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HISTORY, THEORY AND BELIEF:

A CONCEPTUAL STUDY OF THE TRADITIONAL MOSQUE IN ISLAMIC ARCHITECTURE

A Thesis in
History of Architectural Ideas

By

Mohammed Abdulrahman Alomar

Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Philosophy

May 2000

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Abstract

This study seeks to contribute to the clarification of our understanding of the concept of the traditional Mosque through an exploration of historical and theoretical developments in traditional mosque architecture, especially with respect to The Muslim's relationship with the Divine. I trace the way in which Islamic Religious Architecture is an expression of the Muslim way of life, a product of religious requirements, and the result of unique cultural and environmental factors. I emphasize how Mosque architecture is a sacred architecture that reflects the ideals of unification and solidarity within Muslim society.

While I do not seek a precise or 'definitive' definition of the term 'traditional' as it is applied to mosque architecture, I do seek to make a significant contribution to the literature insofar as I help to clarify or reify our understanding of what can correctly be seen as 'traditional' in mosque architecture, vis-à-vis contemporary trends in the modern world. The central thrust of my thesis is that Islamic architectural tradition can indeed be defined, given form, and I seek to account for and explore the way in which tradition is of special importance to Islam, as compared with its sister religions in the West. I argue that fidelity to tradition, at least on some level, is imperative to the survival of mosque architecture, as we know it. I am especially concerned that this be done in such a way as to enhance the preservation of the unique identity and dignity of the Islamic architectural tradition.

I trace the way in which Islamic architecture was initiated by the Prophet Mohammed *{Peace be upon Him}*, when he built his mosque in Yathrib *(al-Madinah)*, fourteen centuries ago, and how it rapidly became an extremely dynamic center for the new Muslim community, a place for the five daily congregational prayers and a model for Islamic communities of the future. This was a social environment already fully regulated by Islamic law, *"al-Shari'ah,"* derived from the *Qura'an* and *"Sunnah"* (the customs) of the Prophet Mohammed *{Peace be upon Him}*, even though Islamic Law as a codified system would not be formalized for several hundred years to come.

I pay close attention to the concept of religious or sacred space, especially insofar as it is relevant to the Islamic Tradition and the way in which sacred architecture reflects a society's awareness of its relationship with the Divine. Through a comparison with Judaism and Christianity, Islam's sister Western religious traditions, especially the latter, I explore the various understandings of religious art and symbolism, as well as the unique historical realities that have shaped Muslim religious communities, and, subsequently, traditional mosque architecture. I also explore the diversity that is found in the architectural design of mosques and the key roles that mosques play in the definition of Islamic architecture in general. I have a special interest in and focus on the role of the mosque in traditional Moorish architectural styles in Morocco and Spain, as well as Ottoman styles in Turkey, which I see as especially salient examples of the artistic heights that traditional Islamic architecture has attained.

Table of Contents

List of Figures

Acknowledgements

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Nevertheless, this is an academic project. As an academic project, it is a product of my background as an architect, yet it represents the sincere and dedicated attempt of a professional architect to make a contribution as a scholar to what are frequently controversial debates concerning the nature of 'traditional' mosque architecture. It is to those who have taught, aided, and guided my quest to become a scholar as well as an architect, therefore, that I am most indebted for the realization of this project.

First and foremost, I wish to thank the members of my doctoral dissertation committee. I am indebted to the Chairman of my dissertation committee, the distinguished professor emeritus of philosophy Dr. Joseph J. Kockelmans. I shall always

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Chapter I
Introduction

Theory and Method of Mosque Architecture

In the Name of Allah the Most Gracious, the Most Merciful.

The Mosques of Allah shall be maintained only by those believe in Allah and the last day, and perform Salat (prayer).
Qur'an, Surah , Taubah(9), 18.

The mosque is the most important structure in the Islamic world; it is where Muslims worship and acquire social and political guidance. It has served as the central model for and expression of Islamic culture throughout the centuries. Mosques are the primary focal points of Muslim cities and represent the physical centers of Islamic society in general. Their singular importance is seen most clearly within the context of other buildings, especially through the styles and architectural demands that are prevalent in the vicinities that surround them. It is strategically placed in relation to other sectors, professional guilds, the market, the governor's office, schools, and other secular buildings, commercial or residential. The architecture of all other buildings is developed in harmony with the architecture of the mosque.

The mosque represents the heart or central core of Islamic architecture. It is the primary material symbol of the faith that it serves. Robert Hillenbrand accurately highlights the way in which the mosque occupies the center of Islamic physical space:

> The symbolic role of the Mosque was understood by Muslims at a very early stage, and played its part in the creation of suitable visual markers for the building: dome, minaret, mihrab and minbar among others. Yet it is even

> more the practical significance of the mosque in Muslim society that explains its pre-eminence. Alone among Islamic buildings, the mosque can gather to itself the functions of all the architectural types discussed in detail in this book. Naturally, if every mosque did this in practice, Islamic architecture would have come to a full stop with the invention of the mosque. The all-embracing importance of the mosque makes it quite natural that this should be the medieval building type preserved in the greatest number[1].

Hand in hand with the spread of Islam and the political and economic growth of Muslim countries and their governments, activities in mosques have continued to concentrate on the worship of God and religious education based on the Holy Qur'an, and the Sunnah, the customs, habits, and way of life exemplified by the Prophet Mohammed *(Peace be upon Him)* who is extolled by the Qur'an as a beautiful role model.

Mosques built during the early stages of the development of Islam were of simple architectural structure and style. They contained only very limited decorations: Qur'anic calligraphy, arabesque, and floral and geometric forms. Muslim art is non-figurative; it is an art of ornamentation only, spiritual three dimension sculptures as well as pictorial representations have never been welcome in Muslim art; reproductions of human or animal figures are not allowed in Muslim art. It is much more homogeneous than Christian art and its artwork must be recognized—and can only be understood as—the product of a distinct and religiously homogenous civilization. While the technological sophistication of Islamic monumental architecture has progressed over time, to such an extent that it is unsurpassed by the monumental architecture of any other religion, its artistic simplicity remains much the same.

Mosque architecture is the basis or foundation of Islamic architecture; and it is its pinnacle, its highest form of expression. Perhaps the central achievement of Islamic

civilization, that which most fully expresses its spiritual inspiration, and practical worldview, is the way in which mosque architecture combines technology and art. This integration of art and technology is especially prominent in the great masterpieces of Islamic architecture: the great mosques of Makkah and Medinah, the Umayyad mosque in Damascus, the Dome of the Rock in Jerusalem, the great mosque in Cordoba, and the Fez mosques in Morocco, all of which display a profoundly adroit synchronism of Islamic artistic principles, on the one hand, and remarkable technological prowess on the other. Some Medieval architecture of the Christian West is clearly indebted to the techniques of Islamic architecture. The Gothic arches as well as the interior courtyards of many Medieval and Renaissance European structures remind the viewer of the Islamic architectural examples from which they were originally drawn.

The interpretation of Islamic architecture, 'mosque architecture', and the development of an understanding of what this entails can only proceed in a truly meaningful way, if it is done against the backdrop of Islam as a cultural, religious, and political phenomenon. Of central importance to this thesis is the way in which the core elements of Islamic society, including its architecture, have remained in essence unchanged since the early days of Islam. Islam is centered on religious law, the "*Shari`ah*", the systematic code of life governing the actions and interactions of all Muslims. All of the *Shari`ah* is contained, in principle, in the Holy Qur'an, as elaborated and completed by the "Sunnah" of the Prophet Mohammed *{Peace be upon Him}*, the Prophet's habit, custom, way of life. The content of Shari'ah is comprehensive and covers creed, moral behavior, and human relations. The Islamic *Shari`ah* is seen as divinely prescribed legislation that deals with all aspects of human life, including creed, worship, morality, business dealings,

human interaction, in fact, all aspects of society and individual participation in that society. It also regulates urban planning. Ibn Manzur, Muhammead Ibn Mukarram, 1232-1311 in his Arabic language—Dictionaries *(Lisan al-Arab li-Ibn Manzur)*, has noted that *Shari'ah* is a way to the means of eternal life; The religious law of God; consisting of such ordinances as those of fasting, prayer, pilgrimage and giving of the poor-rate and marriage, and other acts of piety, orobedience to God, or of duty to Him and men: *Shari'ah* signifies also a religion, or way of belief and practice in respect of religion: and a way of belief or conduct that is manifest and right in religion.[2] Also Shaikh Ali Tantawi, a Muslim scholar, in his book An Introduction to Islam (in Arabic), has noted that the Arabic word *Shari'ah*, carried the original connotation of 'the straight road or path'[3]. Over time, however, its meaning has come to cover the totality of doctrine, acts, and edicts that serve to elevate Islamic society and help to achieve its objectives with respect to the governance and correction of both individuals and society as a whole.[4] Islamic architecture, therefore, has always been and continues to be developed and elaborated according to the rules and regulations of the Islamic *Shari'ah*, which regulates urban planning—cities, towns, and neighborhoods—in Muslim societies, in order to provide for the security and privacy of their inhabitants. Therefore, Islamic Jurisprudence institutes building laws, delineating what is acceptable from what is not, especially along the following lines:

- Permissible buildings, i.e. Mosques, residential buildings, hospitals, schools, commercial buildings, etc.
- The height of buildings in relation to the height of neighboring buildings.
- The protection of the privacy of neighbors.
- The construction of industrial areas.

- The walls that are shared by neighbors.
- The shared ownership of buildings.

Living Texts: The Prophet's Mosque and Practice of the early *Ummah* in al-Madinah

Although there is no specific guidance from the Holy Qor'an dictating how to construct a mosque, we argue that the first mosque –the Prophet's mosque in al-Madinah – and the practice of the first *Ummah*, Prophet Mohammed's *(Peace be upon Him)* followers, together form an architectural and historical "text" that is nearly scriptural in its authority for Muslims. Based on this extra-Qur'anic "text" we can discern several classical features for the Islamic house of worship: simplicity, openness, cleanness, the mihrab *(where the Imam stands to lead the prayers)*, the minber *(where the Imam stands to deliver his Friday speech, the Khotba,)*, and the minaret *(the tower where the Moathen call people to prayer)*, etc.

The Prophet Mohammed's *(Peace be upon Him)* arrival in Yathrib represented a crucial turning point for the small village, even its name was changed to al-Medinah Almunawarah (the Enlightened City). The year 622 was the first year of *Hijrah* (emigration); it became the beginning of the Moslem lunar calendar, and the first Islamic community was established. The year heralded the beginning of the Islamic era, the year in which Islam officially took shape as a doctrine, a religious faith, an organized community, and a way of life all in one.

Prophet Mohammed's *{Peace Be Upon Him}* first task after his arrival in al-Medinah was to build a mosque for the community. He and his companions constructed the first mosque in Islam using available building materials: lime-stone for foundations, sun -dried mud bricks and mortar for the walls, palm trunks were used as columns to support a roof of palm branches and leaves covered by mud. On each of the other sides was a door.

The architectural plan of the mosque was very simple, but was the text of the Islamic architecture; few colonnades at the south side of the square structure, and a one colonnade at the north side, a large open courtyard in the middle, for public functions of spiritual and political meetings of the new community. The southern wall had became the qiblah wall in the second year of the *hijrah*, after the changing the qiblah from al-Aqsa mosque in Jerusalem to the Holy Kab'ah in Makkah. The Prophet *(Peace be upon Him)* some times climb a simple pulpit known as the *minbar* to deliver his sermons and teaches to his people. Chambers for the Prophet's wives were built against the outer side of the eastern wall of the mosque; all of the chambers opened into the mosque courtyard. This simple structure was the beginning of a new era in Islamic architecture.

Traditional vs. Contemporary Mosque Architecture

This doctoral dissertation seeks to define the key elements of what is entailed in the development of a 'traditional' mosque. In other words, it looks to the classic mosques that exist throughout the Islamic world and seeks to arrive at a synthesis (although not a definitive one) of what are arguably the most important or key elements of mosque architecture and design. The thesis that drives this dissertation is not especially shocking, original, or even creative. I seek only to provide an argument that certain elements of mosque architecture are inherent to the nature of traditional mosques, those elements that have come to be accepted by the tradition, in general, as integral features of Islamic houses of worship. As noted by Leatherbarrow, "the task of reflection on the history of architectural topics is twofold: first, to recover what is genuinely questionable by grasping the basic experiences that motivated the various formulations; and second, to see the ways in which these experiences are similar to ours."[5] In this way, through reflection on Islamic religious tradition, I seek to codify or outline what I see as the basic religious expression of Islamic architectural form and function, what I see as most fundamental to—or inherent in—distinctly Islamic forms of worship, and the way in which these forms of architectural religious expression are consonant with contemporary Islamic religious expression.

This is not to say that there is nothing about this dissertation which is controversial. Many architects, such as my colleague, Architect Abdel Wahed El-Wakil, a distinguished architect who designed several contemporary mosques, for example, would claim that there is no conceptual distinction to be made between traditional vs. contemporary mosque architectural design.[6] I would like to argue, however, that this distinction is a valid one. In other words, the word 'traditional', in reference to mosque

architecture, is not a vacuous or meaningless expression; rather, it does convey or carry with it a set of distinct features. I wish to make a humble contribution, therefore, to the clarification of what is meant by the expression 'traditional mosque architectural design'. To do so, however, is indeed controversial. This is especially true insofar as the more general relationship between traditional and contemporary architecture involves issues that go far beyond those pertaining to Islamic architecture in general and to the mosque in particular. I focus on the issue, however, as it pertains to mosque design.

Some may disagree with the particular way in which I have framed my argument concerning the most essential or integral elements of mosque architecture, what I see as the core traditional elements of mosque architecture. It should be borne in mind, however, that I am fully aware that my work represents only one interpretation of what these core elements are—or have historically tended to be. Those who freely espouse innovation in contemporary mosque designs that represent radical departures from elements of traditional mosque styles are especially likely to take issue with the driving force that has motivated this project. Any attempt to arrive at a definition of what constitutes a 'traditional' as opposed to a 'non-traditional' mosque is clearly engaging in a controversial issue because any such attempt is always necessarily based on the interpretation of the one who is constructing the argument. In addition, my work is clearly and unavoidably sympathetic with what I see as 'traditional' in mosque architecture; this is why I have been motivated to attempt to define what 'traditional' means within an Islamic context.

There is a great deal of confusion surrounding the perceived breach between what is seen as traditional and what is seen as representative of modernity. This is the case

generally speaking as well as with respect to mosque architecture. As Chris Abel expresses it:

> Consciously or not, the words 'tradition and modernity' generally conjure up images of fierce tugs-of-war between opposite and irreconcilable forces. For many architects in the West, they have come to mean a bitter disillusionment with forward looking orientations and a frantic scramble to make up for recent neglects by plundering the history books. In the developing world, the two words suggest a desperate battle to offload backward economic and political systems and catch up with advanced industrialized nations, usually at the expense of traditional values and lifestyles, including regional forms of architecture.

For Abel, there is no real—or necessary—tension between the traditional and the modern. He sees this, like El Walkel, as an unwarranted or unfounded distinction. Abel continues:

> What is always apparent in these schizophrenic debates is how narrowly differing schools interpret either concept, and how outdated underlying assumptions are, especially those concerning the nature of modern science and even tradition itself. If any real progress is to be made in reconciling the two orientations then we should be asking what kind of thinking it is that leads people to see modernity and tradition as opposing concepts in the first place.[7]

I agree wholeheartedly that we need not see modernity as opposed to tradition, or even as posing a threat to what is traditional. Yet, as Able suggests, it is important to explore the tension that exists, or is perceived to exist, between the traditional and the modern, and to do so in creative ways which serve to reduce the tension by enhancing our understanding of the terms of the debate, in this case, what we mean when we say 'traditional'.

As is the case with many dissertations, this work grows out of many years of professional experience. Over the last fifteen years, I have been engaged as an architect in designing and supervising mosque construction both in my own country, Saudi Arabia, and abroad. As with others in my field, I chose to attempt to attain the ultimate accreditation of my endeavors—thus, this dissertation. The professional with many years

of experience, however, often runs into the obstacle that his or her work is perceived as a mere testimony, a justification, an explanation of or attempt to legitimate what it is that drives their professional existence—not necessarily the kind of novel contribution that is required by a doctoral dissertation. It is my conviction, however, that merely attempting *to offer* a substantive definition of what constitutes a 'traditional' mosque is a task laden with controversy and great intellectual difficulty, and, that this does warrant the writing of a doctoral dissertation.

I am not seeking a 're-interpretation' of what is traditional. Rather, I am merely trying to contribute body, or form, to our understanding of what we are doing when we refer to traditional Islamic architecture or the traditional mosque. The experience that I have gained through my close involvement with the design of mosques has given me the opportunity to explore in an in-depth fashion what is generally seen as the 'traditional' elements of mosque design. My central focus has been on what I see as the finest examples of Islamic buildings, which, as I see it, serve as the key of central importance to understanding Islamic architecture generally speaking.

Islamic architecture represents the natural, physical, and visual expression of Muslim society, complete with its ultimate goal of paradise, the tranquil gardens "beneath which rivers flow". Having visited numerous traditional and contemporary mosques in various regions of the world, I have gained a great deal of knowledge concerning the unique significance of mosque architecture to a broad variety of Islamic cultures. Consequently, this dissertation studies the diversity that is found in the architectural design of mosques and the key roles that they play in the definition of Islamic architecture in general. I have a special interest in and focus on the role of the mosque in traditional

Moorish architectural styles in Morocco and Spain, as well as Ottoman styles in Turkey. These three classic models of traditional Islamic architecture serve as a resource bank from which I attempt to focus on the common forms and uses that serve to characterize all three of these architectural traditions. Nevertheless, I am acutely aware that the most acclaimed architectural triumphs of these three traditions do not represent all of Islamic architecture. Still, they do serve as particularly good examples of the heights to which Islamic architecture has traditionally aspired.

As it is my intention to contribute to our understanding of what we mean when we use the term 'traditional mosque', and to do so in a way which welcomes and harnesses the opportunities afforded by technological advancement, at the conclusion of this work, I offer the reader a glimpse at a virtual mosque, which represents a synthesis of traditional elements and styles that I consider to be the premier examples of architectural achievement in our tradition. I do so in a search of the common ground that is to be found among three prototypical models. I offer this virtual mosque as a foundation, a guide, and a support; in the service of the ongoing quest for an ever-more-profound understanding of what is entailed in traditional mosque architecture. If one looks at a picture of a family, for example, one is able to recognize them as such, a family. Yet, when one attempts to distill from this group the physical elements or characteristics that they share in common, one launches upon a task of such complexity, that any attempt ultimately fails—yet, the attempt can still be made. While in the case of a family this would be little more than a philosophical exercise, aided, perhaps, by the computer, in the case of the family of mosques that represent the quintessential definition of what is our finest architectural achievement of religious expression, the exercise carries with it great import, if not

urgency. My contribution of a virtual mosque to the discussion of how to go about defining the nature of the traditional mosque tackles only the limited question of the extent to which common elements can be defined, and this in the limited context that I have selected for the exercise.

I am *not* suggesting that there are mosques being built, what I refer to as "contemporary" mosques, that *do not meet* the requirements for essential worship. To do so would require arriving at a definition of what constitutes essential worship for the Muslim, and I do not believe that such a definition can be made, or, at least, I am not attempting to do so. This is, in the final analysis, the decision of each and every Muslim. Insofar as this essential worship has occurred and continues to occur in architectural space, however, there are common elements of what has been traditionally seen as the characteristic elements of Muslim religious ritual as it is practiced in community. Again, however, as with the family portrait, unless we can talk about common elements with different configurations, we can't do a comparison or talk about alternatives.

Irrespective, however, of the opinions of mosque architects such as myself, the directions in which mosque architecture is heading, in addition to other factors, are determined in the final analysis by client demand. As Frishman and Khan explain, that the design and construction of the mosque throughout history, have been affected in the contemporary society by several important elements:

- The expression of place,
- The appearance of a 'pan/Islamic', viewpoint based essentially on a political view of the Muslim world and the others,
- The ambition of clients and designers,
- The manifestation of modernism and internationalism.

Therefore, some indication of the nature of contemporary clients is of assistance in understanding the changes which mosque design is undergoing.[8] It is quite clear that contemporary client groups are going to continue to have the major say with respect to trends in mosque development. It is also clear, however, that the architect will play a key role in the formation and realization of his or her clients' aspirations. The ways in which contemporary mosques will continue to evolve will depend on the success of ideas in the marketplace of architectural inspiration, and the success or failure of individual architects to 'sell' their vision, i.e, to inspire others.

Nowadays, the question of sacred art in architecture is often juxtaposed with that of modernity; they are often seen as incompatible. El-Wakil, for example, seeks to resolve—or bypass—the question of modernity by saying that: "The notion of modernity belongs to secular art, fashion and style. The function between modernity and contemporanity is at the basis of this misunderstanding. So is the misunderstanding between science and technology: the former being universal, the later being particular. Mosque, Church and Temple architecture belong to the domain of Sacred Art." Without an understanding of the principles of Sacred Art, for El-Wakil, "there can be no true contemporary architecture."[9] Sacred art fulfills two mutually complementary functions: it radiates the beauty of the rite and, at the same time, protects it.[10]

Islam has always been regarded both as a religion and as a way of life, which has shown itself capable of absorbing and reconciling peoples of most diverse origins. The cultural unity fostered by Islam necessarily embraces the sphere of artistic creation. Sacred space reflects, is embodied by, this artistic creation—this is the case irrespective of the extent to which any given architectural creation is thought to be modern or traditional.

The divisive character of the debate concerning traditional vs. modern architecture is nowhere seen more clearly than in the domain of sacred space, where the stakes of the debate are very high. With respect to the question of sacred space, the debate assumes proportions that go far beyond the practical and the aesthetic. As the creation of sacred space is a direct reflection of religious identity, identity itself is called into question. I agree with Abel that we are in need of a fresh outlook on the relationship between traditional and modern architecture. He suggests that: "A major obstacle to any fresh outlook is the way architects generally think about what is modern and traditional in formal terms. Accordingly, the first implies rejection of historical models, standardization, an abstract purity of form, open frame structures and flexible spaces, while the second implies historical and vernacular forms, variety, rich lines, solid wall structures, fixed spaces and so forth."[11] As Abel suggests, this formal division is perhaps too rigid; what is called for is an openness to creativity, redefinition, a search for new ways in which modernity can make major contributions to traditional forms.

To make matters even more complicated, we are also faced with the distinction between 'modern' and 'postmodern' architecture, faced as well with the need to reconcile both with the imperatives—to the extent to which these are recognized—of traditional architecture. Robert Venturi, postmodernism's leading theorist, derides what he sees as the "puritanically moral language of orthodox Modern architecture," advocating in its place an architecture of complexity and contradiction, "hybrid as opposed to pure elements, compromising rather than clean, distorted rather than straightforward, ambiguous rather than articulated," etc.[12] For Venturi, Modernism is represented by the characteristics of formal design that characterize architecture in the twentieth century. As

a postmodernist, he is skeptical of the attempts on the part of Modernist architects to try to "improve the connections between science and technology on the one hand, and the humanities on the other...making of architecture a more social art." Yet, he supports the "autonomy" of architecture and its traditions and suggests that the architect can best solve his problems by "narrowing his concerns and concentrating on his own job."[13] For an architect such as myself, for example—who seeks to advocate the preservation of traditional motifs in Modern architecture—this would entail a search for ways in which the creativity that is located in both Modernist and Postmodernist movements in architecture can flourish in such a way that tradition continues to be honored—revered to ever greater heights—through the ongoing progression of architectural genius and the technological advancement that serves to make it possible.

Abel declares that he concurs with Venturi's rejection of purity, and embraces impure or hybrid architecture "as a valid expression of cultural exchange and heterogeneity." He questions, however, what he sees as the illogical conclusions drawn by postmodern critics, that better architecture, especially hybrid architecture, can be produced when architects turn in on themselves: "The irony is that while all these criticisms were aimed at liberating architecture, in many respects the actual result has been the reverse. The past has been opened up, but only at the cost of closing down the future. And while aesthetic barriers may have been demolished, others have taken their place, leaving architects with an increasingly circumscribed role as exterior decorators." Abel believes, therefore, that architects should take their traditions seriously, but he protests what he sees as a narrow definition of what those traditions are supposed to include.[14] For our purposes, therefore, it is important to note that this work seeks to impose no limits on

what is appropriately seen as traditional, seeking only to provide a contribution to the discussion of the content of what is traditional in mosque architecture. Through the ongoing refinement of our understanding of traditional mosque architecture, it is hoped that our ability to grow, enhance, and give ever greater expression to traditional form will be augmented, allowing us to develop an ever greater capacity to harness the inspiration of Modernism and Postmodernist motifs to the development of architectural forms that glorify—rather than abandon—sacred tradition.

Abel claims that Reyner Banham understood better than most critics did the profound meaning of both tradition and modernity. Banham defined tradition as, "the stock of general knowledge—including scientific knowledge—that specialists assume to be the foundation for contemporary architectural practice and future progress in architectural method."[15] I concur completely with this definition, as far as it goes. Science itself is traditional, insofar as science depends upon the body of accumulated discovery, knowledge, and awareness for further scientific advancement. Clearly, the same thing can be said concerning architecture. As Abel accurately suggests, "scientists have their own preferred traditions of knowledge and practice based on precedent...." For him, what the history of science teaches us is that, "there are 'trads' as well as 'mods' in science, just as there are in architecture, or, for that matter, any other walk of life."[16] The "mods" are, of course, dependent on tradition, upon which they seek to build and refine the advancement of their vocation; this is even true, at least to some extent, with respect to those who consider themselves to be Postmodernists. With respect to the "trads," a category into which I undoubtedly fall, there are a variety of degrees of openness to Modernist impulses. I feel that this openness is appropriate to architecture that is concerned with the

preservation of tradition, so as to allow for the fullest degree of inspiration possible. In other words, I see no reason why architectural inspiration on the part of 'trads' cannot walk hand in hand with—profit from, even appropriate for its own purposes—the development, the genius, the creative processes associated with Modernist motifs.

By way of concluding this section on traditional vs. contemporary architecture (I am using contemporary and modern as interchangeable terms), it is important to underscore the way in which religious architecture, generally speaking, tends towards fidelity to tradition more so than any other form of architecture. This is undoubtedly the case due to the way in which the traditional is generally seen as sacred in the religious sphere. What is most important for our purposes, however, is the way in which Islam stands out as the premier example of fidelity to traditional forms. More so than any other religion, it is conservative with respect to architecture as well as many other spheres of expression; tradition, therefore, commands a level of respect in the Islamic world that is unparalleled by any other major religion.

In his discussion of liturgy, for example, Burckhardt notes the importance of distinguishing the difference between the way in which the term 'liturgy' is used in the Islamic as opposed to the Christian tradition. In the latter, liturgy has long been characterized by a certain flexibility, or, more accurately, it has long represented an evolutionary process of development; with respect to the former, this is not the case. Burckhart notes that:

> In speaking of Islamic worship in relation to art, we used the term 'liturgy', and this needs further definition because it evokes *a priori* the Christian pattern of worship, which developed gradually on the basis of an apostolic tradition and by the work of the Church Fathers. In this context, the liturgy is distinguished from the sacrament, the divinely instituted rite which, in a

> way, the liturgy enfolds, protecting it and at the same time manifesting it, while being itself protected and unfolded by sacred art which transposes its themes into architecture and iconography, to mention only the two most important visual arts in the milieu of Christianity. Things present themselves quite differently in Islam, where the Quran and the Prophet's example fix the forms of worship, down to the smallest detail.[17]

While it would be most inaccurate to suggest that Islamic architecture liturgy has retained the level of conservatism—fidelity to tradition, rigid imitation of original form—that characterizes Islamic liturgy, there is some degree of parallelism. In other words, there is an extremely powerful bias in Islam towards maintaining fidelity to earlier forms of worship. It is an inherently conservative tradition. This conservativeness is part of the very essence of Islam, part of its definition or self-understanding, and part of what serves to distinguish Islam from its sister religions in the West. While Islamic architecture—for many reasons, practical, aesthetic, technical, etc.—has not proven to be as conservative as Islamic ritual with respect to its inflexibility, its lack of openness to change and innovation, still, the conservative impulse in Islamic architecture is very strong.

There is no doubt that contemporary developments and innovations in architecture—new ideas and methods as well as the development of greater competence with respect to building technology—have played and undoubtedly will continue to play key roles in the development of mosque architecture in the future. It is crucially important, therefore, as I see it, that the client and the designer understand the importance of integrating contemporary and traditional architectural motifs and techniques into the development and implementation of architectural technology in a way that preserves the dignity and identity of the Islamic architectural tradition. This is the overriding concern of this dissertation: that Islamic identity and dignity be preserved at the same time that new

and ever more sophisticated forms of architectural expression are developed and employed.

Sacred Space

Religious or sacred 'space' is the physical correlate to religious or sacred 'events' that occur during the course of worship; this is especially true with respect to group worship. Religious space, to the extent that it can be recognized if not defined, turns on this question of religious events, happenings, action, inspiration, the generation of religious zeal, fervor, and devotion. The space in which ritual religious events take place is, by definition, sacred.

Religious architecture represents the physical space in which humans attempt to bring themselves closer to the divine. This space is sacred, irrespective of the nature or size of the religious grouping and, to some extent, entirely independent of physical form altogether. Sociologists of religion have gone so far, for example, as to argue that sacred space of a religious nature or function might well be represented in such arenas as Alcoholics Anonymous, Weight Watchers, even a bowling league. In other words, it is characterized by any human association that plunges to the depths of what is important—or 'ultimate'—to/in human existence in any given cultural context. The space in which one conducts what is most important to him/her, sharing in ritual celebrations of group achievements, making a common front against a common adversary with which one is highly preoccupied, and doing so in a ritual format, can be seen as involving the question of sacred space. In the words of Leatherbarrow: "Spatial topoi situate events; in drama the action not the actor is primary; similarly, in architecture the situation (such as greeting, gathering, or resting), not the object (a motif, shape, or element), is the radical basis of human significance." Spatial enclosure sustains the experience of human intersubjectivity;

material embodiment stabilizes the experience of an individual's inner and outer forces in equilibrium. For Leatherbarrow: "The situation not the setting is the constant human possibility."[18] In other words, at least on a theoretical level, group religious experience can be entirely independent of any particular—or physical—sacred space whatsoever.

A member of Alcoholics Anonymous, for example, someone whose alcoholism is very strong, may well find that merely stepping into an AA meeting hall in any location—the mere act of entering sacred space, wherever it may be (in a church or some charitable organization that donates space to the group)—serves to calm his/her anxiety, aiding him/her to wrestle with a life-threatening disease. AA is a particularly apt example of the point that is being made since the profundity of the group activity clearly qualifies as religious behavior, and yet this behavior transpires in a similar fashion completely independently of the physical space in which it takes place. The particular peculiarities of the physical environment are of little or no consequence to the religious function of the group. This helps us understand the nature of religious space: it is that space in which religious or sacred sentiment is generated—the space that facilitates, or even generates, this emotion in the devotee. In the case of AA, the building or physical environment is all but irrelevant to the space of 'worship', as it is concretely perceived or envisioned by the 'worshiper'.

While on one level it is very clear what the concept of sacred space entails, on another, it is extremely difficult to explain. The literature on religious space is full of many awful attempts to attach symbolic meanings to religious space. Perhaps the most graphic example is to see the basilica as the crucified body of Christ. This simply transposes the

problem from how parts of a building make a whole to how parts of a body make a whole. It represents a gross oversimplification of how and why sacred space is brought into being.

Religious space is characterized by discontinuities and ruptures. Rules of scale are often violated. Entry into religious space involves a shattering of mundane, everyday, normal, space (and time). For Eliade, for example, "sacred space constitutes itself following a rupture of levels which make possible the communication with the trans-world, transcendent realities. Whence the enormous importance of sacred space in the life of all peoples: because it is in such a space that man is able to communicate with the other world, the world of divine beings or ancestors."[19] Religious space is not objective; therefore, one cannot define either its essence or its perimeters. A religious state exists in the mental state of the worshiper, the experience can only be ultimately 'known' on a subjective level.

An opening towards the beyond, towards the transcendent, has long been a most fundamental facet of human existence. According to Eliade: "It even seems that until a certain era, man could not live without such openings toward the transcendent, without a sure means of communication with the other world, inhabited by the gods."[20] Just as stones make a building stand, belief and religious action structure sacred space. While physical architecture does not necessarily mimic the belief, it generally facilitates it. Nevertheless, physical architecture is by no means always a constitutive element of sacred space, or, to put it differently, it is not always the case that physical architecture can be divided into the spheres of sacred and profane. As noted by Eliade: "Many non-industrialized societies see the entire surrounding world as sacred, so that there can be no buildings that are not sacred. In many parts of the world there is no equivalent of

the temple and all contact with the divine takes place in the open air or in the domestic dwelling. Even in societies with elaborate specialized sacred buildings, the house often retains a sanctity of its own."[21]

Buildings support many different kinds of activities, some sacred, some not. In some cases, buildings play a minor role in the activities that they shelter. Sometimes the distinction between 'places' and 'buildings' is so great that there are few, and in some cases no common elements between the 'places' and the buildings that serve to represent them. As previously mentioned, Alcoholics Anonymous is an especially good example of this phenomenon. This can also be said, however, at least to some extent, of some explicitly religious organizations. The numerous affiliated congregations of some sects or denominations, for example, each have their own building with distinctive elements, and, in some cases, perhaps, there are no common elements whatsoever to be found in *all* of the affiliated structures that serve to house the devotees that share a common religious ideology. The sectarian (and proletarian) religious movement known as Jehovah's Witnesses, for example, exists in well over 100 different countries on all continents of the world. And, at least on a global scale, one would be hard pressed to name any common architectural elements (with the possible exception of a 'platform', which in some cases is nothing more than the earth beneath the feet of the speaker) among the variety of 'houses' of worship (Kingdom Halls) used by this group in different parts of the world.

Generally speaking, however, there are common architectural elements that serve to characterize religious traditions. These common elements tend to overlap within a particular religious affiliation—amongst different sects, denominations, and churches; and, this is even true to a limited respect concerning religions. The fact that the Hagia Sophia in

Istanbul, for example, is or has been of equal importance to Christianity as it has been to Islam, illustrates the way in which sacred space can even cut across the boundaries separating the major religious traditions of the West. The way in which Jerusalem is seen as especially sacred to each of the major Western Religions is probably the best or clearest example of this phenomenon. To pursue this line of inquiry further, however, would take us afield of our focus on Islamic architectural tradition. Nevertheless, the importance of Jerusalem to all Western faiths serves to highlight, and it is important to note, that the course of development of Islam, as the youngest of the three major religions, was heavily influenced by its predecessors.

Through the creation of sacred space for the accommodation of the powerful contact that occurs between the devotee and his/her focus of religious devotion, sacred architecture reflects or even describes—gives physical form to—a society's awareness of its relationship with the divine. Sacred space is symbolic; it is a reflection of the entirety of cultures and beliefs of any specific group of worshipers. The notion of sacred space becomes especially controversial when one seeks to delimit it, to fix its perimeters, or even to precisely define what it is. I do not seek to do this—even to a limited extent or with respect to a particular religious tradition. This would represent a mammoth if not impossible task to which this work does not aspire. I seek only to provide color, fabric, to our definition of the traditional in mosque architecture. To provide it with form, with perimeters, may indeed not be possible at all. The definition of sacred space is inherently complex, especially insofar as the site is or is not of critical importance to our understanding of structure. Leatherbarrow notes how, "site, enclosure, and materials were not considered equally by all architects throughout history. Nor were they always thought

to be equally difficult, nor necessarily interconnected. They are of relevance and interconnected in design and construction because of the state of contemporary culture.... Never before were they so important because so profoundly misunderstood."[22]

Despite the broad range of social groupings that can arguably be said to include or encompass the ritual use of sacred space, most people are accustomed to thinking of sacred architecture in terms of churches, cathedrals, mosques, temples, etc. These structures have long commanded a special respect based on the fact that they have generally been superior to all other buildings built in the community for centuries. As noted by Hilbersiemer, this is especially true vis-à-vis living space:

> The house, even the city itself, in some periods of the past, was always subordinated to the temple or the cathedral. These edifices were considered, and rightly, buildings of the greatest architectural value and importance. The temple or cathedral was built for the glorification of God; the house simply as a shelter for man. One aimed at the eternal; the other at the temporal—the satisfaction of human needs. The dwelling was, therefore, subject to more rational considerations and was architecturally of a lower order. Temple and cathedral were more elevated and significant, thus, architecturally, of a higher order. They embodied the metaphysical concept of a people. They expressed a religious urge. They symbolized the beyond. They were, therefore, more irrational in their concept and more emotional in their architecture than the house.[23]

The dominance of the temple or cathedral was given further emphasis by their placement within the city. The commanding positions of, for example, the Parthenon on the Acropolis in Athens and the great Cathedral of Amiens served to dramatize the superiority of these buildings over others in the community. Historically speaking, at least, the architecture of the transcendent has known no rival in its splendor, magnificence, and profundity—the sacred well delineated from the profane that surrounded it.

The location of sacred space has traditionally been of critical importance to most religious traditions of the West. According to Davies:

> The ritual of local sacred places is closely linked to the key sacred places or events of a tradition like Makkah, Banaras or Jerusalem. At Jerusalem, for example, very many Christian traditions have established their own place of worship, not only those from the numerous Eastern Orthodox and Roman Catholic traditions, but also from Lutherans, Anglicans, and even the Mormon Church of Jesus Christ of Latter-day Saints. The faithful engage in a kind of participation with the past as part of worship itself, an imaginative involvement also reflected in the religious art and architecture of sacred places.[24]

Eliade, for example, was acutely aware of the way in which the sanctuary is intimately related to the sacred zone *par excellence*. He noted how it is not always the sanctuary which consecrates the space, "many times, it is just the opposite; the sacrality of the place precedes the construction of the sanctuary."[25]

Those places most sacred to religious tradition are often related to the beginning of existence itself, in the mind of the believer. As noted by Eliade, "the 'Center' is not only the summit of the cosmic mountain, whose peak is the highest in the world, but also, we might say the "oldest": because it is the point whence creation began."[26] For Davies: "It is not surprising that many sacred places share the fact of stressing links with their founder or other important figures in the history of their religion." He points out that Eliade suggested, "the more intriguing fact that many sacred places in different religions are, for example, said to represent the centre of the universe. Such sacred places are 'meeting points between heaven and earth', 'a point of junction between earth, heaven and hell, the navel of the earth, a meeting place for the three cosmic regions'."[27]

Despite the transcendent—and therefore largely inexplicable—character of sacred places, however, there is a similarity of function in almost all cases. As suggested by

Carmichael, Hubert, and Reeves: "Sacred places, in almost every case, demand offerings, and these are similar not only in terms of their functions—mainly appeasement, supplication and thanksgiving—but also in the nature of the materials and objects that are used."[28]

The design and construction of sacred buildings arguably represents, at least historically, the evolution—not necessarily progressive—of art itself, on the largest scale that it has been possible to produce it. According to Hilberseimer, Riegl insisted that: "Art never declines; it only changes.... The age-spirit always and inevitably expresses itself in art and architecture. He [Riegl] pointed to the aesthetic concept of Roman paganism, based on human virtue, and that of Christianity, aiming at salvation through transcendence, and he showed that both found expression in art and architecture."[29]

Religious architecture has almost always been among the most ambitious of architectural projects. For some time, however, this has been changing. In Japan, for example, while this was long the case, as is testified to by the exquisite temples of this nation, today, it could hardly be said that Japan's most ambitious architectural developments include those of a religious nature. The same point could be made with respect to China. To construct an argument to the contrary, one would need to develop an interpretation of sacred architecture based on the sociological concept of civil religion. To digress into the realm of civil religion, however, and speak of communism and even commerce (especially for Japan) as 'movements' that include a religious element, would take us too far afield of our focus. Nevertheless, what Leatherbarrow notes as a general trend in contemporary architecture is especially true with respect to Japan—or, at least one could so argue, the Western World as well—that: "The art of building has been

transformed into a business of self-display and promotion through the design and construction of figurative motifs, making it an object of consumption."[30] After noting how the Islamic Center in New York is dwarfed by tall office buildings along the street leading to it, Hilberseimer asks rhetorically: "But does not this, too, represent a kind of symbolism? Is not business—or money—the God of our time?"[31]

One must be careful, however, in the extent to which the triumph of the secular over the religious is characterized as a product of modernity, our contemporary age. It can be cogently argued that in certain epochs of Western history, secular architecture gained, if not a dominant influence, at least significant ground vis-à-vis religious architecture. This process had already begun in the time of the Renaissance, with the palace superseding the church in some localities as the most prominent building type. Its developing architecture came, eventually, to exert considerable influence even upon the development of its ecclesiastical counterpart.

What has historically been the case throughout most of the world with respect to the architectural predominance of houses of religious worship remains the case, however, at least to a large extent, throughout most of the Islamic world, where mosques continue to represent the premier form of architecture. This is true with respect to the level of expenditure of resources—both human and material—that go into their construction.

Humans seek to re-create the realm of the gods on earth, in three-dimensional space; space that worshippers can enter physically as well as spiritually.[32] Mosque design belongs to sacred art and it has always been heavily influenced by revealed doctrine; its various forms are related to place as much if not more than they are to time. The Holy Ka'bah at the Sacred House in the city of Makkah, to which Muslims face during prayer,

'*the qiblah*', is the only physical object that plays an obligatory part in Muslim worship. It is more than a work of art in the proper sense of the term. It belongs to a very limited group of objects that have commanded supreme reverence in Western religious traditions; in fact, the Ark of the Covenant is the only object that comes immediately to mind as perhaps sharing its status. These objects represent art with a spiritual dimension that corresponds to myth or revelation, depending on one's point of view. The symbolism inherent in the Ka'bah, its form and the rites that have come to be associated with it, are seen as containing, in embryo, everything expressed by the sacred art of Islam.[33]

In conclusion, it is important to note the way in which sacred space serves to fill a void—yet, this void, or vacuum is never filled to fruition, it remains wanting; while awe inspiring in its power, it is never brought to completion or fully realized. As expressed so poetically by Scully: "The space between the natural and the manmade forms is essentially a void between opposing solids, so that the human beings who occupy it are neither sheltered nor brought to a single conclusion. Instead they are exposed to the two separate and hostile realities of human life: what nature is and what men want and do.... There is no outcome, no victory, only the splendid, precarious treaty and the blinding light of the recognition of what the realities are."[34]

The Concept of Unity

The traditional nature of Islamic religious life, ritual, and architecture as well, is intimately bound up with the central importance of the concept of unity in Islam. There is less tolerance for religious diversity in Islam than in its sister religions of the West. Or, to put it differently, Islam is inherently unified—this unification is part of its essence, a constitutive element of its identity. This unity, and the imperatives that drive and protect it are reflected in mosque architecture. The principal of unity is of critical importance, therefore, to any theoretical discussion of traditional mosque architecture.

Islam, perhaps even more so than other Western religion, may be regarded both as a religion and as a way of life, which has shown itself capable of absorbing and reconciling peoples of the most diverse origins. The cultural unity fostered by Islam necessarily embraces the sphere of artistic creation, which is no where seen more clearly than in Islamic architecture. Islamic civilization is based on the concept of unity, which stands in opposition to any racial, ethnic, or linguistic discrimination. Such major racial or ethnic groups as Arabs, Africans, Chinese, Indians, Malays, Pakistanis, and Turks, in addition to numerous smaller groups, including some Caucasians and Europeans, have embraced Islam and contributed to the construction of Islamic civilization. Global Islamic civilization, therefore, as created according to the tenets of Islam, has permitted people of diverse ethnic and linguistic backgrounds to work together in cultivating various arts and architectural styles. This diversity has greatly enriched Islamic civilization, as expressed through the unity of its artistic inspiration. In Islam, unity and diversity are not seen as

being antithetical to each other; on the contrary, it is Islamic unity that serves to safeguard respect and appreciation for diversity.

There is broad diversity among the traditions of Islamic peoples and their ways of living but not in their religious faith and beliefs. Muslim unity stems from a common belief in one God, the same God; this is expressed in the basic statement of faith *(the Shahadah)*, the first pillar of Islam: "There is no God but Allah and Mohammed is the messenger of Allah." The basic teachings of Islam assert that all religions, at some level, express this basic truth. As implied in the Holy Qur'an:

> *In the name of Allah, Most Gracious, Most Merciful.*
>
> *O mankind! We created you from a male and female,*
> *and made you into nations and tribes, that you may know one another.*
> *Verily, the most honorable of you with Allah is that (believer)who has*
> *At-Taqwa [i.e. he is one of the Muttaqun]. Verily, Allah is All-Knowing,*
> *All-Aware.*
>
> *Surah, Al Hujurat (49): 13*

The diversity of art and architectural styles of each ethnic group has been developed in accordance with the local customs and traditions of each country or society which has embraced Islam, utilizing the building materials that are available in any given area. The architecture of each region represents a synthesis of indigenous artistic gifts and inspiration, on the one hand, and the global religious power and unity of Islam on the other. Unity and diversity are inherent to the religious spirit of Islam and intrinsic to its unique forms of architectural inspiration. Neither can be sacrificed without destroying the epiphany of the whole. This is why, despite the need to continue to embrace diversity of architectural forms in a way that is commensurate with local custom, tradition, and

technological capacity, reverence for the tradition must be maintained as well, by continuing to honor the central forms and features of Islamic architectural traditions.

According to traditional interpretation, when Allah assigned to Muslims the duty of the five daily prayers—congregational prayers done in a rigorously systematic way—this was done to reinforce Muslim unity and strengthen the links that brought Muslims together. Upon the arrival of the Prophet Mohammed *{Peace be upon Him}* to Medinah as an immigrant from Makkah in the year 622, his first task was to build a mosque to pray the five daily prayers with his companions and the people of Medinah. The Prophet's goal was to unite the various tribes of Medinah with the Muslims who had immigrated with him, as the former were new to the faith and its community. The mosque became not only the primary vehicle for the creation of an Islamic architectural heritage—which people of many different ethnic backgrounds could and would participated in forming—but it also came to play a central role in the development of Muslim intellectual and cultural life, based on the principle of unity and the belief in one God, whom Muslims gathered five times a day to worship.

The call for unity reflects a way of life as well as a religious belief. Muslims seek to apply the principles taught by all three of the great religions of the West, which they see as the work of Allah—Judaism, Christianity, and Islam—in a practical way, one that enhances people's standards of living and enriches the quality of human life in today's world. While Islam is highly traditional, nevertheless, it has a long history of openness to change, adaptation, creative improvement, and the utilization of scientific or technological advancements. It is a tradition that has sought to maximize its creative potential at the same time that it maintains fidelity—with respect to both purpose and form—to its

original, sacred inspiration. This inspiration serves to ground Islam, not to stifle it, providing it with a foundation upon which to build progressively creative works, works which serve to enhance the glory of Allah in ways that maintain continuity with and fidelity to the constitutive elements that serve to define Islamic identity.

The Scope and Focus of This Study

Islamic architectural styles in the Muslim world differ from region to region—from China to Spain—according to regional traditions, cultures, and the availability of building materials. I believe, however, that the Mghribi in Morocco, the Andalusian in Spain (what is commonly referred to as "the Moorish style") and the Ottoman style in Turkey represent mosque architectural styles that have especially unique architectural characteristics and distinguished identities that spring from preeminently significant forms of religious inspiration. Their architectural styles are especially illustrative of the most brilliant chapters in mosque architectural history. They represent repositories of centuries of culture, in fact, collective layers of cultural treasures resulting from the historical superimposition of cultures in Northern Africa, the Iberian Peninsula, and Anatolia. They also represent the ultimate expression of medieval architectural styles and are especially illustrative of the glory of Islamic architectural heritage. Muslim builders, craftsmen, and artists of every kind created architectural styles that we still see reflected in many areas of traditional Moroccan, Islamic Spanish, and Turkish architecture. Islamic medieval arts,

even today, continue to be seen as representative of the most significant components of Islamic culture.[37]

In my opinion, in order to preserve the power and integrity of this Islamic legacy, Muslim architects need to shoulder responsibility for the incorporation of traditional Islamic architectural characteristics into their contemporary, religious—and even secular—architectural designs. To better preserve and safeguard this afflatus, I believe that a conceptual study of these three especially unique and laudable Islamic architectural styles—of Morocco, Spain and Turkey—offers enormous potential and, therefore, warrants special consideration in my exploration of the historical, theoretical, and ideological framework of Islamic architecture as a whole. I focus on the mosque itself and its emblematic role in the architecture of Mghribi, Andalusian (Moorish), and Ottoman styles. In my view, such an analytical treatment of the mosque—with respect to both its formal and functional architectural characteristics—has the capacity to serve as a barometer of the taste, identity, and symbolic value of each unique architectural style. These three styles have long been held in especially high esteem and have been enormously influential in the development of mosque architecture throughout the Muslim world.

This study, therefore, examines a variety of examples of traditional and contemporary mosques, built both before and after 1950, from each of these regions. I carefully analyze their architectural characteristics so as to develop architectural comparisons and highlight the most prominent differences that exist between traditional and contemporary architecture—so as to better understand the controversy or tension that exists between them. I have a special interest in those contemporary mosque designs that I see as exemplary in the way in which they preserve the spirit and united identity of Islam.

My warm embrace of and loyalty to traditional forms of Islamic architectural inspiration is not meant to suggest that I am in any way rejecting or depreciating the vast achievements that have accompanied the modern age, greatly enhancing the possibilities of architectural creativity as a result of advancing technological capability. I am myself an avid aficionado of all things high-tech. I am fully supportive of the modernization of architectural technique and the harnessing of all available technological and material resources to this end. I am an advocate, however, of the position that this be done in such a way as to preserve and maintain the unique identity and dignity of the tradition in which this architectural inspiration is located, the foundational legacy upon which new creation is made possible, and the legacy that carries with it the honor of our architectural predecessors.

First and foremost, however, I am a pragmatist. I find myself in complete accordace with Hilberseimer, who, following Semper, considers works of architecture, likethe applied art, to be the sole result of the purpose they must serve, either in reality or symbolically. Semper adamantly insisted that: "Art acknowledges no master but necessity."[38]

Given the growing complexity of today's architectural undertakings and the degree of specialization required for the execution of architectural planning and engineering, it has simultaneously become both more difficult and more necessary to facilitate the extensive involvement of client groups, or their representatives, in many aspects of technical and economic programming. This has resulted in a demand for increasingly comprehensive services from the architect, requiring ever more interdisciplinary efforts with respect to the research that is needed to support a given project, in order to insure

that it represents the highest quality attainable and accurately reflects the needs and sentiments of those for whom it is created.

I have personally planned, designed, and managed the construction of many types of architectural projects, both traditional and contemporary. These have included both national and international projects: mosques, private villas, palaces, office buildings, hospitals, schools, and military projects. In light of this experience and in summation of what I have said so far, I see the purpose of this dissertation as devoted to an exploration of the following central concerns:

- The significance of the controversy concerning the relationship between traditional vs. contemporary mosques.
- The most important characteristics that serve to distinguish the traditional from the contemporary mosque.
- The aspects of the traditional mosque that I feel should be preserved and included in contemporary forms in order to preserve traditional Islamic identity and religious authenticity.

The Structure of What Follows

Chapter Two presents a conceptual survey of the historical or traditional mosque as opposed to its contemporary counterpart, as well as a discussion of architectural creativity in the context of Islam. Chapter Three approaches the subject of mosque architecture in comparison with Jewish and Christian traditions, especially the Catholic Church in concurrent or nearly concurrent time frames. Chapter Four is dedicated to a special focus on the contributions of the Maghribi architectural style in Morocco, the Moorish architectural style of Andalucia in Spain, and the Ottoman architectural style of Turkey. These three highly distinguished traditional styles and designs developed largely independently of each other in three distinct time periods and locations. In each case, the roots and derivations of these architectural styles are explored, along with the unique relationships that exist between them. Chapter Five presents a computer-based architectural design that seeks to establish a systematic format for the integration of contemporary and traditional characteristics. It also concludes the study from my point of view as a technical architect in addition to summary remarks on the future of Islamic architectural tradition in our contemporary age.

Endnotes

[1]Robert Hillenbrand: Islamic Architecture, Form, function and meaning. (Columbia University Press, New York, 1994) p.5

[2]Muhammad ibn Mukarram Ibn Manzur. 1232-1311. Lisan al-Arab/li-Ibn Manzur (translated by: Edward W. Lane. Part 4. Beirut, Lebanon, 1993) p.1535

[3] Ali Al-Tantawi: General Introduction to Islam. (Al-Manara, Publishing & Distributing House, Jeddah, Saudi Arabia,1997) p.17

[4] Abdullah Khouj: Islam "Its Meaning, Objectives, and Legislative System" (Printed in UAS, 1994) p.145.

[5] Daved Leatherbarrow: The Roots of Architectural Invention "Site, Enclosure, Materials" (Cambridge University Press, *1993*) p. 2

[6] Abdel Wahed El-Wakil is a distinguished Muslim architecte contributed in the architecture of the contemprary mosque since the early 1980s. Literally he writes: "There is no such concept as traditional vs. contemporary [mosques]. Email interview, May 1st 1999. Also I had a long conversation with him regarding the traditional and contemporary mosque architecture during an architectural seminar at The University of Texas at Austin, May 8, 1999.

[7] Chris Abel: Architecture and Identity "Towards a Global Eco-culture." With a forward by Suha Ozkan. (Presented as an illustrated lecture to the Faculty of Architecture, Middle East Technical University, Ankara, 29 May 1989. First published in *Architecture and Urbanism, July* 1991. (Architectural Press, Oxford, 1997), p. 118

[8] M. Frishman and H. Khan: The Mosque, History, Architectural Development & Regional Divelopment (Thames and Hudson, London, 1994) p.248

[9] A. El-Walkil: Interview, London and Astin, Texas, May, 1999

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[11] Abel, p. 118

[12] *Ibid.* p.119

[13] R. Venturi: (1966). Complexity and Contradiction in Architecture. (The Museum of Modern Art) p. 22. (Cited by Abel, p.119)

[14] Abel, p.119.

[15] Quoted from P. Sparke's intoduction to Banham's essay, "Stocktaking," in Banham, R. (1981) p. 48. (Cited by Abel, p. 120)

[16] *Ibid. P.120*

[17] T. Burckhardt: p. 83

[18] Daved Leatherbarrow: The Roots of Architectural Invention "Site, Enclosure, Materials" (Cambridge, University Press, 1993) p. 4

[19] Mircea Eliade: Symbolism, the Sacred, and the Arts, ed. Diane Apostolos-Cappaclorm (New York: The Crossroad Publishing Company, *1985*) p. 107

[20] *Ibid.*, p. 108

[21] *Ibid.*, p. 8

[22] Daved Leatherbarrow: p. 2

[23] L. Hilberseime. Contemporary Architecture "Its Roots and Trends" (Chicago: Paul Theobald and Company. 1964) p. 15

[24] Douglas Davies: "Introduction" in Sacred Place, eds. Jean Holm & John Bowker (London: Pinter Publishers, distributed by St. Martin's Press, *1994*) *p.* 1

[25] M. Eliade: p. 107

[26] M. Eliade: p. 108

[27] Davies, *p.3*

[28] David Carmichael, Jane Hubert, and B. Reeves: "Introduction," in Sacred Sites—Sacred Places, eds. David Carmichael, Jane Hubert, Brian Reeves, and Audhild Schanche (London and New York: Routledge Publishers, 1994) p. 1

[29] L. Hilberseime: p. 39. Hilberseimer notes that: "Before Riegl wrote, it was customary to consider the decline of Roman art and architecture as the result of the degeneration of the Hellenistic world. It was believed that this decline was caused by invasion of the Roman Empire by barbarians from the East and North. Riegl pointed out, however, that the 'decline' was already in process before the barbarians came. He argued that the seeming decline was not a decline at all, but the result of a changing spiritual conception of the world. This change brought about new ethical concepts; it resulted also in a different will to form. It was this which produced a new concept in art and architecture. What seemed to be an unavoidable ending was, in reality, the beginning of a new age. New things or new epochs are always confusing at their beginning."

[30] Daved Leatherbarrow: p. 1

[31] L. Hilberseimer: p. 15

[32] C. Humphrey & P. Vitebsky: Sacred Architecture "Models of the Cosmos, Symbolic Form and Ornament, Traditions of East and West" (Boston, New York, and London: Little, Brown and Company, 1997) p. 10

[33] Titus Burckhardt: p. 3

[34] Vincent Scully Jr. Modern Architecture "The Architecture of Democracy" (London, New York: Prentice-Hall International, *1974*) *p. 12*

[35] T. Burckhardt: p. 3

[36] J. Dodds: Al-Andalus: "The Art of Islamic Spain" (New York: Harry N. Abrams, Inc., 1992) *p. 6*

[36] L. Hilberseimer: p. 39

Chapter II.

The Typology and Development of Mosque Architecture

Mosque design and construction, regionally differentiated throughout history, have been affected in contemporary society by an overlap of important factors: the expression of place (or region); the emergence of a 'pan/Islamic' viewpoint based essentially on a political view of the world of 'us' (Muslims) and 'them' (others); the imposition from without of a form of modernity as desirable internationalism; and the individual aspirations of client/groups and designers. The manifestation of modernism and internationalism is the outcome of the views of client/groups, hence some indication of the nature of contemporary clients is of assistance in understanding the changes which mosque design is undergoing.[1]

Monumental Architecture and the Politics of Islam

There is no doubt that contemporary developments and innovations in architecture—new ideas and methods as well as the development of greater competence with respect to building technology—have played and are expected to continue to play key roles in the development of mosque architecture in the future. Nevertheless, these innovations that accompany the general advancement of human civilization are always based, to some extent, on tradition: in this case, the proud and colorful past of Islamic mosque architecture. The interplay between historical tradition and contemporary innovation is a complicated dialectical process, the future of which is difficult to foresee. It is immediately clear, however, that in order to understand contemporary developments

in mosque architecture, one must begin with an overview of the tradition upon which these events are based, so as to be able to critically analyze the extent to which these development represent a fidelity to or a departure from tradition, or, as is generally the case with modern mosques, a mixture of the two.

As argued here, both client and designer need to understand the importance of integrating contemporary and traditional architectural techniques into the development and implementation of architectural technology in a way that preserves the dignity and identity of the Islamic architectural tradition. This is the overriding concern and driving force of this project: that Islamic identity and dignity be preserved at the same time that new and ever more sophisticated forms of architectural expression are developed and employed.

The tension that surrounds today's debates concerning modern vs. traditional architecture is of special importance to monumental architecture, especially that of a religious character. The line between secular and religious monumental architecture, however, has often been a fine one. As noted by Eliade: "In the early kingdoms and empires of the Middle East, such as Mesopotamia and Egypt, the palace and the temple were the only Monumental buildings and they were often not completely separate."[2] It is important to note the way in which all architectural creation is ultimately indebted to the architecture of antiquity. According to Hilberseimer, Gottfried Semper, for example, the third great theoretician of the nineteenth century, saw in medieval architecture a principle of limitation which made it in-adaptable to the needs of our age." In classical architecture, on the contrary, he found all the qualities he sought. He believed that a creative architect will always be able to construct a new whole out of the mutilated

fragments of antiquity, and that architecture so derived will always be inspired by antiquity, making possible its rejuvenation. Such an architecture, according to Semper, would be "objective" and, therefore, would outlast the unusual and the particular.[3]

The case remains much the same today as in antiquity with respect to the mixture or blend of the secular and the religious in monumental architecture. This is especially notable in certain contexts. The Grand National Assembly Mosque in Ankara Turkey, for example, was constructed as an integral part of the Parliament complex, *(figure 14)* a central architectural symbol of national identity and aspiration. 'National' mosques such as this one, and the King Faisal mosque in Islamabad, *(figure 1)*, are of especially profound significance for gauging the directions of contemporary trends in the development of Islamic religious architecture.

Virtually all mosques share a standardized assembly of component parts that are seen as appropriate to an Islamic house of worship. These components are characterized by minor variations, however, depending, for example, on the size of the mosque, which is determined by the size of the community, especially the number of male worshippers, who stand shoulder to shoulder in rows facing the qiblah. Female worshipers are generally expected to pray in their homes, but, if they choose to attend prayers at the mosque, there is always a separate space designed for this purpose. In short, women do not mix with male worshippers during prayers, whether the mosque is a large one, hosting five daily congregational prayers plus the Friday prayer, or a small community mosque—this is an excellent example of a common architectural characteristic present in all mosques on a global level.

The mosque is the most important structure in the Islamic world; it is there that Muslims worship and acquire social and political guidance. It has historically served as the central model for and expression of Islamic culture throughout the centuries. Mosques have also historically been the primary focal points of Muslim cities and have almost always represented the physical centers of Islamic society in general. Their singular importance is seen most clearly within the context of other buildings, the styles and architectural demands that are prevalent around them. The urban planning and architectural design of an Islamic city or community typically has the mosque at its center; it is strategically placed in relation to other sectors, the professional guilds, the market, the governor's office, schools, and other secular buildings. The architecture of all other buildings is developed in harmony with the architecture of the mosque.

Robert Hillenbrand accurately highlights the way in which the mosque occupies the center of Islamic physical space:

> The mosque lies at the very heart of Islamic architecture. It is an apt symbol of the faith it serves. That symbolic role was understood by Muslims at a very early stage, and played its part in the creation of suitable visual markers for the building: dome, minaret, mihrab and minbar among others. Yet it is even more the practical significance of the mosque in Muslim society that explains its pre-eminence. Alone among Islamic buildings, the mosque can gather to itself the functions of all the architectural types discussed in detail in this book. Naturally, if every mosque did this in practice, Islamic architecture would have come to a full stop with the invention of the mosque. The all-embracing importance of the mosque makes it quite natural that this should be the medieval building type preserved in the greatest number.[4]

Hand in hand with the spread of Islam and the political and economic growth of Muslim countries and their governments, activities in mosques have continued to concentrate on the worship of Allah and religious education based on the Qur'an and Sunnah.

In the case of Christianity—with the hegemony of Catholicism broken by the Protestant Reformation, and the gradual decline of official Church control over the political sphere—religious and political spheres have become increasingly distinct in the West, especially over the last few centuries. This has not proven to be the case with respect to Islam, however, at least generally speaking. The continuing fusion of religious and secular power structures in Islamic culture continues to inform and direct movements in Islamic architecture.

I was once asked if there is, in fact, such a thing as "Islamic architecture." Is it, for example, limited to the architecture produced by Muslims to serve Islam's religious functions? If so, then, perhaps, not only mosques but possibly Islamic schools (madrasah) as well would qualify as quintessential Islamic architecture. Another response might define Islamic architecture as all architecture produced in Muslim lands. These are open questions matters of individual interpretation and evaluation. Whatever position is adopted in this regard, however, Islamic architecture is distinctly different from non-Islamic architecture and must clearly be seen as one of many expressions of the spirit of Islam, and one of central importance.

The functional and artistic dimensions of mosques are fused together as one. In addition to being suitable for worship in accordance with the liturgy of Islam, prayer halls speak to those who use them, providing an uplifting, spiritual experience and serving as an anchor for the identity of the community that they serve. And, it is extremely important to observe the way in which that identity is always community-specific, unique to the context from which it springs forth. As suggested by I. Serageldin: "The way in which the building communicates to the community is dependent on the particular 'code'

forged by the evaluation of the society in that specific region." Regional variations result in distinct architectural languages, "vocal dialects that have a common ancestry." Despite the fact that these architectural languages have evolved to the point where they are "natural contributive elements" to the society in question, however, as Serageldin suggests, they may not be immediately recognizable to those from outside the community.[5] To state this in a more fully accurate fashion, however, we might speak of a double-blind situation, one in which 'insiders' are privy to a vision or understanding that 'outsiders' are not, whereas, by contrast, outsiders may often bring an analytical capability of comparative vision to any given context which insiders lack.

The issue of contemporary vs. traditional mosque design and its relationship to the political power structure of Islamic communities is of special importance with respect to the issue of 'state' or national mosques, where the fusion between Islamic religious faith and politics rises to its ultimate pinnacle or expression. In some cases, as is the case in Turkey—where the majority of the population is Islamic and the government is controlled by a secular elite backed up by a secular military establishment- this fusion is highly controversial. In other cases, such as that of Pakistan, where the complete dominance of Islam is clearly undisputed, this fusion raises little or no controversy.

As noted by Holod and Khan, national or state mosques, as distinct from their traditional predecessors, are often located in a prominent location on the edge of the city and are seen as a point of destination rather than "as a centrally integrated feature of the urban fabric." The state mosque in Islamabad, the King Faisal "Masjid" Mosque, for example *(figure 1)*, is set against the backdrop of large hills in such a way as the mosque itself "resembles a small mountain or an enormous white tent framed by four slender

fluted minarets, one at each corner." Clearly, the physical environment is the main contextual characteristic of the Islamabad mosque. The scale of the mosque is enormous. As suggested by Holod and Khan:

> The grandiose scale of the project can be more easily appreciated if one considers the following breakdown: a main prayer hall for 10,000 men; a women's prayer gallery for 1,500 worshippers placed directly above the main entrance; additional spaces in a courtyard for 40,000, a podium with a north platform for 27,000 and porticos which can accommodate 22,000; and green areas which can be used as open-air prayer areas by up to 200,000 people. A large fountain precedes the entrance to the mosque which stands on a raised platform reached by stairways. [6]

The walls of the mosque are of Malaysian granite, the floors of local marble; the colored glass was produced in the USA, the chandeliers imported from Germany, the wood latticework imported from Korea and the carpet from Belgium. No expense was spared in the effort to produce the highest-quality structure possible.

Figure 1-King Faisal Mosque, Islamabad, Pakistan.

The King Faisal Mosque *(figure-1)* also introduced a novel, radical, and highly creative reinterpretation of the mosque dome—one that is, nevertheless, linked to or descended from traditional motifs. Designed by Turkish architect Vedat Dalokay, the

tent-like, concrete structure echoes its hillside backdrop, while the placement and the frame of the tall minarets reveal their Ottoman antecedents. It represents a virtuoso-like display of the very latest in contemporary structural techniques, especially in the folded concrete plates. There is a notable absence of more readily available local materials, such as stone and brick. For Holod and Khan, "the most striking aspect" of the mosque is the vertical emphasis inside the main prayer hall. The vertical axis, a feature usually equated with Ottoman architecture, is thus favored in preference to the horizontal extension of space inherent in the orientation towards Makkah. "The sheer size of the interior all but overpowers the *mihrab* and *minbar*...."[7] The dramatic volume of the prayer hall with its central chandelier reminds one of Sinan's sixteenth-century Ottoman mosques in Istanbul.

More will be said concerning the national mosque in Turkey in Chapter Four, since it falls under the category of the Ottoman tradition on which this work develops a special focus. In conclusion of this discussion of state mosques in general, however, it is important to note the role of Saudi Arabia in the realization of the national mosque in Islamabad. As the premier Islamic nation by virtue of the fact that it is the birthplace of Islam, it plays an especially significant role—on a global scale—in the determination of directions in mosque architecture.

Karachi was originally the capital of Pakistan following independence and partition from India in 1947. In time, however, a military regime decided to move the seat of government to a location from which the country could be more effectively controlled. The site for the new capital, Islamabad, was chosen in 1959 by a Commission headed by General Mohammad Yahya Khan, then Chief of Staff of the Army. The idea of and location for a national mosque had been projected as early as 1960, but the building was

only completed in 1986. The close relationship between Pakistan and Saudi Arabia was of central importance to the development of the Islamabad mosque. According to Holod and Khan: "The impetus to begin the mosque came in 1966, when King Faisal of Saudi Arabia made an official visit to Pakistan and agreed to finance the project. Because of the king's role in financing and encouraging the building of the mosque and the Pakistani government's close ties to the Kingdom of Saudi Arabia, the mosque was given the name King Faisal Masjid and is usually not referred to as the national or state mosque."[8]

The era of the construction of national mosques may or may not have already passed, as will be discussed in the concluding chapter. Here, it is important to underscore the way in which ultimate (official or national) contemporary expressions of Islamic devotion—symbolized most clearly perhaps in the King Faisal Mosque—retain fidelity to Islamic tradition at the same time that they exceed or transcend traditional limitations: serving for the ever-greater glory of Allah.

Architectural Creativity

Architecture is the art and technique of designing the enclosure of space for human use, as distinguished from the skills that are associated with construction rather than design. As with many other arts, the practice of architecture embraces both aesthetic and utilitarian ends; these goals may be distinguished but not separated, and the relative weight assigned to each can vary widely from one work to another. Architecture represents a social act, with respect to both method and purpose. It is almost always the outcome of teamwork and collaboration. The results of architectural endeavors are for the use of groups of people, as small as the family or as large as an entire nation. Architecture is an inherently social phenomenon, both with respect to its process and its product. Architecture is usually a costly activity, however, as it generally requires the engagement of specialized talent and the harnessing of appropriate technology.

The central purpose of architecture is to modify the physical environment so that certain human activities can be carried out conveniently and in comfort. Given the way in which human activity serves as the foundation or *rason d'etre* of architectural endeavor, one can build a powerful case that the decision-making process entailed in architectural design in its most creative forms could never be fully automated. It is a thoroughly human activity in its essence, a reflection of innermost human emotions, and, in the religious realm, of spiritual aspirations.

The distinction to be made here is one between material (as opposed to spiritual) human activities, on the one hand, and fully automated human activities on the other. As conceded by Hilberseimer: "Architecture, even in its highest expressions, is determined by material factors." Yet, he goes on to declare that: "Only the creative ability of the

architect and his mastery of material means and requirements can make us forget this basic fact. Then architecture seems to be an expression of creative freedom, of pure spirit."[9] Hence, in its most creative form, architecture struggles to transcend (at the same time that it is constrained by) material factors. Automation can serve to aid and abet this process, never replace it. The computer may have become champion of the world of chess, but it is most difficult to envision how it could ever contend, on its own, in the realm of architectural inspiration.

Whereas Semper believed that a work of architecture is the result of purpose, material, and technique, Riegl conceived it to be the result of a conscious will to form *(Zweckbewusstes Kunstwollen)*, struggling to express itself in conflict with purpose, material, and technique. Purpose, material, and technique, he argued, are not to be considered positive factors, inspiring creation, but, rather, as retarding forces. The will to form tries to overcome their resistance. As accurately and eloquently noted by Hilberseimer: This will to form is, however, not to be confused with "the whimsicalities of an individual; it is super-individual, super-personal. It expresses the age-spirit and it is essentially irrational."[10]

I consider it to be highly doubtful whether design in any field that can truly be said to be artistic could ever be fully automated, totally removed from the unique moments of human inspiration, the flashes of creativity that sustain the artist. Some, however, argue that this could be the case. They point to the range of techniques that have now become available in our age of increasingly sophisticated technology and artificial intelligence, such as ergonomics, operational research, systems analysis, information theory, and other disciplines that generally depend on the extensive use of

computers. It is true that these technological advances offer powerful tools for decision-making when one has data in quantifiable form—and the advocates of unbridled technological advantage are quick to point out the many fields in which design has become an extremely automated process, from the original atomic bomb to undersea housing and manned lunar vehicles, all of which would have been quite impossible without the profound advances that have been made with respect to technological development. As a relatively conservative religious force, however, Islam is bound to its tradition of inspiration in ways that respectfully limit the extent to which technology is allowed to take over the process of artistic creation, especially as it relates to the worship of God, who is seen as the sustaining force behind all creative genius. Especially for Islamic designers, therefore, the resources that have come about as a result of technological advances must remain mere tools, irrespective of their level of sophistication, tools which facilitate but do not replace the creative genius of the artist, especially insofar as his work is motivated by religious devotion.

Architectural design involves the resolution of the specific and general demands of those for whom the project in question is directed—their needs and requirements are projected in an image of three-dimensional form. The design of a building is a creative rather than a calculable process; but, more so than with perhaps any other art form, architecture is concerned with concrete solutions and outcomes, with tangible realities that have both utilitarian or functional, as well as aesthetic, appeal. Every design consists of an effort to reconcile a form with its context. It is the context, in dialectical relation to the architect's wealth of experience, which usually prompts the initial architectural inspiration. This is especially true with respect to Islamic architecture, where the rapid

expansion of Islam over vast areas of the globe presented especially novel challenges to Islamic architects.

The ongoing process of architectural inspiration develops as the architect utilizes both personal and general professional experience to analyze the nature and extent of the challenge presented. These two types of experiences are very different: personal experience is directly received and predominantly subjective, while general experience consists of a variety of indirectly gathered material or intellectual and/or technological resources, generally available from public or impersonal sources. The design process, which is based on these dual, and complimentary, forms of experience, is inherently cyclical, for each new relationship that arises will affect, and in turn be affected, by others. As the cycle develops, the architect tends to look for solutions that serve to further enhance his original intentions, and to make choices which best help him/her to overcome the obstacles which stem from the original challenges faced at the initiation of the project.

There are many special and often highly complicated issues involved in approaching the problems of designing a mosque for a contemporary Muslim community. The continuity and parity of key symbolic elements, such as the *minaret*, *mihrab*, dome, and gateway can be transformed with fairly high degrees of latitude without eliminating or even diminishing their deeply inherent imagery. It is the level of skill and creativity of the architect and his/her degree of affinity with and sense of responsibility towards the community in which a mosque is to be built that creates or accounts for the difference between kitsch and creativity.

There are many ways of providing better mosques and additional areas for congregational activities which respond more effectively to the needs of specific Muslim societies, facilitating the ability of the worshipers in question to anchor their unique self- and group-identities in the contemporary structures that are being built with the assistance of today's technology, structures which speak to these devotees of the modern age as eloquently as earlier symbols have to past generations. Architects need to be allowed—and to learn how—to free their imaginations so that rapidly evolving Muslim cultures become increasingly capable of integrating the novel inspirations that the most creative of architects are able to contribute. Architects need to struggle to avoid becoming trapped in or limited by specific examples or models of mosques and to avoid the temptation of limiting themselves to a simple process of cataloguing and/or synthesizing the many interesting contemporary mosques which have been and continue to be built.

While the process of defining patterns and identify trends through attentive and insightful criticism can be highly useful, the architect must strive to transcend what has already been realized so a to achieve ever-greater levels of artistic achievement.[11] Creativity and expertise cannot be equated; each can be present without the other, although both are required if the architect is to be highly successful. As Hilberseimer suggests: "It is not always the expert who is the creator. The expert may even be handicapped by his own knowledge; he may know too much, yet not enough to understand that he must free his abilities—in fact, free himself—so that he can start at the beginning, work without prejudice, and be a creator, not merely an imitator."[12]

Irrespective, however, of how architects actually proceed in their work and the level of creativity with which they are blessed, there are certain things that they must do.

Architects must receive, or solicit, detailed instructions from their clients as to what the building will be used for; they must observe and survey the site, paying extremely close attention to its shape, contour, consistency, etc., carefully considering the resources that are available and deciding how they can be utilized in an optimal fashion. The architect needs to be adept at the following cognitive or intuitive functions in particular:

- Rational analysis, concerning the nature of the site and available resources.
- Intuitive or creative initiative concerning the results of rational thinking and their implications for the building's form.
- Value judgments, as to the relative importance of various and sometimes conflicting factors.
- Spatial sensitivity and the ability to convey his/her design intentions to other people.
- Communication skills.[13]

Architectural creativity, therefore, must be accompanied by multifaceted abilities associated with the generation of ideas that are both innovative and functional. The pure creative instinct of the architect, nevertheless, remains the supreme and decisive factor.

Donald MacKinnon suggests that "creativeness" fulfills at least three essential conditions:

> It involves a response or an idea that is novel or at the very least statistically infrequent. But novelty or originality of thought or action, while a necessary aspect of creativity, is not sufficient. If a response is to lay claim to being part of the creative process, it must to some extent be adaptive to, or of reality. It must solve a problem, fit a situation, or accomplish some recognizable goal. And thirdly, true creativity involves a sustaining of the original insight, an evaluation and elaboration of it, a developing to the full.[14]

MacKinnon goes on to define creativity as a combination of arts, sciences, technology, and psychological testing.

Creativity is not an exceptional ability. Yet, the potential that all of us have to be creative is maximized only by a few. Holtzman has attempted to define creativity in his research on bureaucratic innovation with respect to the search for new organizational forms and relations. He argues that: "Although creativity can be defined as a very valuable invention or novelty of concept and discovery, any adaptive change by an individual or a group has within it an element of creativity."[15] The imagination of a creative individual is closely related to the intensity and clarity with which he/she approaches the problem that needs be solved. The most creative among us are able to open ourselves up to the full intensity of our creative drives at the same time that clarity of focus is maintained with respect to creative purpose.

When we address the issue of creativity with respect to architecture, we realize that the most 'artistic' of architects are able to envision novel and statistically very infrequent responses on the holistic level of an entire building. Architectural art forms must be envisioned before they can ever become a reality. Yet, many highly skilled professionals in this field are uncomfortable with what they see as an undue emphasis on the artistic aspects of architectural design, preferring instead to anchor architecture firmly in the physical sciences. This is especially true with respect to the way in which architecture is becoming increasingly dependent on advanced technological systems for its development.

Given the inherently social character of architectural processes, architects and students of architectural theory are very quick to appeal to the social sciences for generalized descriptions of human needs, attempting to develop increasingly sophisticated models of how those needs can be satisfied by standardized solutions to

architectural challenges and the problems that accompany them. The act of 'creation', however, has at least traditionally carried the connotation of making something via processes that are, on some level, independent of—or superior to—technological processes, defying categorical 'prefabricated' solutions. Our understanding of creativity necessarily implies the conscious and voluntary exercise of volition, the realization or externalization of inner drives, motivations, in fact, 'visions'.

Conventionally established meanings of the notion of creativity are not generally seen as highly controversial. When we speak of an artist creating a poem, a play, a painting, a piece of music, sketches of buildings or structures, the construction of which is being contemplated—or at least envisioned—this process that we refer to is generally described as one which involves or is inspired by creativity.

A work of art need not always be what we would generally refer to as a 'real thing'. It could also be what we would call an 'imaginary thing'. This is different from other non-tangible realities. A disturbance, a nuisance, or the like, for example, is not created at all until it becomes realized as something that it is located in a concrete context of the real world. Its reality depends on in its impact. Without the latter, there is no former. Conversely, a work of art may accurately be said to have been fully 'created' even when its only 'place', its only 'real' existence, is in the artist's mind. Or, in the case of architecture, this is even more clearly the case with respect to existence on paper. Drawing represents a midway point in the art of architectural creation. Drawing, putting one's ideas on paper, is the main thoroughfare between ideas and things and the principal locus of conjecture in architecture, it is the vehicle for the dialectical relationship between idea and physical structure. As Robin Evans suggests, drawing both alters and is altered

by what is seen. He also points out, however, that if we admit this, "then the relation between ideas and things turns mutable and inconstant. Such destabilization is bound to affect our understanding of architectural drawing, which occupies the most uncertain, negotiable position of all..."[16]

If an architect has thought about and imagined how to design a building or structure, but has not yet made any drawings or codified any specifications, has not yet put his/her thoughts on paper, has not yet discussed his thinking and imagination with anyone, nor has taken any concrete steps towards the realization of his/her vision, then we could say that the design of the building exists only in the mind of the architect. When the building has been designed and built, however, we say that the building exists not only in his mind, but in the real world as well. 'Making' an artifact, or performing the activity that we associate with a given craft, therefore, consists of two stages:

1. Making the plan, which refers to its origination or creation.
2. Imposing that plan on certain matter, or fabricating it, giving it substance.

What later becomes the actual design of a structure is, therefore, often initially thought of as an imaginary design, where the architect has imagined the design, in response to the conceived purpose of the structure. This is the case whether the structure in question is a religious or a secular building. This is the nature of creation. Hence, the creation of a design is an instance of imaginative creation. The same applies to the creation of a poem or a picture, or any other work of art. Frank Barron (1958), an American psychologist, declares poetically: "By his imagination he may make new universes which are near to his heart's desire."[17]

The following three points serve to summarize our working definition of creativity;

1. A creator is one who, through the power of imagination, achieves a novel synthesis of extant elements, novel at least as far as he/she is concerned.
2. A creation is simply the embodiment—tangible or non-tangible—of this new combination.
3. Put very simply, to create is to combine existing elements in new ways.[18]

The creativity involved in this combination of existing elements has a special relevance to the discussion that follows insofar as Muslim architects have historically operated in rich fields of novel elements, as Islam spread rapidly over the face of the earth, often supplanting, building upon, the treasures of previous cultures, constantly synthesizing new materials and forms into the storehouse of Islamic architectural wisdom.

Architecture is a physical process that is based on many practical factors. It must be useful, efficient, and, most importantly, meet the requirements of those for whom it is designed to serve. It is important that the purpose of an architectural structure be thoroughly understood as well as articulated. Nevertheless, the practical and the aesthetic must be united as an integral whole; indeed, this is the heart of the art of architecture. Both traditional and contemporary architectural forms have long been and continue to be characterized and evaluated according to criteria concerning their objectives, directness, complexity/simplicity and novelty. Their majesty, or the lack thereof, like beauty, exists in the eye of the beholder.

The major centrally identifiable trend of twentieth century architecture, 'contemporary architecture', has been in the direction of architectural autonomy:

characterized by the quest for greater levels of autonomous self-determination and freedom from traditional influences, as well as the utilization of new technologies and novel architectural forms which incorporate the use of both natural and manufactured materials. It has generally been accepted as a given that architects should utilize the cutting-edge of advancing technologies, harnessing them to the service of their creative abilities, maximizing the potential contributions of developments in the physical and technological sciences to the enhancement of creative directions in modern architecture. This work fully supports this line of contemporary architectural reasoning. However, this thesis departs from—or crosses swords with—those thinkers who take this trend to the radical extreme of suggesting that technological advancement be utilized in such a way as to facilitate or empower a complete divorce from traditional architectural values and identities.

My work seeks the enhancement—through increasing levels of technological sophistication—rather than the abandonment or rejection of traditional aesthetic architectural principles, at least as they relate to mosque architecture. For me, this is clearly a question of religious fidelity and spiritual integrity. It is also a question of respect, esteem, and appreciation for the inspirational source or foundation upon which all continuing progress is, at least to some extent, necessarily based.

This linkage between fidelity to established societal purposes, on the one hand, and the celebration of the passionate drama of novel forms of creative energy unleashed in novel ways, on the other, is recognized as a long and time-honored tradition. It is celebrated, for example, in the writings of Le Corbusier, who suggests that: "The aim of architecture is to establish emotional relationships by means of new materials.

Architecture goes beyond utilitarian needs. Architecture is a plastic thing. The spirit of order, a unity of intention, the sense of relationships. Architecture deals with quantities. Passion can create drama out of inert stone."[19] Passion in architecture, as I see it, is as with passion in authentic love; it seeks ever-greater fruition—never abandonment or rejection. It is loyal, yet it always grows, in ways that can never be foreseen.

Traditional Mosque Architecture

Most if not all aspects of Islamic culture began to flourish with breath-taking speed within a few short decades of their beginnings. Unlike Christian culture, which evolved relatively slowly, the development of Islam was extremely rapid. Islam's expansion after Prophet Mohammed's {Peace Be Upon Him} death in 632, and during the Muslim caliphs, was quite different from the spread of other major religions, which usually remain highly provincial for long periods of their history, then expand slowly although steadily.

By the year 750, during the Umayyad caliph, the first Islamic dynasty, Muslim armies not only occupied a great portion of the Iberian Peninsula, but also penetrated into southern France to the west and as far as China to the east. From these conquests numerous new and important cities emerged that would later have a most profound impact on the future cultural developments of their surrounding areas. The great mosques being built throughout the new Islamic Empire soon came to symbolize political, spiritual, and social unification. Especially prominent were the Umayyad mosque in Damascus, the Dome of the Rock in Jerusalem, the enlargement of the Holy mosque in Makkah, the Prophet Mohammed's mosque in Medinah, the Great Mosque in Cordoba, and the Alhambra palaces in Granada, Spain. Also of special importance were the Al-Qayrawan mosque in Tunisia, the Al-Azhar mosque in Cairo, Ottoman architecture in Turkey, and the great mosques of Marrakesh and Fez in Morocco.

These structures, which came to represent quintessential, traditional Islamic architecture were all created from locally available building materials and human resources, providing each its own distinct regional flavor. These architectural feats burst

forth as suddenly as the new faith and the new nation states that they represented. The construction of these early Islamic monuments was, of course, controlled or managed by Muslims, but the skills of non-Muslim craftsman were also utilized, which served to create unique Islamic environments in each region, representing something vastly different from what had hitherto existed in each local.[20] Islamic architecture, insofar as it can be defined, is not the product of one geographical region or one people. Rather, it is the product of rapid conquests of diverse territories by a people with little previous architectural tradition, and the consequent synthesis of styles that occurred under one religious philosophy, yet transpired in different regions and under diverse sets of circumstances.[21]The uniquely Islamic combination of ideological unity and respect and appreciation for diversity has characterized Islam from very early on—and therein lies one of the greatest strengths of its tradition.

The entirely unique and unprecedented character of the development of Islamic architecture is adroitly chronicled by Martin Frishman and Hasan-Uddin Khan:

> Islam's early expansion was quite different from the spread of Christianity, which remained largely suppressed for the first three centuries of its history, and only after this period expanded steadily, but much more slowly. Islam, by contrast, quickly spread westwards across North Africa to Spain and eastward as far as the coastal areas around the China Sea. In the areas into which it expanded, indigenous populations used a wide variety of building materials, including mud, brick, timber, and stone, depending on the raw materials available locally. Each region thus had its own traditional and craft-related skills and building methods, and these local factors, combined with extreme differences in climate, gave rise from the beginning to highly disparate styles, many of which were of course influenced by contact with existing local cultures.[22]

Traditional Islamic architecture has developed throughout different chronological periods and widely distinct geographical areas. In the early formative stage of Islamic

architecture, the original mosque form was a 'hypostyle' form, a flat or pitched roof prayer hall, a masjid, with an open courtyard surrounded by colonnaded walls *(figure2)*. The hypostyle form was the basic architectural form of mosque architecture initiated in

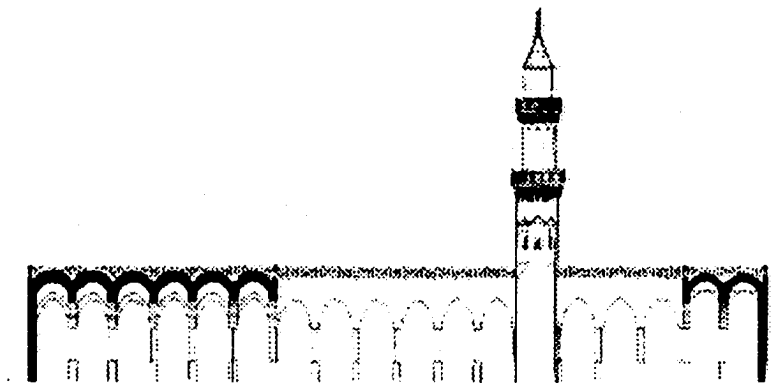

Figure 2- Hypostyle: a section of hypostyle mosque showing the flat roof and half circle arches.

Medinah by the Prophet Mohammed {Peace Be Upon Him} and his followers. It developed through the Umayyads dynasties up to the Abbasid period, throughout the Arabian heartland, North and West Africa and Spain, *(figures 3, 4,)*. Several other distinct architectural styles developed in different parts of the Islamic world, however, characterized by the use of available building materials, and the impact of indigenous traditions and culture, heavily influenced by the regionalism of the Muslim inhabitants in question. All of these styles can equally be referred to as 'monumental' styles.

The basic hypostyle plan for the prayer hall is a rectangular, flat, or gabled roof resting on double/tiered arcades, supported by stone, marble, or reinforced concrete columns. Some large mosques have a central nave covered by a single dome, as is the case, for example, with the Aqsa mosque in Jerusalem, the Umayyads great mosque in Damascus, the great Qairawan mosque in Tunisia, and many others. The nave and the

dome were added to the hypostyle form in the tenth and eleventh centuries. The dome over the first few aisles, the central nave perpendicular to the qiblah wall of the prayer hall, and covering the mihrab, is the first spatial elaboration of the idea of a large square in front of the mihrab and the minber. It is one of the most durable and versatile aspects of medieval Islamic architecture, and it became an essential part of the interior formulation of the traditional mosque. The dome and the minaret continue to represent

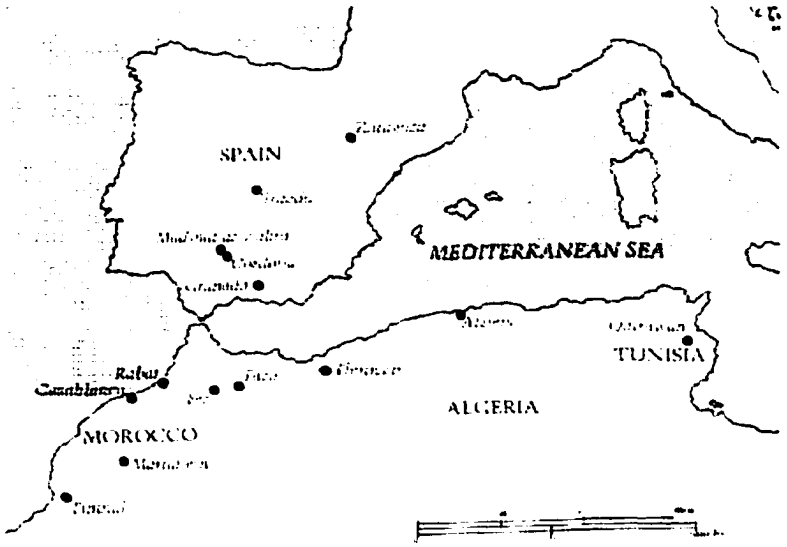

Figure 3- Morocco Spain map showing the principle sites of the hypostyle plans mosques, like the great mosque of Cordoba, the Fez mosque and Marrakesh mosque.

Figure 4- An aerial view of the Great Mosque, Cordoba, shows its remarkable roof structure of gables as an example of the hypostyle structure.

centrally important parts of the exterior formulation of mosques and serve to distinguish the identity not only of traditional mosques but contemporary ones as well.

This monumental style developed in five distinct geographical areas. As a result of local traditions, culture, weather conditions and building materials, each style has its own distinctive shape and characteristics. These five basic categories of mosque design are a result of four chronological developments: the development of Ottoman Anatolia after 1453, the flourishing of the Central Asian, Timurid Empire in the fourteenth and fifteenth centuries (and in Iran after 1550), and the return of Humayun to Mughal India in 1555. The central pyramidal style of roof construction in Southeast Asia and the detached pavilions within walled garden enclosures in China are also architectural legacies of imperial powers that spread throughout broad regions of the globe.[23]

Anatolian architectural styles after 1453 represent the influence of the Seljuk mosque architectural style that developed in the central Anatolian peninsula *(figure 5,6)*. These structures share the primary defining characteristic of a massive central dome surrounded and supported by two, three, or four half-domes forming a pyramid-shaped roof structure. The central and half domes are supported by pendentives on top of square frames formed by four massive pillars at the corners of the square frame, serving to integrate a large, square, central prayer hall. The roof structure is reinforced by buttresses at each side of the square to stop the weight of the roof structure from putting pressure on the walls of the prayer hall, preventing a possible structural collapse. The special nature of Ottoman architectural styles in this regard will be discussed in Chapter Four. The architectural style that developed in central Asia and Iran during the fourteenth and fifteenth centuries is known as the 'bi/axial four/iwan' style. The bi/axial

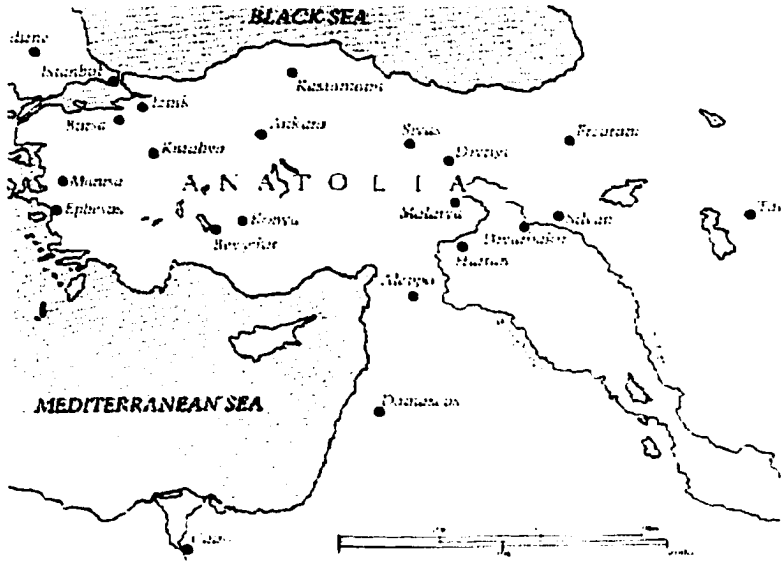

Figure 5- Anatolia map showing the principle sites of the Ottoman and Seljuk architectural style that developed in central Anatolian Peninsula, defining characteristic of a massive central dome.

Figure 6- The Suleymaniye Mosque, Istanbul, one of many splendid examples of massive central dome surrounded and supported by two half domes, rests on four pillars. It is one of the most ambitious work of architect Sinan.

plan has a distinctive character that served to greatly enrich the hypostyle form that has its origin in pre-Islamic, Iranian architecture. Iwan is a Persian word for a chamber with an arched masonry dome and a rectangular arched façade that opens onto the mosque courtyard or to the prayer hall. The 'four axial iwan' form was ideally suited to serve as a monumental entrance to the mosque. As noted by Bernard O'Kane: "The idea of a four-iwan courtyard is one of some antiquity—it is known from Parthian and Ghaznavid palaces—but there is a big difference in terms of spatial qualities between the enclosed rooms adjacent to iwans in palaces and the open arcades of hypostyle mosques.[24]

The Muslim Mughal of Northern India are the descendents of Chingiz Khan. They established innumerable mosques, castles, and tombs using native building materials, especially red sandstone and white marble, which made Mughal architecture quite distinctive and easily recognizable throughout the subcontinent. Shah Jahan, the Great Mughal, erected one of the most splendid monuments in the Orient for his dead queen and favorite wife, the Taj Mahal at Agra. The architecture that developed under the rule of Shah Jahan (1628-58) is especially noted for its symmetry and uniformity of shape. Subsequently known as the Shahjahani style, the columns are multi-faceted and tapering, with cuspid arches, a foliated base, and a vegetal capital. The arches are, in fact, multi-cuspid, and the domes achieved a full bulbous form with a constricted neck, which came to be called the Lodhi form.[25] The typical Mughal Friday mosque floor plan includes a narrow rectangular prayer hall—its width is about three times its length—with a prominent central portal and three Lodhi domes. Usually, the central dome over the mihrab and the arched portal is larger than the other two domes over the right and left wings of the prayer hall. The arched portal opens onto a very large courtyard arcade,

which is approached from the outside by flights of stairs leading to entrances on three sides. Two or four minarets are standard features of Mughal mosque architecture.

Although Islam is predominant in a few Southeast Asian countries, religious communities throughout the mainland and archipelagos of the region also adhere to various aspects of Hinduism, Buddhism, Confucianism, Taoism, and Christianity, as well as celebrating autochthonous traditions and rituals. This diversity of religious expression on the part of even more diverse ethnic communities has resulted in remarkably rich architectural forms. The distinctive structural methods used by Muslim builders in different regions of Southeast Asia have been refined into techniques where tensile curves and light, stressed, roof membranes depend upon the use of a wide range of timbers and fibers. Southeast Asian mosque structures lie within the powerful Java-centered tradition of tall, multi-roofed, open halls with timber columns as structural supports. These types of structures are especially notable insofar as they reflect the region's abundant diversity of natural resources.

Building codes in East and Southeast Asia prescribe roof designs, *(figure 7, 8)* in accordance with a hierarchy that indicates the purpose of a building, the activities or rituals that are carried on there, and the social roles of its occupants. These relationships mirror what is seen as the natural order of things. It comes as no surprise that a building with an open-ended gable would entail a low level of specificity in terms of the use to which it is put. On the other hand, it seems highly appropriate that a building with a centralized, hipped roof would be reserved for functions associated with religious ritual or functions of state. The emphasis that accompanies a centralized roof form that is vertically multiplied seems

Figure 7- South East Asia map locating the principle sites of the Southeastern architectural styles.

Figure 8- Masjid (mosque) Tua on the Island of Ternate in the Northern Maluku is an example of the typical pyramidal multi-roofed timber structure.

even more appropriate to the loftier symbolic functions.[26] The original square plan of the prayer hall—roofed with a central pyramidal three, four, or five-tiered roof structure—remains the most significant defining characteristic of East and Southeast Asian mosque architecture.

Islam was introduced into China in the early days of Islam, by the Prophet Mohammed's companions who traveled from Medinah to China in 632 A.D. in the capacity of preachers, envoys, and representatives of the new Islamic state. Mosque architecture in China was heavily influenced by, in fact based on, traditional Chinese architecture, adapted to Islamic beliefs and requirements as well as the needs of local Muslim communities. The traditional orientation of Chinese monumental buildings was adhered to, with mosques oriented on a north/south axis, with open spaces in the middle. Mosques built in large Chinese cities were usually oriented with the main entrance facing south, and the qiblah wall facing west. Both the main entrance hall of the mosque and the prayer hall stand independently on this axis.

Luo Xiaowei summarizes the character of Islamic architecture in China as follows:

> Just as architecture generally in China during this period reveals a concern with artifice in design, mosque architecture can be said to be moving towards a pure Chinese style. However, distinctive features are apparent in the prominence of the east-west axis and the relationship of primary and secondary within the buildings. The minaret-moon pavilion-portal combined into one, and a raised roof over the mihrab recess are other distinguishing elements.
>
> The use of a masonry dome had become obsolete in most of the mosques built in the Chinese style in this period. The construction method used for building domes to span large halls, introduced in mosques like Zhen-Jiao Si in the previous period, had influenced architecture in the Chinese style as a whole, however, and this resulted in a type of construction for monumental architecture called the hall without beam. The characteristic feature of mosques in the Chinese style built during this period was, in fact, a consolidation of earlier innovations.[27]

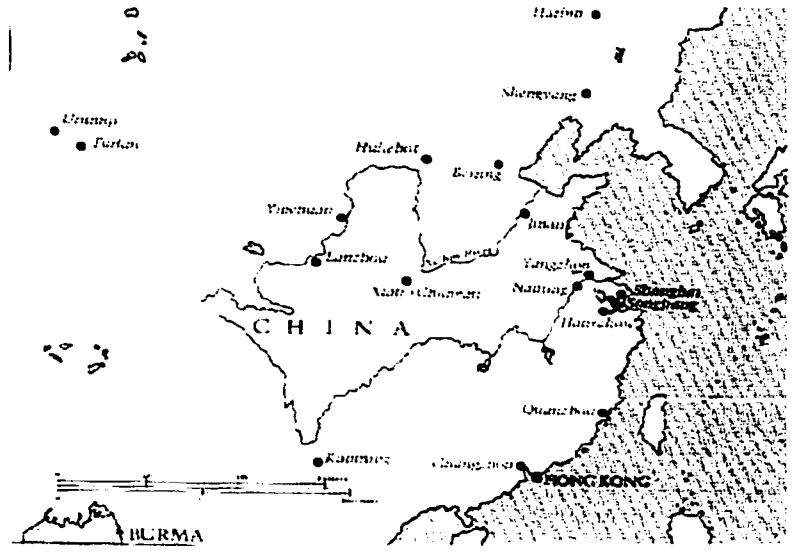

Figure 9- China map showing the principle sites of the Muslim Chines architectural style.

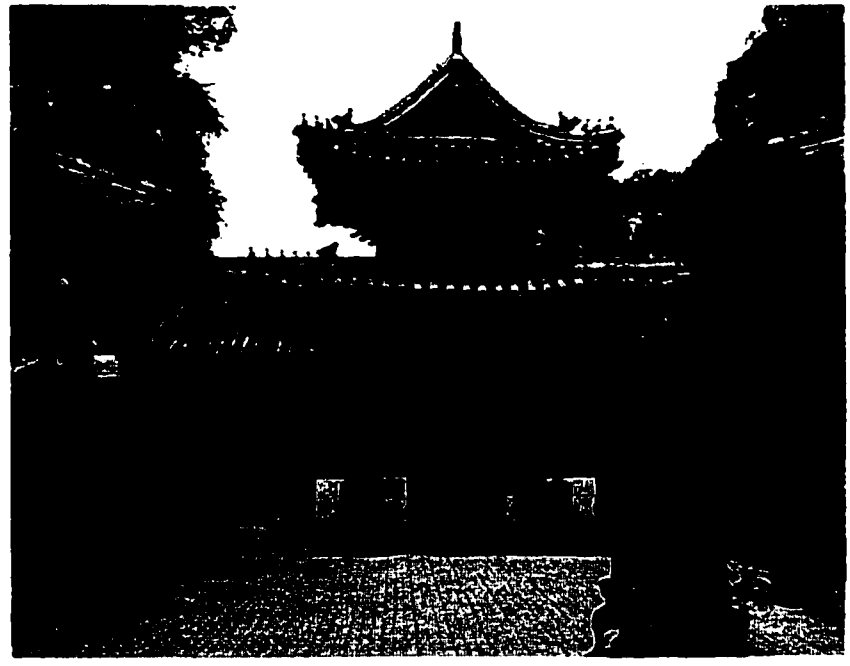

Figure 10- The main entrance at the Moon Pavilion of the Niu Jie mosque in Beijing, an example of the Chines architectural style.

The principal features of Chinese mosque architecture are domes with hipped hexagonal roofs, *(figure 9, 10)* which represent a particularly clear example of the combination of Chinese and traditional Islamic motifs, the minaret-entrance portal, the moon pavilion, and the prayer hall decorated with calligraphic inscriptions of the Holy Qur'an in Chinese characters.

Traditional forms of Islamic religious architecture have been partly ignored or neglected over the last few centuries in many parts of the world due to economic recessions, lack of professional craftsmanship, and/or the influx of new technologies and building materials. Over the last few decades, in many Muslim and non-Muslim countries alike, modern architectural developments and innovations have largely been derived from non-Islamic architectural philosophies, yet, in some cases, these innovations have been implemented in the building of mosques. Many contemporary mosques designed and built since the 1950s—throughout the Islamic world and within Muslim communities in other countries—have made profoundly positive contributions to Islamic architecture, as is the case, for example, with the great expansion of the Holy mosque in Makkah, *(figure 11)*, the Prophet Mohammed's *{Peace Be Upon Him}* mosque in Medinah, *(figure 12)*, the King Hassan II mosque in Casablanca, *(figure 13)*, the Qasr Al-Hokm mosque in Riyadh, Saudi Arabia, and the Great mosque in Kuwait, to name a few of the most distinguished. All of these mosques have been built in the most beautiful of contemporary designs, utilizing the latest and most advanced building technologies and building materials, yet, for the most part, still managing to preserve what are seen as the most important elements of traditional Islamic architecture.

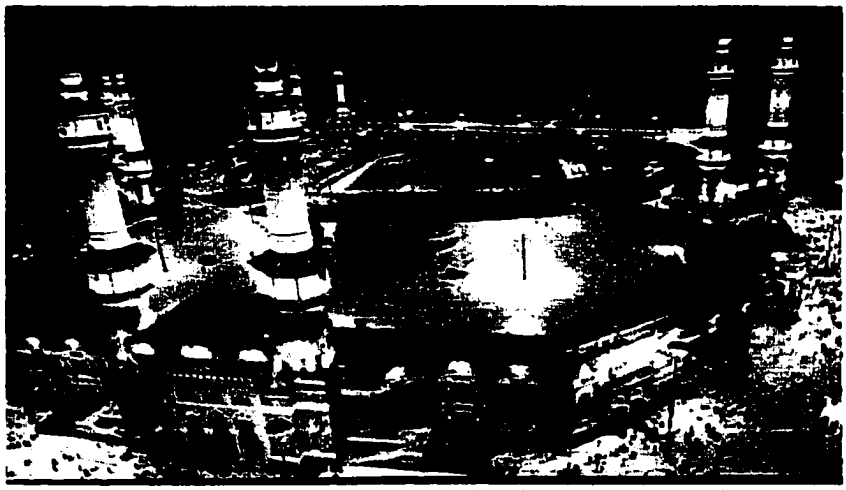

Figure 11- The Holy mosque at Makkah. The Holy Kab'abh is in the center of the cortyard.

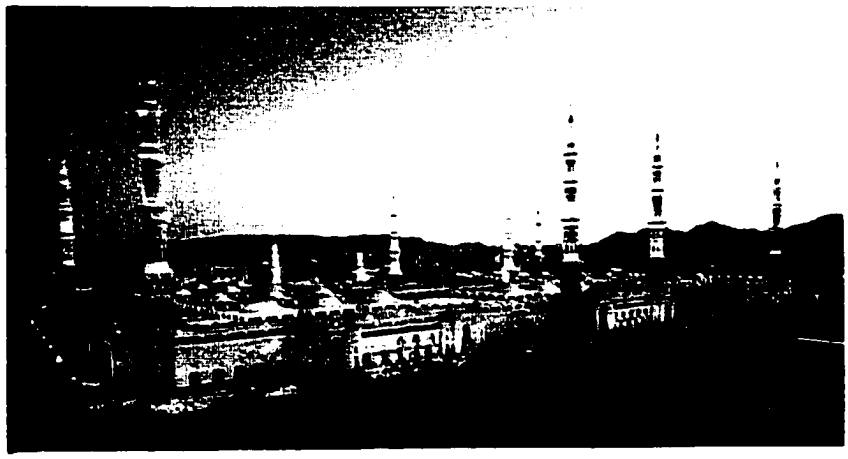

Figure 12- The Prophet Mohammed's (Peace be upon Him) mosque in Madinah.

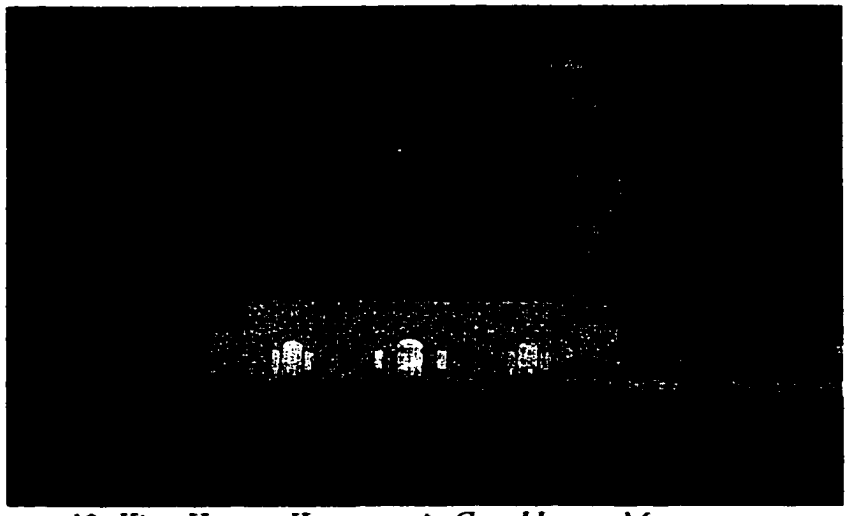

Figure 13- King Hassan II mosque in Casablanca, Morocco.

Some contemporary mosques, however, while boasting breathtakingly beautiful architectural forms, have shown little regard for the preservation of traditional Islamic architectural identity, especially with respect to the traditional features of principal importance, the minaret, *minber* and *mihrab*, which represent the central transcendent aspects of the mosque's symbolic personality. Contemporary mosques built, for example, in New York, Tokyo, Islamabad, Ankara, and other places, feature many contrasting styles which make it difficult to clearly identify whether the structures are religious or secular buildings, especially as a result of the way in which the cornerstone features of the mosque, the minaret, *minber* and *mihrab*, in particular, have been generously abstracted.[28] The Parliament mosque in Ankara, *(figure 14)* is an especially good example of this tendency.

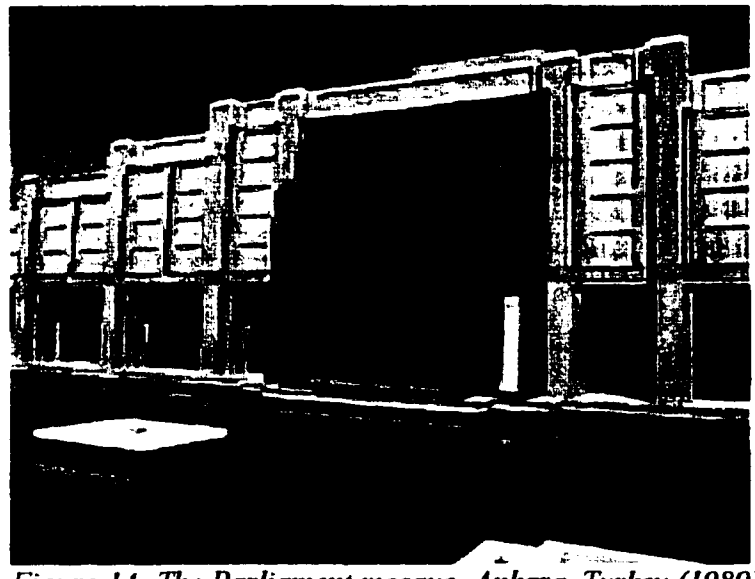

Figure 14- The Parliament mosque, Ankara, Turkey (1989)

In a few limited cases such as those mentioned above, competing architectural philosophies have served to erode, to a limited extent, the singular uniqueness of traditional Islamic architecture in some regions, at least with respect to the homogeneity

that has served to characterize Islam and distinguish it from other religions over the centuries. On the other hand, some Muslim countries have begun to restore and further preserve existing traditional buildings. Many Muslim architects are seeking to reincorporate traditional Islamic architectural details into their new project designs and to preserve the traditional heritage and identity of Islamic architecture along with the use of new and improved designs, materials, and technology.

Nevertheless, some modern designers of Islamic architecture, Muslims and non-Muslims alike, have failed to meet what myself and many other Muslim architects see as their obligation to Islamic society, by failing to maintain fidelity to the standard of unity of architectural form and decoration by which this architecture has long been recognized.

The complex interplay of technological, economic, theological, and political factors in some contemporary Islamic cultural contexts has influenced the modernization of architecture in such a way that it has arguably led, at least to some extent, to the diminution of the architectural unity of Islam. The utilization of modern building materials and the cutting edge of advancing technology in architectural design are virtually unanimously accepted as both a necessity and an obligation today. Nevertheless, myself and many others in my field feel strongly that their implementation should be in a form which preserves the unique authenticity and singular grandeur of Islamic architectural identity.

Contemporary trends in mosque design and construction that utilize the latest technological advances in both material development and construction techniques are a double-edged sword. They can result in either a resounding success or a dismal failure, depending on the chief architect's understanding of the project and the way in which it

accurately reflects, or fails to reflect, the identity and aspirations of the clients, or the community which it is designed to serve. When an architect undertakes the task of designing a house of worship—whether or not the architect in question is a believer in the religious faith in question—it is of critical importance that this architect effectively maintain open lines of communication and dialogue between the design process and the tenets and traditions of the faith in question. In regard to the question of fidelity to traditional forms of religious conviction that find their concrete expression in the creation of monumental religious architecture, it appears to me that the bias should be in the direction of maintaining rather than breaching that fidelity, unless there are extremely convincing reasons to do otherwise, and I think that this general principle would hold with respect to any religious tradition.

The design of a mosque represents something qualitatively different from the design of a commercial building, a monumental building of a secular nature, or one that is to be devoted to religious purposes outside of Islam. As both an architect and a member of the Islamic faith, I feel very strongly that the design of a mosque is appropriately a religious experience of the highest order, an exercise of one's faith, and a testimony to one's religious devotion. It serves as an expression of one's innermost and most profound spiritual sensitivities. For this reason, I now enter upon what is perhaps the most controversial issue raised in this dissertation: the question of the propriety or desirability of non-Muslim architects designing mosques.

This issue is of the utmost importance to this discussion due to the fact that, quite understandably, those contemporary mosques the design and construction of which have taken the most liberties with respect to deviation from the time-honored traditions of

Islamic architecture, are precisely those mosques that have been designed by non-Muslim architects. Although several mosques that have been designed by non-Muslim architects have exceptionally beautiful architectural forms, in my opinion, they sometimes fail to inspire the level of spiritual feeling in the worshipper that is the case with mosques that follow our time-honored traditions with respect to architectural style. And, I am very far from being alone with respect to the strength of my sentiment in this regard. I have spoken at length with numerous prominent individuals in Muslim communities who feel the same way as I do. The international competition that was held to choose an architect for the National "King Faisal Mosque in Islamabad, for example, was limited to Muslim architects.[29]

The principal reason, perhaps, why this issue of the need for an architect to share the religious vision of the clients in question is an especially important one in the Islamic community has to do with the comparative homogeneity of Islam as compared to other religious faiths. The emphasis on unity, and, in fact, even uniformity (which is an expression of unity) in Islam is one of the cornerstone features of our religious heritage, serving to inspire, protect, and empower Muslim solidarity in a world where this unity is constantly threatened by the shifting politics of national and ethnic identities and the increasing drive towards individualism that is characteristic of modernity. This issue is particularly sensitive, however, since it raises, on some level, the question of religious discrimination. Still, I do not mean to suggest that the principle that I am advocating represents any type of double standard. I have traveled the planet in my study of religious architecture and I have yet to see or even hear of any Church, Synagogue, or other non-Muslim house of worship that has been designed by a Muslim architect. And, I believe

that this is highly appropriate, given the way in which the architect's vision should serve as a vehicle of expression of his/her client's dreams and innermost emotions. Especially in the case of the design of monuments devoted to the purpose of religious expression, the architects role is one of providing form or substance to the collective religious vision of the clients in question.

I offer these reflections as a plea rather than any dogmatic attempt to impose my vision on others. It is my hope to stimulate discussion on this issue and contribute to further discussions of the matter.

Endnotes

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[3] L. Hilberseimer: Contemporary Architecture "Its Roots and Trends" (Chicago: Paul Theobald and Co., 1964) p. 38

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[5] Isma'il Serageldin: "A Critical Methodology for Discussing the Contemporary Mosque," in Architecture of the Contemporary Mosque, eds. Ismail Seragelin and James Steele (London, Academy Group Ltd., 1996) p. 15-16.

[6] Renata Holod & Hasan Uddin-Kahn,. With the assistance of Kimberly Mims, The Contemporary Mosque "Architects, Clients and Designs since the 1950's" (London, Thames and Hudson Ltd., 1997) p. 77. (Based on a 200-ft (61-m) square plan, the prayer hall is spanned by a space-frame structure of triangular folded concrete plates that meet at the summit 132 ft (40 m) above floor level. The roof was a feat of carefully calculated engineering: the plates were constructed simultaneously so as to meet exactly at the apex The glazed intervals between the plates admit natural light to the prayer hall and help to lend an ethereal quality to the structure.)

[7] Ibid., p. 79

[8] Ibid., p 80

[9] L. Hilberseimer: Contemporary Architecture, Its Roots and Trends.(Chicago, Paul Theobald and Company, 1994) p. 16

[10] Ibid., p. 40

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[14] Ibid., p. 2.

[15] Ibid., p. 239

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[17] Broadbent, p.1.

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[24] Ibid., p.123.

[25] Ibid., p.169.

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[27] Ibid., p.220.

[28] Serageldin, p. 105

[29] Holod & Khan, p.76

Chapter III

A Comparative Overview of Western Religious Architecture: Church and Synagogue Vs Mosque

The advent of specially designed sacred buildings has always been allied with specific social and political developments. Only in the last few thousand years, however, have people devoted huge efforts and resources to the construction of monumental ziggurats, pyramids, temples, churches, etc. As suggested by Humphrey and Vitebsky:

> In all cases this has happened as a result of the growth of the centralized state. Perhaps the gods had always been embodied in local chiefs and shamans, but now kings and emperors began to take on divine characteristics as part of their right and duty to rule. Conversely, deities came to resemble kings, and heaven itself became a royal city—still basic symbolism in Christianity today.[1]

Eliade, in particular, was a master at describing how the architecture and symbolism of temples, churches and mosques, echo something of the central sacred space of the religion, and the way in which this has always been intertwined with the political realities of the day.[2]

The regular locations of meetings of worship, in the beginning, were set within a framework of sites of special historical significance, especially those where some crucial revelation was obtained by a religion's founder. Competition for access to or possession of sacred sites always involved political issues—competition for power among religious groups. Competition for sacred sites of vast historical significance continues to this day. The clearest example is probably Jerusalem. And, this competition has taken place not

only between Jews, Christians and Muslims, but also, for example, among various Christian churches themselves.[3]

Sites that have religious significance generally assume historical or political importance. Among both contemporary and historic urban cultures, sacred sites have often been the scene of bitter ongoing conflicts between the religious groups surrounding these sites and the sacred landscapes of which they are a part.[4] This conflict has had a profound impact on the nature of religious architecture and the way in which it was linked to politico-military realities.

The mosque was not, originally, a primarily religious center. As suggested by Hillenbrand: "Muhammad's house was more of a political headquarters than a place of worship; people camped, argued and even fought there. It was only by degrees that the sanctity of the mosque asserted itself." This developing sense of sanctity, in time, came to be accompanied by an ever-stronger principle of exclusivity. It is interesting to note that, under the Umayyads, for example, it was still permissible for Christians to enter mosques. For a long time, only specified parts of the mosque were held to be fully sacred—especially the *mihrab*, the *minbar* and the tomb of a saint who might be buried there, which was venerated for the holiness (*baraka*) that emanated from it.[5]

The tradition of the mosque as a place of political asylum, like the church in Western Europe, has been deeply ingrained in Islam. In some cases, provisions were even made to employ the mosque as a military building, with fortifications behind which the faithful could take refuge in times of uprising or war. Such bastions became a traditional feature of mosque architecture, even when Muslim society had long outgrown the need for them. Sometimes the mosque discharged a policing function as well, as, for example,

at the time of the rebellion of Zaid Ali (123 / 741), when the people of Kufa were ordered to proceed to the Great Mosque, with the clear implication that anyone who did not turn up would be treated as a rebel. Once safely inside, the gates of the mosque were locked. In another episode during Zaid's rebellion, the role of the mosque moved from the defensive to the offensive.[6]

To a greater or lesser extent, Islam shares an imperial past with Christianity, both religions have spread through conquest—this has had a marked impact on the way in which patterns of religious worship developed—with a tendency towards synchronizing indigenous with imposed elements. Carmichael, Hubert, & Reeves write about a cave site in Chiapas, Mexico, for example, where "rituals connected with the 'master of the earth', who lives in the cave, have been transferred to the Catholic church, whereas others are still carried out in the cave, and many traditional beliefs and practices continue in spite of the domination of Catholicism in the area." These authors note how the Christianization of many parts of the world resulted in the existence of a dual system of beliefs, and this continues to be the case. On a more limited scale, this is also true of Islam, where, for example, along the coast of Kenya it is Islam that has become intertwined with traditional customs and beliefs. Many of the people who are involved in spirit propitiation nevertheless see themselves as Muslims, although, as is correctly noted, "this is a very un-Islamic practice, since Allah must only be approached directly." At Mbaraki, "traditional rituals are still carried out next to the new mosque, and are grudgingly tolerated by the Imam."[7]

In addition to political domination, Western religions have also spread around the world as a result of diaspora, most clearly the case, of course, with respect to Judaism,

but Islam as well. The diaspora character, of these movements has had an impact on the sacred space that is chosen. As emphasized by Davies, even small groups of Muslims or Jews can constitute a mosque or synagogue for the purpose of prayer.[8] "Both Jewish synagogues and homes represent and, in some sense, replace the destroyed Jerusalem Temple in the life of faith of ordinary Jews."[9]

Church and Synagogue Vs. Mosque

On medieval maps, Jerusalem was always situated in the center of the world--which constitutes, for Eliade "a cosmological idea of indubitable archaism," which survived into the late Middle Ages. This image was continually re-evaluated on different levels of Christian experience. For Abelard, for example, the "...soul of the world is found at the Middle of the world: consequently, Jerusalem from whence comes Salvation is found at the Center of the World."[10] The sacredness surrounding Jerusalem has long been and continues to be a source of conflict. Religious architecture, at least historically speaking, has played a key role in the evolution of patterns of religious strife and its resolution, or the lack thereof. Islam is no exception in this regard. And, it remains stalwart in the defense of Jerusalem, which it claims-at least in part-for its own.

Eliade traces the way in which, "from its beginning Mecca was a ceremonial center around which a city progressively arose. In the middle of the consecrated territory, *Hima*, was found the sanctuary of the Ka'ba (lit. "cube"), an edifice open to the sky which encased within its corner the famous Black Stone, considered to be of celestial origin." In

pre-Islamic times, just as it does today, the Stone comprised an important part of the ritual pilgrimage (*Hajj*) to Arafat, which is located several kilometers from Mecca. Originally, the 'Lord' of the *Ka'ba* was the same *theonym* used by the Jews as well as Arab Christians to designate God. As expressed by Eliade:

> Muhammad conformed to the model illustrated by Moses, Daniel, and Enoch-prophets who, "in rising to Heaven, had met with God and received from his right hand the Book containing the Divine Revelation. This scenario was as familiar to normative Judaism and the Jewish apocalyptic as it was to the Samaritans, Gnostics, and Mandaeans. Its origin goes back to the fabulous Mesopotamian King Emmenduraki, and draws upon a traditional royal ideology."[11]

While the origin of Islam is at least partly grounded in the Judeo-Christian tradition, there are extremely important differences that exist with respect to the nature of the development of traditional houses of worship in these three Western religious traditions. Judaism, Christianity, and Islam are, in fact, sister religions. Islam, as the latest of the three to arrive on the scene, has incorporated many of the elements found in Jewish and Christian traditions. This is the case with respect to both religious doctrine and religious architecture.

Islam was, in many important ways, an offshoot of Judaism and Christianity. It was heavily influenced by both. As noted by Eliade:

> Muhammad was inspired by the night vigils, prayers, and meditations of Christian monks whom he had known or heard speak during his journeys. One of Khadija's cousins was a Christian. Moreover, certain echoes of Christian teaching, both orthodox and sectarian (Nestorian, Gnostic), as well as the ideas and practices of the Jews, were known in Arab cities. However, there were only a few Christians in Mecca, and the majority of them were in a humble state Probably Abyssinian slaves) and poorly educated[12].

Most significant, perhaps, was the fact that Jews were found in large numbers in Yathrib (the future Medina), and the Prophet counted on their support. According to legend, a Jew from Medina recognized that the Prophet had come into the world and communicated this to his coreligionists. Mohammed, *{Peace be upon Him}*, had extensive contact with both Christians and Jews in his travels, for example, on caravan trip into Syria. At Bostra, a Christian monk recognized on Mohammed's shoulder "the mysterious signs of his prophetic vocation."[13]

Figure 15- The Hagia Sophia, Istanbul, which is considered one of the seven wonders of the world. It is one of the most prominent buildings in History of art and architecture. The building served as a Church and a Mosque for hundreds of years.

Due to the fact that some of the greatest feats of Islamic architecture have taken place in areas that were once under Christian control, many of the religious motifs of this older religious tradition have been incorporated into Islam. The clearest single example of this trend towards the incorporation of these elements into Islam—as embodied in architectural form—is probably best represented by the Hagia Sophia Church/Mosque in

Istanbul, formerly Constantinople *(figure 15)*. Nevertheless, this contribution has not been a one-way street. Islam has not only profited from—or in the case of the Hagia Sophia, was founded upon—Christianity, but it has contributed heavily to the development of Christian architecture as well. This is most clear with respect to Spain.

It is impossible to understand post-8th-century Christian and Jewish art in Spain without taking their Islamic component into account. The link with contemporary Islamic architecture is especially evident in the Christian churches erected under Islamic rule. Andalusian architecture came to real fruition, however, in the churches and palaces built after the Reconquista.[14]

As suggested by Hillenbrand:

> Andalusia is a land in which Islam and Christianity fought the good fight, as they respectively saw it, and half-heartedness had no place in the battle. It is a land of crusade, in which the Imam disappeared to be replaced by the Grand Inquisitor...where, for all the intolerance and all the hatred between the two religions and the two civilizations, a shared culture developed to inspire the imagination.[15]

Andalusian art in general, and her architecture in particular, has left a permanent

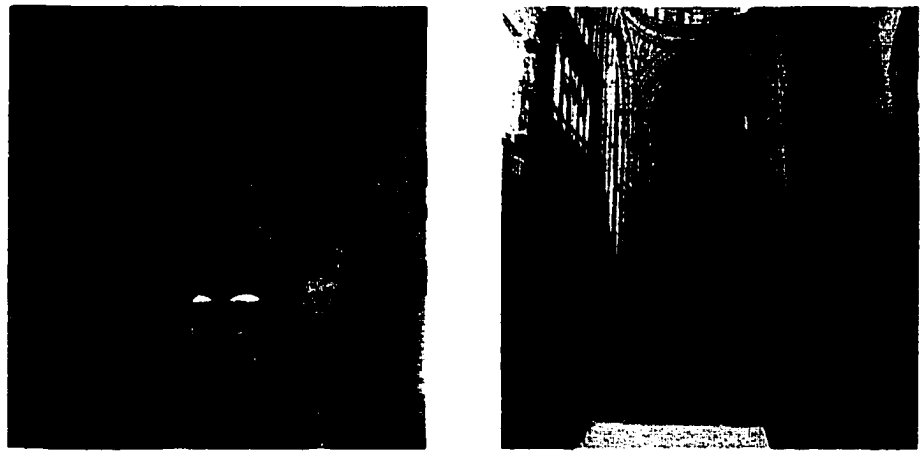

Figure 16- Cordoba Great Mosque: a. shows the impressive system of simple and interlocking multi-lobed arches, with the mihrab in the background. b. shows the Cathedral Crossing which has been constructed in the center of the mosque 1523.

reminder not only in Christian Spain but throughout those parts of the world influenced by Christian Spain—as well as having continuing to have a powerful impact on Islamic art. *(figure 16)*

The exchange and interplay of forces between Andalusia and North Africa—characteristic of the period of Islamic hegemony on both sides of the Mediterranean—was followed on the North African side by centuries of imitative creativity. Moroccan art of the past few centuries, for example, has been produced almost entirely in the wake of Granada. While Tunisia and Algeria became outposts of Ottoman art following the Turkish conquest, as noted by Barrucand and Bednorz, Morocco remained unshakably loyal to her Andalusian heritage.[16]

Barrucand and Bednorz also note how: "The term "Ishbinlya" applied only to the Christian part of the country, while the Islamic part was called al-Andalus, a term whose geographical application was subject to variation. At first it referred to the major part of the peninsula, while by the 15th century it was restricted to the small Kingdom of Granada. One can with reasonable confidence deny the presence of any territory-based national feelings on the part of Spanish Muslims; their deeper sense of identity was based, rather, on their membership in a tribal and religious community. Even the innumerable alliances formed during the course of the centuries with Christians in times of danger—including, incidentally, the period of the crusades in the Near East—do not alter the fact that the "alien" was, on principle, the non-Muslim, Spanish or not as the case might be. [17]

The Mudejar style *(figure 17)* refers to Islamic forms created under Christian rule; the setting may be a magnificent palace, chapel, or a cathedral, or it may equally well be a humble village church. Barrucand and Bednorz note how, "Mudejar (from the Arabic mudajjan: "domesticated") was originally a pejorative term used by those Muslims who fled after the Reconquista to describe those who stayed behind. Mudejar art in Spain displays an infinite variety; every region has its own version, influenced by local traditions, by the taste of the client, and not least by his financial potential."[18]

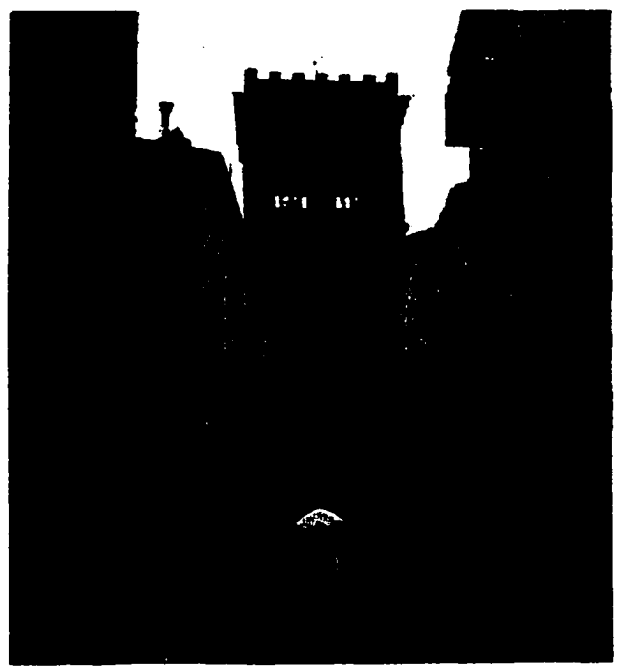

Figure 17- Mudejar Towers dated from the 13th century. During the Moorish period, Teruel, Spain.

Two architectural developments in the West of special prominence were initiated by historic religious events. The first occurred in A.D. 313, when Roman Emperor Constantine the Great converted to Christianity and went on to establish it as the official religion of the Roman Empire. Prior to this development, Christianity had been

largely an underground religion that had no architecture to speak of.[20] The second historic religious event, the promulgation of Islam by the Prophet Mohammed {Peace be upon Him}, in A.D. 610, resulted in the establishment of the first Islamic architectural structure, in Medinah.

Christianity and Islam share important common elements with respect to history, doctrine, and architecture as well. While this is not always widely recognized to be the case, Muslims and Christians do share similar beliefs, values, moral injunctions and principles of behavior, especially on a historical or traditional level. One of the central differences in patterns of worship between Christianity and Islam is the fluidity or variety of religious liturgy of the latter, the patterns tending to be more fixed or homogenous in the former. In speaking of Islamic worship in relation to art, the term 'liturgy' is in need of further definition because it evokes, a priori, a Christian pattern of worship. Liturgy needs to be distinguished from sacrament, which, for Burckhardt, represented the "divinely instituted rite which, in a way, the liturgy enfolds, protecting it and at the same time manifesting it, while being itself protected and unfolded by sacred art which transposes its themes into architecture." He suggests that in Islam, forms of worship are more fixed, "down to the smallest detail, by the Quran and the Prophet's example":

> There is practically no liturgical borderline, so that one can say equally that the liturgy is comprised within the rite itself, that is, in the form of worship divinely instituted or, again, that sacred art assumes the role of the liturgy, and that this role consists in creating a framework to suit the rite, open to 'angelic blessings' and closed to dark psychic influences. We shall see that such is indeed the role and position of art in Islam, and it immediately explains the importance assumed in this context by religious architecture and even by architecture in general—since every dwelling is in principle a place of worship—as well as by every other art that serves to shape the environment, such as decoration, epigraphy and the art of carpets, not forgetting the liturgical role of clothing. [21]

Western Religious architecture, whether it be in the form of Church, Synagogue, or Mosque, is built for sacred purposes; therefore, the architectural design is intended to accommodate the needs of the worshippers. These sacred buildings vary widely in both shape and size, according to the needs of each branch, denomination, sect, etc., as well as the economic resources and unique characteristics of the religious group in question.

The pluralism that characterizes Christianity, especially in the contemporary world, began with the Protestant Reformation. No similar kind of division—or shattering—of homogeneity has occurred in the Islamic tradition, at least not on such a profound scale. According to Lee and Ackerman,

> In medieval Europe, the church owned lands, controlled education, and wielded political influence; it would thus appear to have dominated a large proportion of the social base. While salvationary doctrines formed an important part of religious worldviews, their separation from magic was often blurred to promote the belief in the indispensability of church power. It was the Protestant Reformation that challenged the role of the church as sole dispenser of divine grace, emphasizing instead the belief in man's direct relationship to God. The Reformation created a new cultural sphere that diminished magic, thus enhancing 'the conception of an orderly and rational universe in which effect follows cause in predictable manner'. From this perspective, religious rationalization entails the tightening of boundaries of a particular cultural or institutional sphere against other spheres in terms of organizational efficiency, normative elaboration, and methodical expression of ideology.[22]

These authors go on to note how that, with industrialization in the eighteenth century, the social base of new cultural and institutional spheres created by the Reformation shifted to secular agents whose worldviews encompassed ethics of scientific progressiveness and individual diligence. Religious rationalization in this context resulted in a fusion of systematic ideas about salvation and scientific attitudes toward the world. This was paralleled by a process of secularization in which the church saw its access to

and/or power over the social base minimized and its ecclesiastical authority diminished. Lee and Ackerman argue that secularization as a whole "reduces ecclesiastical control over the material well-being of individuals and the socialization of human values. Freed from such control, individuals are no longer bound to the power of the church. They are free to pursue ends of their own choosing and employ means they perceive as most effective. Rationalization in this context tends to promote the systematization of interests along individualistic and instrumental lines."[23] Islam has never experienced this kind of rupture, nor have processes of secularization and the spirit of individualism taken hold, at least not nearly to the extent that they have in Christianity.

Because there are now so many branches of Christianity, representing a broad spectrum of geographical and cultural settings, no single type of church building continues to predominate. This is even the case within given cultural or sociopolitical contexts. Part of this is a result of the broad variety of social classes that have long been and continue to be attracted to Christianity: from the poorest to the richest members of society. In the United States, for example, houses of worship range from multimillion-dollar extravaganzas, such as the famed Crystal Palace in California, to the most humble of shacks that are often home to small sectarian or independent groups, especially in rural areas.

The New Testament offers several physical analogies for the church; the most prominent metaphor describes the church as the body of Christ. Christ is seen as the head of the church and the congregation as its body. There is as much variety in the way that different groups of Christians worship as there is in their houses of worship; this is especially true on a historical level. Some Christian groups have most elaborate rituals,

and some are exceedingly simple, especially as they may appear to the outsider. Some groups venerate icons, especially statues or paintings, while others do not. In short, there is an extremely broad array of forms of religious expression in Christianity, and Christian architecture has for a very long time reflected these differences, having been designed to suit one or another kind of religious practice.

Charles P. Price has detailed three different forms of Christian social structure that are based on three different forms of authority:

> Church structure theories may be identified as follows: organic structure, authority is understood to reside in the whole body—the Christian clergy and laity together—whose leaders are empowered by the Spirit acting through the whole body. Hierarchical structure, authority originates in the clerical hierarchy, whose ministry to the laity makes lay-people members and so forms the church. Sectarian structure, authority resides in individual Christians, who band together as a congregation. No actual church perfectly embodies any of these structures, but Orthodox churches best typify the first, Roman Catholic churches the second, and Protestant churches the third.[24]

The social forms that follow in accordance with varied understandings of legitimate authority vary greatly across an impressive array of churches. While this results in an equally impressive variety of architectural styles, there are recurring common architectural elements across several historical and denominational categories of Christian churches, especially the nave, arcades, clerestory, apse, transept, alter, and sanctuary.

While a Synagogue serves as a Jewish temple or community house of worship, it also serves as a focus for social interaction/functions and study, functioning as a complete spiritual center. The architecture of Synagogues has never become standardized. Some Jewish groups, however—and this represents an important parallel

with Islam—keep to the tradition where it is seen as preferable for the basilica to be built on an axis with the alter facing Jerusalem. The basilica wall—the wall of orientation facing Jerusalem—is the major architectural, if not theological, feature of the Synagogue. This traditional Jewish 'orientation' is similar to ritual Islamic 'orientation'—submission or abandonment to Divine Purpose—turning in prayer to a point situated on earth. This differs from the symbolism of Christian worship, where the point of orientation is in the sky, where the sun, the image of Christ reborn, rises at Easter. Burckhardt suggests that, as a result, "all orientated churches have parallel axes, whereas the axes of all the mosques in the world converge."[25]

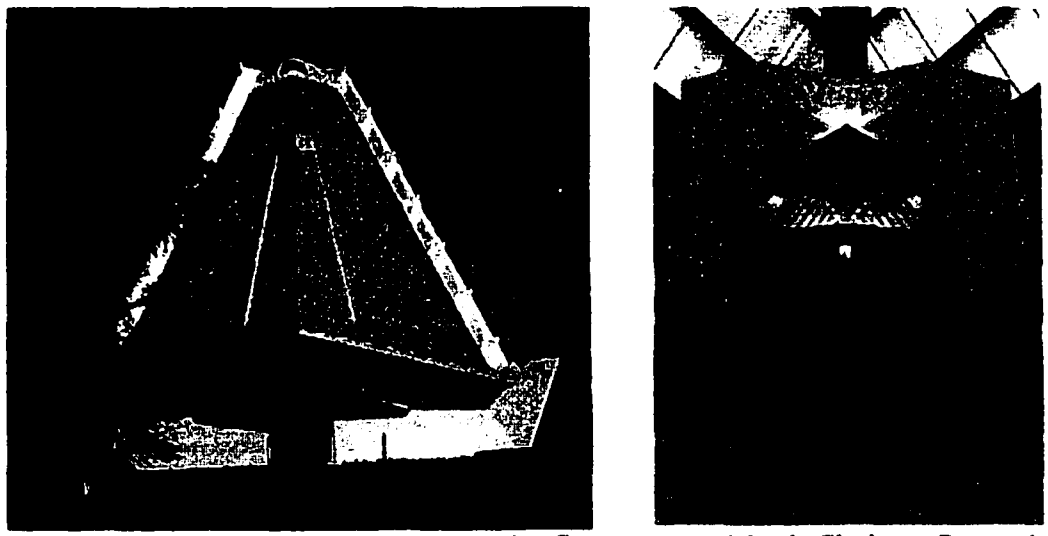

Figure 18- A contemporary design of The Synagogue of Beth Sholom, Pennsylvania, designed by Frank Lloyd Wright in a pyramidal to represent Mount Sinai.

a. The front elevation of the synagogue.

b. The Ark made in glass and aluminium ornament, the "Wings", containing the eternal light symbolic of God's presence; the Hebrew word of "holy" is set above the whole monolith.

In a typical Synagogue, *(figure 18)* the most important elements are invariably: the ark housing the Torah scrolls (the first five books of the Hebrew scriptures, written in archaic style on parchment), which is always on the wall facing Jerusalem, the Net Tamid

("perpetual flame"), a flame that is always lit, in front of the ark, a large disk on an elevated platform (bimah), upon which the Torah is read to the congregation, a small reader's lectern from which the service is conducted and from which the rabbi may preach, and seating for the congregation.[26] Traditionally, a seven-branched candelabrum (menorah) is a standard ornament.

Some Orthodox synagogues still have segregated seating arrangements for men and women, who sit in separate sections. Many centuries ago, this was the norm. Today, however, this practice remains in only a small minority of synagogues. Both Judaism and Christianity have, by and large, fully embraced the ideals of Western secular modernism—with its privatization of personal morality—in ways that Islam has not. The architectural arrangements that reflect the social arrangements of Jewish and Christian groups, therefore, are structured more in accordance with local characteristics—as well as the intellectual emphases that have accompanied modernity—than is the case with Islamic centers of spirituality. In other words, generally speaking, there is more uniformity of common elements in Islamic religious architecture than is the case with either of its two sister, religious traditions.

There are two primary branches of Islam, the *Sonnah* and the *Shia*. They follow different interpretations of the Prophet's teachings (the *Sonnah*), but the functions of the mosque are the same throughout the Muslim world. In religion-dominated Islamic societies, mosques serve a broad array of social and political needs, in addition to religious ones. The mosque serves as a forum for many public functions; it is a law court, a school, and an assembly hall. Mosques usually have the same components; *mihrab*, *minber*, (if it is a Friday mosque), minaret, ablution facilities, (toilet facilities and

water, Muslims are required to wash their private parts after using the toilet, then make *wudhu*, washing hands, nostrils, mouth, face, arms and feet, with clean water). Cleansing, *Wudhu*, is a condition for, *Salat*, prayer. All mosques in the world are oriented in the same direction, facing the Holy Kab'ah in Makkah. There are no statues or figurative paintings in mosques. Mosques may differ in terms of architectural plan, shape, calligraphic decorations, geographical location, local traditions, distinct heritage, and building materials—but not in faith.

Some of the overarching variation that one sees, when comparing Christian and Jewish houses of worship, on the one hand, with Islamic sanctuaries on the other, is that they have different relationships with respect to architectural form and function. Martin Frishman and Hasan-Uddin Khan try to pin down that difference as follows:

> The direct relationship between architectural form and function familiar from Western or Christian cultural history does not apply in the case of the mosque. Whilst the idea of communion with God is an essential part of both Judaic and Christian belief, in Islam it plays an even more direct role, since there is no intermediary such as a priest. If it should be a Muslim's wish to pray in a particular room, then that room becomes his mosque for the duration because his personal belief makes it so, and nothing more is added to effect the transformation. (This process can also work in reverse, though in practice opposition to such a change is probably inevitable; thus, a building used for centuries as a mosque can in theory be transformed at will to serve other purposes, religious or secular.) Even without a room to pray in, a Muslim's prayer rug or any clean surface can serve as his mosque for the purpose of prayer.[27]

Unlike its sister religions Islam has stayed aloof from material, spiritual representations; it does not treat material things as sacrosanct. Muslims do not worship or believe in the existence of any spiritual force other than God, Allah, the creator of every thing. They believe in the authenticity and inspiration of the traditional prophets: Abraham, Moses, Jesus, and Mohammed *{Peace Be Upon Them}*, that they were God's

messengers sent to guide their people to believe and worship only one God (Allah). Muslims do not, however, make physical representations of these holy figures, which they see as idolatrous. It is interesting to note that there were early injunctions by Yaweh, mandated in the Hebrew scriptures, against doing obeisance to the physical likeness of divinity, in other words, images of the divine, or what was thought to be divine. The most famous example of this prohibition, according to tradition, was with respect to the famous Golden Calf that was worshipped by idolatrous Israelites (who were destroyed by God on this reason).

For Muslims, all material things are equal, subject to the will of God. Therefore, the mosque building is not seen as sacred, as a building, yet it is highly respected and honored as a place for worshiping God and as a social center for religious community. The guidelines that are to be followed for the construction of a new mosque are not set in stone, but they are to follow the spirit of the *Sonnah* of the Prophet Mohammed *{Peace be upon Him}*. The only limitation specified in the Qor'an is that the qiblah wall should be parallel to an imaginary line of the Holy Kab'ah in the city of Makkah.

Allah said in the Holy Qur'an:

> *Verily! We have seen the turning of your face (Mohammed's) (for guidance) towards the heaven. Surely, We shall turn you toa Qiblah (prayer direction) that shall Please you, so turn your face in the direction of A- Masjid Al- Haram (at Makkah). And wheresoever you people are, turn your faces (in prayers) in that direction. Certainly, the people who were given the Scripture (i.e. Jews and Christians) know well that, that (your turning towards the direction of the Ka'bah at Makkah in prayers) is the truth from their Lord. And Allah is not unaware of what they do.*
>
> *Qur'an, Surah al Baqarah, (2): 144.*

At first, according to tradition, Muslims prayed facing north, facing Al Aqsa mosque, in Jerusalem, for more than a year, until the above Ayah was revealed to Prophet Mohammed *{Peace be upon Him}* by Archangel Gabriel, in the second year of Hijrah (migration) from Makkah to Medina. At this point Muslims turned south in prayer, and began facing in the direction of the Sacred mosque in Makkah.

In Islam, there is no central religious authority as there is with the pope in Catholicism, who sets official policy, codifying and decreeing standards that are seen as universally applicable. No such central authority figure exists, even in the form of a council or board. Religious authority in Islam is unique to each Islamic culture in question. Nevertheless, Islam remains the most conservative of western religions because of the fundamental way in which all Islamic groups remain loyal to the traditional message found in the Holy Qur'an and the *Sonnah* of the Prophet Mohammed. For Muslims, the scripture itself is seen as the central authority, the voice of which is seen as timeless and applicable across all cultural settings. There are some differences of opinion among Islamic leaders, however, both within any given Islamic culture and especially between cultures. This is true with respect to architecture as well, which is evident in the profound differences that exist between works of Islamic architecture, especially as they are found in widely disparate geographical settings.

Historically speaking, many houses of worship in Jewish and Christian traditions have tended to be open only to exclusive groups of members; access has often been restricted by a variety of factors. The distinctions surrounding sacred space have deep roots. In the ancient Jewish Temples, for example, the Most Holy section of the temple, which housed the Ark of the Covenant, was entered only once a year on a high religious

holiday, and then only by the High Priest. While this kind of restriction of access to sacred space is no longer so rigid in either tradition, still, there is a distinct and important difference between Jewish and Christian traditions on the one hand, and Islam on the other. There have never been any restricted areas in a mosque that could not be entered by any Muslim. Today, especially, mosques are open at all times for any Muslim worshipper.

When one searches for a way to compare Christian with Islamic architecture, what immediately comes to mind are the great houses of worship that have sheltered both traditions—especially the Mosque Cathedral of Cordoba, Spain, *(figure 16)*, one of the finest examples of Moorish architectural style, and what is perhaps the finest example of Byzantine architecture as well, the magnificent Christian church of the Hagia Sophia, *(figure 15)* in Istanbul. Both of these landmark structures have served as a church and a mosque. The Hagia Sophia, and the Blue mosque in Istanbul serve for an enlightening comparison of the two traditional architectural impulses. The two structures were built in the same area, but in widely different chronological periods, and by two ethnically and politically distinct societies. The Hagia Sophia was built between 532-537 on the orders of Emperor Justinian, designed by the architect Anthemius of Miletus. The magnificent Sultanahmet Mosque *(the Blue mosque)(figure 28)* in Istanbul was built between 1609-1616 on the order of Sultan Ahmet I, according to the designs of Mehmet Aga. Both structures occupy prominent and most spectacular sites on the Hippodrome mall, overlooking the Bosphorus strait, less than half a mile apart. Both are remarkable for their large-scale domes that form the roof structure covering a huge central interior space. The Hagia Sophia's dome is supplemented on two sides by semi-domes, creating a

rectangular processional axis, emphasizing the depth rather than breadth of the basilica of the church. The Hagia Sophia's dome structure represents one of the world's most prominent examples of the art of placing a vast dome over a square floor plan, *(figure 29)*.

The dome is placed on pendentives, resulting in a circle being made out of a square by a rounding of the corners. There are two opposing arches on the central square that open onto the areas covered by the two large semi-domes, each of which, in turn, has three smaller semi-domes radiating from their centers. The entire structure, therefore, is oblong, 31.87 meters (102.6 ft) wide by 80 meters (260 ft) long. The center dome rises out of the center of a series of smaller spherical surfaces. An abundance of small windows, along the rims of the domes, provide diffused lighting. The Hagia Sophia has a highly symbolic presence as a religious building, distinguished architecturally by an emphasis on the delineation of the dominant center dome. This dome structure was seen as such a triumph that it subsequently inspired the designers of the Dome of the Rock in Jerusalem, as well as Ottoman mosques of later periods. The dome of the Blue mosque is supplemented with four half-domes covering a very large, square, praying hall, providing worshippers with long lines parallel to the qiblah, so that they are able to follow the movements of the Imam. By contrast, the orientation of worshippers within most large Christian Churches tends to be directed more along lines that are perpendicular to the altar. The consequent loss of visibility is only partially compensated for by the fact that the altar is almost always raised.[28]

The Hagia Sophia has endured many structural problems throughout its life span. The enormous size of the dome and the stress it exerts on the four side-walls have been

the most important factors to take into consideration. The architectural elements that are necessary to evenly transmit the weight of such a large dome to the foundation had not yet been fully developed at that time. Therefore, the sides-walls kept leaning outwards, finally resulting in the collapse of the original dome in 558. It was rebuilt, however, with the second dome even taller, yet shorter in its diameter. Still, almost half of this dome collapsed in the 10th century and then again in the 14th century. This time, due to the sluggish economy of the declining Byzantine Empire, the Hagia Sophia was left in ruins. It was only with the conquest of Constantinople in 1453 by Sultan Mohammed I "the Conqueror," and the subsequent conversion of the Hagia Sophia into a mosque, that this beautiful monument was preserved for future generations. In the 16th century, the architect Sinan built four minarets that served to buttress each corner of the structure, stopping the outward movement of the walls, subsequently preventing any further collapses of the structure.

The Hagia Sophia served as a church for 916 years and has served as a mosque ever since it was rebuilt. It was turned into a national Turkish museum in 1930 on the orders of Kemal Ataturk, the founder of the Turkish Republic.

The magnificent nave of the Hagia Sophia is overwhelming in its grandeur. The presence of the dome is felt as soon as one enters the nave. It appears as though it is suspended in midair, even though it covers the entire building. The walls are covered with marble and the ceiling with mosaics, creating a vibrantly colorful ambiance. The three different tones of color found in the mosaic decorations of the dome correspond to three different major restorations. These mosaics are among the most important works of art of the Byzantine era that have survived until today. The central dome is not perfectly

round; it is slightly oval in shape. Its dimensions are 31.87 meters from north to south and 30.87 meters from east to west, having been the subject of various restorations. The 74.67 * 69.80 meters rectangular middle nave is separated by marble columns from the side naves. The roof structure of the Hagia Sophia is supported by one hundred and seven columns; divided between the ground floor and the galleries.[29]

Since the Hagia Sophia was built in the standard cruciform shape of Christian churches, it draws naturally on the whole nexus of Christian beliefs associated with the cross. Still, today's visitor is immediately confronted with the characteristics of sanctuaries of both traditions; the Hagia Sophia, architecturally speaking, is both a church and a mosque. The building contains all of the religious symbolism of both a Christian church and a Muslim mosque. A panel with Byzantine mosaic decorations, for example, is seen on the semi-dome of the apse, dating to the 9th century; it depicts the Virgin and the Christ-child. On the apse walls there are two figures of angles, both dating, as well, from the Byzantine era. One of them has been nearly washed away by the hands of time, however, and the other is also only partially extant. Sadly the colossal efforts that were made over the centuries with respect to maintenance and restoration have proven to be insufficient. In the other apse, Islamic symbolism is most notable, with a highly decorative *mihrab* indicating the direction of the *quiblah*, pointing towards the Holy Kaba'ah in the city of Makkah. At the right end of the apse's semi-circle stands the *minber*, a finely crafted wood pulpit used by the Imam to deliver the Friday oration or *Khotbah*. The most notable calligraphy decorations are found on two huge medallions, 7.5 meters in diameter, hanging on the walls at the gallery level. The name of God, Allah,

the Prophet, Mohammed, and the names of the four caliphs and the two grandsons of the Prophet, are written in Arabic calligraphy on the medallions.

The Blue Mosque, also known as the Sultan Ahmet Mosque, is another of the principal mosques of Turkey. Designed and built by the architect Mehmet Aga, a student of the master architect Sinan, it is widely considered to represent the greatest architectural feat of the early Ottoman Empire. The mosque is popularly referred to as the Blue mosque on account of its predominantly blue and green tile work, as well as the painted decorations of its interior. Built in the classic Turkish architectural style, the mosque is modeled after two of its great predecessors, with respect to the major religious buildings of Istanbul: the Hagia Sophia and the Suleimaniye Mosque, the latter being designed by Sinan. On a conceptual level, the basic architectural design of all three structures is almost the same: a vast square space surmounted by domes. The center dome—23 meters in diameter and 43 meters high—and the four half-domes on the side, rise above four cylindrical columns—6 meters in diameter—constructed of huge pieces of marble cut into cylindrical shapes and stacked on top of each other, each piece precision cut to fit perfectly into the other. The center dome of the Blue Mosque is flanked on four sides by major half-domes, which are in turn surrounded by further arrangements of turrets, domes, and half-domes. The total floor space of the prayer hall under the domed structure is a perfect square, measuring 52.50 * 52.50 meters. Light streams in through 260 stained glass windows, circumventing the domes and walls and illuminating the main prayer hall *(the masjid)*. The stained glass windows and the interior decorations, done in colorful *Iznik* tile, serve as a most fitting complement to the exterior finish.

The center hall of the Blue mosque represents an unusually successful achievement of architectural unity. The *mihrab* and the *minber*, with their delicate and extremely intricate Qur'anic calligraphy and mosaic work in marble, further enhance the exquisite architectural experience of the worshiper or the visitor. The extensive interior calligraphy and mosaic decorations send out a most impressive call to worshipers, drawing them from afar, over many centuries, to this house of prayer.

The arrangement of the dome structure—from higher to lower domes—gives the edifice a magnificent pyramidal appearance from an exterior perspective. Six tall slender minarets with three cylindrical balconies—four, one at each corner of the *masjid* and two outside the inner courtyard—augment the beauty of the Blue mosque even further. The surrounding area in which it is located also contributes to its visual charm, located next to the Hippodrome and a spacious outdoor mall.

The Principle Characteristics of Mosque Design

Robert Hillenbrand notes the wider range and greater variety of design and floor plans that have tended to characterize Muslim, as compared to Christian religious architecture:

> Islam was able to draw on a much more varied range of models for religious buildings than was Christianity, which says much for the simplicity of Islamic communal worship and its refusal to be tied down to a narrow range of architectural expression. Its austerely simple liturgy meant that Islam could appropriate almost any kind of building for worship.[30]

In the early days, Islamic architecture was very simple, the needs of worshippers were met by the limited range of both building materials and architectural experience that were available, which dictated a certain simplicity of architectural characteristics. With the spread of Islam throughout the Arabian Peninsula and into central Asia, Asia minor, Africa and Spain, Islam—like other religions that met with widespread acceptance far from their point of origin—borrowed features from existing architectural traditions that had been previously associated with local religions and regional cultures. Only later would it go on to establish its own specific architectural identity. This practice of borrowing those styles that were in vogue in any given location into which Islam was transplanted, would slowly diminish and largely disappear with the passage of time. Over the centuries, the spreading entrenchment of Islam would result in the establishment of a unique style, which, while continuing to depend on indigenous economic and cultural factors, and the availability of building materials and local craftsmanship, would become increasingly universal or uniform in appearance. Nevertheless, many of the contributions

made to Islamic architecture by local traditions have been retained or synthesized by Islamic tradition, so that it continues to manifest distinctive regional styles of architecture in many geographical locations.

Chronologically speaking, there are several highly significant phases of mosque design that can be clearly identified as belonging to a distinctly recognizable stage, and these stages are common to Islamic architecture in all regions where it is found. The early form of the mosque, as it originated on the Arabian Peninsula, was of a *hypostyle* type, *(figure 19)*, with a flat roof covering the prayer hall, which was supported by slim marble or stone columns, and surrounded by an open courtyard with colonnaded walls. This style was developed throughout the Umayyad dynasties up to the middle of the Abbasid period, from the seventh through the ninth centuries. The *hypostyle* design also gained prominence in North and West Africa as well as Spain. Some of these developmental stages overlap with each other, blending but not conflicting with regional motifs. Each region of the Islamic world developed a stylistic architectural image of its own, as a result of unique cultural and climatic factors as well as human resources. In later centuries, what has come to be known as the monumental style, and is often referred to as a pyramidal form, developed and expanded into the five following distinct geographical areas, each region being identified with certain stylistic peculiarities.

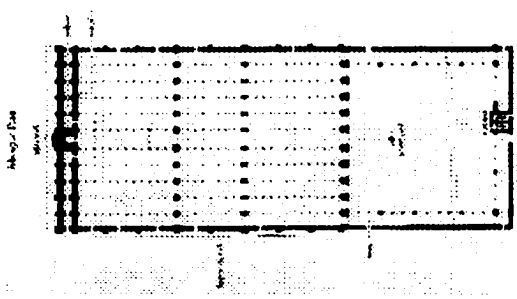

Figure 19- Hypostyle Mosque plan, showing the prayers hall, the courtyard and the mihrab in the middle of the qiblah wall.

- The bi/axial four *iwan* found mostly in Iran and Central Asia.
- The massive central dome structures that resulted from Ottoman architectural styles, especially in Anatolia.
- The triple domes and extensive courtyards of the Mughal style, found on the Indian Subcontinent.
- The central pyramidal pitched roof construction found in Southeast Asia.
- The detached pavilions located within walled garden enclosures in China.[31]

Each of these above styles has already been described in Chapter One, in our discussion of the traditional characteristics of Islamic architecture.

Most of the major mosques built before the arrival of the architectural movements associated with modernity in the twentieth century, what is referred to as contemporary design, fall into the above six categories. These six categories contain all the major components of mosque design, and continue to embody all of the various identities and functions of the principal schools of mosque architecture.

Hillenbrand attempts to pinpoint what he sees as the central abiding characteristics of mosque design that have remained consistent throughout the Islamic world and for over nearly a millennium. He focuses on four trends: "an innate flexibility; an indifference to exterior facades; a corresponding emphasis on the interior; and a natural bent for applied ornamentation."[32] As he sees it, mosque architecture has such flexibility that its features are not always possible to recognize at first glance.

A Comparative Overview of Church Design

The first Muslims, like the first Christians, gathered in people's homes, in Makkah. In the beginning, of course, their numbers were very small. The first Muslims were concerned about not being molested by unbelievers, and they did not have a proper place of their own to worship outside of their private homes. Within a very short time, however, Islam became the religion of the majority in the area where it originated. This also tended to rapidly become the case in each area into which it spread. This had not been the case with Christianity, however, which remained a highly marginalized, even underground religion for the first nearly 300 years of its existence, with many of its believers being persecuted and even put to death by Roman authorities.

As a result of the conversion to Christianity of Roman Emperor Constantine the Great, however, who accepted the new religion as his own faith in A.D. 312, the first official Christian house of worship was built in A.D. 313. The architect who designed the first church was inspired by the Roman basilica, which had a rectangular or longitudinal shape. This first church contained most of the important elements or features of worship that would come to be seen as necessary aspects of the architectural tradition:

- Nave: a central hall with seating arrangements for worshipers flanked by aisles, extending from the entrance of the central hall to its front.
  Apse: a semicircular area at the front of the nave where the clergy sits, in front of the congregation, generally separated by a screen or railing.
- Alter: the main table of the Lord, the central locus of the sanctuary and, in fact, the focus of the entire church. It stands by itself; ministers are able to move it about freely, especially in front, facing the congregation.

- Transept: a transverse aisle across the front of the church separating the nave from the apse.
- Sanctuary: the general part of the church where the altar is located and where the priest or minister lead the people in prayer, proclaim the Word of God or the counsel of the church, as the case may be, and, especially in Catholic and Anglican organizations, performs the Eucharist. It is almost always set off from the body of the church by some structural feature, most often an elevation above the level of the main floor and/or by ornamentation. The sanctuary is located in the center and at the front of the church.[34]

Traditional, especially Catholic, church design has tended to follow a cruciform plan, with a central nave, aisles down the sides, and an apse at the end; this plan evokes great reverence in many who see themselves as symbolically occupying the space of crucifixion. The longitudinal layout places the worshipers who are entering the church in the direct line of sight of the sanctuary in the apse, heightening the initial entry experience. A less common yet notable alternative has been a more centrally focused church, on a circular or polygonal plan, with one large central space, usually with a central dome. These two basic designs have been combined as well, and in many different ways; a structure can even be transformed into a cruciform pattern by the addition of projecting wings. Some churches have separate rooms for baptism, treasures and relics, private quarters for Priests or ministers, and offices for administration.

Hillenbrand sees no parallel in Islam to the emphasis on the cruciform floor plan in Christianity, or the energy that is associated with the symbol. Islamic floor plans were clearly developed in direct response to the needs involved in the desire to worship. Mosque floor plans, therefore, represent the forms in which Muslims found it most comfortable to gather—for physical rather than symbolic reasons. According to

Hillenbrand: "The standard cruciform shape of Christian churches draws naturally on the whole nexus of Christian beliefs associated with the cross." By contrast, the symbolic features found in mosque architecture were only supplementary to the nuclear design of a courtyard and covered sanctuary.[36]

Unlike mosques, churches have traditionally been decorated with symbols of profound religious power; often, they are personifications of holy figures, especially but not limited to Jesus and Mary. This comes principally in the form of sculptures and paintings, highlighted by candles and other figural decorations. Mosques do not have anything that closely resembles this use of symbols, the only decoration found in mosques is calligraphy taken from Qur'an scripts. As alluded to before, Muslims can be seen as maintaining—at a higher (or more literal) level—what has often been acknowledged by some groups to be a traditional requirement of the Judeo/ Christian tradition, freedom from idolatry.

For our purposes, that much of the diversity found in Catholic architecture, over the last several centuries, has come from its transplantation into the former colonial world, where it encountered—and attempted to convert with vary levels of success—native populations whose cultures and forms of religious expression were markedly different from those cultures from which the Catholic missionaries had sprung. The Catholic Church, as with Muslim movements generally speaking, opted for or at least tolerated a synthesis of transplanted religion and indigenous motifs in some of these conquered and colonized territories. The Guatemalan Church, for example, is noted for having a longstanding openness to forms of indigenous religious expression that predated

the arrival of Catholicism. These indigenous motifs are expressed with respect to both ritual and ornamentation.

Two factors of singular prominence that helped to create major stylistic differences between church and mosque. The first was the prohibition, in the Muslim faith, of any representation of humans or animals; the second was the absence in Islam of any need for a longitudinal axis; the mosque is fundamentally and simply a space in which Muslims pray in rows facing the *qiblah*. Mosques are not designed for liturgical processions; they have no altar, sanctuary, or clergy. The mosque is a unified space that makes no hierarchical distinctions between Muslims, and no place in a mosque is reserved for exclusive use of religious functionaries.

The church and the mosque are the principal architectural expressions of Christianity and Islam. Communal prayer, while most central to the religious experience of Islam, is also of paramount importance to Christianity, and most forms of Judaism as well. The structures of all three religious traditions gather people together in a celebration of community or neighborhood cohesiveness, uniting them with a sense of common purpose, functioning together as one unit in the worship of one God. The bond that Islam feels with its sister religions in the West is grounded in the words of Allah:

> In the name of Allah, Most Gracious, Most Merciful.
>
> *Those who have been expelled from their homes unjustly only because they said: "Our Lord is Allah." For had it not been that Allah Checks one set of people By means of another, monasteries, churches, synagogues, and mosques, wherein the Name of Allah is mentioned much would surely been pulled down. Verily, Allah will help those who help His (Cause). Truly, Allah is All-Strong, All-Mighty.*
>
> *Qur'an, Surah al Hajj (22): 40*

In a fundamentally powerful way, Islam is grounded in Christianity and Judaism, it sprang forth with the inspiration of these two traditions; but, it sprang forth with a Deity which transcended or replaced Yahweh. Nevertheless, the houses that serve for the worship of Allah are akin to synagogues and churches, as is clearly seen in the words of Allah above. As Allah "checks one people by means of another," the stories of these sister religions have been interwoven, which, as I have struggled to demonstrate, is reflected, of course, in the religious architecture of the West. The Hagia Sophia is probably the most salient example of this architectural fabric or interconnectedness that has existed throughout the history of the three Western religious traditions.

The criteria by which the role of the mosque is judged are both similar to and distinct from that of churches or synagogues. While there are similarities in the religious function of architecture across the three traditions—as has been discussed with respect to the issue of sacred space—the distinction between Islam on the one hand, and Judaism and Christianity on the other, is especially profound as a result of the vast heterogeneity to be found in the latter as opposed to the relative homogeneity of the former. Nevertheless, as has been emphasized above, great variety does exists within Islam as well, since, like its predecessors, Islam has spread throughout much of the world. The structures that have been built for the worship of Allah, therefore, as with Yahweh, are a reflection of local, indigenous culture. The religious art of Islam, like that of Christianity, has become interwoven or integrated into unique and distinctive social and cultural environments, in virtually all parts of the world. The relative homogeneity of Islam, however, allows us to speak of 'traditional' Islamic architecture in a way which would be an extremely vague, if not meaningless notion, if it were to be applied to Christian, or

even Jewish, religious architecture. In short, on a general level, one could argue that tradition carries greater weight in Islam than it has with its sister religions—which have proven themselves to be much more receptive to change—and the strength of this fidelity to tradition is reflected in Islamic architecture.

Endnotes

[1] C. Humphrey & P. Vitebsky: Sacred Architecture (Boston, New York, Toronto, London: Little, Brown and Company, 1997) p. 8

[2] J. Holm & J. Bowker: Sacred Place. (Pinter publishers, London, New York, 1994) Intoduction by Douglas Davies, P.5

[3] Ibid, P.4

[4] D. Carmichael, J. Hubert and B. Reeves: "Introduction," in Sacred Sites—Sacred Places, ed. David Carmichael, Jane Hubert, Brian Reeves. (London and New York: Routledge publisher, 1994) p. 4

[5] Robert Hillenbrand: Islamic Architecture (New York: Columbia University Press, 1994) p. 63

[6] Al-Tabari relates that, "the Syrian troops looked down on them [the rebels] and they began throwing stones at them from the top of the mosque." Finally, in yet another uprising during this period, the successful one led by Yazid b. al-Walid, it was the Great Mosque of Damascus which was chosen as a meeting place by the conspirators, perhaps not least because they knew that many weapons were stored there. Robert Hillenbrand, Islamic Architecture (New York: Columbia University Press, 1994) p. 62

[7] D. Carmichael, J. Hubert and B. Reeves: "Introduction," in Sacred Sites—Sacred Places, ed. David L. Carmichael, Jane Hubert, Brian Reeves. (London and New York: Columbia University Press, 1994) p. 3

[8] Douglas Davies, "Introduction," in Sacred Place, p. 6

[9] Douglas Davies, "Introduction," in Sacred Place, p. 2

[10] M. Eliade: Symbolism, the Sacred, and the Arts (The crossroad Publishing Company, New York, 1985) p. 109

[11] M. Eliade: A History of Religious Ideas, vol. 3 (Chicago & London: University of Chicago Press, 1985) p. 70

[12] Ibid, p. 63

[13] Ibid, p. 63

[14] From the purely Islamic stucco ornamentation of the monastery of Las Huelgas near Burgos (which at no time during its whole existence has ever been in Islamic hands), from the Chapel of St Ferdinand in the Grand Mosque in Cordova -both dating from the 13th century - via the Alcazar of Pedro the Cruel in Seville, dating from the 14th century, and the Aragonese church towers of the 15th century, right up to the railway stations of southern Spain, built in the late 19th and early 20th centuries: Spanish architecture is characterized through and through by interlocking multi-lobed arches, decorative masonry-work, and colourful glazed bricks. Marianne Barrucand & Achim Bednorz, Moorish Architecture In Andalusia (Benedikt Taschen Verlag GhbH, Koln, 1992) p. 15

[15] Ibid, p. 11

[16] Ibid, p. 17

[17] Ibid, p.17

[18] Ibid. p.15

[19] Ibid. p.15

[20] B. Fletcher: A History of Architecture 18th Edition (University of London: The Athlone Press, 1975) p.261

[21] Titus Burckhardt: Art of Islam, Language and Meaning (World of Islam Festival Publishing Company Ltd., London,1976) p. 83

[22] L. Raymond, M. Lee & Susan E. Ackerman, Sacred Tensions, Modernity and Religious Transformation in Malaysia (University of South Carolina Press, 1997) p. 4

[23] Ibid. p.4

[24] Microsoft ® Encarta ® 97 Encyclopedia. © 1993-1996, Microsoft Corporation.

[25] T. Burckhardt: Art of Islam, Language and Meaning (World of Islam Festival Publishing Company Ltd., London,1976) p. 5

[26] F. Conti: The Grand Tour: Architecture as Environment (Boston: HBJ Press, 1978) p.54

[27] M. Frishman and H. Uddin Khan: The Mosque History: "Architectural Development & Regional Diversity" (London: Thames and Hudson Ltd., 1994) p. 32

[28] R. Hillenbrand: Islamic Architecture "Form, Function and Meaning" (New York: Columbia University Press, 1994) p. 36

[29] U. Ayyildiz: Istanbul (Net Turistik yayinlar A..S. 1995) p.34

[30] R. Hillenbrand: Islamic Architecture: "Form, Function and Meaning" (New York: Columbia University Press, 1994) p. 35

[31] M. Frishman and H. Uddin Khan, The Mosque History: "Architectural Development & Regional Diversity" (Thames and Hudson Ltd, London 1994) p.13

[32] R. Hillenbrand: Islamic Architecture: "Form, Function and Meaning (New York: Columbia University Press, 1994) p.125

[33] J. Caravan: American Country Churches (Philadelphia, London: Courage Books, An imprint of Running Press, 1996) p.12.

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[36] Ibid. p. 16

Chapter IV

The Fundamental Components of Arab-Islamic Architectural Styles in Morocco, Spain, and Turkey

Muslim architecture of the West cannot be understood without reference to Umayyad architecture, the Dome of the Rock and the Al-Aqsa mosque (A.D.688 and 692, respectively), in Jerusalem, and the Grand mosque of Damascus A.D.706-715, in other words, the most famous Islamic architectural monuments. These structures came to embody an ideal and to go on to inspire other paragons of Muslim architectural achievement, in both the East and the West. Our discussion in this chapter, therefore, of the Mosque styles of Morocco, Spain, and Turkey, is best understood against this larger historical backdrop.

The Great Mosque of Damascus, also referred to as the Umayyad mosque, *(figure 20, 21)* is especially noted for its transverse naves, separate lines of two-level arches that run parallel to the *qiblah* wall and are crossed in the middle by a center nave. The Great Mosque of Damascus served as the prototype for mosques throughout North Africa, "*Al-Maghrib Al Arabi,*" and Spain. The Grand Mosque of Qairawan, in Qairawan, Tunisia, founded by Oqbah Ibn Naf'a—the Muslim preacher and leader of the Muslim army in North Africa in 670—is generally considered to be the primary ancestor of all the mosques in the Maghrib region. The city of Qairawan in Tunisia was the forth major city to be founded by Muslims during the seventh century, in addition to Basrah and Kufah in Iraq and Fustat in Egypt[1].

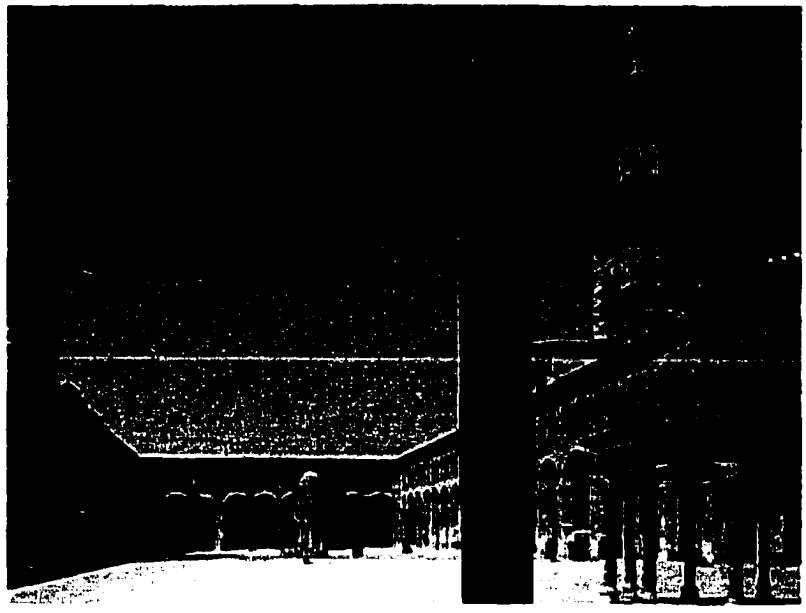


Figure 20- The arcaded courtyard of the Great Umayyyad Mosque, Damascus, Syria (706-715)

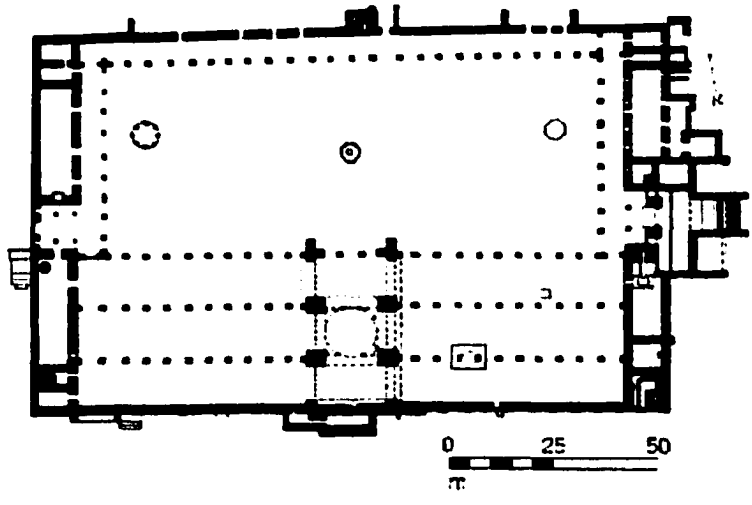


Figure 21- Plan of the Great Umayyad Mosque, Damascus, Syria (706-715)

The layout of the Damascus mosque set an important precedent in the depth of the naves and the way in which they run perpendicular to the *qiblah* wall. The transverse gable became a central leitmotif, and this same essential layout was perpetuated in almost all of the mosques of the Marghrib as well as in Spain. The architectural schemata of the Umayyad mosque in Damascus is especially prominent at the Qarawiyin mosque in Fez, Morocco and the Grand Mosque of Cordoba, the dean of all mosques in Spain.

The Maghribi style in north Africa, the Andalucian in Spain, and Ottoman art and architecture represent some of the most brilliant chapters in the architectural history of Islam; a celebration of centuries of superimposed cultures and the diversity that resulted in Northern Africa, the Iberian Peninsula, and Anatolia. In addition to religious monuments, the work of Muslim builders, craftsmen, and artists of all kinds created works and styles that have been reflected in many areas of traditional, secular, Moroccan, Islamic Spanish and Turkish architecture. Islamic medieval arts and architecture, even today, stand among the most significant components of Islamic culture.[2] The religious monuments of the Muslim West are central to the history of Islamic art and architecture.

Arab-Islamic architectural styles in North Africa and Spain are known as the "Moorish cultural style," a development of Arab-Muslim culture with Syrian influences that blended with Spanish architectural characteristics, forming a distinctive architectural style. The term "Moorish culture" with respect to Spain, however, is most controversial. Titus Burckhardt, for example, suggests that, "it would be more accurate to refer to 'Arabic' culture in Spain, since its language was predominantly Arabic, or even 'Islamic' culture, since it actually belonged to the Islamic world.[3]

With respect to Ottoman Turkey, Erzen and Balamir suggest that Islamic architecture, "has imposed on it a kind of formal determinism. They suggest that Ottoman architecture is symbolically representative of Islam as a whole. They note how, "especially in Ottoman architecture, the symbolic significance of the dome, accentuated with at least one minaret, has been of utmost importance."[4] The dome, therefore, the excellence of which is especially typified in Ottoman architecture, stands as the quintessential definition or constitutive element of mosque architecture.

The dome of the contemporary mosque need not loose touch with its historic predecessors, as generally typified by Ottoman Monumental architecture. Erzen and Balamir cite the example of a modern mosque designed for the use of the Islamic community in Copenhagen as a noteworthy example in this regard:

> In this design, architect Ragip Buluc has conceived the mosque as a transparent geodesic dome, placed upon a large rectangular marble platform onto which the Plan of Sinan's Selimiye Mosque is drawn in black marble. A space frame crosses the platform in diagonal along the usiltrab axis, to joint the geodesic dome which is positioned exactly on the dome of the plan. The ablution fountain too, is placed on its original place in the plan. The minaret, which is a simple prism, finds its symbolic expression in the minaretlike shadow drawn on the platform in marble. In this example, Turkish mosque architecture achieves a modern language, maintaining a delicate balance between representation and abstraction; while historical reference to Sinan is kept at a scenographic level, the symbolism of the dome is resumed in the palpable presence of new technology."[5]

In Turkey as well outside of the Muslim world per se, however, it is important to note that Modernity has already had an extremely important impact on the course of developments in Islamic monumental architecture. Despite the domination of a secular state, these developments have remained highly loyal to the central motifs of Islamic architectural expression and unity.

Erzen and Balamir describe an intriguing dialectical process of interaction between traditional and modernist impulses in Turkey. They note how contemporary Turkish architects are, for the most part, products of an education based on Modernist attitudes, commensurate with international tendencies in architectural developments; therefore, these architects have generally aspired towards an architecture reflecting progress and rationality. Over the last decade, however, "the search has shifted once more towards the past, locating cultural identity in an architecture that descends from the classical Ottoman or the vernacular." The fact that traditional forms of mosque architecture would recently become vindicated in a nation with a secular government is highly intriguing. This tension between 'modern' and 'historical' traditions is intimately related to opposing political trends in Turkey, with the debate generally involving controversial ideological positions. In an attempt to appease or co-opt what it sees as an Islamic threat to political stability and the domination of the secular elite, the state has commissioned the construction of various mosques as a result of popular pressure.[6]

Outside of the central monuments of Ottoman architecture that I discuss later on in this section, it is of critical importance to note how what is generally referred to as 'popular' mosques represent a necessary alternative, on a more humble scale, of mosques designed to serve those worshipers who live in less populated areas. This is true in Turkey as well as in other regions. I am in general agreement with the discussion of popular mosque architecture offered by Erzen & Balamir. They argue that the contemporary language that is expected to emerge in Turkish mosque architecture, innovations (as well as competence) in building technology will help to reinterpret traditional images with modern means. There is a moral and spiritual convergence here

between three factors of ultimate importance. The first factor is especially clear in the case of Turkey: the importance of the development of autonomous dignity in religious worship, in this case for the lower economic classes, preserving honor and respect for their humble origins and rural traditions, fidelity to regional impulses and motifs, and the unique flavor of indigenous worshipers in their own territory. This principle is central to Islamic respect for diversity. Second, the principle of unity dictates that all Muslims worship the same God, in the same way, thereby maintaining the unity that is a principal pillar of strength of Islam. Third, modernity and all its ramifications are here to stay, it can and must accommodate to traditional ways of life and worship. It is important, therefore, that the technological advances that accompany modernity be harnessed in such a way as to honor these two previous principles that serve to inform and reinforce Islamic identity. [7]

Maghribi Architecture

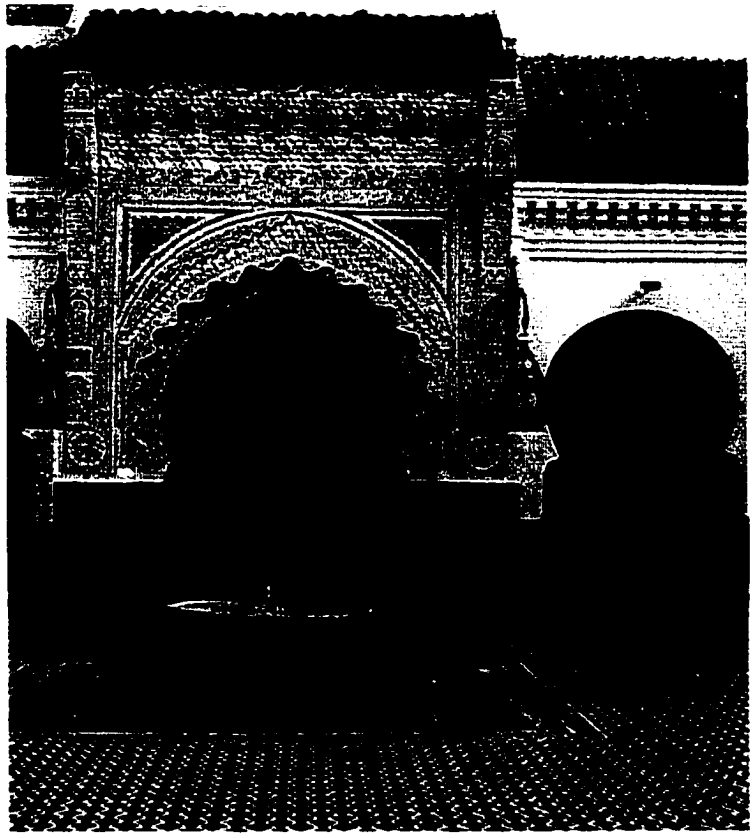


Figure 22-The Qarawiyyin Mosque, Fez, Morocco, 859

Maghribi Architecture

Maghrib, in Arabic, means West. Therefore, the countries of *Al Maghrib Al Arabi* are Libya, Tunisia, Algeria and Morocco. These countries are grouped together in this way due to their historical connections, and, for our purposes, parallel architectural developments. The earlier monuments, dating from the 7th century, incorporated architectural and decorative elements from both the Abbasid East and Umayyad Spain. After the 11th century, however, as a result of devastating invasions of the Hilal Arab tribes, these two traditions became so polarized that continuing fusion was no longer possible. Thereafter, the Maghrib, especially Morocco, remained more or less within the cultural orbit dominated by Muslim Spain.[8]

Although the Maghribi is prevalent in all of the Maghrib countries, Morocco is especially significant in this regard. It stands out in a singular way to the extent to which it has been able to maintain its cultural and Islamic heritage despite centuries of European colonization. The strength of Moroccan Islam is reflected in the magnificence of her architectural styles. Over the many centuries of European imperialism—as most of the world was divided up among the powerful empires of Europe and Asia, when the *Al Maghrib Al Arabi* was being cut up into various principalities and ruined by successive invasions—Morocco closed in upon itself in healthy isolation, maintaining, to a large extent, its cultural heritage and traditions.

The Maghribi style *(figure 22)* of architecture was very much influenced by Syria, especially the Great Mosque of Damascus. The transverse gable of the Damascus mosque became a 'testimotif' for the Maghribi mosque. An oblong courtyard was adopted as almost as an obligatory feature. Hillenbrand defines what he calls, "the Arab

Plan" for mosques in the following way: "The irreducible minimum which the word connotes is a walled rectilinear enclosure comprising an open courtyard and a covered area near the *qiblah* (the direction of prayer to the Holy Kab'ah). The sanctuary comprises either multiple columns supporting a flat roof or arcades supporting a pitched roof."[9] Taking Hillenbrand's three elements of the 'Arab Plan' mosque—enclosing walls, open courtyards, and sanctuary—and considering them in the context of Magribi, Andalucian and Anatolian architecture, is especially handy for illustrating the breath of variety which developed within the context of "Islamic architecture," generally speaking.

The simple or logical components of the Arab Plan served to limit the degree of variation found in the specifications of major monumental works. Still, a great deal of variety was sustained and incorporated into, became part of, the main stream of Islamic developments. By the 11th century, most large Muslim cities had their own impressive mosque. Within time, throughout the Maghrib region, the need for large mosques became reduced. For centuries, the Arab Plan ruled supreme and virtually no mosque was built which was not of the Arab type.[10]

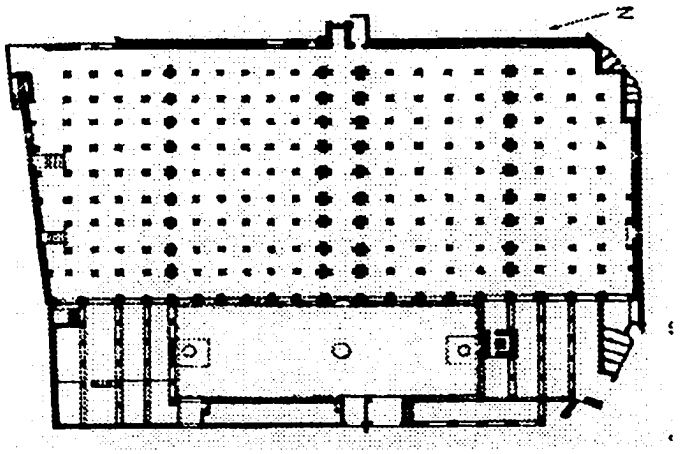


Figure 23- Plan of the Qarawiyyn Mosque (859), Fez, Morocco, shows the transverse aisles running parallel to the qibla wall.

A shift in emphasis occurred within the tradition of Maghribi mosques, however, from the outer elevation to the inner one, resulting in the vaulting of domes. Later, mosques would have five pillars placed three bays apart along the transverse *qiblah* aisle *(figure23)*. In this way, a T-shape was created which is as distinctly Maghribi as are horseshoe arches and square minarets. Pierced, ribbed, or fluted domes are also essential elements of Maghribi architecture. This interest even developed into the creation of many domes with arches that were not even of structural importance, in both religious and secular Maghribi architecture. Hence, the long files of columns that are emblematic of the Maghribi style. These arches come in many forms ranging from simple to elaborate, adding an elegant flow of movement to the general design of mosques and palaces. As noted by Hildenbrand: "Three other features distinguish Maghribi mosques from those found elsewhere in the Islamic world, though all have their origins in al-Andalus: the use of pierced, ribbed or fluted domes, especially over the *mihrab;* the manipulation of arch forms to create hierarchical distinction by means of gradual enrichment; and a readiness to alter the size, shape and location of the courtyard in response to the imperatives of a specific design[11].

Andalucian Architecture

Figure 24- The interior of the Great Mosque, Cordoba, Spain, shows the remarkable structure of double horseshoe arcades of the prayer hall, and the deeply recessed polygonal mihrab is the best known monuments of Islamic architecture.

Andalucian Architecture

Al-Andalus was the Muslim name of Islamic Spain. In 711 *Tariq Ibn Zyad* a Muslim army commander crossed the Strait of Gibraltar *(Gabal Tariq)* from Tangier, Morocco, landing with his forces on the Iberian Peninsula. In less than a decade, the Muslim armies brought most of the peninsula under their domination.

Al-Andalus had begun to flourish by the 2nd half of the 8th century. A major role is these developments was played by Abdul Rahman I, a member of the Syrian Umayyad Royal house who escaped from the Abbsside, the second Islamic dynasty in Baghdad. With help from the many Syrian Arabs who had migrated to Spain, Abdul Rahman I set up an Islamic Emirate in Cordoba. Cordoba, henceforth, became the capitol of the Umayyad princes. Eventually, a new and independent Umayyad caliphate was proclaimed, rejecting the claims of the Fatimids of Cairo and the Abasids of Baghdad.[12]

Jerrilynn Dodds and Daniel Walker emphasize the way in which the art of Al-Andalus represents the culmination of a material culture of over seven hundred years of history, with works and motifs issuing from diverse traditions. "The courtly arts are best known and preserved.... The various palatine cultures and their arts are potent reminders of the extended and changing character of Islamic hegemony in Spain.... Indeed, the way these arts were viewed and the way they functioned in each of the rules that produced

them bear witness to the cultural and ideological divergences of those rules, to the complexity of a multifaceted and protean Islamic period on the Iberian Peninsula."[13] The Spanish Umayyad period produced brilliant courts and religious monumentation that went along way to established the image of Al-Andalus as an elegant capital serving as a vehicle of communication between East and West.

Since the beginning of Islamic architectural developments on the Iberian Peninsula, there was a strong preference for intricate decorative effects and simple architectural design. In the earlier period of construction stone and stucco were favored; later, baked bricks were used as alternative to stone and polychrome and ceramic tiling were included. Simplicity of architectural form and elaborate decoration characterize the Great Mosque at Cordoba throughout each period of its enlargement *(figure24)*. While the Great Mosque is the architectural queen of Islamic Spain, of special importance as well are the delicate Alhambra (*Al-Hamra*) palaces at Granada, *(figure 25)*, the Great Mosque and Alcazar (*Al-Qasr*) in Seville and, above all, the luxuriant, even overblown decoration of the Aljaferia palace at Saragossa.

The architectural style that developed in Muslim Spain would have a far ranging impact, not only in the Muslim world but also in the Christian World that would follow the re-conquest of the peninsula. As suggested by Geoffrey King:

> The Spanish Islamic influence in its more extravagant forms was also felt in North Africa itself and it is there that Spanish architectural and decorative motifs in stucco and tile-mosaic continued to be used long after Muslim Spain had collapsed. Within Spain itself, the type of brick tower and relief in brick, developed by Muslim artists, was subsequently employed by Christians, especially at Toledo, and adapted to Christian architectural needs.[14]

For the most part, the vision of traditional art and architecture in the Maghribi style and Andalusian styles, "Moorish architecture," remained tied to the Syrian traditional architecture adopted by the Umayyads and their supporters.

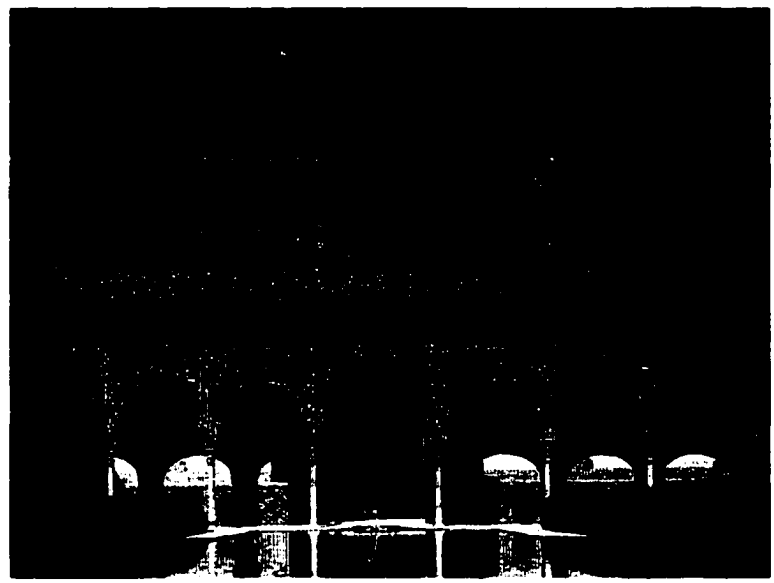


Figure 25- Patio de los Arrayanes, Alhambra, Granada, Spain, an example of the Moorish Architectural style.

The notion of what does or does not constitute what is referred to as the "Moorish style" in architecture is highly controversial, however, depending on one's perspective or what meaning one chooses to attach to the word. In can be defined only loosely. Miles Danby notes how: The English word 'Moorish,' the French 'Mauresque' and the Spanish 'Moro' are derived from the Greek word 'Mauros,' meaning 'Eastern' 'Oriental' or 'Eastern,' normally taken to include anything associated with the Far East. Danby goes so far as to assert that this could logically include "China, Japan and Indonesia as well as those countries stretching from Morocco to India." On the other hand, he goes on to emphasize that the Moorish style is generally regarded as a Western concept that in its

widest sense denotes a style derived from Islamic design elements found in countries "ranging from Spain, in the West, to Mogul India, in the East."[15]

Burckhardt focuses on the way in which the word "Moorish" is derived from the Spanish word, *moros*, that is "Moors" or "Mauretanian." He argues that "'Moorish' culture in the literal sense does not exist any more than does 'Gothic" architecture. Yet the world 'Moorish has become synonymous with 'Arab-Islamic." The Moors were simply Maghrebins, inhabitants of the *maghreb*, the western part of the Islamic world, that extends from Spain to Tunisia, and represented a homogeneous cultural entity.[16]

The principle of the importance of the dominance of the beautiful—for the Muslim, tied to the faith, praise or simply invocation of God—was especially pronounced in the Maghribi style. Islam claims aesthetic proof of God, and all Muslim ornamental art is a vast multiform song of praise which, as echo of the written word, attests through its very multiplicity to the Permanence of God as against the plurality of the world. Where Islamic civilization flourished on the frontiers with the Christian West, this religious expression found uniquely dynamic forms of artistic glorification. Everywhere, the touching motto of the Nasrids: *"La ghaliba illa Allah"* testifies to the passion of man caught in the trap of time, yet, attesting in adversity to the triumph of God. The unsurpassable zenith of this art of praise is the Alhambra. It is the final burst of gleaming magnificence, the extreme atomization of matter into lace, to the point of losing substance and weight, giving the appearance of being more of an idea than a reality.

Moorish handicraft, whose dream of beauty is endlessly created and remade by learned masters, is omnipresent in carved wood, plaster, marble and stone with interlaced geometrical designs, arabesques, drawn or produced in calligraphy. It is regenerated

delicately in true and simple gesture more eloquent than speech or image, parabola, or the appearance and memory of the past. It generates brilliant forms of spiritual intelligence, suggested by the contrasting phrases and multiple repercussions of a rhythm, infinite but audible.

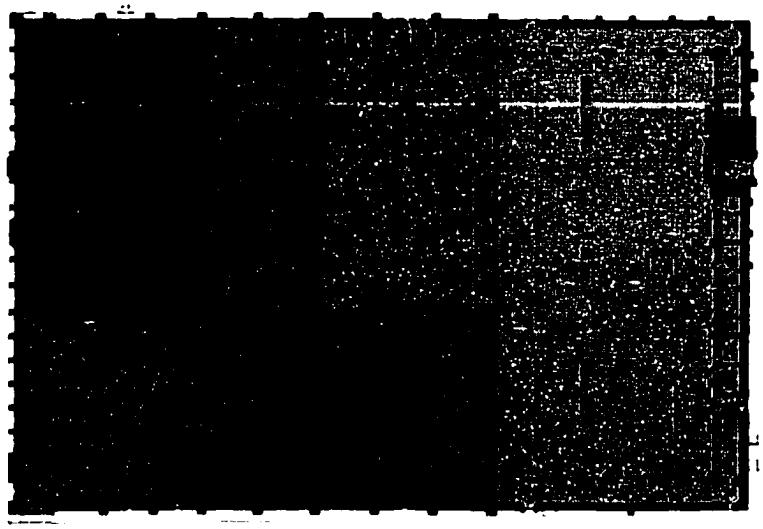


Figure 26, 27- Plan, and bird's-eye view of Cordoba Grand Mosque showing the several expansions the Mosque went through during the Umayyad Caliphate. 1523 King Charles V ordered the construction of the Cathedral in the center of the Mosque.

The Great Mosque of Cordoba, a building which sets the standard for all other sacred Islamic architecture in Spain, is a product of Moorish culture in its full flowering, at the time when the Spanish-Islamic empire was united under the rule of the Ummayyads. Over the centuries, the Great Mosque underwent numerous alterations, especially as it was transformed into a church in the 13th century *(figures 26,27)*.

There is something dark and tragic about this transformation, this clash, between the purity of form of the Great Mosque and its forced adaptation to Christian purposes and designs. As suggested by Titus Burckhardt:

> One must try to imagine it without the dark structure that was built between the Renaissance and Baroque periods, and arbitrarily placed at the center of the light forest of pillars like a giant spider. No present-day visitor to the *Mezquita* (mosque) could regard the intrusion at the heart of this glorious building as either acceptable or valid, for it symbolizes not so much the victory of Christianity, as the beginning of a new era when faith and knowledge began to diverge. It is in marked contrast to the clear and innate harmony that emanates from the form of the Islamic structure. Without this foreign element, the hall of pillars would resemble a broad grove of palm trees and provide ever-changing views into the interior of the columned hall. Formerly this "grove" was much lighter.[17]

The most outstanding feature of the Great Mosque is the double arched colonnade that rises to the height of the ceilings. Strong, round arches support branched horseshoe arches that serve as flying buttresses towards the walls, alternating red brick and white limestone wedges. Columns, bases, shafts and capitals were brought from different places and locations with various sizes, materials—especially marble, granite, and alabaster—and colors. The columns differ in shape; they are slim, about 10 feet tall, and decorated differently, plain, straight, fluted or spiral. They were adapted to regulate the

arcade's height, cutting shafts, or adding larger or smaller capitals and bases. Each has an independent foundation.

The mosque went through several enlargements due to demographic increases following its establishment in 785. Built mostly of local fosilifeorus limestone, it was very sensitive to natural erosion. The facades are straight and severely cut by buttresses and crowned by sharply angled battlements of eastern origin, it appears to the faithful as the Fort of the Faith. A flat, pine wood, richly carved and beautifully painted ceiling over transverse beams is covered by a gable roof over each nave, which channels the rainwater to inner ducts through the walls.

The court of the Great Mosque of Cordoba is flanked by covered galleries except in the prayer hall where nineteen archways open to the interior, the broadest towards the *mihrab*. It is difficult to imagine from the outside the unusual internal distribution formed by asymmetric disposition and a variety of other elements. Inside the mosque, one perceives an atmosphere of light and temperature, through the forest of columns, capitals and bi-colored arches, but, above all, there is an overwhelming sense of religious mystery that speaks of a site of contrasting powers of religious worship, a mystic aura imposes silence.

Ottoman Architecture

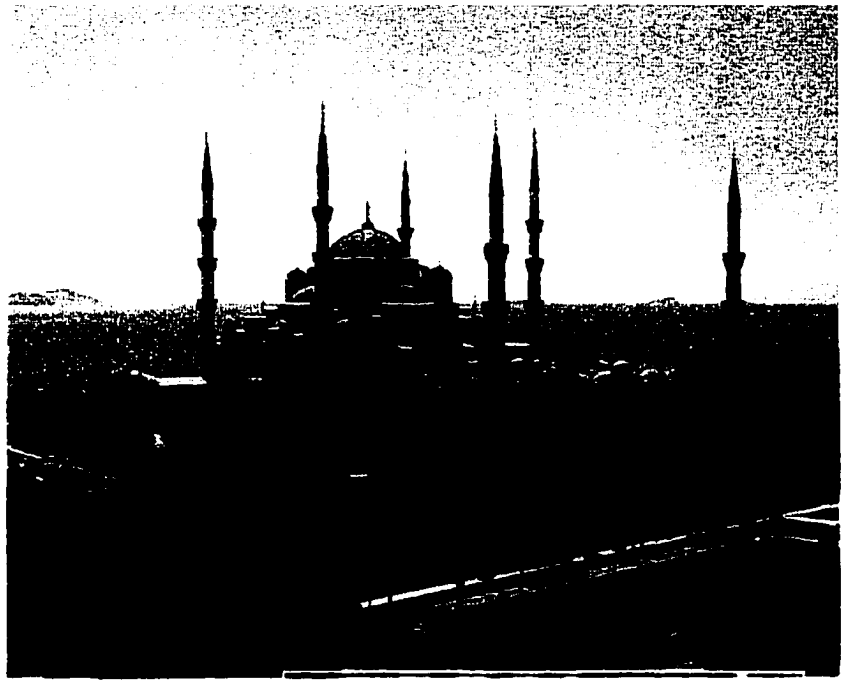


Figure 28- The Sultan Ahmet Mosque (Blue Mosque), built in the seventeenth century, designed and built by architect Sedefkar Agha,

Ottoman Architecture

Ottoman architecture represents a fusion of Eastern cultural themes and Islamic and Seljuk cultural heritage, with elements adopted from the Byzantine civilization, which was conquered by the Ottomans. Ottoman architects and engineers reformulated these disparate architectural motifs throughout the 15th and 16th centuries, within the context of their own cultural outlook, in the Turkish capitals of Bursa, Edirne, and Istanbul. Ottoman Sultans, throughout the six centuries of their Empire, built magnificently massive and firmly traditional architectural and religious monuments, in order to convey the spirit of their religious movement, their interpretation of the clarion call to worship the one and only true God, Allah. These monuments have long served and continue to serve as incarnations of this message for future generations. The Ottoman Empire had an extremely strong Islamic cultural and economic identity, which is manifest in these architectural masterpieces.

The best way to observe the finest of Ottoman architectural antiquities is by sailing into the Bosphorus strait, the Golden Horn bay, and the Sea of Marmara (on an ancient sailing ship), an approach that provides a view of the Ottoman capital largely undistorted by contemporary Western-style developments in urban design and architecture. Istanbul has maintained its Turkish-Islamic character with an outstanding success.

Greater Istanbul consists of three main parts, geographically separated by the Bosphorus strait and the Golden Horn bay: Istanbul proper, Galata, and Uskudar. The city is spread over two continents, situated in the region where Europe and Asia are

separated only by a narrow strait, the Bosphorus, connecting the Black Sea with the Sea of Marmara.

West Istanbul, the European side, is the center of the metropolis, covering the largest area; it is sprinkled with the most splendid architectural monuments: the Hagia Sophia, the Blue mosque, the Suleymaniye complex, *(figure 6)*, the Topkapi palace, Istanbul university, and many others. Magnificent features of Turkish art and architecture are prevalent throughout the city, and elegant silhouettes of domes and minarets dominate the city's skyline. Across the Golden Horn bay to the north is Galata. Uskudar, at the eastern bank of the Bosphorus, the Asian side, does not display the high density of population of the Istanbul peninsula or Galata, but it also has numerous architectural monuments of historical importance, which reflect the profound importance of Islam's influence on the Uskudar suburbs.[18]

The traditional architecture of Istanbul City is mirrored by the Ottoman architecture found in other Turkish cities on the Anatolian peninsula. Bursa, Izmit, Ankara, and Edirne exhibited the same architectural characteristics and style before the conquest of Constantinople, "Istanbul," in 1453 by Mohammed II, *Al-Fatih*, who put an end to the Byzantine Empire. The architecture of the Ottoman Empire was built on the existing architectural base or substructure, throughout this territory once held by the West. To this day, it remains controversial whether the Ottoman architecture that developed displays a greater Byzantine/Roman influence or the influence of early Islam. Clearly, it was a mixture.

The theoretical concepts behind the development of Ottoman architecture come from direct contact with the remains of the Roman-Byzantine civilizations. The

Ottomans excelled in architecture by blending the motifs of Islamic civilization with those of the Romans and Byzantines to reach traditional Islamic models with a truly unique style. By shifting the emphasis of spatial organization from the horizontal to the vertical plane and visual articulation from the interior to the exterior, they created new architectural forms, without precedent anywhere in the world.[19]

I do not agree with those who say that if you see one Ottoman mosque, you have seen them all. In fact, Ottoman architecture has its own distinguished character, which is not repetitive: buildings might look very similar indeed to an ordinary viewer, but, in reality, they are not identical at all; each construction came with its own ideas and novel architectural concepts. Ottoman architecture is a most significant historic style in its own right. The historical development of Ottoman architecture still represents one of the most fascinating of architectural sagas, largely left unexplored. It is one of the purest examples of the beginnings of the creation of an architectural form that is rendered finite through space, an architecture that obtains the complete identification of space and visualizes exterior form; it appeals to its own theories concerning the utilization of space and shape.

Ottoman architecture is a unique traditional architecture that has been influenced by a mixture of Byzantine, Islamic, and Roman architectural characteristics. Godfrey Goodwin has correctly noted that:

> It is undoubtedly true that early Ottoman architecture was influenced by the Byzantine and Armenian traditions; it can also be seen as the issue of Roman engineering, which had been transmuted into the poetry of space with the building of Hagia Sophia and Hagia Irene in Constantinople. Ottoman builders, like their predecessors, were disciplined by religious symbolism—the great garden of Islamic abstract design which is so entangled with Eastern and Western forms, from the lotus to the vine. They came from many regions and not all of them were believers in Muhammed; among those who were, many were unorthodox. So, like all creative art anywhere, Ottoman architecture was derivative and

> acknowledged on frontiers: it fed on the compost of other cultures in order to develop its own individual style.[20]

Ottoman architects and builders came from many regions. Most of them were Muslims, and most of the non-Muslims converted to Islam, like architect Sinan, the greatest architect of classical Turkish architecture, and many others. They were loyal to the rulers who encouraged them to develop their talents and skills to produce new ideas and forms, from which, at the outset, were fundamentally different from those of other contemporary traditions, like that of Asia Minor, the Seljuk and the Byzantine styles.

The first mosque in the Ottoman Empire was built in Bursa, in 1326, by Orhan the son of Osman, the founder of the Ottoman Empire.[21] Bursa was the first capital of the Ottoman Empire as well as its government and business center. The Bursa mosque became the basic model that would go on to inspire Ottoman mosque architecture throughout the empire.

The cold winter climate of the Anatolian plateau led to enclosed mosque architecture; high, thick walls built of alternating courses of stone between three layers of brick, tall, massive stone piers supporting arches crowned with a high center dome and half-domes. The Orhan mosque was the first of the Bursa-type T-plan mosques. The T-plan represented the influence of Seljuk mosque architecture.[22] From these beginnings, a centralized form of mosque architecture developed and quickly became orthodox, rejecting the principles of a pillared hall and lateral naves. Domes sought through their sheer size to rival the open spaces of the praying halls of mosques in warmer climates.

Bursa was the capital of the Ottoman Dynastic Empire from 1326 to 1368. During this period, it witnessed the construction of a great number of mosques, medreses,

tombs, palaces and baths.[23] Construction of these types of buildings spread throughout Asia Minor and as well as all other regions occupied by the Ottomans. Sultan Murad II built several mosques in Edirne after transferring the Ottoman capital there, from Bursa, in 1368.

One of the first major mosque projects in Edirne was the Uc Serefeli mosque, its dome—measuring 24 meters in diameter—rises from a belt of triangular pendentives, with an additional pair of domes on each side, following the Bursa style. The mosque's broad asymmetrical courtyard, with an ablution fountain and colonnades, represent a truly unique Ottoman approach. The Edirne Medical Complex of Beyazid II, built in 1484, consists of a mosque, a hospital, and a medical college. The mosque follows a rectangular plan with a square prayer hall and a lofty dome of 20 meters in diameter. Guest rooms are attached on each side of the hall, roofed by smaller domes, and, opposite the *qiblah* wall, a square courtyard is surrounded with domed colonnades.

The Selimiye complex in Edirne, 1569-75, represents one of the Ottoman empires finest ultimate expressions of the domed square architectural plan, where its *mihrab* apse and the strong circular movement of the internal piers are accentuated by the centralized gallery for the recitation of the *Qur'an* and recessed arcades. Its dome is about 42m high and 31m in diameter. It is one of the Ottoman mosques that is decorated with Iznik tiles, concentrated in the apse and the *miharb;* the workmanship is exceptional throughout. This mosque also contains four lofty minarets, each over 70m high, with three balconies reached by internal stairways. The broad asymmetrical courtyard with an ablution fountain and its colonnades also speak to a truly unique Ottoman approach.

Constantinople, or Istanbul, was a Byzantine city until 1453, when Mohammed II *Al Fatih* (the Conqueror) captured the city after a seven-week siege and put an end to the Byzantine Empire. After praying at the Justinian Court Church of the Hagia Sophia, Mohammed II declared that Constantinople, renamed Istanbul, would be the Ottoman Empire's new capitol. This inaugurated a new era in Islamic civilization, characterized by the transformations entailed in making the city into the administrative, economic, cultural, and religious center of the Ottoman Empire.[24]

Al Fatih's fundamental goal in the development of Istanbul—culturally, economically, and religiously—was to create a Muslim city in which the different communities of Muslims, Christians, and Jews could live in accordance with the social and political philosophy of Islam—which is based on the principle of unity and stands completely against any racial or ethnic discrimination. Urban communities are prized for their contributions to the building of national civilizations, and Constantinople was no exception in this regard. Islam has never been opposed to learning from earlier civilizations, and incorporating their achievements into the science, education, and general culture of its own civilization. Muslim neighborhoods in Istanbul grew up primarily around religious complexes, mosques, schools, and bazaars, as well as in the other communities located throughout the thirteen quarters of the Istanbul metropolis.[25]

Ottoman sultans and other rulers assigned urban planning and architectural development a very high priority. They encouraged architects and engineers to create and develop an architectural heritage that would last for centuries, as a testimony to the development of Islamic civilization. Along with the spirit of accommodation which characterized relationships between Muslim and non-Muslim communities in the

Ottoman Empire, in general, and in Istanbul in particular, the architectural development of religious and secular complexes signified a symbolic gesture of how firmly established the Ottoman legacy was to become.

Mohammed II made his largest investments in both religious and secular buildings. He converted the Hagia Sophia Church into a mosque and ordered minarets to be built at the four corners of the building. During his reign, Istanbul witnessed a construction boom in religious monuments and secular buildings: 190 mosques, 24 elementary schools, 32 Turkish baths, and 12 markets. The central part of the Grand Bazaar was already completed in the early years of *Al Fatih's* reign. Many Ottoman imperial palaces were also constructed during his reign, including the Eski Saray and the Topkapi palaces. The Tpokapi palace, which still stands today, remained the official imperial residence until the completion of the Dolmabahce palace across the Golden Horn bay in 1856. Major construction projects were also completed early on in Bursa, Edirne, and various other cities of the Ottoman's empire.[26]

Both Islamic religious and secular architecture was comprised of horizontal planes and roofs, consisting of arcades on three sides and a hall of columns on the fourth side of a courtyard. The early mosques lent themselves naturally to horizontal massing as is exemplified by the Anatolian Seljuk mosques, which had a strong Persian influence, combined with the principal characteristics of early Islamic architecture. But, in the early 15th century, this basic style was modified further with Ottoman Turkish architecture that exposed screening walls to reflect hidden, interior spatial relationships, through modulation of the roof structure. Ottoman architects found the dome to be an excellent subject for the production of luxurious spatial areas, following the concept of the great

dome of the Hagia Sophia Basilica, in order to accommodate the large number of worshippers for Friday prayer. They began to search for means to construct large open spaces with as few vertical supports as possible. They designed each structure according to its special needs and importance by increasing the diameter of the dome over the central hall. Smaller bays surrounding the big central space were integrated under half-domes on one, two, three, or four sides.

The architect Sinan was one of the most famous of sixteenth century Turkish architects; he contributed a great deal to giving Ottoman architecture its significant characteristics and identity. Aptullah Kuran describes Sinan's work in detail:

> In his first major work, the mosque of Sehzade in Istanbul, 1548, Sinan achieved an even stronger expression of centrality with absolute symmetry. Four half-domes skirted with two extra each tied the central dome to the walls, and smaller domes on the four corners completed the square-shaped superstructure. In this manner a balance, unified by four walls sustaining a quadriform roof, was realized. Externally, the hierarchical formation of the Sehzade is subtle. Unlike the Hagia Sophia, where the central dome rests on top of an angular base, for instance, Sinan reveals the spherical form of the pendentives within and takes the lateral thrust of the dome by means of cylindrical weight towers. Rising above the four internal piers, the weight towers not only help integrate the central dome with the rest of the structure, but, along with the small corner domes, define the hierarchical configuration of the centralized superstructure.[27] (p.13)

The architectural similarity between the Hagia Sophia Basilica and the classical Ottoman mosque is in the centralization of the architectural system structure, in general, and in the domed and half-domed superstructure of the great mosques. This is especially true of Mohammed II's Bayazid complex, the Sulemaniye complex, and the Blue mosque. Ottoman Sultans, architects, and engineers carefully studied the structure and appearance of the Hagia Sophia to integrate the exterior appearance of the mosque with the

magnificent Byzantine substructure, resulting in the unique skyline of the city of Istanbul as it remains to this day. Also, they learned to use the half-dome and pendentives, and reinforcing belts of alternating projecting structures, to support the walls and windows that circumvented the central domes of the Hagia Sophia structure,[28] *(figure 29).* The strongest influence of the Hagia Sophia on Ottoman architecture was in its structural design rather than its architectural features. Buildings of the Ottoman era were designed for different functions—mosques require a large prayer hall to allow for long rows of worshipers. The Hagia Sophia, of course, had been constructed as a Christian church in the fifth century, designed to serve the needs of a distinctly different religious population.

Figure 29: An interior view of the Haghia Sophia Basilica, showing the dome and half dome structure.

The Ottoman concept of centralization had developed long before the conquest of Constantinople in 1453. It can be observed, for example, in the construction of the *Ulucami* Friday mosque in Bursa (1399) and the Uc Serefler of Edirne (1447). They were both designed with a superstructure of a large dome flanked by two pairs of smaller

domes; they define and exemplify the Ottoman concept of architectural centralization and the utilization of the central dome and the half-domes to create spacious prayer halls.

The Suleymaniye complex in Istanbul is another excellent example of the best in Ottoman architecture. It synthesizes its main religious and secular elements—a mosque with an adjacent courtyard in the center, a medrese, a hospital, a medical school, a caravansary, a public kitchen, shops and fountains—this project served to explore and broaden the conceptual frameworks of Ottoman architecture. The Suleymaniye complex was built by the order of Sultan Suleyman "the Magnificent" between 1551 and 1557.

The Suleymaniye complex was one of the most important architectural accomplishments of the architect Sinan. The layout of the complex represents a strikingly original achievement in urban planning. Sitting by itself, it constitutes a self-contained and stately sector of Istanbul, built on a hilltop on the western side of the Golden Horn bay. Zeynep Celik describes it as follows:

> The impressive mass of the mosque dominates the complex visually. Here, Sinan interpreted the spatial and structural qualities of the Haghia Sophia. The great Justinianic church, acknowledged as having one of the finest interior spaces in architecture, had challenged Turkish architects since the conquest. Sinan imitated the vaulting system of the Haghia Sophia in the mosque of Suleyman. The building is covered by a central dome supported by two half-domes; however, the longitudinal basilica quality of the interior space in the Haghia Sophia is contrasted by the centrality of Suleymaniye. This was made possible by opening the central nave to the aisles. Sinan thus created a completely perceptible interior space in Suleymaniye, replacing the "immaterialization" of the Haghia Sophia by rationalization.[29]

I do not agree with Celik, however, that Sinan meant to replace the immateriality of the Suleymaniye mosque, or any of his projects for that matter, with rationality. On the contrary, I believe that he intended to integrate immateriality with rationality in his design, to preserve the relationship between the creator (God) and the creation (the

worshippers). Both the Hagia Sophia Basilica and the Suleymaniye mosque were designed and built for the same general purpose, as centers for worship and public assembly. The functional requirements determined the rational expenditure or utilization of space.

The Suleymaniye complex could be considered to be the ultimate expression of the Ottoman Empire's golden age *(figure 6)*. It accurately reflects the image of Istanbul as the capital of Ottoman civilization. The Suleymaniye complex's roof superstructure is composed of a central dome measuring 26 meters in diameter and 46.5 meters high at the crown. The dome rests on its own pedestal and sits on top of four irregular-shaped monumental pillars, bound together on the longitudinal axis by two half-domes, one on the front of the mosque over the *mihrab*, where the *Imam* stands to lead the prayers, and the other half-dome at the back entrance of the mosque. On the other two sides of the main prayer hall (70 by 61 meters), there are five domed arcades, covered with three domes, one of which is 9.9 meters in diameter and the other two 7 meters in diameter, completing the spatial system. The corner domes sit on arches and binds the pillars to the walls. The other three domes, on each side of the arcade, rest on arches rising from the columns of the western and eastern walls, laid out in a double row between the pillars.[30] The composition of the dome system as a whole creates an integrated pyramidal superstructure *(figure 30, 31)*.

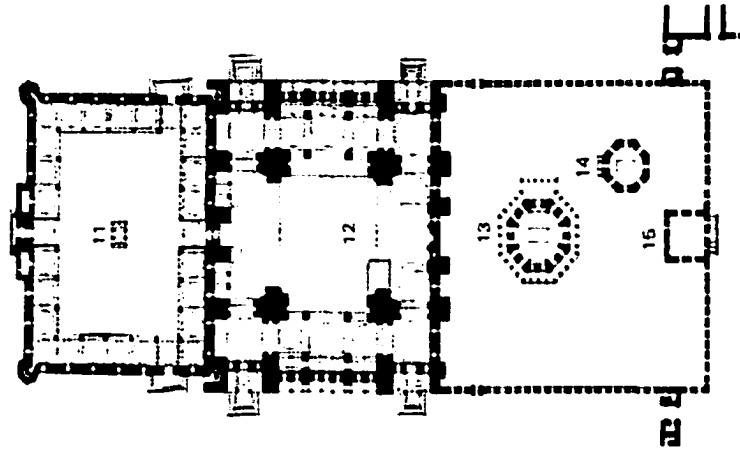


Figure 30- Suleymaniye Mosque Plan shows the central dome and the two half dome supported by four pillars (No.12). No.11 is the arcaded courtyard.

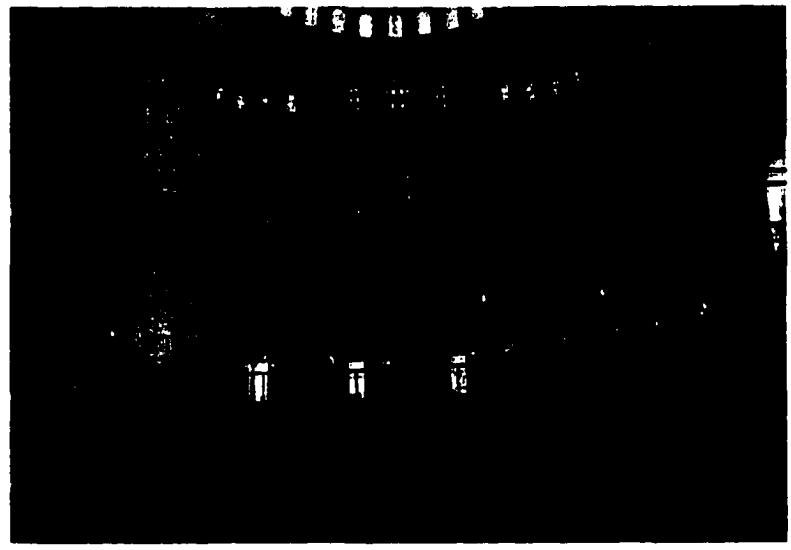


Figure 31- Suleymaniye Mosque interior shows the mihrab, the minber and two of the massif pillars supporting the domes.

The pillars and columns supporting the central dome and the roof structure are 10.2 meters tall and built of huge blocks of red granite; the ones at the back are of white marble. The walls and arches under the galleries are constructed of red and white stones. The mosque is lit during the daytime by 249 arched windows, circumventing the dome in tiers; at night, it is lit by large circular chandeliers. The interior of the mosque and domes are decorated with scripts from the Holy Qur'an.

The four-sided, domed-arcade courtyard on the north side of the Suleymaniye mosque is crowned with four slim cylindrical minarets at the four corners. A 76 meter pair overlaps the main hall with a courtyard and supports three decorated balconies. The first balcony is located half way up the cylinder and the other two are about 5 meters further up and apart from each other. The 56 meters tall minarets at the far corners of the courtyard support two additional balconies. The minarets are built of gray marble and black stones, with a circular interior staircase that ascends to the upper balcony, which was used by the *Muathen* for the call to prayers.[31]

Each Ottoman mosque, whether built in Turkey, Egypt, Syria, or any other place in the former Ottoman Empire, has its own unique layout and roof structure, as well as exterior and interior decorations. Indeed, the multiplicity of identity and character constitute a graphic reflection of one of the most striking aspects of Ottoman classical architecture—its diversity. There is no doubt that the architectural heritage of a nation is an accurate reflection of that nation's level of civilization and social values. Ottoman palaces in Bursa, Edirn, Istanbul, and other cities in Turkey, Egypt, and Syria, are evidence of an extremely rapid evolution of cultural achievement as manifest in architectural design, which was always ahead of its time in each geographical setting.

Ottoman Sultans used their palaces as the centers of their imperial administrations. They also served the function of super-sized cultural centers.

By the nineteenth century, Turkey was undergoing a process of transformation under the influence of both external factors and internal dynamics. This transformation included profound changes in the national economy; beyond the level of economic and social organization, it also led to new ideological orientations, which required architects to continually adapt to new architectural currents and to reject some prevailing ones. Concerted efforts were made to give the Ottoman capital, and other Turkish cities, a more Western-style appearance. These trends culminated in major attempts to combine Islamic and Western architectural motifs in 19th century Ottoman architecture.

Under Ottoman imperial patronage, classical mosque architecture served to glorify political and religious power. Mosques have served historically as symbols of unity in the vast Ottoman Empire. In the Republican period, however, as noted by Erzen and Balamir, "the democratic and secular commitment of the state brought about a new vision concerning the role of mosques." The significance of Turkish mosques continues to extend well beyond the merely religious, implying cultural continuity and serving as social centers. Nevertheless: "These concerns create problems which are difficult to solve for architects who are seeking a modern and individual idiom in a culture which aims towards both pragmatic and spiritual goals."[32] Turkey's economic and industrial development in the second half of the twentieth century has resulted in extremely high levels of social mobility in recent decades and this has placed a great demand on its architecture. This is especially true with respect to mosque architecture, which has experienced an immense increase in construction over the last decade.[33]

The rapid population growth experienced by Turkey in recent years has come overwhelmingly from the middle and especially the lower income classes from largely agrarian regions of the country who have migrated to urban areas. The drastic identity crisis to which this has given rise is a result of confrontation with modernity—or, especially in the case of Turkey, with Westernization. Despite the fact that the government of Turkey is officially secular, this situation has placed the urban dweller of the working classes in desperate need of synthesizing a new cultural identity—a need which is most frequently fulfilled by religion, which is, most generally speaking, Islam. The state, espousing secularity and fearing the growing power of Islamic fundamentalism, has not generally sponsored the building of mosques. Still, there have been some efforts at co-optation.[34]

The profound tension that exists between modern architectural impulses, on the one hand, and fidelity to tradition on the other, which characterize debates concerning Islamic architecture more generally speaking, has been particularly pronounced in Turkey. Subsequently, the introduction of new architectural forms has proven to be most difficult. The quest for a modern identity has largely been limited to the articulation of secondary elements, curves replaced by straight lines, for example, or simplification bordering on the austere, which, according to Erzen and Ardan, has tended to result in a "crude standarization." The efforts of some Turkish architects concerned with contemporary appropriateness sought to totally avoid traditional elements, even the dome and the minaret—efforts which were ultimately rejected by Ankara due to their novelty of form.[35] Secular Ankara seeks too maintain a most delicate balance between powerful

and volatile forces of traditional religious power and the contemporary economic demands that bind it to the West.

The image of the mosque varies depending on its location within the country. Anatolia, in particular, is a source of rich diversity. Vernacular mosques in villages are not generally characterized by arches and domes, only simple tiled roofs, distinguishable from houses by their location or, in some cases, minarets. Erzen and Balamir suggest that two basic images tend to parallel political trends, "one aspiring to the new and the other leaning upon the past." They site as examples of experimentation with new forms the mosques located in TEK, Ostim, Derinkuyu, Balaban and Bolu. They title these experiments with modernism as "adaptive modern," emphasizing their limited numbers and the way in which they conform to the aspirations of particular clients. What is strikingly clear, is the way in which new urban dwellers favor mosques patterned on historical models. Among these "popular examples," they describe a "traditional mosque image common to all, though with a multiplicity of dialects." This popular form of mosque architecture is emerging in great numbers, in small towns and on the fringes of large cities, and it is characterized by its versatility. The emphasis on the importance of regionalism results in the fact that a local architect is usually chosen instead of a well know one:

> The small local mosque, generally built in the conventional reinforced concrete technique, consists of a basic prismatic body covered by one or more domes, depending on the size of the mosque. On the other hand, the community centre mosque, which is larger, is usually raised upon a platform which houses shops and lodgings for the personnel. In such cases, the juxtaposition of the arched and domed forms of the mosque with the commonplace fenestration and the irregular disposition of the annexes may result in a visual discord. As the final applications of false minarets,

> reverments, coloured glass, shiny metal and so on gradually find their way into the mosque, an extremely colourful and striking result is created.[36]

These 'popular' mosques in Turkey are often criticized as vulgarizations of established sacred images, and are seen by some as destructive of authentic Islamic culture. One the other hand, it could be argued that they have a special (albeit somewhat peculiar) authenticity due to the way in which they represent a synthesis of traditional images and provincial aesthetic taste—a manifestation of the unity and diversity that characterize Islam on a global scale. Nevertheless, popular mosques are often criticized, and I think justly so, for their lack of refinement of design and building craft. In the words of Erzen and Balamir, "it is the mastery over design as well as over the building process that contributes to architecture a certain degree of poetic quality." They charge that the populist practice, "however versatile it may be, is yet unable to attain a poetic mediation between the mental image and the current concrete technology."[37]

When the decision was made to build what is known as the Ankara mosque, and to construct it as an integral part of the public relations building of the Parliament (the architects of this complex—Behruz and Can Cinici—were invited to design it), the idea of a mosque within the official government complex created a public controversy surrounding the secular commitment of the Turkish government. It was feared that a replica of the Ottoman mosques would destroy the integrity of the Parliament complex (originally designed by Holzmeister) in architectural terms. The only functional requirement specified by the client, however, was a prayer hall with the capacity to accommodate five hundred people. The architects began the design process in 1985, by researching the origins of Islamic places of worship and decided upon a large courtyard

defined by two linear buildings accommodating a prayer hall and a library, respectively. Construction was begun in April 1987 and, except for sonic interior decoration work, was mostly completed by July 1989. The formal opening was held in late 1990.[38]

The mosque is situated at one end of a pedestrian alley leading off the plaza of the public relations building. The site is sunk into a steeply sloping park so that the building is concealed on two sides, although it is visible from the public relations building. A canopy runs along the full facade of the building, providing a transition from the exterior to the interior. Two balconies are located at the junction of the two wings, one above the other, which, along with a tall cypress tree, was intended to act as a symbolic Minaret. The prayer hall is organized on two levels. The main prayer area is slightly separated from the entrance and the women's section by translucent screens, which rise just above eye level and flank two sides of the steps linking the two levels. The upper level is connected to outdoor corridors on both sides, one leading to the ablution fountains and the other to the Imam's office.[39]

What is most interesting about the Ankara mosque, for our purposes, is the way in which the architects sought to avoid an Ottoman looking silhouette, refraining from using the traditional dome and Minaret forms. The generic elements of the mosque (such as the mihrab and minaret) are not absent, but they were, in the words of Erzen and Balamir, "generously abstracted." [40] It is here wherein lies the most radical departure from tradition, and, as I would argue, fidelity to the very religious faith of Islam, to the extent to which it has come to be symbolized in the traditional dome and minaret forms.

Neither does the spatial organization of the prayer hall follow a traditional, centralized scheme. The linear arrangement alongside a full-length *mihrab* does,

however, enable the congregation to stand at a relatively equal distance to the transparent, and, therefore, striking and innovative *mihrab*. As noted by Erzen and Balamir: "Whereas the tectonic character of the building conveys a distinctly modern language, details and ornaments speak of classical inspiration." The Ankara Parliament Mosque was awarded an Aga Khan Award for Architecture in November 1995. The jury citation recognized and praised its unique innovative features and the "boldness and courage to experiment with a different architectural treatment for mosques in Turkey: from incorporation in site, to the transparent *qibla* wall, to the absence of domes and a formal minaret, thereby challenging the conventional and opening the door to unleashing designers' imaginations everywhere."[41] One could build a strong argument, however, in my opinion, that the doors opened to the imagination as a result of the Ankara Parliament Mosque might as well lead to chaos as to inspiration. To tamper with a holy architectural tradition in such magnitude is to tamper with the immutability of the divine. It is dangerous; because it borders on the disrespectful, and, I think some would say, on the blasphemous.

The tension between modern and traditional styles is particularly pronounced in Ankara through the contrast between the Kocatepe Mosque and the Grand National Assembly Mosque. The former was finally inaugurated in 1987. The Kocatepe Mosque, which dominates the skyline of Ankara, stands in contrast to the vision of Ataturk to make Ankara a new capital city free of the imperial connotations of Istanbul. Its style reflects a profoundly conservative taste and, according to Holod and Khan, "a popular longing for easily recognizable, familiar forms." As they see it: "Through this massive building, Ankara has been deprived of its modern republican image and has acquired an

Ottoman, Istanbul-like character." With the Grand National Assembly Mosque, however, completed in 1989, these authors claim that, "the modernist, republican image has been reasserted." They note as well, however, that the inclusion of the mosque in the parliament complex, "was an initiative that ran counter to the secularist nature of the Turkish state," and that, "it was not implemented without public protest."[42]

Many are quick to praise the Parliament Mosque. Holod and Khan, for example, go so far as to suggest that one might interpret the rectangular form of the prayer hall aligned with the qibla wall, "as an attempt to return to the basic original definition of the mosque and render it in a new visual language."[43] While it is clear that some traditional elements have been rendered in creative ways in the Parliament mosque, however, it is also clear that it stands as a symbol of the violation of sacred, established forms of Islamic architecture symbolized by the dome and the minaret, as understood and recognized around the world. Still, it is important to understand and acknowledge the ferocious pressure that Muslim sectors in Turkey have long been under—repressed by a secular elite that is constantly seeking to co-opt their approval. It is no wonder that traditional forms of fidelity in Islamic architecture were to come under public challenge.

Endnotes

[1] Othman Isma'il, Islamic Art and Architecture History in the Far West Vol. 1(Arabic) (Rabat: Arabian Al-Hilal press, 1992) p.176

[2] Jerrilynn Dodds, Al-andalus: The Art of Islamic Spain (New York: Harry N. Abrams Inc., 1992) p.xxi

[3] Titus Burckhardt, Moorish Culture In Spain. (London: McGraw Hill Book Co., 1972) p.7

[4] Jale Erzen & Ardan Balamir, "Contemporary Mosque Architecture in Turkey," in Architecture of the Contemporary Mosque, eds., Ismail Seragelin and James Steele *(London: Academy Group Ltd., 1996) p.101*

[5] *Ibid.*, p.103

[6] *Ibid.*, p.104

[7] *Ibid.*, p.106

[8] George Michell, ed., Architecture of the Islamic World: Its History and Social Meaning, (London: Thames and Hudson Ltd, 1978) p. 215

[9] R. Hillenbrand, Islamic Architecture "Form, Function and Meaning" (New York: Columbia University Press,1994) p.83-84

[10] *Ibid.* p.85

[11] *Ibid.* p.86

[12] Michell, p. 212

[13] Jerrilynn Dodds & Daniel Walker, "Introduction," in, Al-Andalus, The Art of Islamic Spain (New York: The Metropolitan Museum of Art, 1992) p. XIX

[14] Michell, p. 212

[15] M. Danby, Moorish Style (Hong Kong: Phaidon Press Ltd., 1995) p.13

[16] T. Burckhardt, p. 7

[17] *Ibid.*, p.9

[18] Z. Celik, The Remarking of Istanbul "Portrait of the Ottoman City in the Nineteenth Century," (Seattle, WA:University of Washington Press, 1986) p.1

[19] A Kuran, Sinan: The Grand Old Master of Ottoman Architecture. (Washington D.C. and Istanbul: Institute of Turkish Studies, Inc.& ADA Press Publishers, 1987) p.17

[20] Godfrey Goodwin, A History of Ottoman Architecture (London: Thames and Hudson Ltd. 1971) p.6

[21] *Ibid.*, p. 35

[22] Aoktai Aba, Turkish Art and Architecture, Translated from the Arabic by Ahmed Issa, (Istanbul, Press, 1987) p.172

[23] Ulya, Vogt-Goknil, Ed. H. Stiern, Architecture of the World, Ottoman Turkey, (Germany: Benedikt Taschen, 1993) p.11

[24] Z. Celik, p.1

[25] *Ibid.*, 23

[26] *Ibid.*, p.24

[27] A. Kuran, p. 13

[28] Z. Celik, p.19

[29] Ibid., p. 27

[30] *Ibid.*, p. 93.

[31] *Ibid.*, p. 95.

[32] Erzen & Balamir, *p.101*

[33] *Ibid., p. 101*

[34] *Ibid., p. 101*

[35] *Ibid.*, p. 102. Several small-scale mosques from the 1960s show distinct features of the Modern Movement, such as the Kinali Island Mosque designed by Turban Uyaroglu and Basar Acarli, and the Etimesgut Mosque, designed by Cengiz Bektas. One outstanding example was the Vedat Dalokay project, designed in the late 1950s for Ankara but turned down due to its novelty of form. Following 2 public controversy over the reinforced concrete shell structure and stylised minarets (which were compared to rockets), a transcript of the classical Ottoman Mosque, designed by Hdwev Tayla, was erected in Ankara; while Dalokay eventually found the chance to realise his ideas in Islamabad, Pakistan. A more recent controversy centred around the mosque built within the site of the Parliament in Ankara, where the architects Behruz and Can Cinici avoided traditional elements and Principles of spatial Organisation (such as introversion and centrality), working instead in a highly individualised style, with minute allusions to tradition.

[36] *Ibid., p. 103*

[37] *Ibid., p. 103*

[38] *Ibid., p. 105*

[39] *Ibid., p. 105*

[40] *Ibid., p. 105*

[41] *Ibid., p. 105-106.*

[42] Renata Holod & Hasan-Uddin Khan, With the assistance of Kimberly Mims, The Contemporary Mosque "Architects, Clients and Designs since the 1950's" (London, Thames and Hudson Ltd., 1997) p. 100

[43] *Ibid.*, p.105 The authors also note how: "The prayer hall is separated from the entrance and the women's prayer area by translucent screens which rise to a height just above eye-level. The entrance level is connected to two outdoor corridors, one of which leads to the ablutions facilities, and the other to the imam's room. Both corridors provide access to the sunken garden."

Chapter V

Conclusion
Reflections on the Future of the Traditional Mosque

The time of each man is limited; the future, therefore, must be the present.
Aldo Rossi[1]

This project has attempted to make a modest and humble contribution to our understanding of what is entailed in the idea of a traditional mosque. Distilling, highlighting, or synthesizing the most distinctive features of what are generally considered to be the most prominent or salient traditions in mosque architecture enables us to better understand how far we have come, where we have come from, and, by extension, at least to some extent, where we are going. In other words, to begin to understand the basis for the future of the traditional mosque, it has been necessary to trace its past, to better understand the present, that on which the future must necessarily be based. Islam was born into a world of its own. Grounded in fixed geographical space, its identity is firmly linked to its origins. Islam is its history, in a very fundamental way, perhaps even more so than is the case with its sister religious traditions in the West. In what follows, I attempt to account for or summarize the way in which that tradition is fundamental to Islamic identity—with the obvious deduction that fidelity to tradition in architecture, therefore, is imperative to the survival of Islam itself—at least Islam as we know it to be today.

This enterprise is, of course, a controversial one, as stated before. Any attempt to precisely define or delimit what is or is not 'traditional', within any given architectural tradition, will always remain open to debate. One always runs the risk of misrepresentation

or over simplification. Hillenbrand, for example, is well aware of the problems associated with attempts to develop theoretical paradigms in this regard. He suggests that: "One solution to this problem of misrepresentation, although it is admittedly a compromise, is to select a few of the most celebrated mosques, to imply in more or less arbitrary fashion that they are typical, and to base the requisite generalizations on them. This approach has at least the merit of clarity, and it could indeed be argued that it is in the finest mosques of a given period and region that local peculiarities are apt to find their fullest expression." This, indeed, is more or less what this project has attempted to do. Nevertheless, as Hillenbrand suggests, "such a broad-brush approach, for all its superficial attractions, is simply not specific enough." [2] What exactly he suggests to be the failure or weakness associated with this lack of specificity, however, he does not make clear. What is clear is that the approach employed in this work has not attempted to arrive at anything close to an exhaustive definition or description of the traditional mosque, *per se*. There are, of course, many highly adequate if not exemplary traditional mosques that have not been treated in this study. This study has attempted to meet more modest goals, outlining and examining the contribution of three currents of traditional mosque architecture—Andalusian, and Moroccan, Ottoman—to the overall picture of historical developments in traditional mosque architecture, outlining their historical importance, and emphasizing the way in which the Islamic architectural tradition is intertwined with the architectural traditions of its sister religions in the West, especially Christianity.

Hillenbrand suggests that another approach to the categorization of architectural traditions, "which might be termed typological," cuts across regional and temporal boundaries in order to isolate the significant variants of mosque design and trace their

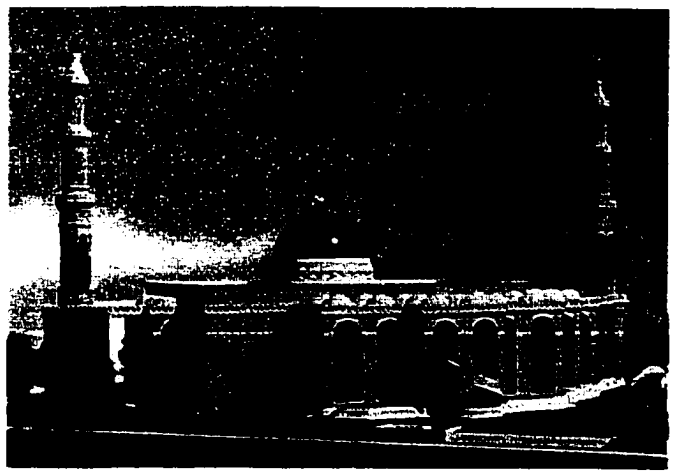
development. Yet, as he suggests, this approach tends to minimize the significance of regional schools and fashions "precisely because it ignores such boundaries." He charges that these theoretical categories and sub-species, "tend to have a somewhat academic flavor," which, as he sees it, "while technically defensible, they somehow miss the point." A third approach, according to Hillenbrand, "might be to rely on statistics and, by chronicling all known mosques of pre-modern date, to discover the types and distribution of the most popular varieties."[3] This project has not, however, developed a focus on the 'pre-modern', since, as I see it, this distinction is somewhat arbitrary as well, at least with respect to the traditional mosque. This study, therefore, is best seen as a blend of the first two approaches traced (and criticized) by Hillenbrand. I have clearly "cut across regional and temporal boundaries" in my quest to more fully articulate what we mean when we refer to the concept of the traditional mosque. I concede, of course, that this project does "tend to have a somewhat academic flavor," and appropriately so: it is a doctoral dissertation.

I have struggled to arrive at a synthesis—to the extent that it is possible to do so—of the mosque architectural styles or motifs that characterized the artistic and technological heights of achievement to which traditional mosque architecture has aspired, with special reference to the highly salient traditions heretofore discussed in detail. I have not attempted, however, to arrive at any type of concrete model of the traditional mosque that could be seen as transcendent of historical and/or geographical/cultural boundaries. Such a project, for the reasons discussed above, would be most problematic if not impossible. On the other hand, one can indeed develop a theoretical model of a traditional mosque that seeks to incorporate the majority of elements that are most representative of

that tradition. This requires little more than a basic understanding of a building type or generic pattern of the traditional or typical construction in question. These common traditional elements can serve as a foundation for the development of a model that seeks to incorporate disparate motifs, most importantly for our purposes, modern and traditional emphases—a blend which has tended to result naturally from the rapid advancement of technology. It is possible to extrapolate from the common elements found in such a model to a rationalized level of abstraction—one that strives to represent a synthesis of the variety of architectural types or styles that are representative of the most prominent characteristics which make up a given architectural tradition. This process of abstraction is, of course, dependent on any number of possible influences. In addition, it is always and invariably tied to the impetus for generating the model in the first place. In other words, any theoretical, or, for example, computer-generated model of an architectural style is always created for a specific reason, a given purpose; it is a product of the ideological and intellectual 'designs' of its creator. A prototypical mosque—whether or not it ever becomes a tangible reality—is necessarily the product of the architect who designs it, and it generally represents the totality of vision to which that architect has attained.

I designed two mosques, for example, to be constructed in the Los Angeles area: the Masjed Bilal mosque in downtown Los Angeles and the Ibn Taimiah mosque in Culver City, California. The Masjed Bilal mosque has yet to be constructed. The Ibn Taimiah mosque was finished in the summer of 1998 *(figure 32, 33)*. In the design of both mosques, I struggled to blend traditional with modern architectural motifs. By having a dome over the *mihrab* that is 33 feet in diameter, I sought fidelity to the style of traditional mosque construction at the same time that I used modern building materials in the

construction. My overarching concern was to preserve the traditional character of Islamic architecture by incorporating traditional motifs into the context in question in such a way that the mosque would blend in with or be complimentary to the buildings that surrounded it—the architectural context. What is most relevant to this discussion is the way in which my colleagues and I developed a computer-generated prototype. I include some details of this process so as to open the discussion to the possibilities and limitations that exist with respect to the use of computer-generated models, and the way in which they might be related to the future of the traditional mosque. I conclude with a discussion of what I see to be some of the centrally pressing issues concerning the future of the traditional mosque.



2Figure 32- A modle of Lso Angeles Mosque (Masjed Bilal Islamic Center, 4016 South Central Ave. Los Angeles, California.

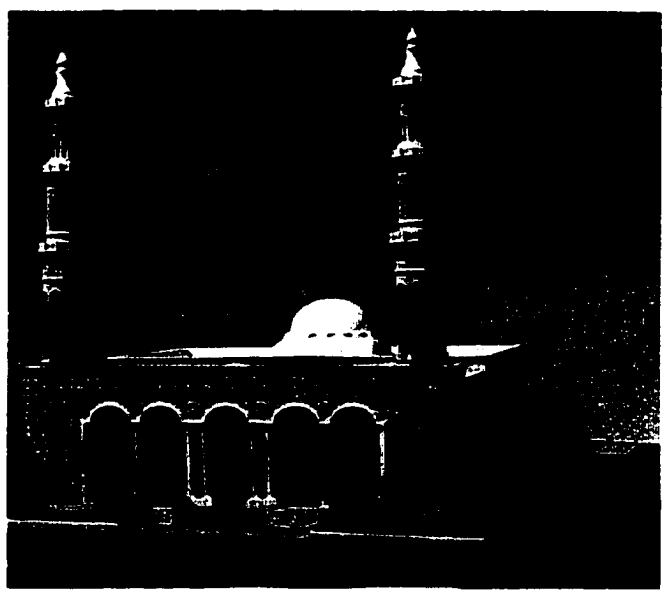


Figure 33- A model of Ibn Taimiah Islamic Center, Culver City, California.

A model for Ibn Taimiah mosque, which has been constructed in 1997/98, was completed in the early 1990's. Several critical components that went into the design of the mosque became more clearly evident as I retraced the steps taken in the course of designing the mosque. Already at this stage, I was thinking along lines that would eventually lead me to undertake this doctoral project, examining different mosque styles with the intention of recombination, synthesis, and creative growth/adaptation. The first step taken in the generation of the virtual or computer-generated model of the Ibn Taimiah mosque in Culver City, California, therefore, was an extensive and critical survey of extant models in a variety of global, urban contexts. By paying close attention to the most critical or central elements that were seen as indispensable, and the various ways in which they could be incorporated into a particular context, my colleagues and I gained increasing insight into the complexity involved in the adaptation of traditional motifs to urban architecture in the modern world, especially in the context of a highly developed architectural scenario such as downtown Culver City.

We began by distilling what we saw to be the most essential components of the mosque that we sought to build and to construct these components on the computer, using the program form•Z, a three-dimensional form maker and rendering program. We began by using a photograph of the small-scale mosque model that we had built, in conjunction with plans and elevations. First, we scanned the plans and elevations and saved them as PICT files. We then imported these PICTS into form•z, at a predetermined scale, and used them as underlay. We arranged the walls based on our original floor plan, with some minor modifications, working from inside to outside. After defining the perimeters and

what we saw as appropriate heights, which were determined from the elevations, we proceeded with the initial fenestration *(figures 34,35)*.

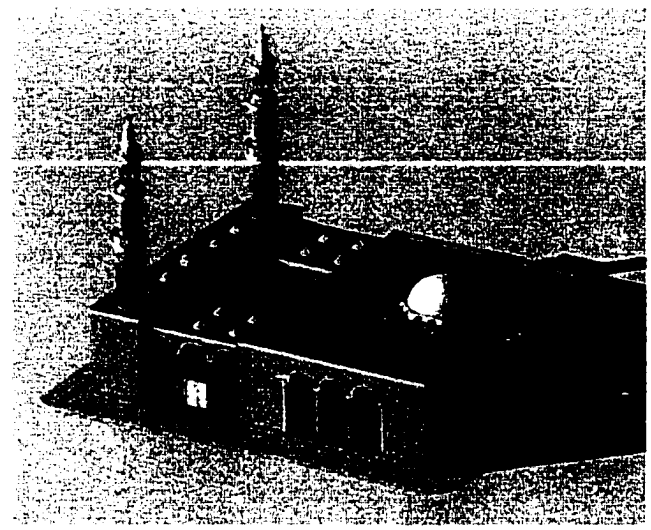


Figure 34- A computer image, perspective view of Ibn Taimiah Islamic Center, Culver City, California

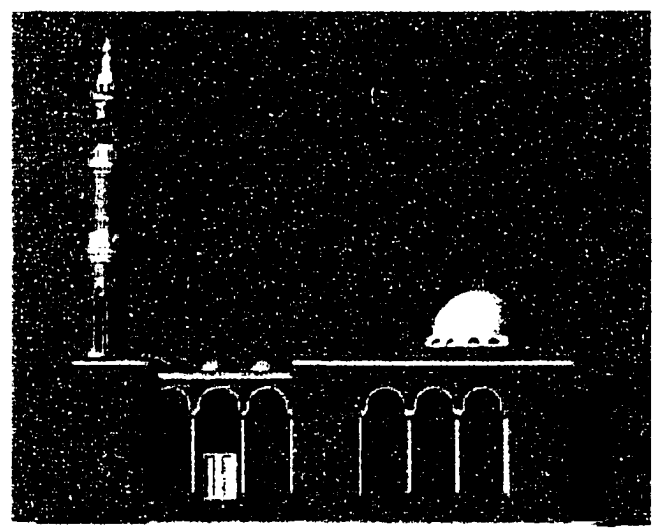


Figure 35- A computer image, side view of Ibn Taimiah Islamic center, Culver City, California.

The process of generating the fenestration was facilitated by the symmetry of the building and the standardization of its components. Cutting templates for the arched openings on the front facade, for example, became standardized, as we rotated, modified, and reused them throughout the entire mosque design. Similarly, once we had established a column, filling the void between arches, that column became a standard template, repeated throughout the model as needed. After generating primary walls and the supporting structure, the minarets took shape. In contrast to the simple planar shapes of the walls, achieved through simple extrusion, the generation of the minaret was a much more complex process. The procedure was especially complex given the fact that the minaret is comprised of 6 different levels and it is constructed through the use of a lathe tool throughout various phases of formation. Through the use of this tool, minarets can take on a broad variety of forms, varying from a hexagon to a 100-sided finial. Next, we formed the numerous, multi-sized domes and fitting them into the computer composite as we deemed to be appropriate. After completing the major elements, we added details such as moldings, ornaments, and textures, which helped to make the computer model more credible.

Finally, various controls, such as light intensity, sun angle, environment maps and so on, helped to determine the character of the final computer image. Using a G3 366mhz processor, each rendering took approximately 15 minutes to materialize. After approximately 10 renderings, an acceptable image was produced. This concluded the initial phase of the modeling process of the project. Using Adobe Photoshop, we added certain embellishments, such as trees and landscaping. After resolving several minor

problems with the image, we tweaked the final colors and printed the image onto glossy film designed for ink jet printers.

I have included this discussion of our generation of a computerized model of the Culver City mosque primarily as an illustration of some of the possibilities that may exist in the future for harnessing the power of the computer to the task of mosque design. This is especially critical insofar as mosque is being built and in all likelihood will continue to be built in increasingly complex and congested urban areas. What is perhaps the greatest accomplishment of our computerized age is our ability to share information—even at the stage in which it is being acquired. It is my sincere hope as a professional mosque architect to contribute not only to an enhanced dialogue concerning the nature of the traditional mosque in the modern world, but also to contribute to our resource bank of ideas with respect to the ongoing realization of mosque architecture. It is hoped that this experience may inspire others to go further, and to think more creatively about ways in which computer-generated models might help to resolve some of the problems like; architectural elevations, heights, and zoning, associated with the imperative of incorporating traditional Islamic architectural motifs into the construction of mosques in increasing complex environmental conditions. This is especially true insofar as our world is becoming increasingly secularized and the priority of construction of religious architecture finds itself under ever-increasing competition, indeed, dwarfed by the secular architecture of modern societies. I am fascinated by the image of the mosque in the urban landscape of the future, but I am concerned for its survival, especially in a form that we might recognize.

It is not overwhelmingly difficult to envision, on a general level, how one might enter a complete environmental scenario—real or artificial—into the generation of a

computer model, including, for example, surrounding buildings, streets, etc. so as to jockey the way in which traditional imperatives might be incorporated into modern designs in increasingly creative ways. One would, of course, have much greater latitude if one were to design new cities, such as was the case, for example, with the capital of Brazil. This, of course, may well prove to be an ongoing reality in other contexts in which this potential remains latent.

The process of secularization that characterizes Western society may well prove to be the factor of most central importance to the way in which mosque architecture will develop—or fail to be developed—in the foreseeable future. The relationship between secularization and modernization is, of course, a highly complex one, and it varies greatly from society to society. Lee and Ackerman point out how even in Japanese society, the most highly secularized and technologically advanced of Asian societies, new shamanistic, folk-religious revitalization movements continue to arise, and these new religious movements help to sustain levels of spiritual enchantment among the general population. The example of Japan serves to highlight the ambiguous character of the relationship between secularism and modernity. These writers also suggest that South Korea and Taiwan are following similar directions of cultural and religious development in the face of increasingly high-tech industrialization and the tendency towards secularization, which has, of course, historically tended to accompany rapid and widespread economic development. As Lee and Ackerman see it, "technology and animism interact uninhibitedly in everyday life in both the more established and the newly industrializing Asian societies." They suggest that a revitalization of world religions has contributed to the assertion of cultural identities without necessarily following a path of antimodernization.[4] Religious

revitalization, therefore-independent of the extent to which it is tied to or represents a resuscitation of traditional religious motifs—is not necessarily opposed to, compromised by, inhibited by, or impeded by the march of modernization. Religious tradition in the modern world continues to be woven in patterns that are impossible to foresee.

One would conclude from these observations that secularization and modernization are not necessarily the same thing; rather, and especially with respect to architectural developments, the relationship between these social processes may well prove to be much more complex than has generally been thought to be the case, more unpredictable, subject to the surprises which have so often tended to accompany religious revitalization movements. The concept of civil religion as well, is of critical importance to understanding the way in which religious motifs or imperatives may continue to have an influence on architectural developments in increasingly 'secularized' societies.

According to Abel, Reyner Banham understood better than most critics the profound meaning of both tradition and modernity. For him, tradition represented the stock of general knowledge (including scientific knowledge) which specialists assume as the ground of present practice and future progress. He suggested, therefore, that even modern architects have their own operational lore, which amounts to a Modern tradition in architecture. In this light, it could be suggested that modernity has not escaped tradition but, rather, has built on it, and continues to be constructed on traditional foundations. Nevertheless, as Abel suggests, the course of technological advancement is extremely unpredictable; it cannot be foreseen. We have no way of knowing (foretelling) the way and extent to which technological progress will have an impact on trends towards the greater secularization of architecture and the extent to which traditionally revered

architectural motifs can or will be preserved in the future. For Abel, technology represents, "a *potential* which may at any moment make nonsense of all existing knowledge, and so of the very ideas founded on it, even 'basic' ideas like *house, city, building.*"[5]

To focus entirely on the question of the impact of technological advancement on the future of architectural trends, is, however, myopic. Technological progress is only one—albeit an extremely important—factor in the ongoing relationship between architecture and its environment. This is true of both secular and religious architecture, but one would assume that it is especially true of the latter, given the power of the sacred which is attached to religious tradition, as embodied in its architecture. Modern man, despite the extent to which he is becoming increasingly technologically sophisticated (or perhaps as a result of), is also becoming more environmentally conscious. Clearly, these environmental concerns will prove to have a major impact on future architectural developments, especially insofar as these developments tend to encroach on territory that has a high level of ecological value. Abel suggests that, "protection of sacred places may be seen as one part of a larger issue of environmental preservation." Maintaining the productivity of ecological resources, and native access to them, may require the preservation of relatively large areas of natural habitat, a goal compatible with much current thinking in ecology. Abel goes so far as to suggest, therefore, that, "Modern science may, to a large extent, be inappropriate as a model, reducing nature to quantifiable and measurable elements, rather than focusing on the holistic, and the interconnectedness of all of creation, which is the essence of the cosmotheistic religions of many peoples."[6]

I concur wholeheartedly with Abel that it is essential that scientific knowledge and influence be accepted and utilized to its maximum potential, yet, at the same time, that the legitimacy of traditional indigenous ways of knowing must also be recognized and respected. People from all geographical regions and social spheres, with widely diverging interests, must, therefore, work together to reach a situation in which everyone will respect and protect sacred sites, regardless of whose they are.[7] This, of course, will depend to a large extent on majority interests—given our increasing levels of global democratization—and the way in which these interests are intertwined with the interests of the capitalist marketplace, big money. In our age of increasingly technologically advanced industrialization, there is a lamentable tendency in architectural development to dwarf the interests of long-treasured traditional priorities. As suggested by Carmichael, Hubert, and Reeves, "It will be possible to protect some sites, individually or in groups, at the local or regional level. But it is unrealistic to expect to halt population growth or technological development in the near future. It is unfortunate and ironic that indigenous peoples may stand to make economic and political gains from resource development while sacred and heritage values of the land are degraded.[8] This clash between the interests of big business and the preservation of sacred sites, however, will probably be less pronounced in the Islamic world than is the case with other religious traditions.

Abel protests what he sees as "the current narrow definition of what those [architectural] traditions are supposed to include" and what he sees as "the illogical conclusions" that critics of these traditions tend to draw, "that better architecture, especially hybrid architecture, can be produced when architects turn in on themselves." He sees a deep irony in the fact that while Modernist criticism has—at least ostensibly—

sought to liberate architecture, in many respects the actual result has been the reverse. "The past has been opened up, but only at the cost of closing down the future. And while aesthetic barriers may have been demolished, others have taken their place, leaving architects with an increasingly circumscribed role as exterior decorators.[9] Clearly, and justly, Abel's contention opens up the question of the extent to which deviation from traditional architectural motifs truly represents architectural creativity at its best. It is important to ask, and think critically about the extent to which artistic creativity is to be found through deviation from tradition. By defining itself over against or vis-à-vis traditional impulses or imperatives, one may arguably accomplish something more akin to destruction than liberation.

Summary

I would like to suggest, as a modern architect with strong impulses towards fidelity to tradition, that creative developments in religious architecture—at least, or especially, in the Islamic tradition—must necessarily correspond to certain fundamental architectural principles which are basic to the religious tradition. In Islam, for example, the Ka'ba is necessarily seen as the center of the universe. Inviolate architectural imperatives are a natural result of this fundamental reality. As Burckhardt describes it, the Ka'ba represents a cube that is linked to the idea of the center:

> It [the Ka'ba] is a crystalline synthesis of the whole of space, each face of the cube corresponding to one of the primary directions, namely the zenith, the nadir and the four cardinal points. Let us remember, even so, that the positioning of the Ka'ba does not entirely correspond to this scheme, because it is the four corners, and not the sides of the Ka'ba, which face the cardinal points, doubtless because the cardinal points mean, in the Arab concept, the four 'corner pillars' *(arkan)* of the universe.[10]

Burckhardt goes on to suggest that there are "two modes of adoration," that are reflected at different levels in the world of Islam, the one static and the other dynamic. It is the static mode that represents fidelity to tradition—it is, in Burckhardt's words "the Muslim soul"[11]

I would suggest, following Burckhardt, that there are certain ideological elements in Islam, formed over time, that are inherent and constitutive of its identity in such a way that to deny them would be to forfeit Muslim identity itself. Burckhardt correctly suggests that:

> Islam was born in a 'no man's land' between two great civilizations, the Byzantine and the Persian, which were at the same time empires disputing Arabia, and which Islam had to fight and overcome for its own survival. Compared with these two worlds, both of which had an artistic heritage

> tending towards naturalism and rationalism, the Ka'ba and its associated rites are like an anchor cast in a timeless deep.[12]

The Ka'ba, as the central—at least geographical or tangible—focus of Islamic worship stands at the center of the Islamic universe. It represents both the origin of Islamic history and its continuation.

As suggested by Rossi, history provides the material for biography but memory provides the material for autobiography; as in the city, memory begins when history ends. "History encompasses both future time and past time: a project that has to be done and one that is already completed."[13] For Muslims, tradition, the embodiment of history, is foundational to Islamic identity, self-understanding, and self-definition. Architecture is, of course, an expression of this identity. Deviation from tradition, therefore, at some level, threatens Muslim identity, Muslim existence itself. Without some measure of fidelity to tradition, Muslim architecture would cease to be Muslim at all (as we commonly understand the term).

The relationship between history, tradition, and the future of religious architecture is, of course, an extremely complex one. The image of the skeleton in Rossi's writings provide an analogue for his understanding of history, at once a structure and a ruin, a record of events and a record of time, a statement of facts and not causes. History, for Rossi, is to be accepted for what it is, a collection of historical acts the totality of which represent a pure knowledge of the past. He criticizes what he calls the "historicizing imperative" which seeks to use history so as to determine the future. Yet, at the same time, he sees the modernist critique of history as an impediment to invention. He suggests that, historicism deals in causes or imperatives, while history focuses on effects or facts.[14]

We are, as Rossi seems to suggest, more or less trapped in the present. We are the sum total of what has gone before and the foundation of what will transpire tomorrow. The extent to which we have an impact on the future, however, is not generally premeditated—and it can only be fully understood after the fact, by those who will come after us. Indeed, it is they who will decide what we are, or what we have been.

For Rossi, the city—including, perhaps most predominantly, its religious architecture—is a product of both space and time, topography and form; it is the site of a succession of both ancient and more recent events. The past and the present, therefore, exist in an unbreakable dialectic, each serving to inform or illuminate the other, especially insofar as they are represented architecturally. The architecture of the city itself is the memory of the past and, as Rossi suggests, it is also the potential memory of the future.[15]

The role of the architect in the preservation of history is a highly critical one. This is especially true of architects of religious and/or monumental architecture. Architectural plans, drawings, computer generations, small-scale models of what is envisioned for the future, these as well become part of the history of the city, the nation, the religious tradition, the physical embodiment of a people, the material representation of who they are. They are, for Rossi, 'part' of the city, not just a representation of it. The city, the locus of architectural identity, is the sum total not only of its past, but the future as well, insofar as it exists in an embryonic stage in the present—at the level of ideas, genius, inspiration, and imperative—that which will have a determinative impact on the 'city's' future.[16]

With respect to the traditional mosque, the extent to which it will continue to be preserved through future ages, in the face of unforeseeable change, will depend, in part, on

the creative genius and professional fortitude of those architects who labor to preserve traditional Islamic architectural integrity, at the same time that they necessarily embrace the unfolding present, with all its surprises, intrigues, and challenges. The future of the traditional mosque will depend, of course, on the way in which all Muslims continue to interact with the modern world, not just architects. Architects serve as ministers of sorts, insofar as they serve the needs of the religious community. They also serve as historians, insofar as they leave behind a record for posterity—the sum total of faith, embodied in architecture, that has gone before.

For my part, I have struggled throughout my professional life to add to and preserve the dignity of the traditional mosque. Here, I have attempted to highlight what I take to be the principle features that serve to distinguish the traditional mosque—those elements that have historically represented its core constitutive elements. As discussed throughout this work, Islam is an inherently conservative religious tradition—which is intimately bound up with its homogenous character—much more so than is the case with its sister religions in the West, Judaism and Christianity. Islam is governed by law in a much more rigorous way than is the case with other Western religious traditions. Religious law and life-style are intertwined in a dialectic relationship in the Muslim world, which is unparalleled, as I see it, by other religious traditions—East or West.

Islamic law, *Shar'iah*, is seen as immutable, because it is based on the Holy Qor'an. While this is recognized in or by all Islamic communities, there are, nevertheless, a very broad variety of forms of Islam that reflect the numerous cultures, customs, and physical environments into which Islam has been transplanted. I have tried to emphasize the importance of the way in which Islamic worship space remains unrestricted, even

though it is individualized by its cultural context. Herein lies the pronounced homogeneity of Islam, where a cross-cultural sense of membership is especially salient.

I have also struggled to suggest that there is no reason whatsoever to oppose tradition to technology, or the advancement of technology—I see the two as highly complimentary, or at least potentially so. With respect to Modernism, I see no logical or necessary tension between the conservation and glorification of tradition, on the one hand, and the embrace of Modernist motifs on the other—similarly, I see no reason why advanced technology cannot be fully harnessed towards the same purpose.

I have also argued that honoring tradition to the fullest extent possible requires creativity on the part of the architect, the designer of the project. I have suggested that genius and inspiration—both religious and artistic—walk hand in hand in this regard. Genius is the individual creator's connection with Allah. Genius, inspiration, artistic dedication, and spiritual reverence serve together as a bridge between overarching Islamic law on the one hand, and the particularities and peculiarities of any given geographic or sociopolitical context, on the other. Herein lies the core element of the preservation of tradition as well: the genius of adaptation and flexibility in an ever more complex technological and industrial environment.

The "future is the present" for Rossi because, "each man's time is limited." Creativity, clearly, is the basis of the future—our only bridge to the future, only immortality; it lies in the here and now. This is very graphically (or even tangibly) true in the case of architects, whose immortality resides in the monuments that they eventually leave behind. The kind of creativity that I have suggested to be most suitable for Muslim architects, however, especially those concerned with fidelity to tradition, is unlike the

standard Western model of creativity, which suggests that the creative person invents *'ex nihilo'* out of nothing. Rather, creativity in the Islamic tradition represents a bridge, for the creative person, between the immutable and the immediate—and this process is akin to prayer. For the Muslim architect, the design of mosques is a deeply religious experience; one 'communicates' with the divine, one opens oneself to divine inspiration, one seeks creative impulse from both the power of tradition and the spontaneous recognition of concrete reality in the present, in a given location. Creativity then, for our purposes, is always in motion—never fixed or static, a dialectic or spiral process, circular rather than linear, feeding upon itself—the 'snowball' effect. From the basis of tradition, the Muslim architect seeks growth in all directions—through absorption, appropriation, co-optation, cooperation, etc.—for his/her creativity to be allowed free reign to flourish. And, it is important to recognize that creativity is and in all likelihood will remain—and ever increasingly so—the principle arena of expansion of creative impulse.

Creativity is also the element of central importance to the process of gradually assimilating a traditional culture to new conditions, new materials, new techniques. Herein lies the dialectic of creativity. Islam is a living entity, growing, breathing; its parts are equal to its whole, which is ever changing, in constant adaptation to its environment. Local traditions fuse with or into Islam in most creative ways. Strength—spiritual, artistic, even technical—flows in two directions. It is a dialectical or mutual reinforcement, even 're-formation', of 'tradition'. Tradition is the present, and it is the future as well. It is the surge of creativity that serves to link architecture to itself: uniting past, present, and future in a dynamic chain that is encountered in the here and now. Our creativity, however, along with our time, is limited. Ultimately, for me, creativity is a gift from Allah, it is

unpredictable, undeserved, open ended, and entirely spontaneous—it opens as part of the fabric of Islamic life itself.

Endnotes

[1] Aldo Rossi, *The Architecture of the City* (*The MIT Press, Cambridge, Mass. 1982*) p. 9

[2] Robert Hillenbrand, Islamic Architecture, Form, function and meaning (New York: Columbia University Press, New York, 1994) p. 64

[3] *Ibid.*, p. 64

[4] R. Lee & S. Ackerman, Sacred Tensions *Modernity and Religious Transformation In Malaysia* (University of South Carolina Press, Columbia *1997*) p. 6

[5] *Chris Abel*, Architecture and Identity "Towards a Global Eco-Culture" Forward by Suha Ozkan *(Architectural press an imprint of Butterworth- Heinemann, Oxford 1997)* p. 120

[6] D. Carmichael, J. Hubert, B. Reeves, and A. Schanche, Sacred Sites, Sacred Places, (Routledge publisher, London, 1994) p.6

[7] *Ibid.*, p. 7

[8] *Ibid.*, p. 6

[9] Abel, p. 120

[10] Titus Burckhardt, *Art of Islam, Language and Meaning* (*World of Islam Festival Publishing Company Ltd., London 1976*) p. 4

[11] *Ibid., p. 5*

[12] *Ibid., p. 5*

[13] Abel, *p 11*

[14] *Ibid.*, p. 5

[15] *Ibid.*, p. 7

[16] *Ibid.*, p. 9

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