, Iran

NO	LOCALE	NAME	GENERIC FORMS								MOSQUE TYPOLOGY						Century of Construction-A.D.
			1	2	3	4	5	6	7	8	1	2	3	4	5	6	
			Mihrāb	Courtyard	Minaret	Dome	Gateway	Portico	Plinth	Abution Place	Hypostyle	Hypostyle with Dome Accent	Hypostyle with Domical Vaulting	Four-Eyvān	Central Dome	Other	
1	ANAU	Jamāl Ad-Dīn Mosque	●	●	●	●	●	●	○?	●				X			15
2	ARDESTAN	Friday Mosque	●	●	●	●	●	●	●	●				X			11-12‡
3	BALKH	Abu Nasr Parsa	●	○	●	●	●	●	●	○?					X		15
4		Now Gunbad	●	○?	○	●	○?	●	○	○?			X				9
5	BUKHARA	Kalayan Mosque	●	●	●	●	●	●	●	●				X			16
6	DĀMGHĀN	Tārik Khāna	●	●	●	●	●	●	○	●			X				8
7	ISFAHAN	Friday Mosque	●	●	●	●	●	●	●	●				X			8-17‡
8		Masjid-i Shāh	●	●	●	●	●	●	●	●				X			17
9		Masjid-i 'Alī	●	●	●	●	●	●	○	●					X		17
10		Sheikh Lutfallāh	●	○	○	●	●	○	○	○				X			12
11	KERMAN	Friday Mosque	●	●	●	●	●	●	○	○				X			14
12	MASHHAD	Gowhar Shād	●	●	●	●	●	●	○	○				X			15
13	NAYIN	Friday Mosque	●	●	●	●	●	●	●	○Q			X				10
14	SAMARQAND	Bibī Khānum	●	●	●	●	●	●	●	○				X			14
15	SHIRAZ	Vakil Mosque	●	●	●	●	●	●	○?	○				X**			18
16	TABRIZ	Blue Mosque	●	●	○?	●	●	○	○	○?				XC			15
17	VARAMIN	Friday Mosque	●	●	●	●	●	●	○	○				X			14
18	YAZD	Friday Mosque	●	●	●	●	●	●	○	○				X*			14
19	ZAVAREH	Friday Mosque	●	●	●	●	●	●	○	○				X			12

Inventory of generic forms and typology of selected mosques

Compiled by N. Ardalan

● Strong emphasis

○ Medium emphasis

○ Nonexistent

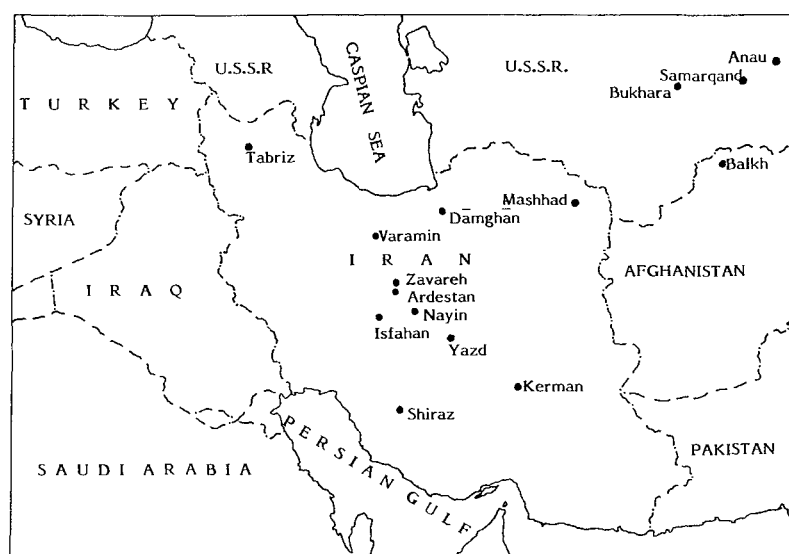
? Insufficient information

Q Qanāt

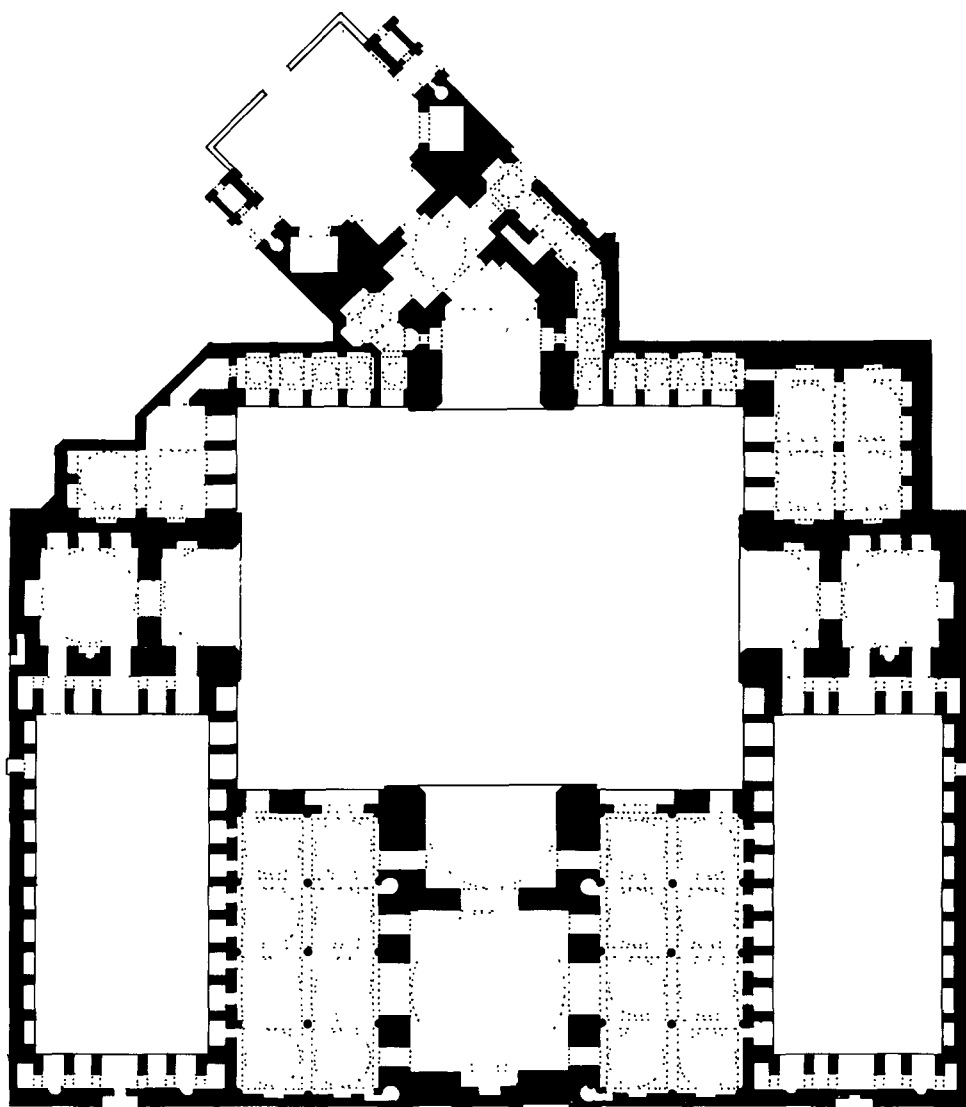
* One-Eyvān

** Two-Eyvān

‡ Converted from Sasanian structure



Location of principal mosques of Afghanistan, Central Asia and Iran



Isfahan, Iran: plan of Masjid-i Shāh. A Safavid four-eyvān mosque
 After U Vogt-Göknil



Isfahan: entrance to Masjid-i Shāh
 Photo V Prentice

ZONE IV Bangladesh, India, Pakistan

NO.	LOCALE	NAME	GENERIC FORMS								MOSQUE TYPOLOGY						Century of Construction—A.D.
			1	2	3	4	5	6	7	8	1	2	3	4	5	6	
			Mihrāb	Courtyard	Minaret	Dome	Gateway	Portico	Plinth	Ablution Place	Hypostyle	Hypostyle with Dome Accent	Hypostyle with Domical Vaulting	Four-Eyvān	Central Dome	Other	
1	AHMEDABAD	Friday Mosque	●	●	○	○	●	●	●	○			X				15
2	DELHI	Begampūr	●	●	○?	○	●	●	●	○				X			14
3		Friday Mosque	●	●	●	●	●	●	●	○			X				17
4		Khirkī	●	●	○	○	●	●	●	○			X				14
5		Pearl Mosque	●	●	○	●	○	●	●	○			X				17
6		Qutb Minār	●	●	●	○	○	●	○	○			X				12*
7	FATEHPUR SIKRI	Friday Mosque	●	●	○?	●	●	●	●	○			X				16
8	GAUR	Tantipara	●	●	○	○	○	○	○	○			X				15*
9	GULBARGA	Friday Mosque	●	○	○?	●	●	○	○	○			X				14
10	JAUNPUR	Atala	●	●	○?	●	●	●	○	○				X			15
11	LAHORE	Bādshāhī	●	●	●	●	●	●	●	○			X				17
12		Wazīr Khān	●	●	●	○	●	○	○	○			X				17
13	SRINAGAR	Friday Mosque	●	●	○	●	●	○	○	○				X			14
14	TAITA	Friday Mosque	●	●	○	○	○	●	○	○				X			17

Inventory of generic forms and typology of selected mosques

Compiled by N Ardalan

KEY:

● Strong emphasis

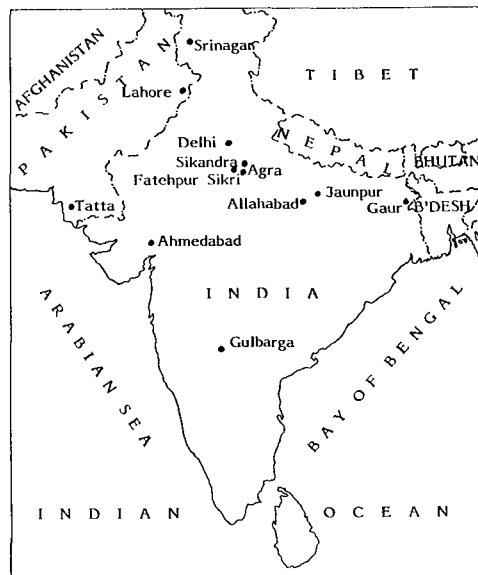
○ Medium emphasis

○ Nonexistent

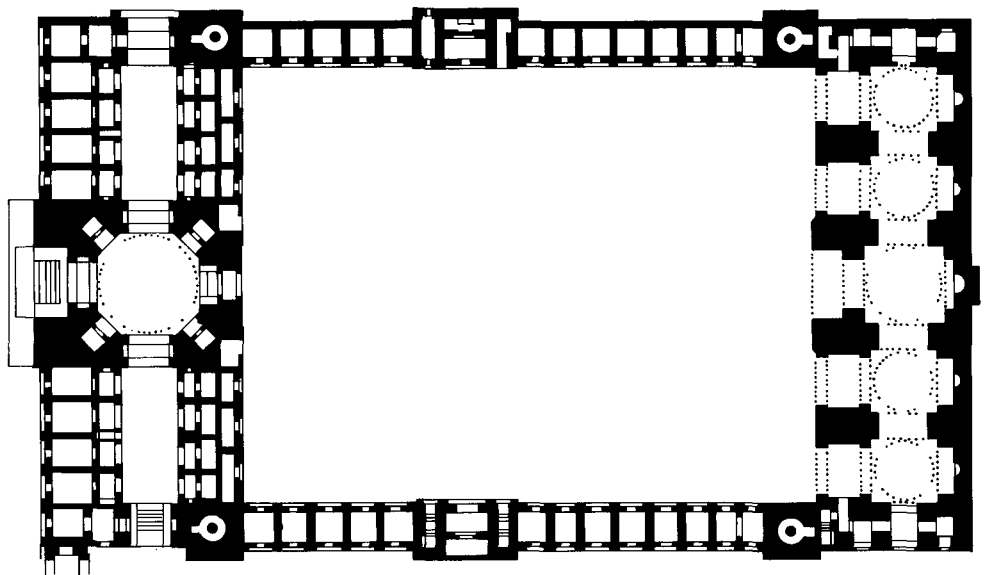
? Insufficient information

▲ Pyramidal roof

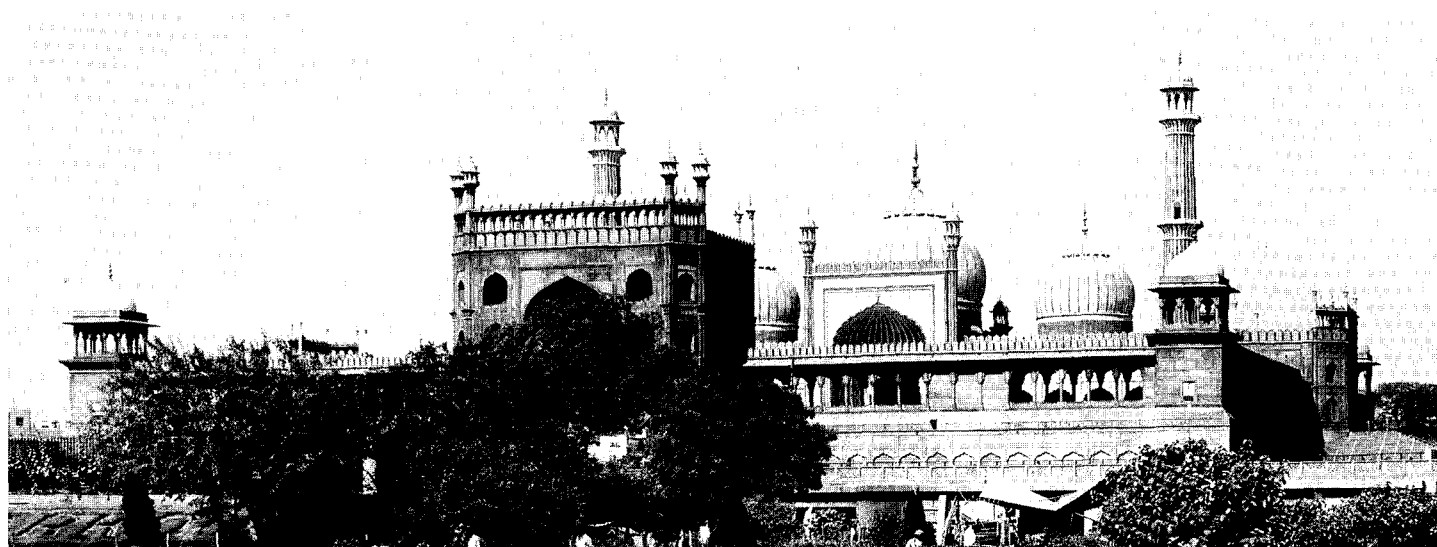
* Converted from Hindu structure



Location of principal mosques of Bangladesh, India and Pakistan



Lahore, Pakistan: plan of Wazir Khān. A hypostyle mosque with domical vaulting After La Roche



Delhi, India: a view of the Friday Mosque

Photo. D. Sareen/Aga Khan Awards



Djenne, Mali. bazaar set up outside Great Mosque

Photo: M. Al-Hariri/Aga Khan Awards

ZONE V East and West Africa

NO.	LOCALE	NAME	GENERIC FORMS								MOSQUE TYPOLOGY						Century of Construction-A.D.
			1	2	3	4	5	6	7	8	1	2	3	4	5	6	
			Mihrāb	Courtyard	Minaret	Dome	Gateway	Portico	Plinth	Ablution Place	Hypostyle	Hypostyle with Dome Accent	Hypostyle with Domical Vaulting	Four-Eyān	Central Dome	Other	
1	AGADEZ	Great Mosque	●	○	●	○	●	○	○	●	X						16-19
2	BOBO-DIOULASSO	Friday Mosque	●	●	●	○	●	●	●	●?	X						19
3	CHINGUETTI	Great Mosque	●	●	●	○	●	○	●	●	X						13-15
4	DJENNE	Great Mosque	●	●	●	○	●	○	●	●	X						14-20
5	GAO	Askia Al-Hajj	●	●	●	○	●	○	●	●?	X						16
6	KANO	Friday Mosque	●	○	●	○	●	○	○	●	X						15-19
7	KILWA	Great Mosque	●	○	○	○	○	○	○	○			X				12-13
8	LARABANGA	Friday Mosque	●	●?	●	○	●	○	●	●?	X						17-19
9	MASKA	Friday Mosque	●	○	○	○	○	○	○	○	X						19
10	MOGADISHU	Fakhr Ad-Din	●	○	●	●	○	○	○	○		X					13
11	NAMOU	Friday Mosque	●	○?	○?	●	○	○	○	○					X		18-19
12	TIMBUKTU	Great Mosque	●	○	●	○	○	○	○	○	X						14
13		Sankore Mosque	●	●	●	○	○	○	○	○	X						14-15
14	ZARIA	Friday Mosque	●	○	●	○	○	○	○	○		X					19

Inventory of generic forms and typology of selected mosques

KEY

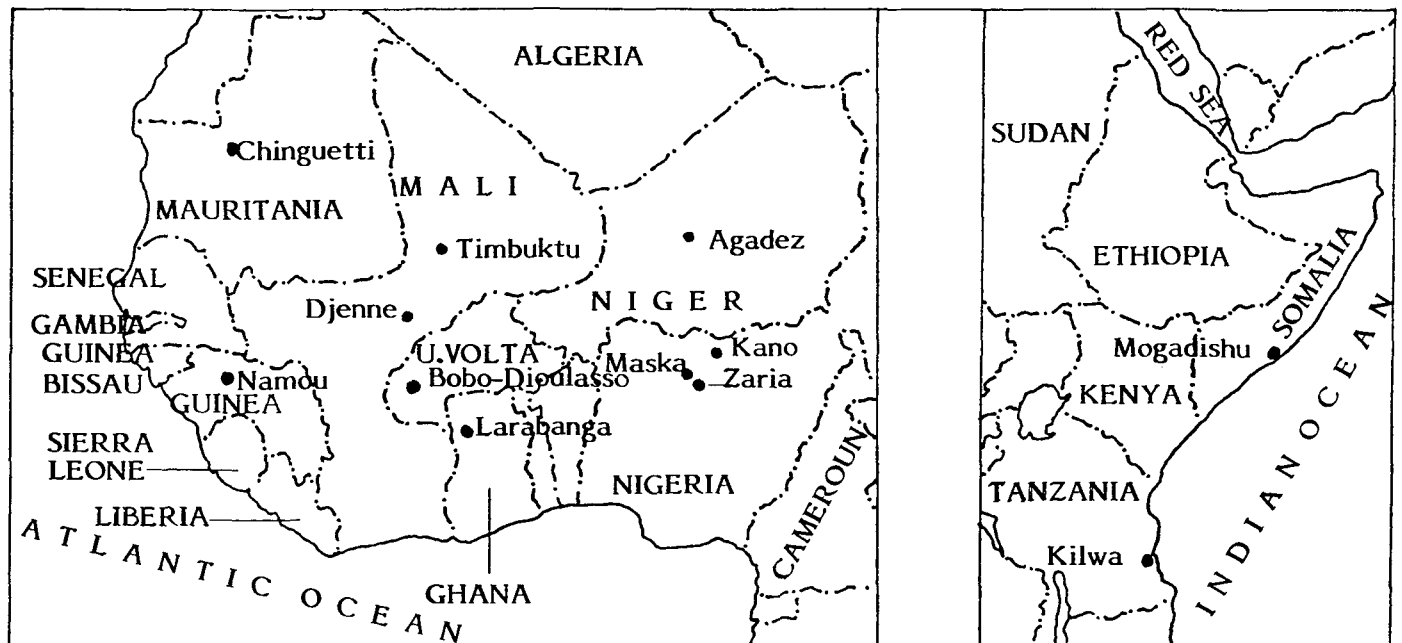
● Strong emphasis

○ Nonexistent

○ Medium emphasis

? Insufficient information

Compiled by N Ardalan



Location of principal mosques of East and West Africa

ZONE VI Far East

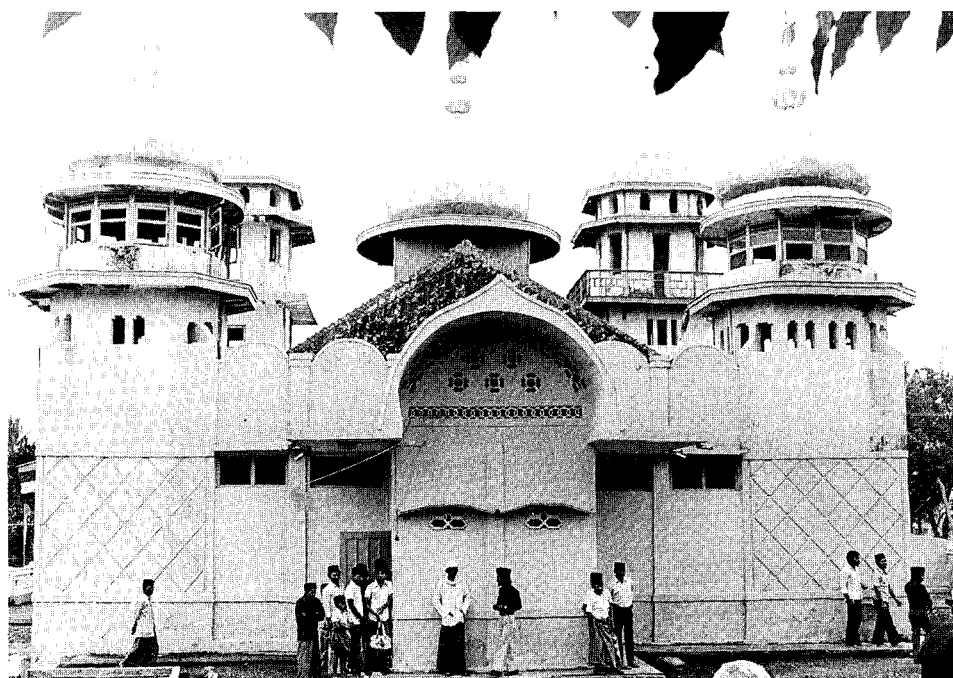
			GENERIC FORMS								MOSQUE TYPOLOGY						Century of Construction—A.D.
NO.	LOCALE	NAME	1	2	3	4	5	6	7	8	1	2	3	4	5	6	
			Mihrab	Courtyard	Minaret	Dome	Gateway	Portico	Plinth	Ablution Place	Hypostyle	Hypostyle with Dome Accent	Hypostyle with Domical Vaulting	Four-Eywan	Central Dome	Other	
1	CHUAN-CHOU	Mosque	●	○	○?	○	○	○	○	○?						X	14
2	HANG-CHOU	Great Mosque	●	●	●	○	●	●	●	●						X	15?
3	JAKARTA	Azziadah	●	●	●	●	●	●	●	●						X	17?
4		New Mosque	●	●	●	●	●	●	●	●		X					20
5	MALACCA	Mosque	●	○	○	●^	○?	●	○	○?						X	20?
6	SENDANG-DUWAR	Java Mosque	●	○	○	●^	○	○	●	○						X	16*
7	TAIPEI	Mosque	●	○	○	●	○	○	○	○					X		20
8	TELOK MANOK	Mosque	●	○	○	●^	○?	○	●	○						X	18
9	WEST SUMATRA	Mosque	●	○	○	●^	●	○	●	○						X	16?

Inventory of generic forms and typology of selected mosques

Compiled by N Ardalan

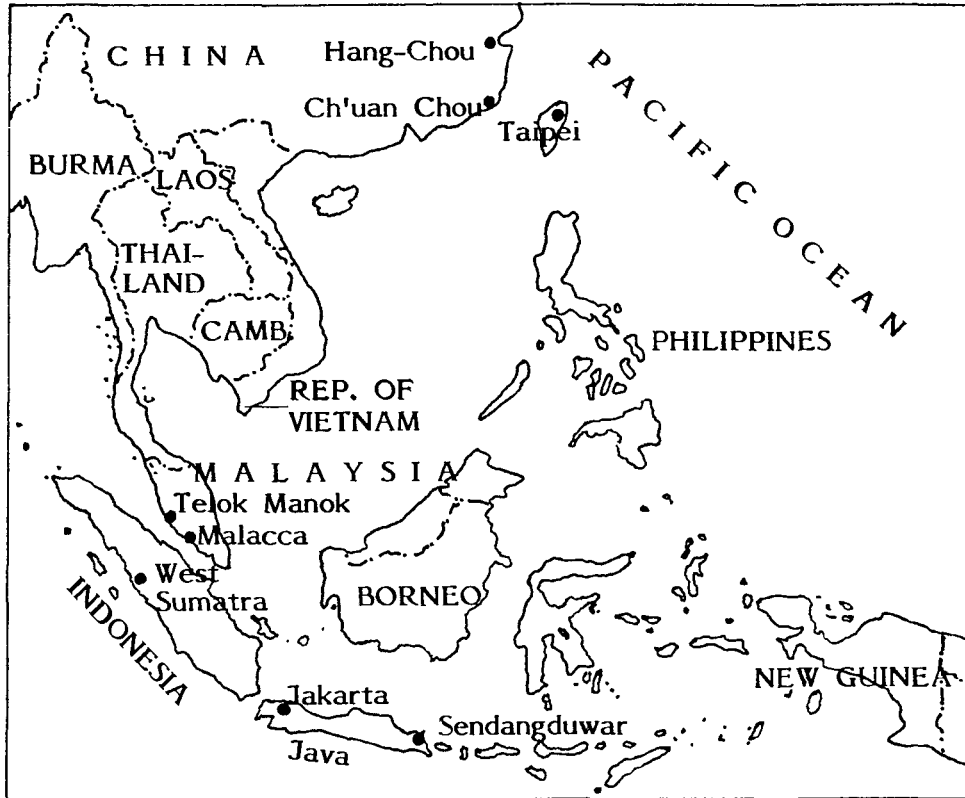
KEY: ● Strong emphasis
 ○ Medium emphasis
 ○ Nonexistent

? Insufficient Information
 ^ Pyramidal roof
 * Converted from Hindu structure



Jakarta, Indonesia. Azziadah Mosque

Photo: H-U Khan/Aga Khan Awards



Location of principal mosques of the Far East



A village mosque between Kuala Lumpur and Malacca, Malaysia

Photo H-U Khan/Aga Khan Awards

ZONE NO	GEOGRAPHIC LOCALE	ORIGINS		MOSQUE TYPOLOGY						TOTAL NUMBER
		Pre-Islamic	Islamic	Hypostyle	Hypostyle with Dome Accent	Hypostyle w/Domical Vaulting	Four-Eyvān	Central Dome	Other	
I	EGYPT, IRAQ, JORDAN, NORTH AFRICA, PALESTINE, SAUDI ARABIA, SPAIN, SYRIA	4	38	4	28	3	2	3	2	42
II	TURKEY	1	14		2	2	1	10		15
III	AFGHANISTAN, CENTRAL ASIA, IRAN	2	17			3	14	2		19
IV	BANGLADESH, INDIA, PAKISTAN	2	12			10	4			14
V	EAST & WEST AFRICA		14	10	2	1		1		14
VI	FAR EAST	1	8		1			1	7	9
	Totals	10	103	14	33	19	21	17	9	113
	Percentage	9	91	12	29	17	18	16	8	100

Frequency of typology of 113 mosques according to geographic zone

Compiled by N Ardalan

ZONE NO.	GEOGRAPHIC LOCALE	1 MIHRĀB			2 COURT-YARD			3 MINARET			4 DOME			5 GATEWAY			6 PORTICO			7 PLINTH			8 ABLUTION PLACE			TOTAL NUMBER
		●	◐	○	●	◐	○	●	◐	○	●	◐	○	●	◐	○	●	◐	○	●	◐	○	●	◐	○	
I	EGYPT, IRAQ, JORDAN, NORTH AFRICA, PALESTINE, SAUDI ARABIA, SPAIN, SYRIA	41		1*	39		3	30	9	3	9	26	7	18	24		28	12	2	7	29	6	6	36		42
II	TURKEY	15			8	6	1	9	4	2	12	3		7	8		10	4	1	11	4		7	7	1	15
III	AFGHANISTAN, CENTRAL ASIA, IRAN	19			16		3	10	6	3	13	6		16	3		17		2		13	6	3	14	2	19
IV	BANGLADESH, INDIA, PAKISTAN	14			13	1		4	9	1	7	7		10	4		10	4		7	7		2	12		14
V	EAST & WEST AFRICA	14			4	9	1	11	2	1	2	2	10		14			5	9		11	3		14		14
VI	FAR EAST	9			1	8		2	5	2	7		2	3	6		3	4	2	3	6			9		9
	Totals	112		1	81	24	8	66	35	12	50	44	19	54	59		68	29	16	28	70	15	18	92	3	113
	Percentage	100			93	7		89	11		83	17	100				86	14		87	13		97	3		100

KEY ● Strong emphasis ◐ Medium emphasis ○ Nonexistent * Haram al-Sharīf, Mecca

Frequency of generic forms of 113 mosques according to geographic zone

Compiled by N Ardalan

ZONE NO	GEOGRAPHIC LOCALE	GENERIC FORMS								MOSQUE TYPOLOGY						Number Surveyed
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	
		Mihrāb	Courtyard	Minaret	Dome	Gateway	Portico	Plinth	Ablution Place	Hypostyle	Hypostyle with Dome Accent	Hypostyle with Domical Vaulting	Four-Eyvan	Central Dome	Other	
I	EGYPT, IRAQ, JORDAN, NORTH AFRICA, PALESTINE, SAUDI ARABIA, SPAIN, SYRIA	●	●	●	○	○	●	○	○		●					42
II	TURKEY	●	○	●	●	○	●	●	○					●		15
III	AFGHANISTAN, CENTRAL ASIA, IRAN	●	●	○	●	●	●	○	○				●			19
IV	BANGLADESH, INDIA, PAKISTAN	●	●	○	○	●	●	○	○			○				14
V	EAST & WEST AFRICA	●	○	●	○	○	○	○	○	○						14
VI	FAR EAST	●	○	○	●	○	○	○	○						○	9
	SUMMARY	●	○	○	○	○	○	○	○	14	33	19	21	17	9	113

KEY ● Strong emphasis ○ Medium emphasis ○ Nonexistent ▲ Pyramidal roof

Summary of generic forms and typology of 113 mosques according to geographic zone

Compiled by N. Ardalan

Comments

Burckhardt

Some of our contemporaries seek to rehabilitate Muslim art by making light of its canonical rejection of image and by insisting on the influence of ethnic particularism. Some have gone so far as to declare that Islamic art does not exist in a global sense, that there exists only the art of individual Muslim peoples.

These critics forget that for every culture there is an internal economy of artistic expression. Some forms have a central and essential role. Others (particularly in the case of semi-decorative, semi-narrative representations of human and animal forms) play the more or less peripheral role of compensatory elements. Except in very special cases we know that anthropomorphic imagery has never been tolerated within the Islamic liturgical realm. Were this not so, it would necessarily indicate some sort of deficiency on the part of Muslim artists. Where can we

find in Muslim painting and architecture summits of perfection aesthetically and spiritually comparable to the holy image of the Blessed Virgin of Vladimir, the stained-glass windows of Chartres or the tympanum of the Moissac Abbey? I only speak of works that encompass a symbolic dimension and necessarily possess it by reason of their liturgical function.

In choosing works of Islamic art which can be qualitatively compared to these summits of Christian art, one does not take examples of figurative art. Instead, one selects elements of sacred architecture such as the *mihrāb* of the Great Mosque of Cordoba—a work comprised of geometry, arabesque and sacred writing—or even better, an entire architectural environment because that is, above all, the object of Islamic art.

In our remarks above, we have implicitly established a parallelism between the terms “sacred,” “central,” “symbolic” and “liturgical.” But these four notions are not equivalent in every respect. The symbolic is always of central nature because it is the

direct and nondiscursive manifestation of a spiritual reality. Situated outside the liturgical realm, the symbolic is of the same order as the sacred but not coextensive with it. For example, in the architectural symbolism of mausoleums and the tombs of saints and princes, the ubiquitous dome is the image of the sky. The hemispherical cupola above the cubic base represents the union between earth and sky. But that symbol contains nothing vague or abstruse; it is not the product of a “sentimental charge,” but a language of the spirit.

The Muslim courtyard house is another example of symbolism outside the liturgical realm. The centrality (its being centered on itself) and the interiority of the house combine with the paradisiac symbolism of gardens.

While symbolism is not restricted to the liturgical order, the latter is necessarily woven with symbolism. There exists a coincidence of universal religious symbols. Liturgical objects such as the *mihrāb* and *minbar* are simultaneously linked to