

**THE INFLUENCE OF SUFISM ON THE DEVELOPMENT
OF PERSIAN MOSQUE ARCHITECTURE**

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ABSTRACT

Mosques have always been recognized along with a series of patterns (archetypes) such as the dome, the arch, the *mihrab*, the courtyard, the portal and the minaret, which have shaped the architecture language of the Islamic place of worship worldwide. However these set of patterns did not exist in the creation of the first mosques, and in the third and fourth century A.H. emerged and developed gradually as major features of the mosque in the Persian lands and provided definitive functions in the congregational Muslim rituals. At the time of these constructive changes in the body of the mosque in Persia an ideological shift also developed from traditional Islam, towards a more esoteric experience known as Sufism.

The Author believes that the Sufism movement has had a significant role in the development occurred in the Persian mosque architecture and the introduction of the 6 main patterns. However no research has directly addressed the connection between Sufism and these changes. Thus the aim of this research is to examine whether or not the Sufi ideology has been the main reason that has led to the introduction of the 6 main patterns of the Persian mosque, and to explore the physical, emotional, mental and spiritual influences of the Sufi ideology on the 6 main patterns of the Persian Mosque; and whether they have helped in creating a better ambiance for the act of worship.

The research deploys two case studies on the Grand Mosque and Imperial Mosque of Esfahan, based on a qualitative approach. The results of a thorough study on the Sufi ideology, in-depth structured interviews and a deep direct observation on the 2 cases mentioned, prove the influence of Sufism in the creation of the 6 patterns of mosque architecture in Persia. The results further reveal how these 6 patterns have contributed to providing a better ambiance in the mosque for the act of worship by creating a unique spiritual experience for the worshippers.

ABSTRAK

Masjid telah diiktiraf dan dikenali melalui satu siri corak seperti kubah, gerbang, mihrab, laman dalam, portal dan menara, yang mana telah membentuk ciri-ciri senibina tempat ibadat Islam di seluruh dunia. Walau bagaimanapun rekabentuk ini tidak wujud dalam penciptaan masjid yang pertama, dan pada abad ke-3 dan ke-4 S.H. muncul dan berkembang secara beransur-ansur sebagai ciri-ciri utama masjid di tanah Parsi dan menyediakan fungsi terbaik dalam ritual jemaah Islam. Pada masa itu perubahan yang membina rekabentuk masjid di Parsi juga adalah peralihan ideologi yang dihasilkan dari tradisi Islam, ke arah pengalaman yang lebih esoterik yang dikenali sebagai Sufism.

Penulis percaya bahawa gerakan Sufism mempunyai peranan penting dalam perkembangan yang berlaku dalam senibina masjid di Parsi dan pengenalan kepada 6 corak utama. Walau bagaimanapun tiada kajian yang telah dilakukan secara langsung mengenai hubungan antara Sufism dan perubahan ini. Oleh itu tujuan kajian ini adalah untuk meneliti bahawa ya atau tidak ideologi Sufism telah menjadi sebab utama yang menyebabkan pengenalan kepada 6 corak utama, dan meneroka pengaruh fizikal, emosional, mental dan rohani ideology Sufism terhadap 6 corak utama masjid Parsi, dan sama ada ia membantu dalam mewujudkan suasana yang lebih baik untuk beribadah.

Dalam penyelidikan ini, dua kajian digunapakai iaitu Masjid Besar dan Masjid Imperial di Esfahan, berdasarkan pendekatan kualitatif. Hasil kajian menyeluruh ke atas ideologi Sufism, temu bual tersusun dan pemerhatian langsung yang mendalam terhadap kedua-dua kes tersebut, membuktikan bahawa memang terdapat pengaruh Sufism dalam pembentukan 6 corak senibina masjid di Parsi. Ia juga menunjukkan bagaimana 6 corak senibina ini telah menyumbang untuk menyediakan suasana yang lebih baik di dalam masjid untuk ibadah dengan mewujudkan satu pengalaman rohani yang unik bagi jemaah.

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Appendix A. Interviews

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CHAPTER 1

INTRODUCTION

1.1 RESEARCH BACKGROUND

The Persian traditional mosque has always been regarded as an important example of the Islamic mosque. With its unique approach to how an Islamic place of worship can be constructed, it has become recognized as a unique prototype of mosques architecture. (Pirnia M. K., 2004) Its respond to the never-ending need of spirituality is a unique solution which totally suites the culture of the Persian-Islamic world. The composition of forms, functions and patterns has created spaces that when one enters, he unwillingly requests for more. (Oleyki, 2009) It has been praised by many scholars as a unique package among Islamic Mosque architecture. It contains many of the patterns and archetypes of an Islamic house of worship, and in many cases it has introduced them to this special architecture itself. (Hojjat, 2009)

The Persian mosque has been designed based on well-established principles which have been basically recognized by Muslim architects as an appropriate approach to create a place which the act of worship can take place in its optimum level. The application of these prescribed principles, rules or elements has resulted in the creation of several archetypes or patterns in the body of the mosque architecture. In other words these patterns are in fact the consequent experiences of generations dealing with several forces or aspects of the human existence that have influenced the design of the place of worship in Islamic societies. Their goal is not only to fulfil the physical needs of man but also to nurture his soul. (Nasr, 1987)

The early designed mosques of Islamic societies however, were not built following these patterns and did not include such features. (Hillenbrand, 2000) Indeed it is believed that the first examples of mosques equipped with patterns such as the dome,

minaret and elaborate decorations have been built in Persia at the Razi era after a 300 year long period of copying the first mosque prototype built by the Prophet. (Pirnia M. K., 2004)

Several studies done by scholars including Hillenbrand (2000) Creswell (1914) Pirnia (2004) Nasr (1987) Ardalan & Bakhtiar (1979) and many others, focusing on the actual time these patterns appeared in Islamic Architecture, and also the Islamic history of Persia reveal that the introduction of these six patterns was basically a result of the advent of an esoteric tradition in Persia known as Sufism from the 4th century and the influences of its teachings and practices which had a great impact on how Persian Muslims viewed mosque as an embodiment of divine presence.

It is here wise to mention that Sufism, or *Tasawwuf* as it is known in the Islamic world, is in fact Islamic mysticism, a deeper view towards Islamic teachings and practices. Sufism is not a sect of Islam; it is more accurately described as an aspect or dimension of Islam. (Karamustafa, 2007)

1.2 RESEARCH PROBLEM STATEMENT

Islam originally observes the place of worship as simple as possible. A simple wall oriented towards the direction of Qibla, which is the cubic Kaaba within the city of Mecca, having no roof, no minimum size, no enclosed walls and no additional accessories. Indeed it might probably be argued that the single wall can even be removed and the direction can be noticed with some other monument. After all it is believed that wherever you pray, that place is a mosque. Therefore the term mosque does not address any specific building of any kind. But since the arrangement of worship and the ceremonies were defined by the Prophet, Muslims constructed mosques from the very early days of Islam. The architectural revolution of the mosque started

when the simple pattern of the Prophet's house was selected and put into use as the first and only example of a gathering area in the Arab lands. (Hillenbrand, 2000)

Building the first mosque in Medina was carried out with a very simple outline that merely had a covered area and a courtyard. As the new born religion developed, mosques were built usually initiating the concept of the Prophet's mosque. This process was performed for close to 300 years, but gradually the appearance of the mosque changed and transformed into buildings that were no longer similar to the early example. These changes first appeared in the Razi style of the Persian architecture and later spread to other Islamic nations. (Pirnia M. K., 2004)

In other words the mosque built and introduced by the Prophet as an example of how Mosques should look like, was so different from the Persian mosques which were built in later years, and so different from what is recognized by professionals and scholars and even the public today as an ordinary Persian mosque. However it must be mentioned that creating a glorious mosque at the beginning of the Islamic era was not a logical process; never does any scholar or expert question the way and the approach the Prophet had used to build and created a place of worship as it was indeed the proper place for that time, place and resources. (Zargar, 2007) (Nadimi, 2010) In fact the real question is why do the Persian mosques we have today which are publically accepted and widely used, and include several patterns including the dome, arch, mihrab, minaret and so on are so different from the prototype that the Prophet had left us?

Furthermore these patterns have now also been accepted by the majority of architects as parts of the language which the Persian mosque architecture offers. Ordinary Persians also recognize the mosque while it is dressed in these mentioned patterns. (Pirnia, 2004) (Hillenbrand, 2000) (Petersen, 1999)

Therefore the very first question appears at this stage that do these certain pattern presented in the Persian mosque actually aid the mosque with what it was originally supposed to do? Does it add to the quality of these Persian mosques during the act of worship?

The main research question thus will be:

Does the application of specific patterns in the design of the Persian mosque provide a better ambiance for the act or worship?

If we look a bit deeper at what has really happened in this process, we will see a fascinating historical overlap. According to Pirnia and Hillenbrand these patterns started to appear in Islamic Architecture by the year 300 (A.H – After the prophet's *Hijrat* from Mecca to Medina which is the base for the Islamic Calendar.) This is the time that Islam had been to a certain extent established in the new countries it had entered. Thus cultural influences started to emerge and Islamic Architecture started to change based on the cultural and local beliefs of the countries. (Pirnia M. K., 2004) (Hillenbrand, 2000) One of the most influential countries in this case was Persia, with a rich historical and cultural background. In the Persian lands spirituality was always considered as an important part of people's lives, and thus mosques had become a crucial node in the urban texture of Persian cities. This meant that more and more attention was being driven to how this place as the main point where spirituality finds its home should improve. As a result the built quality of the mosque buildings were being improved significantly; several new patterns appeared in the mosque architecture, and different ornaments were introduced to further enhance the experience of the worshipper. (Pirnia, 2004) These changes became permanent and also underwent further improvements later on. They were also introduced to the Islamic Architecture in general and their application became wide-spread. (Pirnia, 2004) (Zargar, 2007)

At the same time, the ruling empire in the Persian lands was changing. The Abbasids ended the Umayyad rule and the Islamic capital was thus shifted from Damascus to Baghdad, a Persian city. The Persians gained extreme powers and Persian rituals and practices began taking depth into the whole empire. (Sykes, 1922) (Ladjevardian & Pezeshkzad, 2000)

This shift also marked the birth of Sufism; a spiritual and esoteric approach to the teachings of Islam. Sufism was not a new religion, nor a change to the original version of it. It was a deeper view to the teachings of Islam in search for extreme wisdom, to cultivate and explore inner life, an inward awareness manifesting as stages of spiritual development leading to love, light and union with God. It was a way of life that influenced life in all its dimensions. (Karamustafa, 2007)

According to the Sufism, the human is given four vehicles which are the Physical, Astral (also known as Emotional,) Mental and Causal (also known as Spiritual) bodies. Through these he is able to express himself on the various dimensions of physical, emotional, mental and spiritual. (Powell, 2005) The whole universe has in fact been shaped according to these four levels and thus whatever that is being created must also be built based on all the four levels. In this case architecture must also follow the same concept and it should be built in a way to respond to all four dimensions of the human existence. (Ardalan & Bakhtiar, 1979)

By comparing these two events (which have been studied thoroughly in later chapters) that have occurred in approximately the same historical period, we might be able to draw some conclusions to answer the main research question. In fact the changes that have been made in the main body of the Islamic mosque and the six main patterns introduced in the content of it might be a result of the influence of the Sufi ideology on

the architecture and the architect. If true we will be able to see how these patterns have helped the mosque in creating a better ambiance for the act of worship.

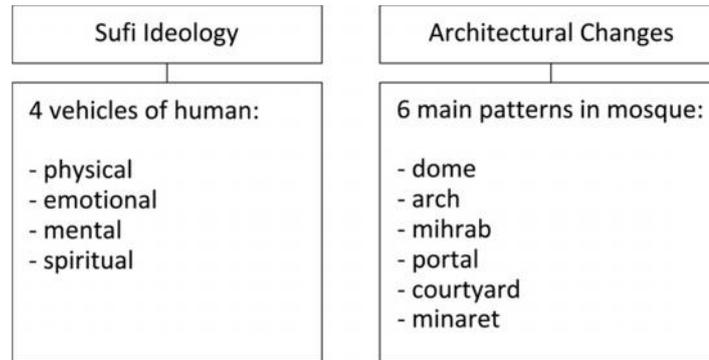


Figure 1.1 The 4 vehicle of a human system and the 6 patterns involved in mosque design. (Author)

Therefore two other questions can be as following:

1.2.1 RESEARCH QUESTION 1

Is the influence of the Sufi philosophy, the reason behind the creation of the 6 patterns of Persian mosque architecture?

If we can prove that the 6 main patterns of Persian mosque architecture were designed considering the 4 aspects of the human existence, we can probably conclude that the Sufi Ideology has been indeed the reason behind the introduction of the patterns.

In other words the answer to this question will let us know whether all the 4 aspects of physical, emotional, mental and spiritual existed in the design process of the Persian mosque with the 6 patterns.

1.2.2 RESEARCH QUESTION 2

How has the Sufi philosophy influenced the 6 patterns of Persian mosque designs through the introduction of the 4 functional aspects of physical, astral, mental and causal?

With this question, we can actually explore & investigate the level of influence that the Sufism has created on the 6 patterns and in fact the introduction of the 6 patterns. In this case the author is aiming to explore the physical, emotional, mental and spiritual significance of all these 6 patterns in the context of the Persian mosque.

The answer to these two questions will lead us to answering the main question; whether the application of these 6 patterns in the design of the Persian mosque provides a better ambiance for the act or worship or not.

1.3 RESEARCH PURPOSE AND OBJECTIVES

The objectives of this research will be as following:

- 1- To examine whether or not the Sufi ideology has been the main reason that has led to the introduction of the 6 main patterns of the Persian Mosque.*
- 2- To explore the physical, emotional, mental and spiritual influences of Sufism on the main patterns of the Persian Mosque; and examine whether or not they have helped in creating a better ambiance for the act of worship.*

1.4 METHODOLOGY

This part is a short description of the research methodology. The complete methodology is available in detail in chapter 3.

The process in which the research problem has been formed and the nature of the research questions requires exploration and interpretations which mostly are connected to a system of beliefs, its practices and influences on the Persian mosque architectural patterns. Thus a more qualitative approach is needed; and in order to study the influences of such belief system in the creation of actual mosques, case study is the most appropriate method of data collection.

Two cases will be studied to first examine whether or not the Sufi Ideology has influenced the design of the 6 patterns included in their design; and second to explore the physical, emotional, mental and spiritual functions of the patterns and identify their place, position and function as parts of a greater system. These two cases are:

- 1- The Great Mosque of Esfahan which is one of the first examples of a mosque designed according to the Sufi beliefs in Persia and built in the *Razi* era. It is also one of the most significant examples of mosque design worldwide.
- 2- The Imperial Mosque of Esfahan which is one of the last examples of traditional mosques built in the *Esfahani* era and designed by Sheikh Bahaei in the year 1020 A.H. (Pirnia, 2004)

In order to gather the required data and information two methods of data gathering have been proposed:

- 1- The primary methods will be in-depth structural interviews to propose a general idea and outline for the future observations of the Great Mosque of Esfahan and the Imperial Mosque.

These interviews will be designed in a way to help answer the first research question which will focus on whether the Sufi Ideology has been the main reason behind the introduction of the 6 patterns.

- 2- The second method of data collection is direct observations. In this method the author will observe the patterns of these two mosques in their original content and will explore the four functions of the 6 main patterns according to Sufi.

This part thus will be majorly focused on the second research question and will try to explore the 4 functions of the main patterns and eventually the whether or not these patterns help create a better ambiance for the ac of worship inside the mosque.

Therefore the whole process of the research can be traced as following:

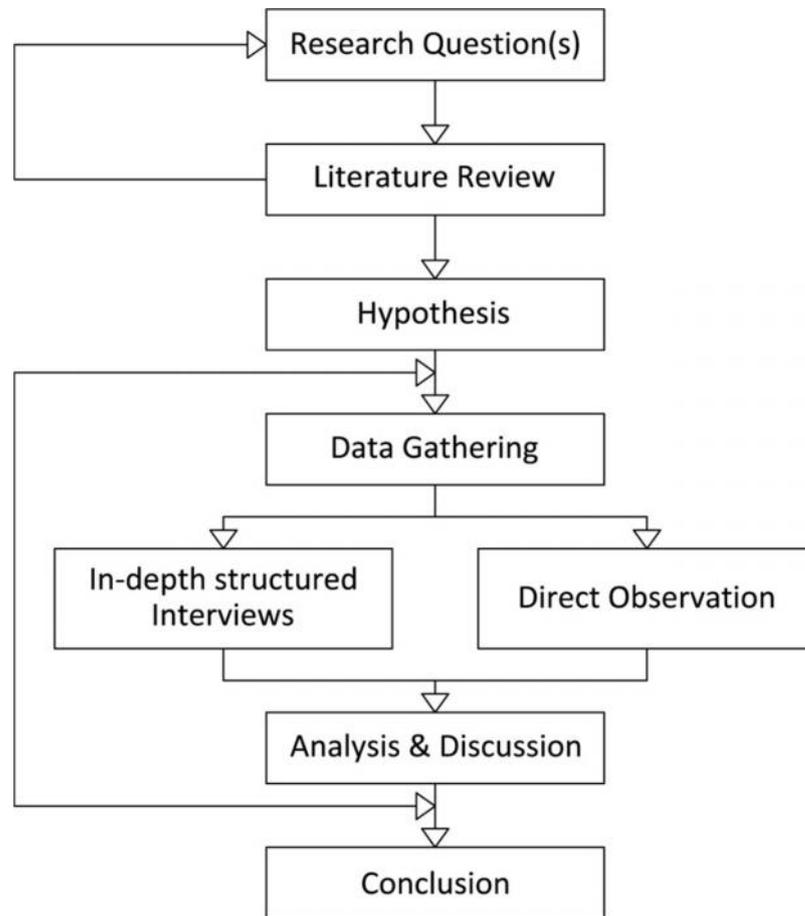


Figure 1.2 The procedure of the research. (Author)

1.5 CHAPTERS OVERVIEW

The research is designed in 5 main chapters as following:

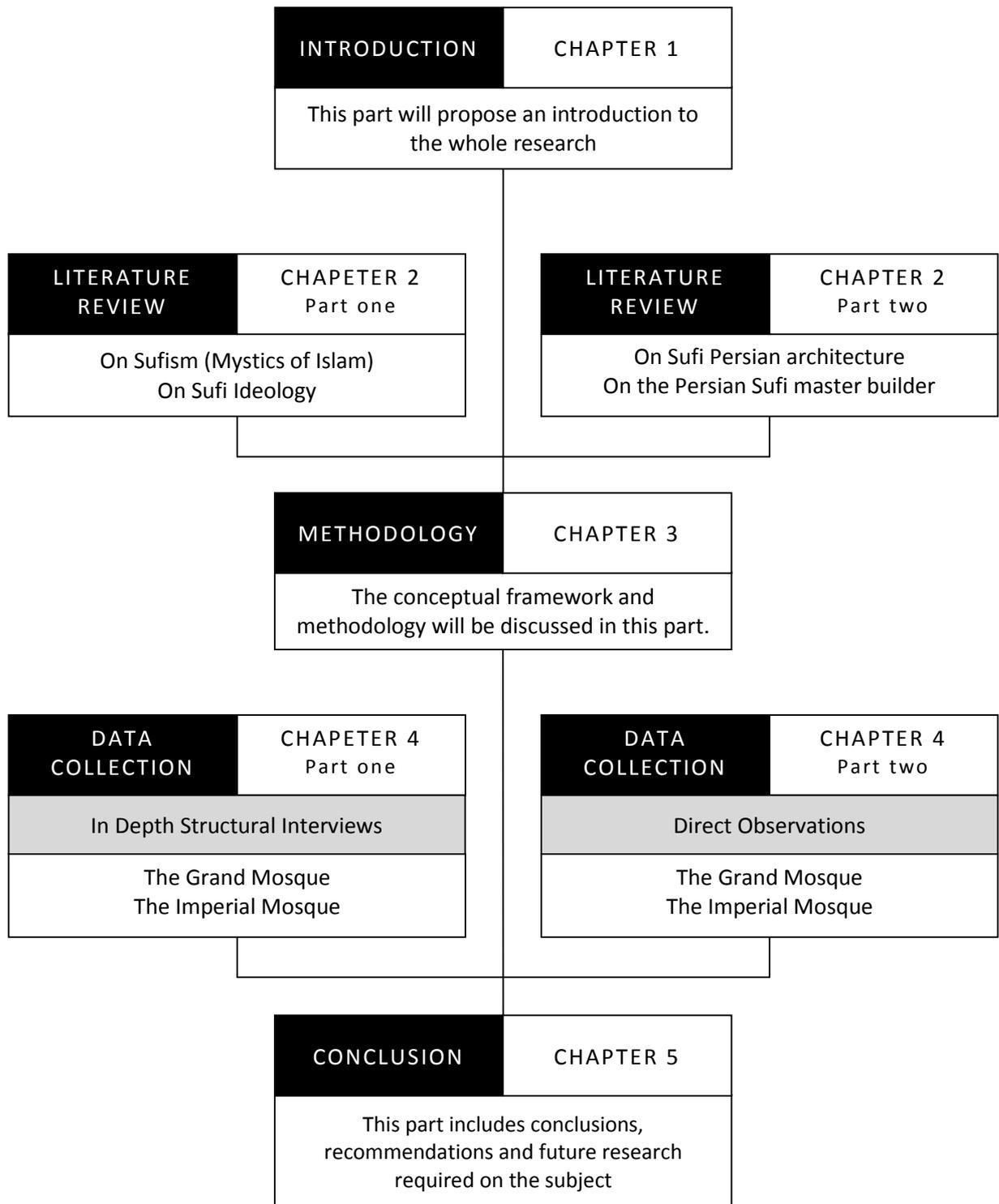


Figure 1.3 Overview of the chapters. (Author)

1.6 SCOPE OF STUDY

Although the research started with an unrealistic ambition to define all the functions of the Islamic place of worship in general, it was further limited in order to accurately define their existence in the Persian Islamic architecture where they are believed to be generated from.

Later on as the research developed the study further focused on the Sufi teachings and practices and its influence on Persian mosque architecture. This means that the research directed its attention on how these patterns have become culturally relevant from the Razi style when the Sufi beliefs were greatly common.

Furthermore the research was confined to the study of spiritual reasons behind the creation of patterns. In fact the Sufis divide the functional aspects of all creations into the 4 categories of physical, emotional, mental and spiritual and believe that architecture should carry all these functional aspects since it is a creation of the human being whom is a representative of God. Since the first three functional aspects in mosque architecture has been thoroughly examined and explained by previous scholars (completely described in chapter 2) determining whether the 4th aspect is present in the creation of the Persian mosques will further prove the application of Sufi teachings in constructing the Persian mosque. However all the physical, emotional, mental and spiritual levels of Sufi practices were studied, but the focus was greatly on the spiritual aspects.

On the last stage, the study was done on the Grand Mosque of Isfahan and the Imperial Mosque among many other mosques in different cities since they are known as the most important mosques of Persian Architecture as mentioned by several scholars.

These two mosque which one was constructed in the Razi era, the second period of Islamic architecture after the Khorasani style (Arab style), and the other in the *Safavid* or *Esfahani* era, the last traditional Persian architecture style, were selected to further

prove that the style of architecture introduced by the Grand Mosque in the Razi style established a new method of mosque design that had been practiced throughout the whole traditional architectural period and became the signature of Persian mosque architecture.

1.7 SIGNIFICANCE OF THE STUDY

The findings of this research are significant to both the architects and the users, and are important in academic as well as professional communities.

In academic societies, the current studies on the Islamic mosque have been conducted mostly by westerners who might be very knowledgeable, but generally have little experience when it comes to the life and lifestyle that Islamic cultures provide. Some other research has been also done by Muslim scholars who have mainly studied the mosque in its physical format without studying the influential spiritual beliefs and values that have led to their design. Therefore there is a clear lack of research which combines the physical achievements and the spiritual beliefs which in fact are considered to be much more important according to some scholars. Thus the attempt in this thesis is to fill the existing gap in the subject.

In professional societies, the findings of the research will provide a framework or a guideline for the mosque architecture. It means that, by presenting the significant patterns of traditional mosques which are the reason behind their success through history, the architects will be able to follow these patterns and principles to create such places with a high spiritual ambience.

In general the significance of the study can be categorized as followed:

Significance to the academic scholars:

- To understand the reason behind the creation of certain patterns and features in mosque architecture, rooted in Sufi beliefs and practices; and to fill the current gaps in the studies done on the subject that are not able to present the spiritual reason behind the creation of such complex forms and patterns.

Significance to the architects:

- To understand the different aspects of designing the Islamic place of worship; and to use the common patterns according to their correct functions in order to prevent future deformations.

Significance to the public:

- As time passes people are losing their interest in group praying in the place of worship and the holly ceremony is turning into a symbolic act since there is no spiritual ambience in the contemporary mosques. If the place of worship is designed in a way that functions correctly and the participants could experience the silence or spiritual uplifting, they will be encouraged to join the group prayers and ceremonies once again.

CHAPTER 2

LITERATURE REVIEW

2.1 THE MYSTICS OF THE ISLAMIC FAITH

2.1.1 THE BIRTH

'Sufism, the major mystical tradition in Islam, emerged from within renunciatory modes of piety (zuhd) during a period that extended from the last decades of the second/eighth to the beginning of the fourth/tenth century. The earliest mystical approaches appeared in the first half of this period, but these were likely disparate and heterogeneous in nature and, more significantly, they remain obscure to modern researchers owing to sparse documentation. From the mid-third/ninth century onwards, however, Sufis of Baghdad came into full view as members of a distinct mode of mystical piety. In the same time period, other mystical movements took shape elsewhere, notably in lower Iraq, northeastern Iran, and Central Asia. Mystics who belonged to these latter movements were not initially known as Sufis, and in their thought and practice, they differed from Baghdad Sufis and from each other in many ways, but they gradually blended with the Baghdad mystics, and in time, like them, they too came to be identified as Sufis.' (Karamustafa, 2007, p. 1)

When the Umayyad dynasty gradually weakened in the 2nd century A.H the Abbasids led by a Persian general named Abu Muslim *Khorasani* took over. The Islamic capital was thus shifted from Damascus to Baghdad, a newly constructed city built within the borders of the Persian lands and with the astrological and scientific knowledge of Persians themselves to symbolize the rising power of Persians in the Islamic world. (Ladjevardian & Pezeshkzad, 2000) The esoteric Sufi school also emerged from the city of Baghdad and introduced great teachers and scholars such as *Rudaki, Hafiz, Saadi, Molavi* or *Rumi, Ghazali* and *Attar* and spread from its origin to many other lands

introducing other great masters such as *Ibn al Arabi*. (Ladjevardian & Pezeshkzad, 2000) It was an attempt to go deeper inside the teachings of the holy Quran. It gradually became an Ideology and developed the belief of the Muslim society into a wisdom based concept which influenced all aspects of Muslim life. Architecture was not an exception as it started its new generation introducing new pattern and features. The great changes of Islamic architecture in Persia, started from the 2nd A.H. century and at the 4th A.H. century a new and different style was created known as the Razi style. The Razi style in architecture did not ever change the essence of its previous Arabic module, yet it completed it with architectural monuments and led to a deeper definition of the Islamic place of worship. Adding a dome, minaret, arches, and iwans were not in contrast with the concept of the mosque and were added for specific reasons. (Ayatollahi, 2003) (Al-Ghazali, 1983)

2.1.2 THE MYSTICS OF ISLAM

During the beginning century of the Abbasid Empire over the Islamic lands, piety began being common in the form of “*Zuhd*” or “Renunciation;” yet not organized into groups and special movements. Some started a path in which they believed was a search for extreme purity in dietary matters and some others became scholars, deeply studying and cultivating the holy scripts of Islam in search for extreme wisdom. The main effort at the same time was put to cultivate and explore the inner life, an inward awareness manifesting as stages of spiritual development leading to love, light and union with God and the knowledge of the inside acquired through continuous experiments and efforts put on the human soul. (Karamustafa, 2007) Esoteric Movements began not only in Mesopotamia but also in other Persian territories where no Hindu or Buddhism idea ever existed. Ibrahim Ibn Adham rose from Balkh as the first wonderer of truth with a similar story to the legendary Buddha leaving home in search for reality. (Schimmel, 1992) The great movement in which the practitioners were known to have worn “*Suf*”

or “Wool” was later introduced as Sufism which was created according to Islamic ideology, teachings and scripts. The statement “One who knows his self, knows God,” was in fact a statement oriented towards the same efforts of knowing the inner self to gain the true wisdom of knowing the God. It was made in order to draw a similarity between the concepts of the self and the Supreme Being, and to indicate that whatever there is to be known, it starts within. And thus the journey begins; a journey to the soul, its existence, its substances and its life; and since it would never be possible to find the answers without the science of the divine, an esoteric approach to find the secrets of mankind was discovered as a hidden depth in the Islamic path. (Jain, 1975) (Al-Ghazali, 1995)

Sufism has many times been considered alien to the Islamic teachings; however from the formation of the movement, teachers and masters have claimed to speak only from the sources and traditions of Islam. In fact some believe Sufism to be an “authentic religious experience” which is spoken from deep inside the Islamic ideology and Islam is indeed alive in its every single step. However it does not address the common outer layer of the teachings and penetrated deeper in search for the hidden wisdom. On its outer layer, Islam is a straight forward approach asking people and in some cases telling people what to do and what not to; right and wrong are in fact defined in a comprehensive package known as “*Shari’ah*” or “Law” which constructs the body of the Islamic faith since it includes living, behavior and one’s proper performances. On a second dimension, Islam teaches people how to understand the world and themselves. This inner layer is cooperated with the mind and is traditionally called faith since the mental aspect of the human being is required to primarily accept the existence of God, his angels and messengers and the hereafter. This layer of the Islamic teachings became the fundamental ground for “*Kalam*” or “Sayings,” Philosophy and Theoretical Sufism, which were all focused on improving the mental vehicles of Muslims. The great

philosophers, mathematicians, astronomers, and physicians of Islam, were all trained according to the mental layer of the religion. On the innermost level, Islam teaches its people to transform themselves in order to gain a harmony with all other beings and to finally become one with all, and one with the most high. In this case the first two layers of practice and knowledge must be practiced in such a way to produce a human of goodness and perfection. This layer however is present in all people from the moment of creation known as the “*Fitrah*” or the “Soul” and by practicing and gaining the correct knowledge, the third dimension which is achieving nearness to God can be possible. (Chittick, 2008)

Sufism is in fact the focus on the third layer of the Islamic faith, and obviously does not ever create contrast with the first two dimension of the religion; but since Sufism deals with a hidden perspective of Islam, it is known as the Mystical dimension of Islam, or the Esoteric aspect of Islam, representing a greater reality or an intuition making one different from five blind men touching different parts of an elephant guessing for its true nature. Generally speaking *‘Mysticism has been called “the great spiritual current which goes through all religions.” In its widest sense it may be defined as the consciousness of the One Reality – be it called wisdom, light, love or nothing.’* (Schimmel, 1975, p. 4) In a more exact definition Sufism was not a new religion, but in fact a way of life to remove all the religious prejudice, ignorance and hatreds and observe the truth from a simple and beautiful perspective. Sufism was developed to introduce to men a universal world, similar in Judaism, Christianity, Buddhism, Hinduism, Hellenism and Islam, and find the more subtle sweetness and light of the human. *‘In the words of Rumi: “The faithful are many, but their faith is one; their bodies are numerous, but their soul is one.”’* (S. Fatemi & S. Fatemi, 1978, p. 125)

However these explanations will not completely point out the path, since its definition will not be understood using any kind of perception, philosophy or mental effort and it

will only be revealed through gnosis which will shed light on the mystical secrets. In fact once the seeker is placed on the path of reality, the inner light will guide him all the way through in order to reach the truth. He must first polish his inner mirror, the mirror of his heart through long periods of purifications. Then he will gain the inner illumination and from there reach the ultimate goal, the unity with God. This reality may also be experienced as loving union with his beloved one; therefore Mystics is sometimes known as love for the only one in which his pure love will give him the inner strength to bare and even enjoy all the pain and afflictions reaching him from God in order for him to purify his soul. (Schimmel, 1975) (Al-Ghazali, 1995)

These basic, yet simple concepts were present in all types of religious and spiritual teachings and were indirectly symbolized in the form of mystics. The never ending search for God or the beloved is symbolized as a path on which the seeker faces levels of experiences making him ready to face greater journeys. The transformation of the soul through continuous and difficult purifications and meditations is imaged as the knowledge of alchemy turning lead into gold and finally the nostalgia of the beloved is traced as an aspect of the human love often merged with a majestic taste in order to image the divinity of pure love. (Schimmel, 1975)

2.1.3 THE SPIRITUAL PATH

The “*Tariqa*” or the “Path,” which the Sufis follow is a path defined by a more basic concept which is the “Sharia” or the “Main Path.” The Sharia is known as the fundamental law or the common ground that indicates the *Tariqa* as a branch of itself. The main road is thus consisted of the God given orders, on which every Muslim is supposed to follow. In other words the path will have no value without it being attached to the main road and no esoteric experience will ever exist if the teachings of Sharia are not faithfully followed. The *Tariqa* is however a more narrowed and difficult walk that will lead the “*Salek*” or the “Wayfarer” through different “*Maqams*” or “Levels” until

he receives all his lessons and reaches his ultimate goal, the “*Haqiqa*” or the “Truth,” the perfect *Tawhid*, the union, yoga or oneness with the ultimate being. The way to God is explained in a three dimensioned manner; according to the prophet: ‘*The shari’a are my words (aqwali), the tariqa are my actions (a’mali), and the haqiqa is my interior state (ahwali)*’ (Schimmel, 1975, p. 99) (Majlesi, 1986)

Within this context, Islam introduced a third dimension that is not revealed explicitly in the Quran and is known as spiritual realization or the evolutionary steps of the human perfection, leading to Soul Realization and God Realization. As mentioned before the sharia or the law is the widest sense including knowledge or any theoretical approach within the borders of Islam. The “*Tariqa*” or the way is then the method of putting the law into practice, and the “*Haqiqa*” or the reality, is an inward state in which the traveler takes a journey to God. The purpose of the journey is to eventually become one with god and in other words become nothing within his majesty; thus for the seeker there is not a second for anything since all the creation, words and ideas are one. The journey is classified into seven stages of gnosis pointed by the great Sufi master Attar and come one after each other which can be called as levels of “*Tasavof*,” “Gnosis” or “Mystics.” (Rumi & Chittick, 1983)

He told us there are seven stages in the journey; since you passed them, there will be a gate. There is no one in the world that won’t travel this path eventually, yet no one is aware of its length. Since no one has ever returned from this long path, there is no awareness available for non patients; however the ones whom have gone this journey became lost and thus no calls are made from its end. The journey first starts form “*Talab*” or “Desire;” after will be “*Eshgh*” or “Love.” The third stage is “*Maarefa*” or “Wisdom” and the fourth is “*Esteqna*” or “Disdain.” The fifth stage is pure “*Tawhid*” or “Oneness,” and then the sixth is “*Heirat*” or “Wonder.” The seventh stage is “*Faqr*,” “*Fana*” or “Nothingness” which after that no more paths you will follow as

you have reached your destiny. You will lose your path and fall for inducement and if it is only as a drop, it will seem of a great scale. (Haghighat, 1991) (Attar, 2007)

In order to enter the spiritual path, the “*Murid*” or “One Who Has Made up His Will” requires continuous guidance to travel through different levels and states towards the ultimate goal. In this process a “*Sheikh*” or “Spiritual Teacher” constantly supervises the disciple’s steps and his every breath for a correct progress. The concept of a spiritual master is in fact the same idea of the prophet’s task while he was present among the Muslims, yet in a more narrowed scale in order to open the eyes of the disciple. The newcomers however must wait for a time and undergo some tests to prove their will and interest in the spiritual teachings. In other words the seeker must show his desire to step in the spiritual path and fulfill the first stage of his progress. Usually three years of service was required before one was accepted as a disciple in a master’s school; one year in the service of men, one year in the service of God, and one year in watching over his own heart. On the other hand many followers wandered many years in search for a “*Pir*” or “*Sheikh*” to whom they can surrender completely. Once the student is accepted, he will be guided and instructed by the means of “*Dhikr*” or “Recollection,” “*Suhbat*” or “Company,” service and education until he becomes like the son of his teacher. From this point the teacher helps give life to a true heart of the student feeding him with divine milk which is wisdom. The master observes every single moment of the disciple’s growth, either consciousness or unconscious. He will teach the student how to act in every level or stage; however the methods will not be the same for everyone as the understanding, talent and character of every student will be different. (Schimmel, 1975) (Attar Neishaboori, 1177)

When the process begins the disciple begins a series of inward transformations taking him up the levels of spirituality stretching for heaven and beyond; and in this path the divine alchemy will transform the lead base of his substance (which is his vices) into

pure and noble gold, creating a golden and shining body. However the student must explore and develop in every aspect since the path is not a simple a one step process. In the inner travel he will face factors and issues which he must set his will on reaching and gaining their “*Akhlaq*” or “Virtue” in order to gain that specific quality and reach the saying of the prophet when he said: “Assume the virtues of God.” In other words the suffering of the student is just to acquire these qualities which do not belong to the physical aspect of man, and thus he has to purify his inner mirror so that it would become more God-like than human-like. In this case he then himself images the truth, reality and the ultimate pure matter without any human substance; any perfection achieved by the student is in fact God’s perfection that is reflected within him. Once the virtues are gained the human is no longer a physical body, he has reached God’s perfection. Therefore the esoteric path or the third dimension of Islam can be defined as the science of the soul transformation in its journey to God. (Chittick, 2008) During the whole process, the student should constantly be facing towards the will of God; he must have complete devotion and an absolute surrender towards the Supreme Being and the spiritual teacher. Thus an activity without “*Ikhlas*” or “Devotion” is of no value; a thought without surrender is meaningless and even dangerous. This concept of devotion is in fact the introduction of the pure love; to give up whatever is not allowed that distracts the heart from God. In other words the forward spiritual movement is a continuous struggle against the “*Nafs*” or the “Lower Self” since it is the source and cause of all sins and vices, thus the struggle is called the holy crusade. But all of this will be easily possible with a true love as the second stage to make this inner battle easy, bearable and make the hard times of purification enjoyable. (Schimmel, 1975) Pure gratitude, respect and love towards God, teaches man to see with the inner eyes of his heart. It will in fact make the intuitive center bloom and bring man the gift of wisdom. Wisdom is not an issue similar to physical science; their difference is ‘*similar to a man*

who can see and a man who is blind. If a blind person wants to know an elephant, he has to touch it for quite some time to gather data and process them in order to have an idea of the shape of the elephant. A person who has eyes to see will simply open his eyes and say, "That is an elephant," and will know exactly what an elephant looks like. Intuitive intelligence is just like opening your eyes and saying, "I know what this is." Mental intelligence requires study and the use of logic through inductive and deductive reasoning.' (Sui, 2005, pp. 29, 30) (Attar Neishaboori, 1177)

In the stage of receiving a gift from the beloved the seeker is full of joy and happiness, as the beloved is content with what is done by the lover. Thus the seeker is in no other need and experiences "*Faqr*" or "Poverty." It is although wise to mention that poverty in this stage does not ever mean to live a life of poverty and regardless of any materialistic aspect; in fact it mentions the vanished request of worldly desires in the inner world. The seeker instead is now full of love and has experienced different levels of love such as "*Uns*" or "Intimacy," "*Ghurb*" or "Proximity" and "*Shough*" or "Longing." This sequence then continues as the seeker moves closer on the path. Yet the means of drawing near to the beloved is through constant purification so that the beloved would be defined in his essence. (Schimmel, 1975) The process thus continues until the lover experiences oneness with his higher soul, the higher level of his creation. In other words the soul understands and realizes that he is not the physical body, nor the emotions nor the thoughts and is one with a greater being to which he belongs to. This stage is thus the "*Vahdah*," "Yoga," "Oneness" or "Illumination." This stage is in fact a stage to understand the nature of one self and will eventually lead to God realization. (Sui, 2005) (Attar Neishaboori, 1177) Referring to the words of the great prophet the soul cannot simply realize the greatness of the ultimate being unless and until he has realized his own being. (Jain, 1975) (Majlesi, 1986)

After the union, the soul starts to wonder; he is in great pain and suffering; every second of his life is an exaggerated inner agony of detachment from his beloved. The soul has now tasted the essence of God but still away from his majesty. In this stage no one understands him as he is not speaking in their words; he is like a lost child in search for his father with a lost way, thus he does not realize what he is doing and what his states are. This state is the state that most of the Gnostic literatures are discussing and several symbols, stories and tales are created to image the great pain of this level. A seeker is symbolized as a straw separated from a straw field crying and asking for return, he is asking everyone to listen to his inner pain yet no one is willing to accompany him since they have not tasted joy of the beloved. (Haghighat, 1991) (Attar Neishaboori, 1177) (Rumi, 1260) Eventually the seventh stage comes along, which words are not capable of explain. The seeker is now in the arms of his beloved, one with him and actually him. Whoever has made his path to his majesty cannot bring anything back for others as he is no more himself, he is nothing, all, one, he is in fact part of God. (Attar Neishaboori, 1177)

2.1.4 THE HUMAN, THE SOUL, THE GOD

When creation began, the human was created in the image of the supreme god. This statement is obviously not addressing the physical characteristics of the human creation; however being created after God's image means that a person is carrying an essence which is called the Supreme Being or God. Therefore many religions and schools of thought have introduced the human as the son of the most high. In each person there is a divine essence or a divine spark. This divine spark is a micro God or a micro I am that represents a bigger picture; it is immortal and in a wider understanding, it is one with all other I am's of others, regardless of any geographical, national or chronological boundaries. Every religion thus uses a way to introduce this precious integrity and its dimensions. The soul or the I am is not the physical body, not the mind nor the thoughts

and it is not the emotions. The soul is in fact a being of divine intelligence, divine love and divine power; a trinity imaged by many religions sometimes known as the Father, Son and Holy Spirit. The soul indeed is a portion of its higher phenomena, called the higher soul. In order for the soul to grow and evolve, the higher soul extends a part of itself down to the physical world, yet remaining interconnected with it. When a person does not live a life of high value, and his life is full of chaos, the connection is reduced and even gone; on the other hand when a person starts the spiritual path and evolves, this connection starts increasing and the unity or the oneness will be eventually achieved. (Sui, 2005) (Attar Neishaboori, 1177)

The concept of Unity of Being in Sufism was introduced by Ibn al Arabi (1165-1240 A.D.) according to the micro – macro Idea. *‘Know that the things that exist constitute three degrees, there being no other degree of Being... I would assert that of these three (categories) of things the first is that which possesses existence by itself, i.e., that which is existent per se in its very essence. The existence of this thing cannot come from non-Being; on the contrary, it is the absolute Being having no other source than itself.... It is, in brief, the absolute Being with no limitations and conditions. Praise be to Him! He is Allah, the Living, the Everlasting, the Omniscient, the One, who wills whatever He likes, the Omnipotent.’* (Stepaniants, 1994, p. 16) He further explains that there is only one reality and that there is only one reality which is the perfect and the world is its shadow. This shadow appears since he wanted to manifest himself, see his own essence and reveal a hidden treasure. Thus the world is “*Kathif*” or “Gross” and the divine is “*Latif*” or “Subtle.” The links are however provided as lights impregnated with the shadow. Their existence is in fact to remind the soul about the light and the shadow, since it is by the presence of the light that the shadow has appeared; and the soul at first does not realize the darkness of his physical surroundings. (Stepaniants, 1994)

The human soul is given four vehicles in his worldly journey along with his visible physical body which are the Etheric, Astral, Mental and Causal bodies. Through these he is able to express himself on various dimensions of physical, emotional, mental and so forth. Particles of all the three grades of matter enter the category of the physical vehicle, creating one of the two sections of the physical body. The other part of the physical life of a particle is its Etheric double which is created from “Prana,” “Life Force,” or “Vitality.” Every solid, liquid or gaseous particle of the visible body is surrounded by its Etheric double creating a vehicle normally extending few inches beyond the visible body. It contains four grades of Etheric matter more subtle than solid, liquid and gaseous; Etheric, which is the medium of electricity and sound; Super Etheric, which is the medium of light; Sub Atomic, which is the medium for a finer form of electricity and Atomic, which is the medium of transmission of thought through nerves and the brain system. Similar to its physical double, the Etheric body has to be fed and at the same time it has to expel its used up materials. Thus it is made of certain centers in order to continue its functioning and keep the visible physical body active and alive. (Powell, 2005) These centers are known as “Chakras” or “Spinning Circles” and were treated in order to maintain the physical and psychological health of a person. The centers are known in the Sufi terminology as “*Lateefa*” or the “Subtle” and in plural form “*Lataif*” or the “Subtles.” In Esoteric Islamic teachings they are related to both chakras of Kundalini Yoga and the nodes of the Tree of Life of the Jewish Kabbalistic spirituality. Many Sufi saints were recorded having the ability of spiritual healing and aware of the knowledge of vitality. (Cornell, 2007) (Nurjan & Kabbani, 2005)

There are totally eleven major centers in the Etheric body. The Crown center is located at the crown of the head and controls the Pineal Gland; it is the center for divine love, higher Intuitive faculty, Illumination and the center point of spirituality. The Forehead center is located at the center of the forehead and controls the nervous system and also

the Pineal Gland; it is the center for the lower intuitive faculty and wisdom. The Ajna center is located between the eyebrows and controls the Pituitary Gland; it is the center for the abstract mental faculty and higher creativity. The Throat center is located in the throat area and controls the Thyroid Gland; it is the center for the concrete mental faculty, direction and higher type of will power. The Heart Center is located at the front and back heart area and controls the Thymus Gland; it is the center for higher emotions. The Solar Plexus center is located at the hollow area between the ribs in the front and the opposite side which controls the pancreas; it is the center for lower emotional, assertiveness and emotional will for the masses. The Spleen center is located in the front and back of the spleen and controls the physical spleen; it is an energizer for the whole physical body. The Meng Mein center is located at the back of the navel and controls the kidneys and the Adrenal Glands; it regulates the upward flow of vitality from the basic center. The Navel center is located in the Navel and controls the small and large intestine and the appendix; it is the center for the instinct of knowing. The Sex center is located in the pubic area and controls the gonads; it is the center of the instinct of pro - creation, sexual drive and lower creation. The Basic center is located at the base of the spine and controls the Adrenal Gland; it is the center for the instinct of survival and dynamic activities. (Sui, 2006) (Sui, 2005) (Ya yá ibn abash Suhraward , John Walbridge, Hossein Ziai, 1999)

In the year 1939, Semyon Davidovich Kirlian and his wife developed Kirlian photography which functioned on the base of a high-frequency electric field, and was used to capture portions of the invisible body or the bio-plasmic body.

Later at the Kirov State University in Almata, a group of biologists, biochemists and biophysicists declared that the bio-plasmic body is not merely some sort of plasma-like constellation or ionized, excited electrons, protons and possibly some other particles, yet

it is a whole unified organism itself which acts as a unit giving off its own electromagnetic fields. (Sui, 2006) (Powell, 2003)

From a deeper perspective, there are in fact 12 major centers in the Etheric body, which the 12th center being located about 12 inches above one's head and its existence has been kept secret yet symbolically revealed in all religions. The 12th center is in fact the center in which the soul is lodged in the seventh month of pregnancy. It looks like a golden star and is also known as the "Soul Star" and as a person evolves, the star transforms into a golden flame. (Sui, 2005)

The second subtle body of the man is the Astral body which is not similar to the physical vehicle and is created with flashing colors, composed of a matter higher than the physical matters in which feelings, emotions, desires and passions are expressed. The Astral vehicle also reacts as a connection between the physical brain and the mind which operates in the higher mental body. For the normal person, the activities of the Astral body are not completely under his control while for a developed man, the vehicle is well organized and is totally under control; in this case the life in the Astral body is active, interesting and useful. (Powell, 2005)

The third subtle body of the man is his mental body which is the vehicle that the soul manifests as concrete intelligence through the powers of the mind such as memory and imagination. In the advanced stages of the man's evolution the mental body functions as a separate vehicle with consciousness which the soul can live in almost apart from his physical and astral bodies. The mental vehicle is the world of thoughts which have some basic actions; to radiate waves of thought, form a thought form or a thought package and to sometimes project the thought form into the surroundings. In fact each thought has a shape, color or both and according to its potential and power affects its surroundings. (Powell, 2004)

The most subtle body of the human is his Causal body which in comparison to the other three is immortal and will persist throughout the evolution of the man. Hence it does not stand within the definition of personality and compared to the mental body it deals with more raw and abstract forms of thoughts; similar to comparing arithmetic and algebra. (Powell, 2003)

2.2 THE ARCHITECTURE OF LOVE

2.2.1 PERSIAN ARCHITECTURE

The development of many cultures in Persian lands has added distinctive features to the shape of art and architecture in which the culture's beliefs manifests, forming different styles, each with particular personality. In general Persian architecture has been divided into the three periods of Traditional, Transitional and Contemporary eras. The latter two have a lesser value compared the traditional styles. The traditional styles are categorized according to the era of different dynasties ruling the Persian Empire. (Ayatollahi, 2003) These styles are divided into six categories according to Pirnia (2004) which are *Parsi* and *Parthi* belonging to the era before Islam, and *Khorasani* (from the 1st century A.H to the 2nd century A.H) *Razi* (from the 2nd century A.H to the 6th century A.H) *Azari* (from the 6th century A.H to the 10th century A.H) and *Esfahani* (from the 10th century A.H to the 12th century A.H) belonging to the era after Islam in Persia. (Pirnia, 2004) (Mirmoghtadaee, 2009)

Since the subject of this thesis is related to Persian Islamic architecture, the Author will focus on the post-Islamic styles.

'The conquering forces of Islam imposed no architecture because they had none to impose. However, Sassanian architecture – inventive, audacious, impressive as it was – because of its somewhat elemental structural forms had relied too heavily upon inert masses of stability. It was the achievement of Islamic Persia to refine these powerful forms and to develop their potential into an architecture of exceeding beauty. The result was to be lighter, more sensitive, more varied and more expressive than its antecedents.' (Pope, 1969, p. 38)

The Islamic empire suggested an openly diverse culture of communication, commerce and finance and thus introduced a new generation of buildings both secular and

religious, including mosques, schools, tombs, bridges, forts, hospitals, caravanserais and libraries. (Pope, 1969) However standing before God and calling the creator five times a day inside the simple structure of the mosque made it the centre of all the activities of the Islamic community. The mosque grew displaying a divine magnificence and splendour. The doors of the mosque were open all and every day; it belonged to all Muslims on an equal basis. Along its main functions, it traditionally had a library, “*Ab Anbar*” or “water reservoir,” “*madrassa*” or “school,” infirmary and even public dining facilities. (Ayatollahi, 2003) Spirituality was interrelated with people’s lives and therefore the mosque became physically integrated with the city and was placed in the focal point of the urban texture merging with its surroundings. It was an enclosed courtyard focusing on the inner world of men; its repetitive, like arcades and columns gave it coherence and defined its purpose of imaging a sense of unity through the plurality of monuments. (Pope, 1969) The basic concepts of mosque design spread through the lives of men and made their living accordingly arranged to the teachings of their beloved religion, and thus an impact was formed to transform within, and also the out. The impact touched all aspects of Muslims lives and made them live their lives not enslaved to the teachings, but with the great knowledge and understanding of them; the impact thus touched their homes, schools, bazaars and even baths and royal monuments, making them all one from their plural images. (Pope, 1969)

The *Khorasani* style is considered the style used from the very beginning of Islam in Persia until the 2nd and 3rd century after the *Hijrat* (A.H). It was mainly influenced by pattern of the first mosque built in Medina. (Pirnia, 2004)

In the *Razi* era, starting from the 2nd century A.H, several new functioning buildings appeared like tombs and towers. Furthermore by introducing the Four *Iwan* styled mosque many, if not all the columned *shabistan* mosques transformed into the newly developed pattern. The *Iwan* which was frequently used in the pre-Islamic designs was

now accompanied with the ancient dome chamber creating a wide open area under the dome without the need of any columns, thus creating a domed hall directing to four directions with the use of *Iwans*. In this style, constructing arches and domes improved greatly and the pointed arch was used widely; and instead of using the simple domed intersecting arches, the four parted and the four pieces intersecting arches were used which were much more difficult to construct. Dome construction even faced serious changes and several types of domes were introduced in two major categories; the “*Rok*” or the “Straight” and the “*Nar*” or the “Flame.” (Pirnia, 2004)

The *Azari* style started from the 6th century A.H. and was introduced after the Mongolian attacks which destroyed every single valuable monument and even killed many of the Persian artists. Not a lot of architecturally rich buildings are available from that era since many of the teachings were lost and some qualities were reduced compared to previous works. (Pirnia, 2004)

The last line of the Persian line of architecture leads to the *Esfahani* style starting from the 10th century A.H that started just before the rise of the *Safavids*. Its splendour was mainly developed in Esfahan the capital of *Safavids* under Shah Abbas, known as the great period of the *Safavid* architecture while no great structural innovation was introduced. (Pirnia, 2004)

2.2.2 THE CREATOR, THE ARCHITECT

The Supreme God designated the noble nature as an unlimited temple for the act of worship for mankind; the religious man thus is allowed to return to the primordial nature as his divine temple. From the same perspective religious architecture represents itself as a sacred approach by recreating and recapitulating the harmony, order and the peace of nature. While praying in a mosque, the worshipper feels his return to the nature, not externally, yet through an inner connection that relates him to the mosque

and the mosque to the principle of nature which integrates into the sacred space of creation. The sacred architecture of Islam in this case becomes the extension of nature built by God and placed in a man-made environment, and it indeed becomes a centre from which the urban environment takes its original qualities from. In this case the entire town becomes a sacred being since it is an extension of the nature created by God. The creation of the house of worship therefore becomes an imitation of the creation of nature. In other words God has created the highest order and has represented it as a prototype of what the place he is being worshipped at should look like. Thus understanding the actual purpose of the house of worship is based on understanding nature; and the basic question arises regarding the definition of nature itself and its sacred potentials. (Nasr, 1987)

In the process of creating the mosque as an extension of nature, Islam introduces the nature of man himself, as a sacred being seeking the way of heavens, and the mosque at the same time awakes him from the dream of forgetfulness, arousing within him the consciousness of the reality of the unity with the true one. (Nasr, 1987)

According to the Quran, the human is the masterpiece of all creation. If we consider all of the species with a specific concept or abstract idea, thus the concept of the human is the most precious of all. Furthermore the Quran indicated that in the process of creation God has placed his essence into all his creations so that each being receives the essence of the ultimate being. It is in fact a Sufism's doctrine that God has manifested himself through the cosmos by the means of the "*Nafas al Rahman*" or the "Breath of Compassionate." (Prijetomo, 1992) *'The Breath of the Compassionate is the substance in which flowers all form of material and spiritual being... Physical bodies are manifested in the material cosmos when the Breath penetrates the material substance which is the receptacle of the corporeal form.'* (Corbin, 1969, p. 298) Since the human is the most precious of all other creations, he has received the greater of this noble

essence. With this story on creation, one can easily understand that a personal experience of oneself does not actually exist. Furthermore it can be concluded that although the human is obviously not the God – in contrast to what humanistic approaches insist on – he is like any other being a part of a divine presence that is the true essence of the Supreme God. (Shield & Carlson, 1990) God can be seen in his beingness and God can be seen in his essence. Beingness refers to the actual and physical nature of the physical actuality of existence which can be said as the presence of God; while essence is addressing an inner nature or the timeless source of everything or God. In any way these two are both one reality, God. (Shield & Carlson, 1990)

The architect of the place of worship as the representative of God has to follow the ultimate goal of creation which is unity, along with its path which is evolution or alchemy. When creating a place of worship, man is creating nature or the key means of remembering the human nature in order to make himself remember his nature. (Ardalan & Bakhtiar, 1979)

The human himself is not at all capable of bringing such a quality to the house of worship as he is not complete; thus he has to be purified in the highest extent so that the essence of God within him takes control. In this case the man is no more a man since he has gained a high level of spirituality and now he is capable of designing the house in where God is worshipped. If the architect hasn't reached the great level of human perfection, his architecture for God is of no value since it has no essence, it has no nature and it has no God. (Ardalan & Bakhtiar, 1979)

In the ancient ages especially in the Middle Ages, the architect was known as the master builder. One who has been trained the acquisition of language and mathematical skills by a priest or monastery. Furthermore he was an apprenticeship in a building trade, either carpentry or masonry at about the age of thirteen in which he would be taught all

the aspects of the craft, including theoretical and practical matters. After spending three to seven years under complete supervision of a craftsman and a spirit man, the junior would become a journey-man and to become a master he had to develop all his faculties and eventually represent a masterpiece to image his manifested wisdom. (Moffet, Fazio, & Wodehouse, 2003)

'In all matters, but particularly in architecture, there are these two points: the thing signified, and that which gives it its significance. That which is signified is the subject of which we may be speaking; and that which gives significance is a demonstration on scientific principles. It appears, then, that one who professes himself an architect should be well versed in both directions. He ought, therefore, to be both naturally gifted and amenable to instruction. Neither natural ability without instruction nor instruction without natural ability can make the perfect artist. Let him be educated, skilful with the pencil, instructed in geometry, know much history, have followed the philosophers with attention, understand music, have some knowledge of medicine, know the opinions of the jurists, and be acquainted with astronomy and the theory of the heavens.' (Pollio, 1960, pp. 5-6)

The above argument clearly demonstrates that the architect must be developed in all aspects. He must have the theoretical knowledge along with practical skills. Relating the issue with the teachings of Sufism, the architect must be developed in all the four faculties of the human being, consisting of the physical, emotional, mental and spiritual faculties, and if one has acquired the perfection of all the faculties, he is indeed a highly developed human.

In the ancient Islamic or more specifically ancient Persian era, the architect was called an “*Ostad*” or “Master” addressing his qualities in the related subject along with his ability in teaching them; however teaching the secrets of mastership was taught after the

student had proved his desire in receiving the precious teachings and had also proven his ability in applying them. A master was in fact aware of the whole picture of what was going to be created as the architectural object. He was the one in charge of the principals which were introduced in a building. The building was like the child to the architect. He took care of it in any period of its creation. The Architect must have been developed in order not to overact in any faculty. He had to be aware of the whole picture and at the same time how to transfer the message to the inhabitants. He was in charge of the living going on in the building; thus he had to be aware of living itself. He must have understood all the aspects of living, including physical, psychological, and spiritual. (Kiani, 2007)

The living that goes on in the building is not simply the function of the building; the building indeed needs beauty, structure and it indeed needs the divine essence. In this case the architect acts like a mother knowing when to feed her baby and when to take care of it so that the baby grows up and developed in all the required fields. (Pirnia, 2006)

After several stages the architect calculated a “*Peymoon*” or a “Modular Scale.” Developing this *Peymoon* helped the architect construct the building in an exact procedure according to the building and its purpose. The knowledge of developing the correct *Peymoon* for the correct building was in fact the great knowledge of architects that the student had to learn from his master; but before the knowledge was transferred the student had to be purified internally. (Pirnia, 2006)

‘An architect conceives of a building in his heart. In his imagination its breadth is so much, its length so much, its floor so much, and its courtyard so much. This is not called “imagination,” for the reality of that building is born and derived from his imagination. True, if someone other than an architect should conceive such a form in his

imagination, that is called “imagination.” And in everyday language people say to someone who is not a builder and who has not the knowledge, “You’re imagining things.”’ (Rumi & Chittick, 1983, p. 250)

What Rumi is trying to demonstrate is actually the difference of two planes of the human being. As discussed before imagination roots in the mental body of the human and compared to the causal body it houses more concrete ideas; while the causal body is the home for abstract ideas. An abstract idea obviously does not have a breadth, length or height since it is abstract. It has not worn the clothing of physics. It does not have a material. The architect as a spiritual person who has entered the path has gained the gift of intuition as a step of his development; thus he is able to imagine things closer to their actual being. The difference between the architect and the ordinary man is actually similar to the difference of the man who could have seen and the others who were blind. The master builder in other words has understood the actual essence or nature of being; he can see and has seen the reality and in his architecture he is applying it and recreating the truth as architecture. Furthermore the architect has to make his imagination into a physical being, and this is where practicality is as important as the imagination. In this case the architect is the physicist of the human soul who helps the human evolve in all his aspects. The architect is therefore a part of the noble nature designated by the Supreme God as a tool to uplift the human to a higher stage of living. The nature is a creation continuously reminding men of their nature, of what they are, where they have come from and what their purpose is. These should be the characteristics of an architecture created by men. (Rumi & Chittick, 1983) (Nasr, 1987)

2.2.3 THE CREATION, THE ARCHITECTURE

Every phenomenon is made up of an inner and outer meaning or aspect. Every single external entity is complemented by an inner truth or its inner nature. The outer side of things is the quantity of objects while their inner aspect is their actual quality. The

actual quality of things is in fact their divine nature and the outer visible side of them is the manifestation of the nature they have to represent. (Ardalan & Bakhtiar, 1979)

The relation of the two aspects is actually the task of God as a creator. The divine essence has to be made grosser and grosser in order to manifest in the physical plane. According to Akkach (2005) referring to Ibn al Arabi, the actual truth is similar to a source of light with objects around it creating shadow. Referring to figure 2.1 The shadow is thus related to the object and also to the source of light. In other words the object can be a representative of a high grade of being or the imagination of the architect which exists more than the shadow; the ground on which the shadow falls to represent the archetypal essence of all possible things, or the field on which external realities manifest which is the physical world. The light that projects the shadow represents the divine presence or the ultimate being and the shadow itself is the manifested object which extends to the external reality, or in other words the manifested object or the constructed building. Ibn al Arabi further explains that the world is the “*Zill*” or “Absolute Shadow” as a part of three levels. The second level of shadows is actually the natural beings that project the immutable essences in embodied forms, and from these forms extend the third level of shadows which is the sensible shadow that project natural bodies on sensible ground. The first level of shadows however is non-existing objects, the ones that have not even smelt the essence of existence. (Akkach, 2005)

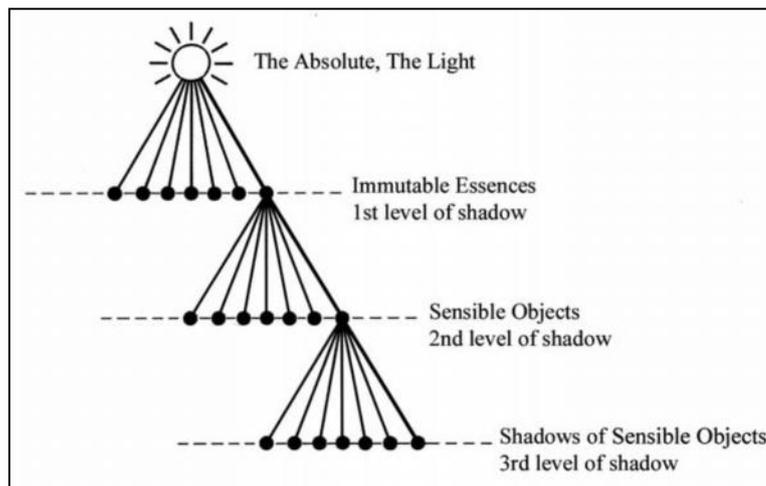


Figure 2.1 The hierarchy of shadows according to Ibn al Arabi. (Akkach, 2005, p. 34)

The origins of religious arts and its nature with all its forces and principals must be connected to the ideology of religion itself that makes it sacred. A sanctuary which must have been born by the rapport between this art and the act of worship, between the essence of nature and the essence of God for the remembrance of God as a crucial goal for all religious worships in order to uplift the human soul. The role played by the religious art therefore is the same as the role of nature in favour for the nature of man. In other words the shadow created on the physical ground has to have the quality of transformation, and when this happens religious art is no more an ordinary shadow since it is a shadow that makes men realize the object that created the shadow and indeed the light which is the main source. (Akkach, 2005)

Islam generally consists of three different aspects; the divine law, spiritual path, and the one and only truth which hold inside both the law and the path. The Islamic arts cannot simply have its roots in the divine law since the law only defines how the relation between God and man or the society on the level of action should be; it actually tells people how to act, yet not to create. The divine law however does create a background for the Islamic arts. The role of the law in arts is to beautify the soul of the artist by purifying it according to the virtues mentioned in the Quran. It is in fact the inner world

of Islam which is lead to by the spiritual path that one can discover the origins of this art. (Nasr, 1987)

'Islamic art is the result of the manifestation of Unity upon the plane of multiplicity. It reflects in a blinding manner the Unity of the Divine Principle, the dependence of all multiplicity upon the One, the ephemerality of the world and the positive qualities of cosmic existence or creation... This art makes manifest, in the physical order directly perceivable by the senses, the archetypal realities and acts, therefore, as a ladder for the journey of the soul from the visible and the audible to the Invisible which is also Silence transcending all sound.' (Nasr, 1987, p. 7) This art cannot obviously be created by a simple individual and it must be from a universal source since only the universal can create universal. Islamic art and architecture is set upon a sacred knowledge, or to be more precise, a wisdom, gifted from God; and according to esoteric Sufi tradition, the wisdom, intuition or knowledge is given to a person only at the third level, meaning that he has already shown his desire and love towards the evolutionary process of the soul of himself and others. Thus the art is based on the science of inner nature which does not have an absolute outer reflection and it mainly related to an inward reality. Religious art in this case is a bridge to connect the essence of the true object to the physical realities; which it is called the act of creation. (Nasr, 1987)

2.2.4 THE LANGUAGE OF SYMBOLS

Religious Ideologies have always emphasized the fact that the world is made from both physical and spiritual realities, from both visible and invisible entities. Islam talks about the seen and the unseen worlds, and about God as the knower of them all which to him belongs the unseen heavens and the earth. The Quran describes that there are in fact some keys to reveal the unseen and are kept with his majesty. (Akkach, 2005)

The seen is the physical world of natural phenomena that is discovered directly by the means of sense perception, whereas the unseen is the world of spiritual phenomena that can only be touched through imagination. In order to improve the imagination faculty of the human, religion has used analogy and metaphor. Through these tools an ontological connection between the sensible and the abstract is traced and thus the human is given access to the abstract or the causal aspect of phenomena. (Akkach, 2005)

The mental and emotional activities in this process involves identifying at first the sense and feeling of pens, sea, ink and words and then to search for similarities between them and the universe or the divine; and actually transferring their essences to one another. *'Religious understanding of spiritual realities hinges on the efficacy of such analogies, and symbolic reasoning relies on and promotes similar modes of thinking. In constructing ties between the divine and human modes of existence, analogical reasoning operates in the paradoxical space that lies in between the contrasting dimensions of analogy: tashbih and tanzih, "likeness" and "transcendence.'*' (Akkach, 2005, p. 30)

According to Ibn al Arabi the use of symbols becomes necessary in two circumstances. One is when the communicators are so far apart from each other that they cannot hear each other's voices; they are however able to see the movements of one another. In this case one acts in a manner so that the other can understand his message through the signs and symbols represented by him. The other is when the communicants are close but because of a deficiency in the listener, such as deafness, the verbal message is not conveyed; thus the language of symbols is the solution for this communication. He further explains that a clear example is the Islamic prayer which is known as a dialogue with God. The human, in this case has a clear deficiency and cannot hear the reply, thus through his own tongue he says that God can hear him whoever praises him. In fact he

is recalling a symbol or a sign made by the side without any deficiencies. (Akkach, 2005)

By the means of symbols the communication with the divine realities can be drawn. But the fact remains that the man should be in sight of the signs produced by the higher beings. The meaning of seeing the sign is actually to understand it. Thus the importance of the symbols is not because of themselves but for what their message actually is. Symbols are connections that manifest as sensible aspects of meta-physical truths. Thus they are not created by man as man is the listener, yet can transform him. (Ardalan & Bakhtiar, 1979) Symbols reflect the absolute light for the man, the source or the origin. Symbols are indeed created by God to uplift human for the sake of evolution, like nature. Nature is a symbol from God for the one who can see the signs and read them; the ones who can be transformed by their message.

The significance of the religious symbol is to actually bring the human closer and closer to its source as symbols are revealed by God. They have to be transferred to humans and this is done by the human itself since the human was considered the representative of God. The architect is the carrier of the divine symbol, of the divine message and thus he must build himself in a manner to be capable of receiving this precious trusteeship. When the architect builds, he is using the wisdom given to him by God only for the reason to make other souls grow. Producing the religious arts is in fact a divine act not carried by man, but by God himself for the ultimate goal of unity. (Akkach, 2005)

2.2.5 ELEMENTS OF DESIGN

This part will discuss the major elements in any common architectural creation. With the application of these elements a specific being will be called architecture since a unique action is done and an identity is given to it. In other words the forthcoming elements are in fact the tools which the architect uses in order to bring his intuitive

understanding, his imagination or his inner experiences into being. These elements are the tools that the architect has, so that he can image the symbols or signs for others to be transformed.

There are varieties of discussions on what these fundamental elements should be and how they should be categorized.

According to Unwin (1997) these elements are actually some conditions that the architect makes in favour of identifying a place called architecture. For example a piece of ground that principally is the area where an architectural object has to be based upon. The covering surface is another element which indicates the spatial borders of the architectural object; and furthermore there is gravity, light and time. He further introduces some specific objects as the ingredients of any building which with the help of them a building can be constructed, such as a raised area or platform, lowered area or pit, a marker, a barrier and other similar objects. He explains that these are the conceptual materials for the architect to work with, and while analysing any building these materials can be recognized. With the correct relation between these conditions and objects, a place is identified and thus the act of architecture has occurred. (Unwin, 1997)

What Unwin (1997) is discussing here is in fact a categorization of the elements of design. He has made two sets; the first dealing with the abstract idea of place, and the other dealing with the qualities that a place can receive.

According to Ardalan and Bakhtiar (1979) the elements, or what they call concepts, are manifestations of the images of the inner spirit of the architect. These elements are actually the transformational machines that one might not be aware of, and might not even understand its inner message, yet he is still transformed by them. They introduce these elements as space, shape, surface, colour and matter. (Ardalan & Bakhtiar, 1979)

The five elements introduced by Ardalan and Bakhtiar (1979) also have two aspects. The first aspect is how they look at these elements geometrically; since mathematics, arithmetic and geometry themselves are abstract and are not visible. They do not exist in the world of physical phenomena unless and until they are suited with physics. The second aspect of their elements is the aspect of quality; colour and matter are sensible phenomena. (Ardalan & Bakhtiar, 1979)

Furthermore Von Meiss (1990) adds the element of order to the former list of the elements of design and explains that order is indeed the most fundamental and permanent rule which governs the independence of all the other elements of architectural design. (Von Meiss, 1990)

The element introduced here is not an abstract element; neither is it a quality; yet it is the connection of these two aspects that is indeed the act of what is called architecture.

What is absolutely obvious in comparing these perspectives together is that the architect is a means of creating a symbol or a sign known as the identity. In creating this identity some scholars point to detailed structures which affect the whole construction and some observe it as a manifested abstract idea which itself is a home for abstract concepts. What is common in the ideas of all scholars is that this identity changes according to the function of the building with the means of its elements.

According to Akkach (2005) referring to Ikhwan, every manifested object whether man made or god made, necessarily comes from two fundamental components; form and matter. These components are actually two sets of effects commonly known as the elements of architecture which one set influence the idea to manifest directly and the other indirectly. Matter addresses the very “*Jawhar*” or the “Substance” that admits form and form addresses every shape of variable motif a substance is able to admit. Since different objects are created from similar matters, it is indeed the form which

makes the differences. These two sets of elements can be regarded as the quantity and the quality of the act of creation. (Akkach, 2005)

Architecturally speaking the first set of elements known as forms are in fact the same elements of geometry. They do not exist physically unless they have a matter to admit, thus they are abstract ideas and are categorized as the point, the line, the surface and the volume. The geometry itself is the quantitative aspect of architecture dealing with width, depth and height. They are the concept of the universe or architecture yet without any quality, and thus influence the whole concept directly, and bring it one step into being since the physical world can understand it but not manifest it. Then there are the qualitative elements which however are connected to the whole concept, do not directly affect it yet materialize it. These are the matter elements of creation that give the concept its cloth and bring the concept another step into the physical reality. Now the concept has materialized since it has a quality to be sensed by the physical world. (Akkach, 2005) (Ardalan & Bakhtiar, 1979)

Ikhwan further explains that the act of creation is a two parted act. The first part is practical art referring to the sensible product while the second is theoretical art referring to the knowledge that has led to such creation. Theoretical art in this case is the ability of the architect in receiving the symbols and transformable signs. He has gained it through constant purifications and meditations once becoming a master builder. Practical art on the other hand, is in fact bringing into being what there is in the creators mind and placing it in matter since every single object is a whole of form and matter together. This part is creating physically and giving it the divine identity. (Akkach, 2005)

In the original source everything is observed as a totality and all forms and matters are in fact related in a chain of relations thus nothing is independent. *'The shirt is a form*

with regard to the cloth, and the cloth is matter for the shirt; the cloth is a form with regard to the yarn, and the yarn is matter for the cloth; the yarn is a form with regard to the cotton, and the cotton is matter for the yarn; the cotton is a form with regard to the plant, and the plant is matter for the cotton; the plant is a form with regard to the arkan (elements), and the arkan are matter for the plant; the arkan are a form with regard to the [Absolute] Body, and the Body is matter for the arkan; the Body is a form with regard to the [Prime] Substance, and the Substance is matter for the Body. Likewise, the bread is a form with regard to the dough, and the dough is matter for the bread; the dough is a form with regard to the flour, and the flour is matter for the dough; the flour is a form with regard to the grain, and the grain is matter for the flour; the grain is a form with regard to the plant, and the plant is matter for the grain . . . This is the way in which form relates to matter and matter to form [in a sequential manner] until they terminate with the Prime Matter (al hayula al ula), which is nothing but the form of existence that includes neither quality nor quantity. It is a simple Substance – without any kind of synthesis whatsoever – that is susceptible of all forms in a sequential order, as we showed, and not randomly. For instance, the cotton does not take on the form of the cloth until it has received the form of the yarn; and the yarn does not take on the form of the shirt until it has received the form of the cloth; likewise, the grain does not take on the form of the dough until it has received the form of the flour; and the flour does not take on the form of the bread until it has received the form of the dough. In this order matter takes on forms one after the other.’ (Akkach, 2005, p. 37)

With a broader perspective therefore the created object is a manifestation of its “*Huwiyya*” or “Identity” which the architect has to give it to the building. This Identity comes from a primordial substance that overcomes all substantial differentiations and is known by the Sufis as “*Hoo*” or “*Him*.” This verbal similarity indeed points to the

previously discussed nature of beings and introduces the actual identity of every being as an absolute quality of god. If the architect is not qualified, there will be no identity for him to give to the building, since he has not experienced oneness. In this case there will be no transformation and the building is not architecture. This identity is also known as the “Breath of Divine.” (Akkach, 2005)

2.2.5.1 SPACE

Space is a three-dimensioned feature of quantity. In a worldly manner space is consisted of six directions of north, south, east, west, up and down as a primary coordinate system where every single object is situated. Every object or body is also an extension of length, breadth and depth; thus there is no particular difference between space and a corporeal object. This body is however raw and without a substance since its quantity is only distinguished and is regarded only as an empty being or an abstract idea with numbers. (Descartes, Cottingham, & Stoothoff, 1935) It does not have a tangible existence yet exists in the consciousness of its beholder who imagines boundaries and marks it as a place. The concept of place in fact rises when there is an actual object which is being contained. (Ardalan & Bakhtiar, 1979)

The reason why a place is created is so that an experience can be created. It is the absolute being of a wide range of experiences. A space can further be edited, decorated, materialized, coloured, timed and ordered in order to create a specific experience for the contained; whether physical relating to a sensible aspect like visual, smellable, hearable, touchable or tasteable; emotional creating a feeling of love, passion, anger or stress; mental recalling a memory or activating the imagination faculty of one person; or divine. What this experience is actually, is related to what is going to go on into a created place. (Tuan, 2001)

'Isn't it strange how this castle changes as soon as one imagines that Hamlet lived here? As scientists we believe that a castle consists only of stones, and admire the way the architect put them together. The stones, the green roof with its patina, the wood carvings in the church, constitute the whole castle. None of this should be changed by the fact that Hamlet lived here, and yet it is changed completely. Suddenly the walls and the ramparts speak a quite different language. The courtyard becomes an entire world, a dark corner reminds us of the darkness in the human soul, we hear Hamlet's "To be or not to be." Yet all we really know about Hamlet is that his name appears in a thirteenth-century chronicle. No one can prove that he really lived, let alone that he lived here. But everyone knows the questions Shakespeare had him ask, the human depth he was made to reveal, and so he, too, had to be found a place on earth, here in Kronberg. And once we know that, Kronberg becomes quite a different castle for us.' (Tuan, 2001, p. 4)

What the intension of creation is, the place will respond, and the experience will manifest. On how evolved the architect will be, the experience will be more pure and transformative. In a higher state of experience, the lower ones are also involved. In creating a transformative place of worship, the senses are still sensing, the emotions are still feeling and the mind is still thinking; however in the place of worship, more of these has to be done. Volumes are created in order to bring particular experiences to manmade architectural pieces. They also follow exact orders and connections in order for these experiences not to get mixed up. Volumes are actually the starting point for an abstract idea to materialize physically. For example the dome helps bring the experience of the place of worship in all levels. (Ardalan & Bakhtiar, 1979)

2.2.5.2 SURFACE

Within the hierarchy of spatial definitions, surface stands after the three-dimensional space. Surface can physically delimit shapes and thus is capable of making spaces, yet it is not present in the physical world. In fact physically speaking, the point, line and

surface do not exist and whatever there is as an object it is introduced as in volumes. Regarding this argument however surfaces carry a symbolic dimension in the architectural world. Similar to figure 2.2 within the surface patterns and shapes link places together and portrait desired stories and secrets. Man has always wished to express his ultimate love for the creator and through patterns, designs and colour he has drawn the creation to do so. (Ardalan & Bakhtiar, 1979)



Figure 2.2 Ornamental ceramic, Brooklyn Museum. (<http://www.brooklynmuseum.org>)

According to Ardalan and Bakhtiar (1979) surface is represented symbolically in three areas; the floor, the wall and the roof. The floor is the horizontal extension of architecture that symbolizes the earth; the wall symbolizes the third dimension of space where the vertical direction meets the ontological axis; and the roof symbolizes the heavenly aspects where the spirit reaches its zenith and takes his journey back home. (Ardalan & Bakhtiar, 1979)

The presence of numbers on the surface creates shapes and patterns which bring a qualitative value for the quantitative geometry. Geometry in general deals with pure form; it is a way that the creation is rendered visibly. Numbers however are not separate phenomena. Numbers and forms are ideally one, yet numbers must be understood in

their very special manner. According to Lawlor referring to Pythagoras, everything is arranged in numbers. This statement does not simply imply the quantity of continuous numbers and actually possesses the ideal level of quality. Numbers are relations no matter what quantity is applied, their relation will always remain and this relation is the hidden quality which is neither small nor big, yet is universal. Thus within every single number there lies a universal power, sometimes known as the esoteric or internal aspect of numbers which defines their qualities in comparison to their external or qualitative aspects which are just countable digits. (Lawlor, 2002)

'Let us look at the first four primary numbers in this spirit. The number one can of course define a quantity; as, for example, one apple. But in its other sense, it perfectly represents the principle of absolute unity, and as such has often been used as the symbol to represent God. As a statement of form it can in one sense represent a point – It has been called the "pointal" number, the "bindu" or "seed" in the Hindu mandala – or in another sense it can represent the perfect circle.

Two is a quantity, but symbolically it represents, as we have already seen, the principle of Duality, the power of multiplicity. At the same time it has its formal sense in the representation of a line, in that two points define a line.

Three is a quantity, but as a principle it represents the Trinity, a vital concept... Its formal sense is that of the triangle, which is formed from three points. With three a qualitative transition is made from the pure, abstract elements of point and line to the tangible, measurable state which is called a surface. In India the triangle was called the mother, for it is the membrane or birth channel through which all the transcendent powers of unity and its initial division into polarity must pass in order to enter into the manifest realm of surface. The triangle acts as the mother of form.

But three is yet only a principle of creation, forming the passage between the transcendent and the manifest realms, whereas four represents at last the 'first born thing', the world of nature, because it is the product of the procreative process, that is of multiplication: $2 \times 2 = 4$. As a form, four is the square, and represents materialization.' (Lawlor, 2002, p. 12) According to Lawlor (2002) this concept has been graphically illustrated in figure 2.3.

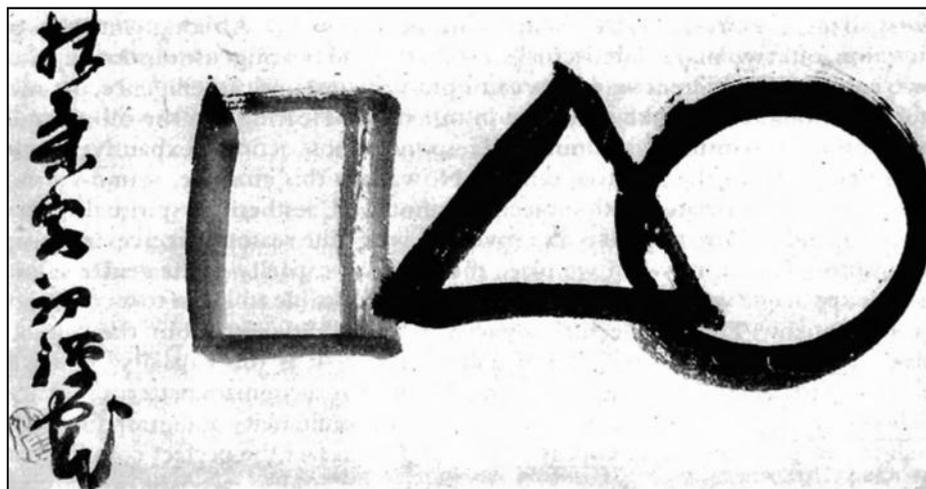


Figure 2.3 ‘This Japanese Zen calligraphic drawing beautifully shows “creation” through the simple progression from the Unity of the circle, through the triangle, to the manifest form of the square.’

(Lawlor, 2002, p. 13)

Furthermore than the symbolic side of numbers and geometry, there lies another universal truth about numbers in general. According to Balliett (1996) six centuries before the birth of Jesus Christ, Pythagoras introduced a concept known as the “Music of the Spheres” where he gave the world the fundamental principles of music that are now in use. He argued that every single being from a non-living object to the human itself is vibrating at its own specific rate or speed. This rate of vibration is the key of understanding both the seen and the unseen aspects of the universe, since every visible object as well as every activity in the universe or perception, notion, sensation and emotion also vibrates in a certain rate that in fact flow as a part of the one single rhythm of the whole universal pattern. (Balliett, 1996)

Music is a useful tool in order to understand the different levels of vibration. The tones and keys of music are demonstrated by numbers thus carry a complex definition composed of a sensual, emotional, mental and sometimes even spiritual understandings. This simultaneous interrelatedness is a reflection of the interior and exterior dimensions of numbers in the cover of music. Quite similarly, geometry was the tool that the Pythagoreans introduced as a unique transition to bring these vibrations into seen forms. The essential spirit of the perception of harmony was in fact transferred through the use of geometrical patterns. (Lawlor, 2002) According to Ardalan and Bakhtiar (1979) geometrical patterns including the ones shown in figure 2.4 to 2.7 were actually used by the traditional man as an aspect of the multiplicity of creation and numbers were used in accurate symmetry in order to symbolize the universe. In this way, the concept is related to the universal process of extension in all directions, or in other words vibration in all directions. (Ardalan & Bakhtiar, 1979)

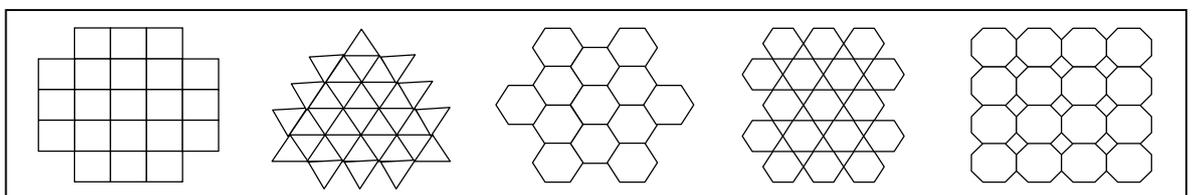


Figure 2.4 Geometrical patterns used from the combination of shapes. (Ardalan & Bakhtiar, 1979)

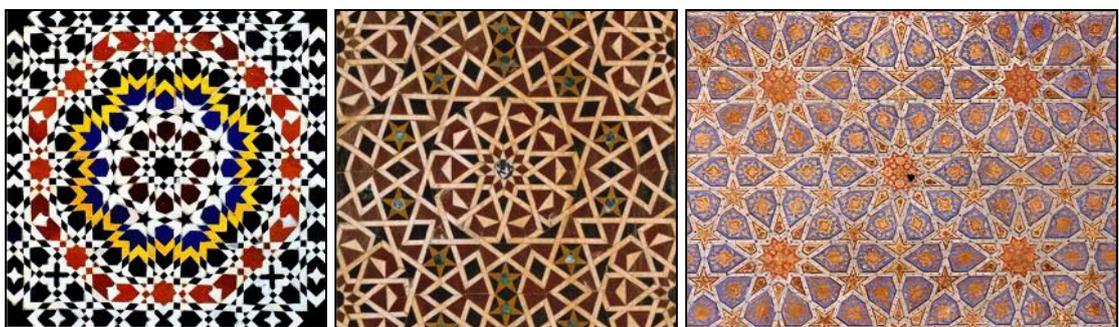


Figure 2.5 ‘The floor and wall tiling of the Islamic world demonstrate a very intricate and complex knowledge of the symmetries of two-dimensional space.’ (<http://www.math.umn.edu>)

Figure 2.6 Portion of a geometrical tile pattern. (<http://www.mrdines.org>)

Figure 2.7 A geometrical pattern in *Chehel Sotoon* Palace, Persia. (<http://www.flickr.com>)

According to the basic laws of physics, a solid is an object that the atoms vibrate in their main position; a liquid is an object that the molecules vibrate as well as move in clusters; and a gas is an object that the molecules move freely in random motions. This fact indicates that the vibration of the particles of an object makes them either more subtle or grosser. On the other hand esoteric teachings including the Sufi school have put a lot of effort on increasing the size of the more subtle bodies of the human being through constant meditations. (Tabrizi, 1980)

Comparing these two factors clearly indicates that esoteric teachings, religious or any other type of spirituality are in fact struggling to increase the vibration of the human bodies. Thus according to the four aspects of physical, emotional, mental and divine, the more advanced or abstract the action, feeling or thought is, the higher vibration it will produce. In other words evolution for the human being is completely dependent on the rate of the vibration of the human bodies. Eventually when the vibration of a human is so high and at the same rate of the universal vibration, it will become part of that. Once a vibration is a part of another vibration with the same rate, obviously it does not exist anymore since it has vanished into the other, and now there is only one. (Tabrizi, 1980)

The third aspect of the quality of numbers is revealed in a science called “Jafr,” “The Science of Numbers” or “Numerology.” According to this sacred science every single alphabet in the Arabic language is represented by a number. The alphabet and the numbers simultaneously represent each other as demonstrated in table 2.1. In this way numbers represent meanings as they actually represent specific words. (Tabrizi, 1980)

Table 2.1 The numeral value of Arabic alphabet according to Jafr. (Tabrizi, 1980)

9	8	7	6	5	4	3	2	1
90	80	70	60	50	40	30	ك 20	ي 10
900	800	700	600	500	400	300	200	100

Words are created by the combination of alphabet; they create new numbers which are the combination of the represented numbers of the used alphabet. In the Islamic numerology the holy script of Quran is the most important since it is respected as the words of God. Every word of the Quran has a vibration and every verse has also its own vibration. Sufis in fact believe that the Quran is not only a guide as it is also a book of transformation. As sacred words of God, the Quran creates specific vibrations when recited which transforms the human and makes him more and more subtle. (Tabrizi, 1980) This sacred vibration is also brought in the surface of architecture by the means of calligraphy. The Islamic calligraphy is actually a visible body which replaces pictures and images yet it actually images the divine revelation. (Ardalan & Bakhtiar, 1979)

Other than the Quranic transcripts, the holy names of the Supreme God are also used in the calligraphic decorations. According to the Islamic teachings each and every single name of “Allah” or “Supreme God” creates a specific vibration which simultaneously creates a specific quality. For example the name of “*Basit*,” which is pronounced as “*Basit*” meaning “The One Who Extends” is a sacred name relating to particular qualities. This sacred name is used to extend the understandings and qualities of the human being physically, emotionally, mentally or spiritually. In other words the vibrations produced will progress in all the aspects of the human being. This word carries also three types of numbers known as the large, middle and small numbers of the word; and are created as below:

$$= 2 + 1 + 60 + 9 = 72 \text{ (Large)} \quad 7 + 2 = 9 \text{ (Middle)} \quad 9 \text{ (Small)}$$

‘Allah! There is no god but Him! To Him belong the most beautiful names.’ (Quran 20:8)

Table 2.2 The 99 names of the Supreme God. (Tabrizi, 1980)

1	Allah	The Greatest Name
2	Al Rahman	The All-Compassionate
3	الرحيم Al Rahim	The All-Merciful
4	Al Malik	The Absolute Ruler
5	Al Quddus	The Pure One
6	Al Salam	The Source of Peace
7	Al Mumin	The Inspirer of Faith
8	المهيمن Al Muhaymin	The Guardian
9	العزيز Al Aziz	The Victorious
10	Al Jabbar	The Compeller
11	Al Mutakabbir	The Greatest
12	Al Khaliq	The Creator
13	Al Bari	The Maker of Order
14	Al Musawwir	The Shaper of Beauty
15	Al Ghaffar	The Forgiving
16	القهار Al Qahhar	The Subduer
17	الوهاب Al Wahhab	The Giver of All
18	Al Razzaq	The Sustainer
19	Al Fattah	The Opener
20	العليم Al Alim	The Knower of All
21	Al Qabid	The Constrictor
22	Al Basit	The Extender
23	Al Khafid	The Abaser
24	Al Rafi	The Exalter
25	Al Muizz	The Bestower of Honors
26	Al Mudhill	The Humiliator
27	السميع Al Sami	The Hearer of All
28	البصير Al Basir	The Seer of All
29	Al Hakam	The Judge
30	Al Adl	The Just
31	اللطيف Al Latif	The Subtle One
32	الخبير Al Khabir	The All-Aware
33	الحليم Al Halim	The Forbearing
34	العظيم Al Azim	The Magnificent
35	Al Ghafur	The Forgiver and Hider of Faults
36	Al Shakur	The Rewarder of Thankfulness
37	Al Ali	The Highest
38	الكبير Al Kabir	The Greatest
39	الحفيظ Al Hafiz	The Preserver
40	المقيت Al Muqit	The Nourisher
41	الحسيب Al Hasib	The Accounter
42	الجليل Al Jalil	The Mighty
43	الكريم Al Karim	The Generous
44	الرقيب Al Raqib	The Watchful One
45	المجيب Al Mujib	The Responder to Prayer
46	Al Wasi	The All-Comprehending
47	الحكيم Al Hakim	The Perfectly Wise
48	Al Wadud	The Loving One
49	المجيد Al Majid	The Majestic One
50	Al Baith	The Resurrector

51	الشهيد	Al Shahid	The Witness
52		Al Haqq	The Truth
53	الوكيل	Al Wakil	The Trustee
54		Al Qawiyy	The Possessor of All Strength
55	المتين	Al Matin	The Forceful One
56		Al Waliyy	The Governor
57	الحميد	Al Hamid	The Praised One
58		Al Muhsi	The Appraiser
59		Al Mubdi	The Originator
60	المعيد	Al Muid	The Restorer
61	المحيي	Al Muhyi	The Giver of Life
62	المميت	Al Mumit	The Taker of Life
63		Al Hayy	The Ever Living One
64	القيوم	Al Qayyum	The Self-Existing One
65		Al Wajid	The Finder
66		Al Majid	The Glorious
67		Al Wahid	The One, the All Inclusive, The Indivisible
68		Al Samad	The Satisfier of All Needs
69		Al Qadir	The All Powerful
70		Al Muqtadir	The Creator of All Power
71		Al Muqaddim	The Expediter
72		Al Muakhkhir	The Delayer
73		Al Awwal	The First
74		Al Akhir	The Last
75	الظاهر	Al Zahir	The Manifest One
76		Al Batin	The Hidden One
77		Al Wali	The Protecting Friend
78		Al Mutaali	The Supreme One
79		Al Barr	The Doer of Good
80		Al Tawwab	The Guide to Repentance
81		Al Muntaqim	The Avenger
82		Al Afuww	The Forgiver
83		Al Rauf	The Clement
84		Malik al Mulk	The Owner of All
85		Dhu al Jalal wa al Ikram	The Lord of Majesty and Bounty
86		Al Muqsit	The Equitable One
87		Al Jami	The Gatherer
88		Al Ghani	The Rich One
89		Al Mughni	The Enricher
90		Al Mani	The Preventer of Harm
91		Al Darr	The Creator of The Harmful
92		Al Nafi	The Creator of Good
93		Al Nur	The Light
94	الهادي	Al Hadi	The Guide
95	البديع	Al Badi	The Originator
96		Al Baqi	The Everlasting One
97		Al Warith	The Inheritor of All
98	الرشيد	Al Rashid	The Righteous Teacher
99		Al Sabur	The Patient One

In this case 72 is a number which produces the quality of *Basit*. In architecture the use of calligraphy in many instances is combined with the geometrical patterns discussed earlier similar to figure 2.8. For example if in a specific place the qualities that *Basit* produces is required in any manner, the calligraphic word *Basit* is combined with a 9 sectioned pattern as the middle and small numbers of the word. Thus 2 similar rates are created which produces a resonance and the impact of the word, the pattern and the number is increased, and the transformation is faster. (Tabrizi, 1980)



Figure 2.8 Mosaic tile work in Kufic script, Grand Mosque of Yazd, Persia. (<http://www.flickr.com>)

2.2.5.3 TIME

The second group of variables deal with the qualitative aspect of the creation in comparison to the geometrical quantities of it. These variables do not directly influence the creation yet they cause influences on the manifested form. One of the very most important aspects of quality in architecture is the time of construction. In this definition time actually does not refer to duration, yet it points to an exact moment when construction has to be carried out. The specific moments and the effect they bring are calculated through some precise observations on the position and relation of heavenly bodies or planets which is known as the science of astrology. Astrology is known as “*Jyotish*” in the Indian tradition which literally means “The Light of God.” It represents the eye in the Vedic body rooted in the ancient Indo-Arian culture that is achieved by

the ones who have gained the qualities of the divine. The heavenly bodies create great influences on many aspects of life on the planet earth. (Kumar, 2005)

The fundamental principle of astrology is that everything in the universe influences other beings and in turn is influenced by them. In fact astrology describes that the smallest being in the universe is a subject of the same process as the largest, in other words “As above, so below.” Thus there is a natural resonance between the evolving universe and the human soul. Whatever is created in a particular moment thus has the qualities of that particular moment. At the occurrence of an event or creation the bodies or planets are mapped on the basis of astronomy and mathematics and the map is interpreted according to the defined laws of astrology. Thus is a reverse situation, when a specific quality is needed, by the use of astronomy and mathematics the map is generated and the specific time is calculated similarly. (Kumar, 2005)

Nothing is clearly known of the astronomy and astrology of ancient Iran; however the base of this science is believed to be related to Zoroaster and ancient Mesopotamia which later during the Achaemenids transferred to the Indians. At the Sassanid reign the science of astrology was rewritten according to the Greek and Indian references. Later during the Islamic era astrological books were written according to the principles of the Indian astrology. Astrology was used frequently in the Islamic world and many great astrologers and astronomers were presented like Abu Reihan Biruni and Omar Khayyam. (Pingree, 1963)

In Astrology each heavenly body is considered a vortex point which creates a specific energy or quality. This quality is a subject of change according to its position observed from the earth. Thus the earth is considered as the central point of the earth and the position and rotation of the planets are measured in relation to the earth. In the most basic type of astrology the sky is drawn as a square, divided into 12 parts which each

represents a 30° section from the whole 360° visible from earth. Each of these sections is called “Signs” or “Houses” and each indeed have a quality. (Duncan, 2002)

The heavenly bodies orbiting the sun are called the “*Grahas*” or “Planets.” According to the Vedic astrology there are 9 bodies that appear to have the most effect on the earth and its beings which are the Sun, the moon, Mars, Mercury, Jupiter, Venus, Saturn, Rahu and Ketu. From these vortex points the sun is a star and the moon is the satellite of the earth. Of the two places where the moon crosses the ecliptic, the north point is called Rahu and the opposite one on the south is called Ketu; which in fact marks these two as mathematical points with no physical appearance, yet very sensitive and effective points. Each of these planets and signs carry some special qualities, and influence the earth and its beings according to their position in the mapped chart. In this case it’s not only the effect of the planets which is important, yet the position of the planet in accordance with the other ones is important as well. Each planet is also related to an etheric centre or chakra in the human body which affects it. Mars is related to the Basic Centre; Venus is related to the Sex Centre; Sun is related to the Solar Plexus Centre; Moon is related to the Heart Centre; Mercury is related to the Throat Centre; Jupiter is related to the Ajna Centre, and Saturn is related to the Crown Centre. When an act, feeling or any kind of production is done, the quality of the exact time of the creation will remain with the created being. (Kumar, 2005)

By the means of astrology, if the building requires a specific quality, the exact time is calculated and the starting and ending point of construction are precisely determined. If in a building there is a need to activate a specific etheric centre of the users’, the architect will use astrological calculations as an approach.

2.2.5.4 COLOUR

The physical world is pure darkness, a shadow which has not shown itself until and unless the light is presented. The world is born in light and colour springs from this colourless being. The world of colours thus has been introduced as the manifested world of multiplicity or the concept of physical life; and just as the being of colour is totally dependent on the being of light, creation is dependent on the being of the God. (Ardalan, 1974)

'The difficulty of knowing God is therefore due to brightness; He is so bright that men's hearts have not the strength to perceive it. There is nothing brighter than the sun, for through it all things become manifest yet if the sun did not go down by night, or if it were not veiled by reason of the shadow, no one would realize that there is such a thing as light on the face of the earth. Seeing nothing but colours, they would say that nothing more exists. However, they have realized that light is a thing outside colours, the colours becoming manifest through it; they have comprehended light through its opposite. . . He is hidden by His very brightness.' (Ardalan, 1974, p. 169)

Colours are divided in ranges according to their manifested values. Esoteric approaches to the varieties of colour have been developed in almost all traditional cultures including ancient Iran. "Haft Rang" or "Seven Colours" is a system of art developed in the Persian lands which was developed according to the seven stages of spiritual development, and was symbolized by the seven colours of rainbow. These colours are simultaneously related to numbers and numerological qualities as well, like the seven visible planets, the seven days of the week, the seven metals, the seven climates, the seven notes of music, the seven major centres of the human body and so on. (Ardalan, 1974)

As the human soul evolves, it gradually awakes to a higher level of consciousness which means higher centres of the body get more involved in the process of evolution.

Every single centre of the human body is related to a specific colour as mentioned before. Thus it is also related to a specific rate of vibration according to the laws of physics. The seven visible colours as seen in figure 2.9 are actually creating vibrations with red the least rate and violet the most. Furthermore, every centre and colour indeed, is related to a musical note of an octave, and thus as the vibration of the colour or centre increases the note has a higher vibration as well. Many psychological phenomena including the commonly known psychologies of colour can be interpreted in this case and by comparing the colour to its related centre, the exact produced qualities of colour and tones of music can be studied which has been mentioned in table 2.3.

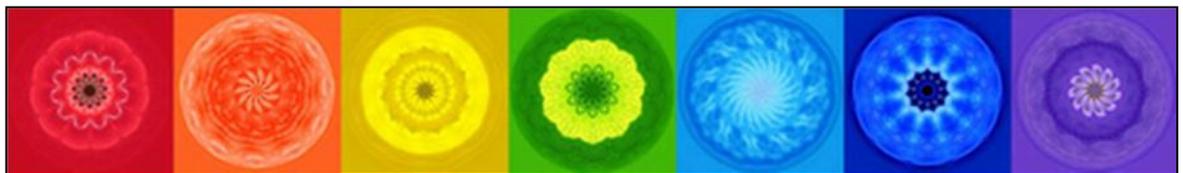
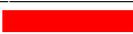


Figure 2.9 The colours of the Etheric Centres of the human body. (<http://www.flickr.com>)

Table 2.3 The relation between vibrations, colours, musical notes, centres and planets. (Author)

7 ↑		Violet	Ti	Crown	Saturn
6		Indigo	La	Ajna	Jupiter
5		Blue	Sol	Throat	Mercury
4		Green	Fa	Heart	Moon
3		Yellow	Mi	Solar Plexus	Sun
2		Orange	Re	Sex	Venus
1 ↓		Red	Do	Basic	Mars

It is yet to explain that these colours are not in fact complete since they are only a vision in the shadow. The perfect colour is in fact the colour having all these seven within, or the light, the white light. In other words only one colour is not perfection and since the human is reaching for the one and only light, he has to have all the required qualities. (Todeschi, 2007)

Architecturally speaking, according to the function of the building, the architect selects the required colours and the relations between them. In this case he has another tool to

make a correct living in accordance with the act which is supposed to be done in the building. (Ardalan & Bakhtiar, 1979)

2.2.5.5 MATTER / MATERIALS

'The matter of artificial work is everybody (jism) out of and in which an artificer works his art, such as the timber for carpenters, the iron for ironsmiths, earth and water for builders, the yarn for weavers, and the flour for bakers. Accordingly, it is necessary for every artificer to have a body to work his art from and in it. This body is the matter of artificial work... Natural matter is the four elements (arkan). All that is found in the sublunary sphere, the animals, plants, and minerals, come from the elements and by corruption return to them. The active nature responsible for this process is one of the forces of the celestial Universal Soul... Universal Matter is the Absolute Body, from which is drawn the entire world, that is, the celestial spheres, the stars, the elements, and all beings. These are all bodies whose diversity derives from their diverse forms. As for Prime Matter, it is a simple, intelligible substance that cannot be sensed, for it is the form of being proper. It is the Original Identity (al huwiyya).'' (Akkach, 2005, p. 38)

Form manifests with matter, it brings bodies into being and begins its physical existence. All bodies on the physical world are made from matter. All bodies are in fact comprised of four "Arkan" or "Bases" which are combined in different amounts. The four are the fundamental conditions of matter and four modes of materializing qualities. Fire is hot and dry and has the ability to bring beings into harmony. Fire is made from heat and light and the sun is its symbol. Air is hot and humid and it has the ability to image beings in their absolute manner. Its closest Symbol is wind. Water is cold and humid and is the giver of life on the physical plane. Its symbol is rain as a great gift from the Supreme God. Earth is cold and dry with a dense and heavy character. Its symbol is mountain which is the generation of life and the means of reaching the heavens. (Ardalan & Bakhtiar, 1979) (Nasr, 1993)

2.2.5.6 GEOGRAPHY / PLACE

The correct direction and the accurate direction of buildings have been important during history. It is not appropriate to focus on the concept of location in this research since the idea of vortex energetic points on the earth is not yet a scientific issue. Yet there are some possibilities that the earth, the same as the human body, is consisted of specific lines of energy which create a unique geometrical pattern on its surface. These lines were in many cases discovered and great buildings were built on their intersections. (Sullivan, 2005)

The concept of directions however is an ancient concept used in architecture where specific directions were known to create specific colours, vibrations or energies. The buildings were thus oriented towards a direction in order to use specific energies according to its architectural functioning. Ancient architectural guidelines like Vastu Shastra and Feng Shui have introduced the directions along with the functions that can be used for each direction. In the Islamic community the divine direction is recognized as the direction of the Qibla since the Kaaba was introduced as a divine resource for pure vibration or energy. Thus many buildings, especially mosques were constructed oriented towards the Qibla.

2.2.5.7 ORDER

‘What is this exalted mosque and retreat for witnessing?’

What is this lofty vault and lamp ornament?

What is this bright window, what is this luminous taper?

What is this wonderful creation, and what is this beauteous form?

What is this vault of heaven, and what is this surface of the world?

What is this lofty arch, and what is this great pavilion?

What is this? Who made such an edifice?

Without drawings and without mathematics and without analogy?’ (Akkach, 2005, p. 150)

There is a deep connection between the divine act of creation and the human act of designing which indeed lies in the “*Nizam*” or “Order” of the universe; a thread that ties together whatever there is in any dimension. This is when there is no time between will and creation since it is a divine act that breaths into his beings; thus the architect similarly has to breathe the identity into his buildings. When the building has this fire, it becomes part of the nature, since their identity is now from a single source. Exactly like the waves of an ocean or the movements of a grass, the building lives as a created scene in the natural world. Its features are ordered by an endless play of motion and variety, exactly like a tree with its various leaves and branches. This is the quality itself which represents itself as a wonderful act of beauty with a unique sense of order. What creates nature is actually a series of patterns. Each pattern or feature is a unique solution responding to a system of forces in the universe. Yet the forces are never the same. These created patterns and features are repeated to create architecture as they are to create nature. What makes these un-lived patterns become a brilliant scene of nature is the breath of God. It is indeed the identity or order which is given to these unlimited objects that makes them follow the invisible rules of beauty. The role of the architect is indeed the same in bringing the quality without a name or the breath of God for the buildings. Thus the character of nature cannot arise within the buildings unless the architect has understood the character of God. (Alexander, 1979)

Table 2.4 Elements of design. (Author)

<p style="text-align: center;">form</p> <p>Spaces are transformed into places when they create a specific experience. This experience can be Physical, Emotional, Mental or Divine. On how evolved the architect is, the experience it more transformable.</p> <p style="text-align: center;">space</p>	<p style="text-align: center;">matter</p> <p>There is a natural resonance between the evolving universe and the human soul. Whatever is created in a special moment, carries the qualities of that particular moment.</p> <p style="text-align: center;">time</p>	<p>What creates nature is a series of patterns. Each pattern is a unique solution responding to a system of forces in the universe. These patterns are repeated to create architecture as they are to create nature. What makes these patterns nature is the breath of God. The order in architecture is thus related to the breath of compassionate.</p> <p style="text-align: right;">order</p>
<p><i>Surfaces in general carry a symbolic definition. The presence of numbers create patterns & shapes. Numbers are relations no matter what quantity is applied. / NO. 1 / Every single number carries a universal power which is the esoteric aspect of them.</i></p> <p>NO. 2 / Pythagoras introduced a concept known as the "Music of the Spheres." Every being, act, feeling or thought is vibrating at its own rate. Geometry is a means to bring these unseen vibrations into seen forms.</p>	<p>The physical world is pure darkness. The light shines and since it carries everything within, color appears. Colors are related to numbers, notes, chakras and planets.</p> <p style="text-align: center;">color</p> <p>All bodies on the physical plane are created from four "Arkan" or "Bases" which are fire, air, water and earth.</p> <p style="text-align: center;">matter</p>	
<p>No. 3 / Numbers & alphabet are interrelated according to the science of "Jafi" or "Numerology." They carry a specific quality. Quran and holly names are sacred & are brought to mosques by calligraphy and numbers.</p> <p style="text-align: center;">surface</p>	<p>the situation of the building is important according to the concept of ley lines. This part is not discussed deeply since the subject lacks scientific references.</p> <p>The direction of the building is an important factor and many directions are considered sacred in different traditions. According to the Islamic faith, the direction of the Qibla is a Auspicious direction.</p> <p style="text-align: center;">geography</p>	
<p>Physically speaking, the point, line and surface do not exist and whatever there is as an object, it is introduced as in volumes.</p> <p style="text-align: center;">line</p>		
<p>Physically speaking, the point, line and surface do not exist and whatever there is as an object, it is introduced as in volumes.</p> <p style="text-align: center;">point</p>		

2.2.6 PATTERNS OF DESIGN

A flower consists of several petals, a stem, leaves, petals and other parts. In its whole it is a beautiful being with defined purposes. The consisting parts are also made from smaller particles and this is in fact why it makes every single part of a flower beautiful with specific functioning. Meanwhile, this beautiful flower is a part of a larger landscape. In the landscape, there are several other flowers, several trees, rocks, lakes and so on. The landscape is also beautiful and it indeed has a purpose as well. Whatever there exists in this hierarchy is considered a pattern, and is designated for a reason. The reasons however appear in their ultimate manner once the parts are arranged orderly in their correct position.

Architecture, similarly, is the procedure of combining patterns which is created by man for specific reasons. In his architecture the man creates patterns and places them in their orderly position. Every single pattern is generated with a defined purpose responding to specific universal forces and they indeed come in a hierarchy like natural patterns. (Alexander, 1979)

'Know, may God treat you with mercy, that if you reflect in your mind upon this world you will find it like a built house equipped with everything one needs. The sky is raised as a roof, the ground is stretched out as a carpet, the stars are hung like lamps, and the substances are stored as treasures. Everything is prepared and specifically formed for a purpose. Man acts as the owner of the house who is in charge of its contents. The varieties of plants are designated for his needs, and the species of animals are dedicated to his interests. God also created heaven and made its colour most appropriate and strengthening for his vision. For if it was pure rays and lights it would have harmed the onlooker. Looking at the green and blue, however, is suitable for the human sight, as the souls find felicity and comfort in gazing upon the vastness of the sky, and especially when the stars are shining and moonlight is clear. For this reason,

the kings adorn the ceilings of their courts with patterns and decorations that give the viewer comfort and delight. Yet, as the viewer continues to look at this adornment he becomes bored with it and loses what he used to find in his visual experience of felicity and delight. This is unlike gazing upon the heaven and its adornment, to which those displeased by whatever reason - be they kings or lay people - turn their sight seeking delight both in the sky and the vastness of space. As the wise men say: "You will have of comfort and delight in your house just as much as you have of the sky."' (Akkach, 2005, pp. 176-177)

The creation of physical patterns is actually the practical art carried out by the architect. In other words the physical patterns are the manifested form of the internal concepts. Thus they serve as bridges between the abstract imagination of the architect and the qualitative limitations of the physical world. Bringing together all the relevant and required patterns of a specific living creates a larger pattern in the hierarchy of architecture commonly known as a building or architecture itself. The mosque for example is a pattern within the pattern of the city, consisted of various patterns including the dome, the minaret, the portal, the courtyard and so on. The study of these generic patterns can both explain the purpose of them and the pattern they have created since they allow detailed observations. (Ardalan & Bakhtiar, 1979)

2.2.6.1 THE DOME

As discussed before the human is being of four aspects according to esoteric Sufi beliefs; the physical, emotional, mental and divine. Thus whatever is created in order to transform the man has to involve all these aspects.

Starting with the dome as a personality of the sanctuary of the today mosque, it is wise to mention that many researchers and scholars have mentioned some of the aspects of the function of the pattern of dome.

The majority of scholars suggest that the dome was in fact a pattern designed in order to serve physical purposes. According to Creswell (1914) Persia was the land of domes while Mesopotamia was the land of vaults. This was because in these lands timber was not commonly found, therefore fire baked bricks were used to cover wider expansions in the form of a dome or a vault. (Creswell, 1914)

According to Pirnia (2004) the Persians were well influenced by the Greeks after the *Achaemenids* and the *Parthi* style started with glances of the architecture of Greece. Even before the Greeks the Persians used huge stones and sometimes even timber coverings, but the *Parthis* were not interested since their construction was dependant on less available materials. The Parthi style thus became known as the first style of architecture which commonly started using the dome and the vault since their material was abundantly available although they were not the ones who invented these forms. (Pirnia, 2004)

As the second approach to the functional aspects of the dome, according to Sheerbaaf (2006) and Zomorshidi (2008) the dome pattern including all its additions, ornaments and designs is actually an aesthetic addition to the beautifully designed mosque in order to symbolize the beauty of the universe. With this approach every single piece in the mosque pattern is in fact an aesthetic feature addressing the beauties created by God. God is beautiful himself and hails beauty, therefore the mosque where he is being invoked must be enriched with beauties. Various types of arches, domes, geometrical patterns, designs and any other feature of the mosque are in this case beautifiers for the purpose of the mosque. (Shaarbaaf, 2006) (Zomorshidi, 2008)

Beauty is a means of expressing ones feelings. Complex paintings, symmetrical patterns and various forms creates a good feeling within the user. He admires the beauty and

connects to its splendour in an internal emotional level. He is touched and he is remembered, thus beauty is considered a symbolic emotional tool.

The third approach is a symbolic mental approach where the dome pattern is actually representing a mental idea. Symbolizing a mental idea means to address a direct concrete idea which makes sense according to logical processes.

According to Pope (1965) the mountain was an important object for the traditional Persian man and in many times the centre of importance for human living. There was a universal respect towards the being of mountain that caused many cultures to be mountain-derived. *'From the mountain emerges the sustaining force of life and in winter, when a threatening semi-death settles over the land, or in summer, when the vegetation wilts during the equally destructive power of heat, it is the mountain that holds promise of renewal. Within the mountain are conserved the vital forces of nature, and on its beneficent outpouring of water depends all of human life. When the earth is blighted by heat or drought and the gods of fertility have disappeared, it is natural to think that they have withdrawn into the mountain. These imprisoned powers must be released so that the earth may be renewed and life resumed.'* (Pope, 1965, p. 12)

The traditional man thus made his journey to the mountains and evoked the power of the heavens. He started to worship the gods as high as the mountain went. This belief encouraged the traditional man to bring the mountain home in order to ease the act. So he built the symbol of the mountain as a ziggurat. This effort indeed marked an outstanding achievement in civilization. The ziggurat was made with an emphasis on the entrance and the inner spot. The entrance was usually covered with a vault which in some instances a fire was burnt near it or an amount of water was placed on top of it which it is believed to be related to the act of spiritual purification. The inner spot of the ziggurat was in fact the heart of the ziggurat when contact was made and the act or

worship was done. On Further developments, the ziggurat transformed into the pyramid and eventually to the dome and dome chamber. Here again the centre of the dome chamber was where the contact was made and the act of worship was carried out. (Pope, 1965)

As the second explanation for the symbolic mental approach, according to Master Choa Kok Sui (2005) a spiritual energy master closely related to the Theosophical Society, there are actually 12 major etheric centres or chakras in the human body. As mentioned before the 12th centre is located about 12 inches or one foot above one's head and its existence has been kept secret yet symbolically revealed in all religions. The 12th centre is in fact the centre in which the soul is lodged in the seventh month of pregnancy. It looks like a golden star and is also known as the "Soul Star" and as a person evolves, the star transforms into a golden flame. Some of the highly developed masters or saints are imaged with the golden ball or golden flame one foot above their head. If a person evolves further, the golden flame literally blooms and opens up like a small golden lotus flower. This is why a spiritual master is like a gardener and his followers are like the golden stars that are being nurtured by him. (Sui, 2005)

This phenomenon has been symbolically presented in all religions in different manners. The Tibetan Lama is known to wear a yellow hat in the form of a flame. The Mitre of the Pope is also a golden hat similar to the golden flame and the hat of Sufis is also known to be a golden domed headgear. (Sui, 2005)

This explanation has further expanded for the public and has influenced the architecture of the places of worship, since they are the places where this flame has to be activated. The Dome thus has been a means of symbolizing the golden flame as an activated Crown Chakra. In many instances the 12th chakra is also symbolized as a ball connected to the top of the dome using a thin object. This metaphor is not uniquely related to one

religion since it is a universal truth. (Sui, 2005) These concepts have been shown in figures 2.10 to 2.17.

These two explanations are in fact describing two logical presentations. The ziggurat in the first explanation is a logical symbol of the mountains since it is similar to it in form and symmetry. The golden dome and ball also is a mental copy of a phenomenon that its form is related to the created pattern. These concepts have been shown in figures 2.10 to 2.17.

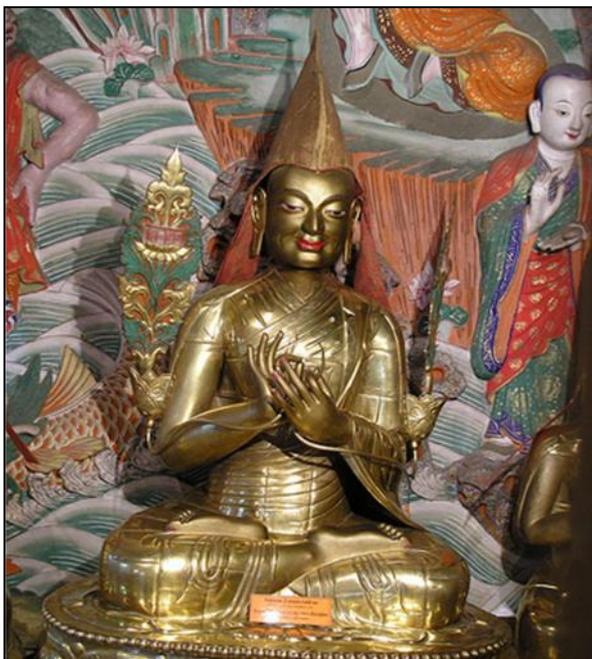


Figure 2.10 A statue wearing a yellow hat, symbolizing the golden flame. (<http://www.flickr.com>)

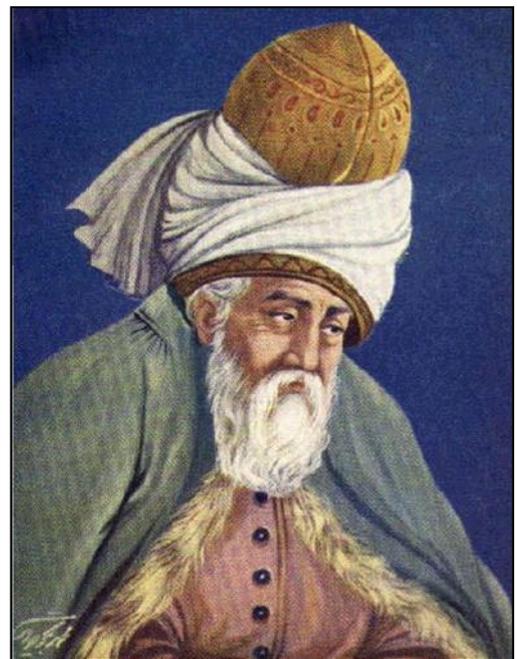


Figure 2.11 Rumi, the great Persian Sufi wearing a golden dome hat. (<http://www.faratarazmarzha.org>)

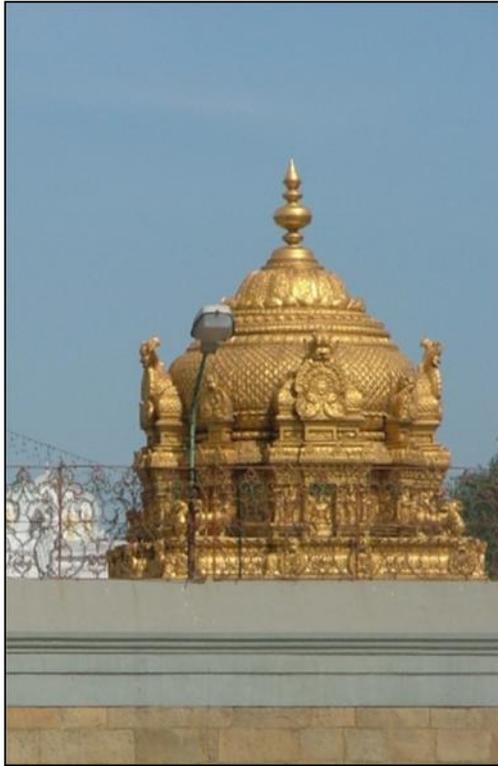


Figure 2.12 Sri Venkateswara Temple, Tirupati, Andhara Pradesh, India. (<http://wikipedia.org>)

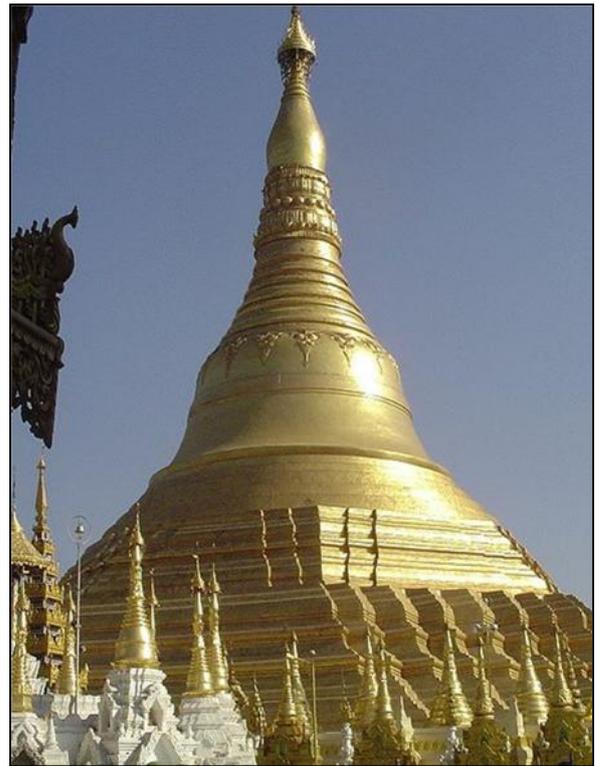


Figure 2.13 Shwedagon Pagoda, Yangon Burma, known as the Golden Pagoda. (<http://wikipedia.org>)

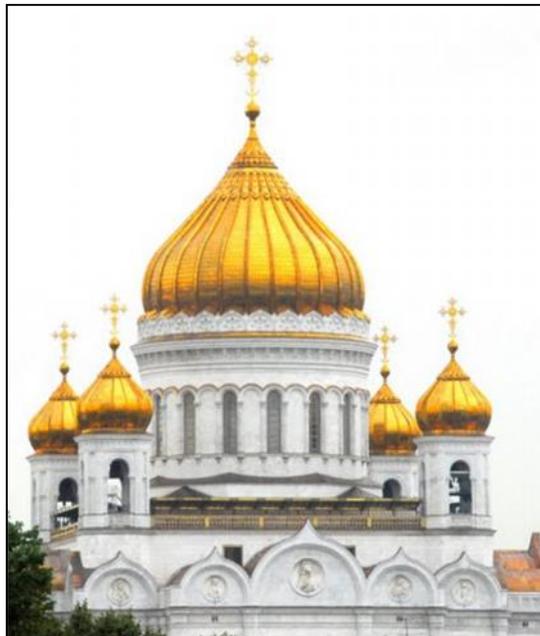


Figure 2.14 Cathedral of Christ the Saviour, Moscow, Russia. (<http://picasaweb.google.com>)

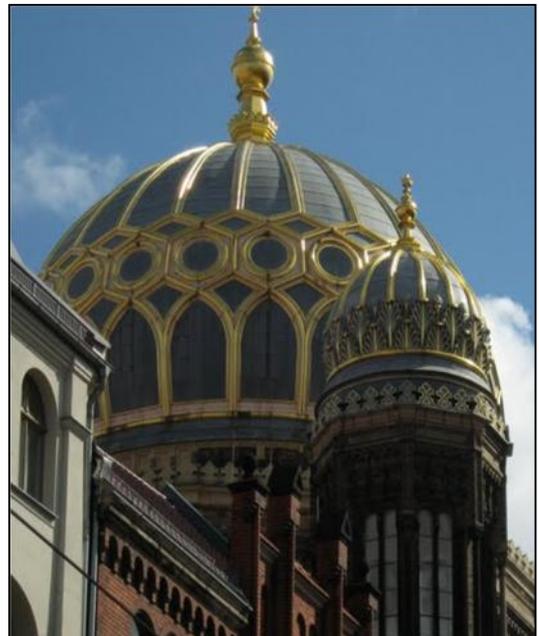


Figure 2.15 Neue Synagoge, Berlin, Germany. (<http://picasaweb.google.com>)



Figure 2.16 The Dome of the Rock, Jerusalem. (<http://picasaweb.google.com>)

Figure 2.17 The Holly Shrine of the 8th Imam of Shiites, Persia. (<http://www.flickr.com/>)

The forth approach towards the dome pattern in the esoteric or divine approach. According to this approach, nothing is mentally or emotionally symbolized or copied, though it points to a specific function that the dome or any similar pattern has. It does not even symbolize a divine procedure similar to the beliefs toward the mountain or the 12th chakra since it actually transforms and acts as a functional object in the causal plane.

The first part of this approach involves the definition of the “Mandala” or “Cosmogram.” Although the mandala may be related to Buddhism or Hinduism, it is following a universal procedure which dates long before the idea of history itself. However it is believed that the mandala has originated from the Indo-Aryan culture, from the Rig Veda and *Avesta*. Mandala is a literal term for a chapter, a series of mantras, recitations or harmonious sounds chanted in spiritual ceremonies which the universe was believed to have been originated from them. The geometrical symmetries of the sounds and chanting were then traces in order to create a geometrical harmony which was visible. In this case the mandala is actually a “*Yantra*” or a “Drawn Sound or Vibration.” (Buhnemann, 2003) (Goel, 2000)

The mandala often refers to a space with a particular structural pattern which is usually a circle although it sometimes appears as a square or other geometrical shapes based on the goal of its creation. The main part of the mandala however is its centre, a dot which is the seed, sperm or the drop of creation. In fact the mandala begins with unity, creating its surrounding universe and coming back again to unity. In its creation the dot gives birth to the line, a few lines are drawn around the dot until they intersect. Then petals, lines and patterns are born. The outer circle now stands for the consciousness of the whole; the outer square is in fact the four dimensional universe and the absolute centre is the essence of them all. (Ardalan & Bakhtiar, 1979) (Goel, 2000)

Japanese Shingon Buddhism indicates that the mandala is a circle which gives birth to Buddhas; and it has *'incomparable flavor... The mandala "gives birth to Buddhas" because it represents the growth of the seed of Buddhahood which, when planted in "the earth of the mind," moistened by the water of Great Compassion, heated by the sun (or fire) of Great Wisdom, animated by the air of Great Method grows into the space of the Great Void, and thus develops into the sprout of the Dharma-Nature, which grows outward into the Dharma-World and finally becomes the full-grown Buddha.'* (Snodgrass, 1985, p. 105)

While discussing the "incomparable flavour" of the mandala, Buddhist literature uses the metaphor of churning milk in order to make butter and curds. The word mandala is actually composed of two parts,; "*Manda*" or "Ghee" and "La" or "Composed of," and just as ghee is the main essence of milk, the mandala is the very essence of the universe, which gives it life or vitality; a circle which keeps the whole universe alive. (Snodgrass, 1985) With this approach the mandala is no more a plain geometrical pattern since it is now a chakra or energy centre that in fact is in charge of the living of beings. (Buhemann, 2003) In fact the spiritual man or the master builder, who undergoes a series of meditations and purifications and is able to connect to the truth of being,

creates the true mandala in his mind; (Snodgrass, 1985) then he creates a worldly image of the mandala that actually functions similar to the chakra of the human etheric body. The physical mandala is related to its essence which is the actual mandala or the message in the heart of the master. In this case the mandala indeed receives prana or vitality and it is actually a living being since it is connected to the essence of life. With this action the master builder has actually breathed into his creation and the act of architecture has been done.

Furthermore, according to Master Choa Kok Sui (2007) a three-sided pyramid, a four-sided pyramid and a cone generate or focus prana or vitality globules within themselves. In the inner part of these shapes, there exists more vitality than in the air and their amount is actually as dense or even denser the amount of prana in the earth itself. Experiments have been done by wearing a cone hat that shows one's learning capacity, his ability to think faster and more clearly and to make better decisions have increased. This might in fact be the reason why ancient magicians or wise men are imaged with a cone-shaped headgear. (Sui, 2007)

As a similar form to the three-dimensional pyramid or cone shown in figure 2.18, a two-dimensional prana generator can also be used since they produce the same result, yet are less powerful. (Sui, 2007)

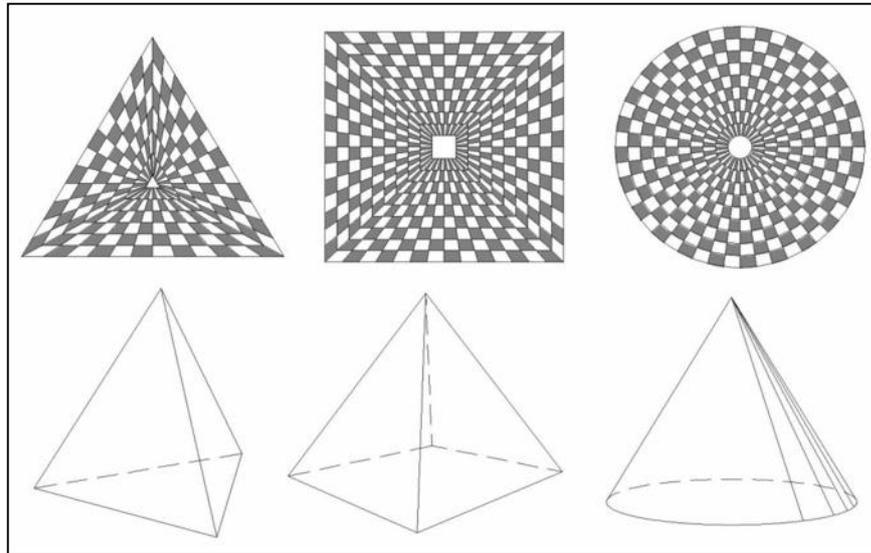


Figure 2.18 Two dimensional and three dimensional prana generators. (Sui, 2007)

In this way the mandala becomes a part of the whole architectural procedure since its presence is giving birth to a non-living object.

The great Stupa of Sanchi, which was built by Emperor Asoka, is an example for an architectural monument which clearly explains the principals behind this doctrine. The stupa is a hemisphere resting on the ground, surrounded by a square enclosure, and bearing on its vertical axis three superimposed spheres. The whole complex is surrounded by a square balustrade with four doors facing each other. As seen from above the stupa seems to be put inside a square, thus it is a circle surrounded by four doors creating the shape of a cross. On the centre of the circle the square of the upper balustrade is located and in its centre the projected circle of the three superimposed spheres. With its alternating central squares and circles, the Great Stupa of Sanchi is an exact image of the layout of a mandala. One does not enter the stupa and just walks round it since it is not a building, yet a sign. (Snodgrass, 1985)

As another example there lies the Temple of Borobudur in Java which emerges from the forest as a rich expression of the human psyche, unified with the origin or his essence. It is a *yantra* 'in which' according to Marc referring to Pierre Benoit 'the symbolism of the

terrestrial world has passed to the level of the foundations in the earth.' (Marc, 1977, p. 110) The temple shown in figures 2.,19 & 2.10 is square in plan yet with a cruciform pattern suggested by *redans* and further emphasized by the four directional entrances. It is surrounded by three circular platforms, which may be a symbol for a trinity world without pointing to a specific direction. The hidden Buddha in the hemispheric summit is actually the invisible *bindu* of the *yantra*. The basic foundation of the structure is actually a pyramid-shaped along with concentric circles, squares and triangles which as seen from above is indeed an image of a drawn mandala. (Marc, 1977)



Figure 2.19 The Borobudur Temple, Java, Indonesia. (<http://wikipedia.org>)

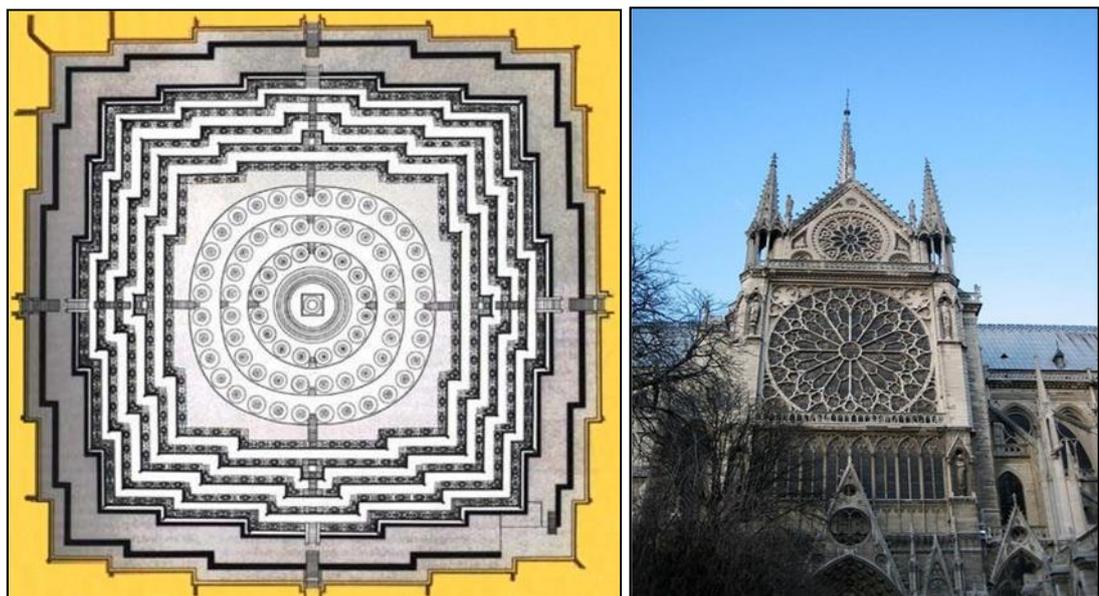


Figure 2.20 The mandalic form of Borobudur Temple in its ground plan. (<http://www.artlex.com>)

Figure 2.21 The pattern of a universal mandala in Notre Dame, Paris. (<http://www.flickr.com>)

The mandala does not point to a single religious belief since it is a manifestation of a divine universal phenomenon. The mandala transforms wherever it is placed, since the human is of a single essence. (Marc, 1977)

In the Islamic Ideology, the concept of the mandala is related to the basic concept of creation. A beautiful mandala in the heart of the Sheikh Lotfollah Mosque is shown in figure 2.22.

‘When the Prophet described his ascent to heaven, he spoke of an immense mother-of-pearl dome resting on a square, with four corner pillars on which were written the four-par Quranic formula “In the Name – of God – the Compassionate – and the Merciful” and from which flowed the four rivers of beatitude. The dome rested upon a square held apart by an octagon which symbolized the eight angels, the bearers of the Throne, who in turn corresponded to the eight “rose of the winds.” (Ardalan & Bakhtiar, 1979, p. 31)

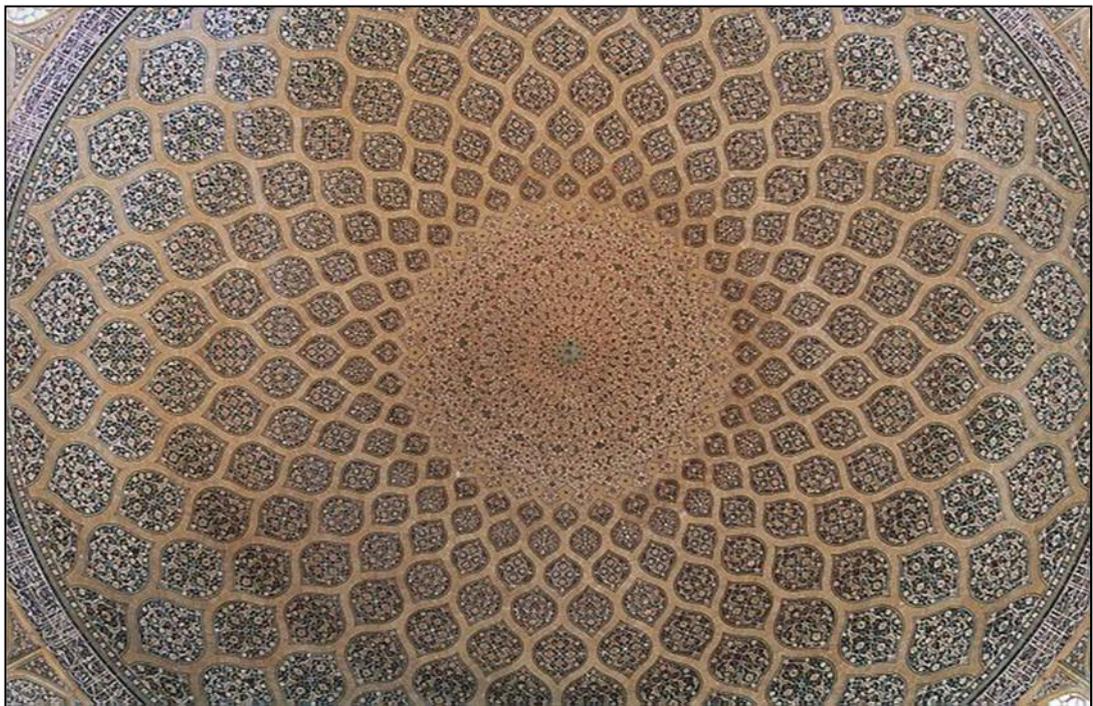


Figure 2.22 The mandalic pattern under an Islamic dome, Persia. (Author)

Geometrically, a centralized enclosed space is created from a regular polygon which is frequently a quadrangle at the very foundation. It then expands from the focusing point and evolves symmetrically according to a central axis, which results in a balanced structure in all directions. The simplest and more common manifested form for this pattern is actually the dome chamber, mentioned by the prophet. (Akkach, 2005) In fact what is being represented in the words of the prophet is a simple geometrical pattern that indeed has an important significance. The dome chamber is being introduced as a divine centre with a particular purpose. Observed from the top it is actually in the form of a mandala with the familiar four directional design. This pattern is used in many architectural buildings discussed earlier and has introduced other patterns along with the domed chamber pattern like the four gardens, the four iwans, the four porticos and so on. (Pirnia, 2004) Thus it is concluded that these patterns including the pattern of the dome are not created by accident as they are the three-dimensional built figure of the two-dimensional drawn mandala; and the two dimensional painting is actually a physical model for the inner mandala of the master builder shown in figures 2.23 & 2.24.

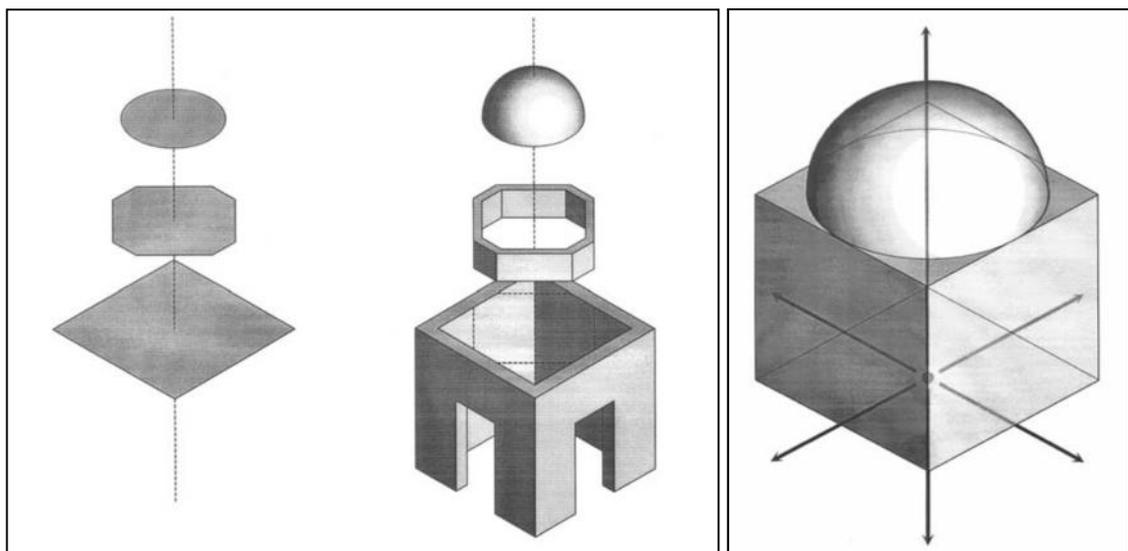


Figure 2.23 The formal order of the centralized enclosed space model. (Akkach, 2005, p. 155)

Figure 2.24 The domed chamber. (Akkach, 2005, p. 153)

2.2.6.2 THE ARCH

The pattern of arch has a great history of use in the structure of architecture in Persian architecture. The arch was used from ancient times dating back to about the 3rd B.C. century in the Burnt City in Southern Persia, which the arch was built with sun-baked bricks. The investigation of the Burnt City was under taken by an Italian archaeological group through the years 1364 to 1357 which proved the existence of using the arch in palaces and castles. Further discoveries indicated that the arch and its extension as the vault were frequently used in the structures of *Nushijan*, a city in the Central Persia dating back to about the 2nd B.C. century. The arch was in fact emphasized in the structure of the fire temple, placed in the middle of the city and surrounded by dwelling houses and then castles. As further usages of the pattern is the presence of the arch and also the vault in the famous *Choqazanbil* Ziggurat at the entrance points. It was formed as a gate in order to welcome the worshippers inside then temple. (Kiani, 2007) (Pirnia, 2006)

The application of the arch reached a high grade in the Party style which also resulted in the introduction of many other patterns in the Persian architecture similar to the arch and the vault. After the Islamic conquest, the pattern of arch became a frequently used pattern in mosques & was further considered as piece of the personality of the Persian mosque. (Zomorshidi, 2008)

Similar to the dome, it is wise to analyse the arch in the four aspects of physical, astral, mental and spiritual to understand its importance in each manner.

According to Zomorshidi (2008) an academic expert in the field of arches and vaults in Persian architecture, arches are categorized in three groups. The first group of arches is the non-pointed arches which are soft at the zenith. These arches are usually used to bear imposed direct forces and are considered structural arches, although they are

sometimes used as decorative arches. The second group of arches is the pointed arches which create a sharp point at the top of the arch. They are also usually used to bear direct forces and are the arches which are applied in creating a dome. Similar to the previous group, they are sometimes used as decorative figures. The third group of arches is the decorative arches. These arches are introduced in a variety of forms and shaped which are combinations of the previous two groups. (Zomorshidi, 2008)

The common use of arches was to cover an area, or to handle a specific amount of direct force and to transfer it to the ground base. Arches were in many cases extruded in order to create a vault so it was easier to cover a huge area with it. Vaults were in fact the easiest way of covering areas using masonry materials. Further in the Razi era, the structure of the covering area entered a new generation and the vaults and arches became to be a decorative figure along their previous function. Although they were still used to cover wide spaces, they were used in combined manners to form intersecting vaults and various geometrical innovations. The use of *kar-bandi*, *tagh-bandi* and other geometrical patterns in fact started in this era. (Pirnia, 2004) (Zomorshidi, 2008)

With these explanations, it seems clear that the arch and its extended form as the vault have in fact the same physical and symbolic-emotional purposes with the previously discussed dome. They are discussed as features used to cover wide areas with the use of masonry material since they introduce an idea to transfer direct forces of the higher level buildings to the ground.

They are also used as objects for creating decorative and ornamentation patterns. According to Pirnia and Bozorgmehri (1992) since the arch follows an exact module of a geometrical ratio, it was used in ancient architecture to transfer a precise order and symmetry to the architectural arrangement of spaces in the building. The height, width and breadth of a specific arch always follow one module and thus the architect can

easily arrange the ratio of the whole structure. In this case these elements were used to give order and beauty to the whole building. (Pirnia & Bozorgmehri, 1992)

As the third aspect of the pattern of the arch, according to Ardalan and Bakhtiar (1979) the room is a determined pattern enclosed by six surfaces. Within the hierarchy of space, the room thus stands as a space in need of a primary space for its physical existence; and esoterically dependent, since the soul of the room, whatever it is, needs a means to express itself. The openings and the purpose of the room in this case determine the personality of the room, since it is related to its primary space and essence; thus the sacred room becomes not only an enclosed area, yet a positive space since it is fused with connection, transition and divinity. The active quality transferred to the sacred room charges it with a sense of outward expansion; therefore curves and bends appear as manifestations of the outer expansion of the soul of the room. The expansion touches all the surfaces and they react according to their distinct purposes. The floor as a sole, becoming the base on which the man stands; while the roof symbolizes an outward journey to the skies. Symbolically viewed, the room in fact represents the “Cube of Man,” and just as the room is related to a bigger picture, like a mosque, the man is related to his bigger concept. (Ardalan & Bakhtiar, 1979) This concept is shown in figure 2.25.

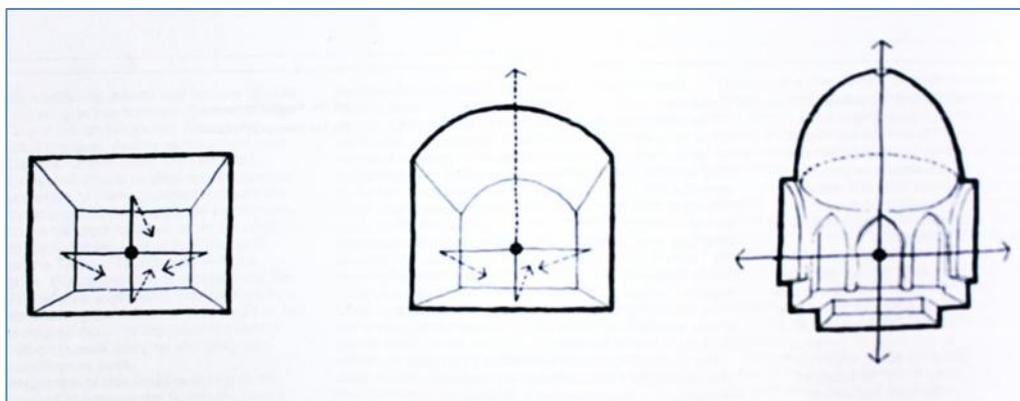


Figure 2.25 The transferred room with a sense of outward expansion. (Ardalan & Bakhtiar, 1979, p. 72)

As the esoteric aspect of the pattern of arch, it is necessary to relate the arch to the concept of the dome discussed earlier. Geometrically speaking, the dome is the locus of a defined arch revolving around a vertical axis. Dependant on the form of the arch, the dome can be shaped either pointed or non-pointed. (Kiani, 2007) The two dimensional image of the dome can be traced from two sides as shown in figure 2.26. The first is to trace the dome from top or bottom, which will result in the familiar form of the circle and the square surrounding it as its chamber base which was the issue of the previous discussions in the form of a mandala. The second way of imaging the dome is to trace its cross section, which will result in the arch that created it. In this way the dome is observed from a perpendicular side. (Ardalan & Bakhtiar, 1979)

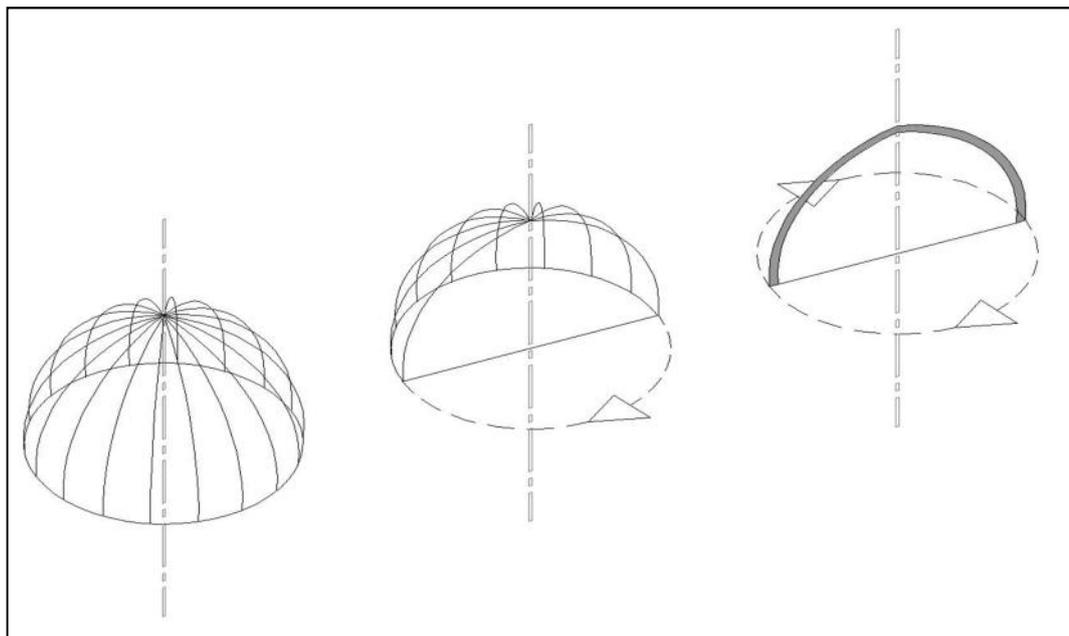


Figure 2.26 The creation of the dome from revolving an arch. (Author)

Comparing the two different two dimensional images created, it can be concluded that similar to the image from top or below from the dome, the perpendicular image includes the mandalic aspects of the dome as well. Although it might not look like a quadrant mandala, it is an image addressing a quality within this quality of transformation lies, thus the arch itself holds an aspect of transformation. This fact, if true, can be used to describe the divine aspect of the abundantly used arch in mosque design. In this case it

can also be concluded that the arch, similar to the two dimensional prana generators discussed before, is another kind of prana generator which is also two dimensional. This fact can be the reason behind the use of arches in the structure of the mihrab and the forms of the “*Sajjade*” or the “Prayer’s Rug,” in order to place the worshipper under a two dimensional dome and thus increase the amount of prana within his body for him to transform faster.

2.2.6.3 THE MIHRAB

‘As a feature of mosques, the mihrab is usually a concave niche, a form already prevalent in a variety of classical and post-classical architectural traditions. Deposited in the new Islamic architectural and cultural context, it acquired new functions and became "the niche mihrab." Today, Muslims and scholars alike define the mihrab as "the concave niche in the Qibla wall of a mosque that is expressly for the imam's use in group prayer," and as a marker or "idiom for the qibla."3 This contemporary definition reflects the consensus of a community of users about a form it uses. But it starts with the form (the concave niche) already present in the Islamic context. In contrast, an understanding of the historical process that created the niche mihrab must reflect the decision to adopt the form in the first place, to place it in a particular setting, and to name it "mihrab." This process establishes a particular relationship among form, function, and term that is specific to the community that put them together in a culturally meaningful way. The "Islamicity" of the mihrab-and of any other sign in the system-is then not a factor of form, function, or terminology individually, but a result of a specific combination of all three.’ (Khoury, 1998, p. 1)

Khoury (1998) an expert in the field of the mihrab pattern in the mosque explains the linguistic sources of the mihrab niche in his article “The Mihrab: From Text to Form.” He divides the discussion of the liturgical origin of the term in two groups explaining that the first group considers the term mihrab as of purely Arabic origin. Referring to

the medieval three-lateral structure of the word, mihrab comes from the root “Harb” which literally means “War,” and the radicals h and b which suggest the word will be broke down into “harb” and a “mi” prefix. Thus referring to 12th century al Raghīb al Esfahani’s collection of complex Quranic words and constructions, mihrab is the appropriate term since the mihrab is the place where war is waged against worldly desires. The second group does not consider the word Arabic and suggest many definitions and meanings that root in other languages. Explaining the introduced concepts of the second group is not relevant to the current discussion. (Khouri, 1998)

According to Frishman and Khan (1994) a prayer hall in the designed mosque must have one wall facing Mecca. A niche in the wall is just a decorated sign, decoratively indicating the correct direction of the Qibla by making the parallel wall different from the others. In fact the mihrab of the mosque is not considered sacred unlike the altar in a church. (Frishman & Khan, 1994)

Hillenbrand (2000) on the other hand believes that the mihrab niche is in fact an imitation done from the already existing places of worship of the time of its creation. A mihrab-like niche could hold a cult statue in a Greco-Roman temple or hold an altar in the Christian church. The architectural form is the same in all instances yet the great central niche is put to hold different personalities. Correspondingly, the mihrab niche which indeed had reduced in size does the same functioning at the mosque. Although it might seem at first glance that it indicates the direction of the Qibla, but in fact it holds a great personality, which is the imam who stands at the front of a worshipping group and leads the prayer. In other words if it was just to indicate the direction of Mecca, there is no need to decorate it and form it in order for a person to be able to pray beneath it; the Mecca wall could have also been indicated by a simple stone. (Hillenbrand, 2000)

Hillenbrand (2000) explains further that the use of such an emphasizing element in a divine place was actually an effort to secularize the atmosphere of the mosque and to draw a line between the People, since there was no liturgical necessity which brought the mihrab into being. (Hillenbrand, 2000)

As the symbolic-emotional dimension of the mihrab pattern, according to Zargar (2007) referring to Grabar, the mihrab is a symbolic monument built in order to honour the prophet as the founder of the great religion and to recall the place where the prophet stood before in his house at the mosque of Medina. It is built to create a feeling in the worshippers that they are praying and their imam is the prophet himself. It is wise to mention that although Grabar has explained this function as a possible function of the niche he has also introduced other reasons for the mihrab niche similar to the purpose which Hillenbrand had argued, which was discussed earlier. (Zargar, 2007)

For the third aspect of the mihrab which is the symbolic-mental purpose of the pattern, there were no discussions found by the researcher considering a mental explanation towards the function of the mihrab niche and further research and investigations are required; since the current research is oriented towards the fourth aspect of mosque pattern created by the master builder, this section will not be discussed here.

As the fourth purpose of the mihrab niche, it is necessary to focus first on the common geometrical shape of the mihrab patten as shown in figure 2.27.



Figure 2.27 The basic form of the mihrab niche. (<http://www.flickr.com>)

Although not mentioned directly by any scholar, it is quite obvious that the structure of the niche is usually, if not always, accompanied by an arch pattern with unique decorations, calligraphy and geometrical figures surrounding it; and although the decorations of each one is different according to the major design of the mosque, the arch is shared as a fundamental must for the niche.

According to the previous discussion related to the arch pattern, the arch is a representative of the mandalic dome pattern and thus their functions are considered similar in the process of evolution. Thus, similar to the dome, the arch is also a prana generator which indeed increases the amount of prana or vitality in the human body that makes the transformation faster. The mihrab thus includes the arch since the imam of the prayer will worship under it and in the moment of the prayer he is in fact the one who is in charge of the evolution of the other worshippers. In fact he acts like the spiritual teacher during the act of congregational worship and thus the amount of prana in his body indeed has to be greater than the amount of prana in the bodies of others.

This pattern has further expanded in order to place every single worshipper under a specific arch so that the same process will happen for them shown in figures 2.28 & 2.29. Thus the *Sajjade* or the prayer's rug is designed as an individual mihrab for every single worshipper including an arch and the geometrical patterns and sometimes even written calligraphy.



Figure 2.28 The pattern of mosque rugs creating individual mihrabs. (<http://www.flickr.com>)

Figure 2.29 An individual praying rug with an arch. (<http://www.persiancarpetguide.com>)

2.2.6.4 THE PORTAL

According to Soltanzade (2005) mosques in the Persian city were differentiated according to their functional relatives. Their entries are correspondingly different which were related to their general purpose; in fact the function of the mosque could have been tracked by the geometry and the form of its portal. The greatest and largest group of mosques is the Jami Mosque in which the Friday prayer is held on every weekend. The second group of mosques is the District Mosques which belongs to a large community inside the city that often holds a group of neighbourhoods. The third group is the *Musalla*, which is often placed outside the defined borders of a city or a town and is usually used for the prayers of holy days; many of the *Musallas* do not have a structure and are simply vast open areas used to place several worshippers. The fourth group of

mosques is the mosques built along a primary function, like a shrine or a school. These mosques are used as a secondary building since regular prayer and worships are not carried out in them. (Soltanzade, 2005)

The importance of the entrance of the mosque was to an amount that caused a great evolution in the format of this pattern. The entrance of the primitive mosque was just to create an access to the space of the mosque while the designed mosque's entrance was constructed in a manner to insure the perfect direction, accessibility, form and function.

It can actually be concluded that the entrance portal has the following functions:

- To enter the central courtyard in the direction of Qibla.
- To create a hierarchy of spaces to reach the courtyard, then the shabistan in a respectful pace.
- To enter the central courtyard in the centre of the courtyard's symmetrical point.
- To solve the difference between the direction of the city and the Qibla.
- To indicate the entrance of the mosque for the ones who are distant from the mosque. (Soltanzade, 2005)

There are generally two approaches for the symbolic-emotional aspect of the portal. As the first approach, Pirnia (2004) points to the principal of inter-focusing as a fundamental principal in the Persian architecture. He explains that the private family life has always been very important to Persian people, and for this they have always tried to protect their living from any harm. Thus inter-focusing spaces have been introduced in Persia to separate the outside from the inside. In order to reach the inside however, the person had to go through a defined entry point that clearly stated his intension of entering the private area; hence others would have been aware as well. This issue has found its root in the sacred architecture of Islam as well. The Persian Islamic architecture is famous for its inter-focusing courtyards. Thus the look of such structure

from the outside was often a simple wall without any decorations and patterns; however the entrance point was greatly emphasized since the user was about to enter a very precious space which is related to the divine source. (Pirnia, 2004)

As the second approach, Frishman and Khan (1994) describe the mosque as a home for God's presence which brings a great psychological importance to the mosque. The single impressive main portal in fact creates a threshold between the urban bustle and the tranquil atmosphere within; and has a huge importance. Thus the portal is often emphasized by geometrical decorations, mainly a great arch, and ornamental beauties to respect the holiness of the God and the house of the Supreme Being. (Frishman & Khan, 1994)

'The traditional expression "Bab," (or "Door") when referring either to architecture or literature indicates a movement through defined space, that occurs over a certain length of time. A gateway of a city and a chapter of a book are both known as bab, being either the beginning or the end of a journey. This fluid transfer of symbolic meaning, regardless of scale, is even extended to the "mouth" of a mountain pass, where bas beliefs announce the entrance into a distinct regional "place;" gateway into cities have been linked to the orifices of the body; and the winter and summer solstices have been associated with the Gates of Heaven. (Ardalan & Bakhtiar, 1979, p. 71)

The gateway of the mosque is actually a symbolic gesture representing the concept of the Gates of Heaven. It is the symbol of door which allows the follower to enter the spiritual path. Thus it is often accompanied by a passage related to the concept of the path itself. What then comes after the passage is the unity of which the seeker was long awaiting. (Ardalan & Bakhtiar, 1979)

Explaining the fourth dimensional purpose of the portal pattern, According to Powell (2005) and Master Choa Kok Sui (2005) negative thoughts, emotions and behaviours

exist in the subtle bodies of the human in many ways and as living entities or beings. These entities are often known as “Inner Noise” which in the process of worship or any spiritual meditation, interrupt the worshipper by interrupting his stillness. They interfere with the communication of the man with his higher soul. To enable the connection between the higher soul and the man it is necessary to remove the inner noise from the subtle bodies as a major part of his purification process. It is not possible just to calm down the mind as the entities are in many cases irrelevant to the process of thinking. (Powell, 2005) (Sui, 2005) Religion and spiritual practices were well aware of the existence of these entities and by introducing many ritual acts encouraged the man to purify himself. The purpose of ritual cleansing for instance is in fact to clean up the subtle bodies from these beings so that the worship is directed towards God. Furthermore these teachings have also tried indirectly to remove these beings from the human body by introducing general techniques applied in different fields. Generally when there is a great flow of divine energy directed to the human body, these entities will be automatically washed away or flushed and many of them will be also disintegrated and the subtle bodies of the man will be purified. This purification technique have to practiced constantly in a long period of time in order to ensure that the disturbing entities have been removed properly; since these particles are similar to an onion, and have several layers. (Sui, 2005)

In the creation of the place of worship the flow of divine energy has to be established before the man reaches the place of worship as a divider of his every day and divine life. In order to temporarily cleanse the subtle bodies of the worshippers the portal of the mosque in fact has to be a monument that generates this great amount of divine energy. Thus it can be concluded that the reason why in the portal of the mosque a huge arch has been used; since as discussed before the arch is considered as a prana generator and

it can indeed generate a great deal of divine energy. Therefore when the worshipper passes across the portal, he is purified from the inner noise.

Previous from the use of the arch in the portal of the place of worship in the Persian lands, there was an pattern placed near the entrance point of the complex in order to cleanse the subtle bodies of the worshippers before they enter the house. According to Pirnia(2004) in the city of Nesa dating back to 173 B.C. to 136 B.C. the entrance was through a staired pathway designed in a way that the person had to pass from beneath the holy fire. In other instances like the *Anahita* Temple, *Azar Goshnasb* Temple and the Temple of *Firooz Abad* all belonging to the Parthi style this cleansing process was done with the use of water. (Pirnia, 2004)

2.2.6.5 THE COURTYARD

The first and probably most obvious purpose of the physical dimension of the courtyard is an imitative figure of this pattern placed by the prophet in the Mosque of Medina. The Mosque of the Prophet was actually a courtyard at the time of its creation that a part of it was covered in order to create a shaded area sometime after its construction. Thus if the crowd was larger than the shaded area could have hold, the remaining rest would have prayed in the opened space of the mosque recognized as the courtyard.

According to Pirnia (2004) although using the principal of Inter-focusing and creating a central courtyard in Persian architecture is related to the fact of respecting the private life of the family, it is also for the reason of protecting the inner parts of an architectural monument where living is present, from the disturbing winds of the deserts of Central Persia. Furthermore the concept of a central open area which was sometimes recognized as a landscape garden was in fact used to create a central area in order to bring touches of greenery to the dry desert in the heart of a building. In the case of the mosque, the central courtyard was probably placed for the similar reason. Many of the Persian

mosques which were built in the desert area in the central regions of Persia were the first instances that had a central courtyard, and although it might be thought that the courtyard pattern was a copy from the original Mosque of the Prophet, there were many instances with a central courtyard related to more ancient Persian buildings that indicate this pattern exists in the Persian lands even before the birth of Islam. Other examples of the mosque built in other climates, for instance the *Kabood* Mosque of Tabriz, do not directly follow the conceptual pattern of the courtyard. (Pirnia, 2004)

Discussing the second aspect of the courtyard pattern, Zargar (2007) explains that the courtyard of the mosque is somehow similar in functional aspects to the plazas and piazzas of ancient Rome. Although the courtyard was never marked with a precise dimension in mosques, it has always been an architectural sign for the user indicating that there is going to be a grand complex coming up. He describes the courtyard as an area which divides the secular life of people and their divine life, creating a space that makes the user aware of its surroundings since a great change has occurred. He further explains that the courtyard in traditional Persian and Indian cultures was in many cases enriched with monumental figures, such as the pool, which were to create a sense of beauty and in sometimes even a beautiful landscape as the open courtyard. (Zargar, 2007)

Hillenbrand (2000) agrees with the explanation made by Zargar as he argues that *'the huge empty space gives the visitor pause and serves notice that he has left the workaday world behind him. Like the atrium of an early Christian church, it heralds the sanctuary proper and defines an area which is holy even if it is not regularly used for worship.'* (Hillenbrand, 2000, p. 55)

As the mental dimensional aspect of the courtyard pattern, Akkach (2005) explains that the centralized open courtyard is in fact the second form of the concentric composition

in the mosque complex. Far from being only a negative open space, the central courtyard creates the base pattern of many architectural compositions. It represents a defined arrangement of unroofed spaces that are organized symmetrically focusing on a central point. The geometrical order of this centralized composition, similar to the dome pattern reveals the geometrical proliferation of unity into a quadrant universe. The defining monuments are often symmetrically arranged in relation to a central axis, which all together lead to a balanced expansion of space in all directions creating a microcosm or a representation of the universe. (Akkach, 2005)

Ardalan and Bakhtiar (1979) also describe the pattern similar to the description of Akkach's. They introduce the courtyard or the garden as a being with a total reflection of the universal cosmos, yet move forward and introduce it as a hidden dimension of creation as well. The courtyard is a space as the place of the hidden treasure of the built house; an enclosed manifestation of a hidden phenomenon, similar to the body of the man which houses the soul. In this case the pool is placed within this space to provide a centre as the essence of creation represented as pure matter; the water. (Ardalan & Bakhtiar, 1979)

In other words they observe the negative space as a positive space that is in fact the essence of building or creation. The courtyard is actually a pattern that does not offer a built environment, yet it represents its actual concept, which is nothingness.

As another approach towards the mental aspect of the courtyard, referring to Vastu Shastra, the building is a living being. In the traditional Indo-Arian cultures people built buildings according to Vastu Shastra guidelines which oriented the building as a human body in order to serve the purpose of protecting the human body so that the body can serve effectively in favour of the soul shown in figures 2.30 & 2.31. With this representation the building had to be kept healthy as well, thus the heavy loads of

construction were put on places that were not delicate like the back, hands and legs. His navel and heart portions are kept unbarred since they are delicate members of the body. There should be also a minimum construction and load on the north east direction since the seven major openings in the human body which are the eyes, the ears, the nostrils and the mouth are located in that portion. These certain points are usually kept open and no heavy construction like a column or bearing wall is placed there. The application of these techniques, lead to success and prosperity for the inhabitants. This frequently used rule resulted in a construction pattern which introduced the pattern of the central courtyard. According to the following figure, no buildings were made in the area of the inner and outer squares. And only the two middle squares are appropriate for construction. (Kumar, 2005)

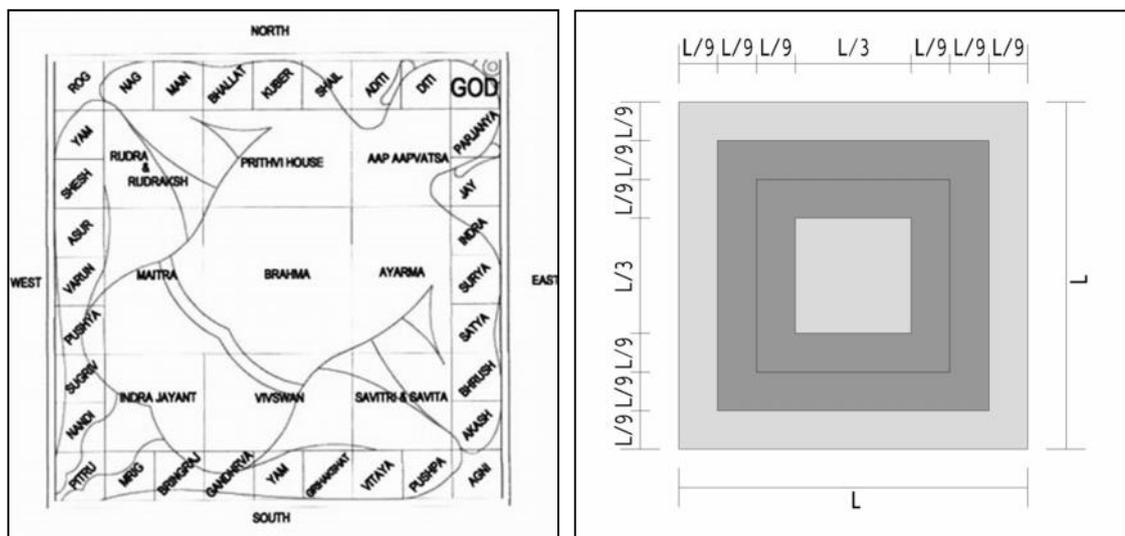


Figure 2.30 Vastu Purush indicating the proper zones for construction. (Kumar, 2005, p. 32)

Figure 2.31 The diagram indicating the proper zones for construction. (Kumar, 2005)

The fourth dimension of the courtyard is related to the concept of mandala. In the ancient Persian Culture before Islam, the central point of the places of worship was of a great importance in which the holy fire was placed as the centre of the whole complex which was mentioned before. Since in comparison to the mandalic format, the centre of the mandala is known as the bindu, the sperm or the essence of creation which in the

Islamic philosophy it is the one and only Supreme Being, the fire was mistakenly interpreted by the ordinary people as God. This fact is the reason why many consider *Zoroastrians* and *Mithraists* as worshippers of fire. The centre point of the mandala is the ultimate point which compared to the three-dimensional built example, is a point where the most prana is gathered. Thus it was best to place a fire there for it to be known as sacred, since it could have absorbed and held a great amount of vitality. The centre point of the fire temple in this case was empty of any human being and the worshippers orbited around the holy fire in order to be purified. Since the fire had a great amount of vitality, the purification ritual was not just a simple act, and purification really occurred as this great amount of vitality washed them and purified the worshippers. (Kiani, 2007) (Ardalan & Bakhtiar, 1979)

After the entrance of Islam, the main point of generating vitality was moved since the more important issue was the Qibla wall. Thus the dome chamber was placed near the Qibla wall in order for the worshippers to receive this great amount of prana directly. However the centre point was not omitted. The courtyard of the mosque in the new pattern was actually the central point of the whole building, yet with a secondary importance shown in figures 2.32 & 2.33. In this pattern the mandala was once again created and prana was generated, but instead of placing a holy fire, water was placed. In this case prana was absorbed by the water and as the worshippers acted their ritual which was purification with water, they were indeed cleansed, purified and ready for the group prayer. (Pirnia, 2004) (Ardalan & Bakhtiar, 1979)

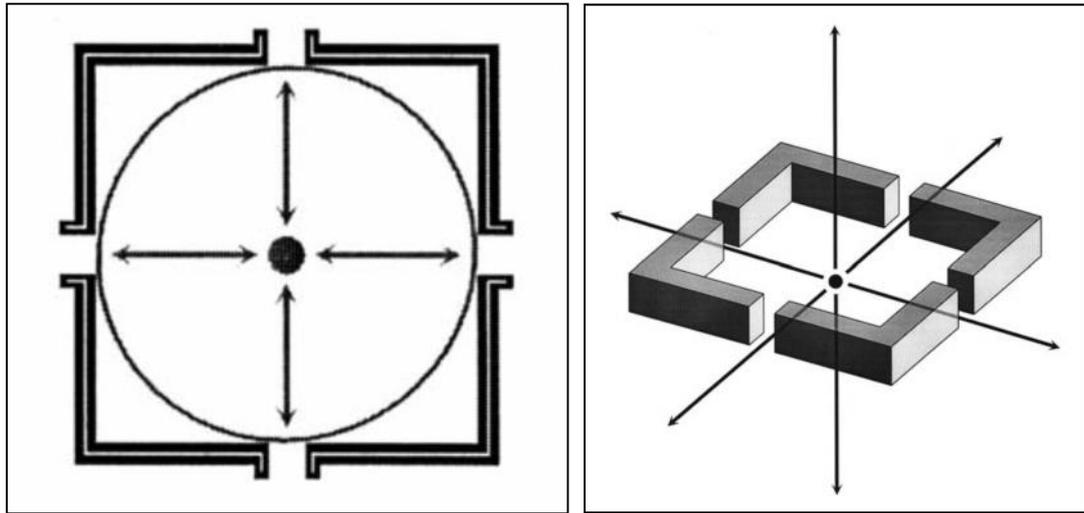


Figure 2.32 The geometry of the concentric composition. (Akkach, 2005, p. 153)

Figure 2.33 The centralized open courtyard model. (Akkach, 2005, p. 156)

2.2.6.6 THE MINARET

The minaret is often considered to be a distinctive feature of the Islamic mosque; while its history is of the interest of study both in Islamic and architectural history fields. The references made to the minaret in the Arabic literature are very few which indicates its origin related to another cultural source other than the Arabs. However the name of the monument is yet similar to the mihrab strange and in no way expressive of the purpose for which the object was built. It is clearly believed that the earliest mosques in Islam had no minarets. The very early Mosque of Medina was so simple that no sign of a tower-like construction was ever images. The first minaret construction was however added to the mosque by Walid in the pattern of the Prophet's Mosque during further reconstructions. In fact historians of architecture go too far by introducing this pattern as a necessary part of the building. (Frishman & Khan, 1994) (Pirnia, 2004) (Hillenbrand, 2000)

Gottheil (1910) describes that many scholars compare the idea of the minaret with the concept of the bell towers in the Christian churches, which in fact believe that the minaret is an imitation from the Christian church tower bell since they are used for the

similar reason; the bell is ringed in order to make an announcement and the call is made to invite for prayer. (Gottheil, 1910)

Referring to Gottheil (1910,) Creswell (1926) and Hillenbrand (2000) the minaret has two primary functions which is not clear dependant on which the pattern has been called into being. The first original Arabic terms used for the tower pattern is the “*Midhana*” which literally means “The Place Where Adhan or the Call to prayer is made.” This term is the most common term used in order to address the tower pattern since it accurately points to the main ritual function of the building which is the place where the call of prayer is done. The second Arabic term for this tower is the term “Minaret.” Referring to the three-lateral structure of the word, minaret comes from the root “Nar” or “Noor” which mean “Fire” or “Light,” and the radicals *ن* and *ر* which suggest the pattern will be an element that is shining and producing light. This pattern was used in pre-Islamic cultures to designate high places which signals of fire or smoke were made in order to announce an important monument. (Gottheil, 1910) (Creswell, 1926) (Hillenbrand, 2000)

According to Pirnia (2006) the Minaret is the word transferred to the Arabic language from the actual Persian term “Menar,” which was also known as “Mil.” The word menar does not have an Arabic structure and come from the Persian word *noor* which means light. The menar building was in fact a monument built alongside paths especially in the deserts of Persia as tall monuments in order to guide the travellers through to their destinations. On the zenith of these tall buildings there was a fire let in order to help the traveller locate the situation of the menar easier. These buildings were erected in an either connected or disconnected manner to a religious building. Many of them became the towers of mosques after the entrance of Islam in the Persian lands, like the menar connected to the Ali Mosque in Esfahan. Later menars were built for mosques which were used as towers to call for the daily prayers in addition to their previous function as

guides. The minars which were built for the mosque specially were called “*Goldaste*” or “Flower Tower” since their top plan was similar to a bloomed flower. (Pirnia, 2006)

From a different point of view, Golabchi explains that the minaret was introduced for structural reasons in the Persian mosque. He refers to the famous pattern of the portal accompanied by two similar tower built on the two sides in order to describe that the minarets were located in order to prevent the huge arch from destruction since they had a heavy load and transferred the forces of the arch to the ground. (Golabchi, 2008)

Moving forward to the second aspect of the minaret pattern, it is wise to mention that the following explanation is a traditional symbolization common among Persian people. The researcher did not find a reference addressing this aspect yet has not eliminated it from this research. The minaret in this aspect is described along with the dome which both together represents a metaphor. The dome symbolizes the head and the two minarets symbolize the two hands of a man who is in a worshipping posture as seen in figures 2.34 to 2.36. This representation has been made to image the place of the act where God is worshipped.



Figure 2.34 The two minaret and the dome pattern, Grand Mosque of Esfahan, Persia. (Author)

Figure 2.35 The two minaret and the dome pattern, Goharshad Mosque, Persia. (Author)

Figure 2.36 The two minaret and the dome pattern, Yazd Congregational Mosque, Persia. (Author)

As the third aspect of the minaret pattern, Ardalan and Bakhtiar (1979) explain that the minaret is actually an ancient symbol which reflects man's ontological axis; a vertical and transcending dimension which provides the spiritual sense of the two-dimensional material existence. It represents the man who among other creatures stands up high in the universe recalling his soul and willing to reach for his place of origin. (Ardalan & Bakhtiar, 1979)

They further explain another mental purpose of the mosque referring to the function of the menar and mil in the Persian architecture which continued into Islamic architecture. In fact the minaret is a landmark leading to a specific esoteric place. In the urban texture these minarets stand as the vertical monuments or the essence of whatever there is horizontal. This analogy gains a great value if it is viewed as the number 1 related to the first letter of script, *alif*; alif. In this case the *alif* or *menar* becomes a symbol of the creator and a macro-scale symbol of his representative, the man. (Ardalan & Bakhtiar, 1979)

Using a different language Prijotomo (1992) explains the mental dimension of the minaret in another manner. Islam is a complete philosophy of life which draws no differentiations between the religious and secular matters. Thus invites Muslims to believe the concept of unity in life. The essence of Islam is represented in a single sentence which is both the profession and the creed of its adherence: "There is no god but God and Muhammad is his prophet;" which is held to be the ultimate revelation of God's will of creation. The first part of the sentence expresses the concept of unity of being that removes the idea of multiplicity and separate entities within the universal content. In fact it describes the fact that all multiplicities are from a single source and are actually united with it. In other words all the circles, no matter how large they are, are made from a single centre that if the centre is removed their existence of being a circle is in doubt. The second part of the sentence expresses the concept of a perfect

prototype which through this concept begins comes the concept of multiplicity in unity. It is actually the centre of the circle which contains all the accidents and the multiplicities possible in the material world; in fact multiplicity subsists only because the unity within subsists.

The human being is a place where two different dualities gather; the inner duality and the outer duality. The inner duality is essentially the vision one has of oneself; while the outer duality exists in the physical form of the man and the woman which its existence is necessary for the realization of a divine intension in the unity and in the multiplicity. The unification of these two aspects is in fact the gathering of the opposites, and has a harmony in a way that there is a perfect balance. This balance is the true balance which is the essence of Sufism and is directed to the concept of unity in multiplicity and multiplicity in unity. This combination is actually an effort to establish the Divine Being as the centre of consciousness and set up a movement towards it; to create a circle which indeed reveals that it has been made by the one centre.

Therefore the centre has an important position and meaning. The confronting force or energy of each duality enters the centre from four directions. The process of balancing and stabilizing these energies will make the centre react and thus symbolizes the infinite unity in multiplicity. In other words the centre will manifest. In this case the meaning of the centre which is the main centre of creation will be complete since it now also a symbol for the stabilizing process. The centre is now a vertical axis that unifies all the forces at its very zenith. In fact the centre is the symbolization of the infinite, the Supreme God. (Prijetomo, 1992) This concept is shown in figure 2.37.

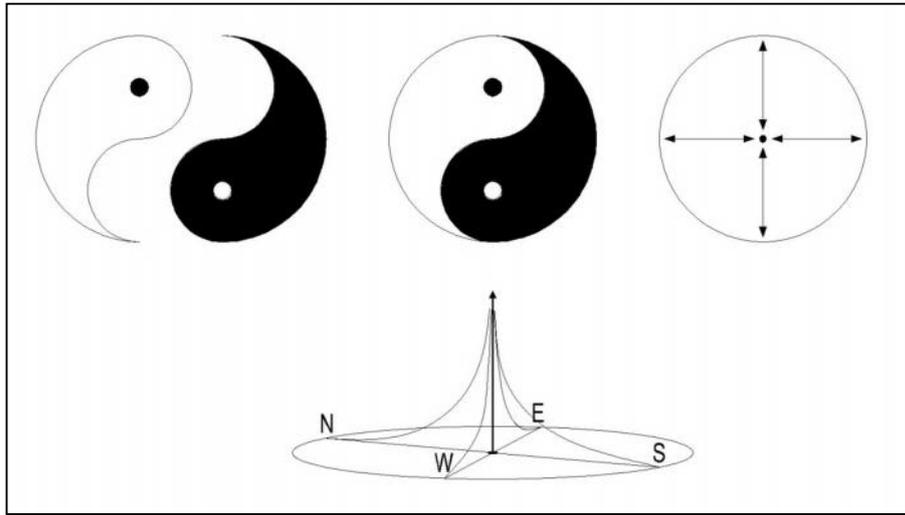


Figure 2.37 The ultimate balance leading to the perfect man and eventually to God. (Prijetomo, 1992)

As the fourth aspect of the minaret, Hillenbrand (2000) and Creswell (1926) share the same opinion, but since the explanations of Hillenbrand seem more detailed, this part will be discussed referring to Hillenbrand.

Another frequently used term for the tower pattern is the word “*Sauma*” which is often used in North Africa. *The word means a cell in which a Christian (usually a monk) secludes himself (with the particular gloss that the cell has slender pointed apex). It is worth remembering in this context that when the greatest of medieval Islamic theologians, al-Ghazali, was undergoing his spiritual crisis he turned, like many a Christian anchorite before him, to seclusion in a building – though he calls it a manara. In his own words: “for a period I confined myself in the mosque of Damascus, and stayed on the minaret all day long with the door barred.”* (Hillenbrand, 2000, p. 133)

Some of these minarets are shown in figure 2.38.



Figure 2.38 The common shape of the minaret pattern. (<http://www.flickr.com>)

It is obvious that the minaret if observed from above is actually a mandalic pattern that has many similarities with the format of the dome pattern. Thus it can in fact be considered as a prana generator and a spiritual chamber where a single person can undergo specific spiritual processes. But the important factor is that the mosque is not an individual building and its emphasis has always been on group prayers and group activities. Thus however it might have been used for individual purposes, its major purpose does not seem to be related to an individual spiritual process.

The author believes that the fourth aspect of the minaret is in a position of less value in comparison to the other three; yet it is still mentioned as a dimension of its functioning.

2.3 SUMMARY OF CHAPTER TWO

The 6 patterns of Persian mosque architecture have been added to the body of Persian mosque in the Razi era which also saw a vast development in the Persian architecture in general. They were introduced at the same time in which the esoteric Islamic ideology was being widely accepted and applied; it was known as Sufism.

When creation began, the human was created in the image of the supreme god. Being created after God's image means that a person is carrying an essence which is called the Divine Spark. Therefore many religions and schools of thought have introduced the human as the son of the most high in which each person there exists a divine essence or a divine spark.

The human is given four vehicles in his worldly journey along with his visible physical body which are the Etheric, Astral, Mental and Causal bodies. Through these he is able to express himself on the various dimensions of physical, emotional, mental and spiritual. The architect as a representative of God must have been reached a great level of human perfection and developed in all the four faculties of the human being in order to create a building responding to all directions of the human living; in order to create a building to uplift the human to a higher stage of living.

Every manifested object whether man made or god made, necessarily comes from two fundamental components; form and matter. These components are actually two sets of effects commonly known as the elements of architecture. One set influences the idea to manifest directly and the other indirectly. Matter addresses the very "Jawhar" or the "Substance" that admits form and form addresses every shape of variable motif a substance is able to admit. Architecturally speaking the first set of elements known as forms are in fact the same elements of geometry and are space, surface, line and point; while the qualitative elements which do not directly affect it and are time, colour, matter

and place. The combination of these two in an orderly manner which not every being is capable of performing is the act of creation which creates patterns.

Each pattern or feature is a unique solution responding to a system of forces in the universe. Yet the forces are never the same. These created patterns and features are repeated to create architecture as they are to create nature. What makes these unliving patterns become a brilliant scene of nature is the breath of God. It is indeed the identity or order which is given to these unlimited objects that makes them follow the invisible rules of beauty. The role of the architect is indeed the same in bringing the quality without a name or the breath of God for the buildings. Thus the character of nature cannot arise within the buildings unless the architect has understood the character of God.

In the architecture of a mosque, the main noticeable patterns are the dome, the arch, the mihrab, the portal, the courtyard and the minaret.

CHAPTER 3

METHODOLOGY

3.1 INTRODUCTION

This chapter serves as a background for the justification and rationale on the selection of the research methodology and the proposed theoretical and conceptual framework. The theoretical and conceptual framework of the study will provide an outline for the research design and methodology. The following sections include detailed explanation of the epistemology, theoretical perspective, methodology and methods of data collection and their justification.

3.2 THEORETICAL AND CONCEPTUAL FRAMEWORK

Does the application of specific patterns in the design of the Persian mosque provide a better ambiance for the act or worship?

This is a complex question that existing researches and models have mostly failed to answer because of limited focus on the belief system and multiplicity of forces influencing the Persian mosque design. However it has been the primary problem which has created the whole process of this research.

What it is obvious based on available documents and historical evidence, is that the very first mosque was constructed in a very simple way which was not rich in patterns and features. (Pirnia, 2004) (Hillenbrand, 2000)

According to Pirnia (2004) The *Razi* period in Persian architecture started in the 2nd and 3rd century (A.H) and introduced a truly new and different type of architectural approach to religious buildings. Many new buildings were appearing in the urban context of cities like tombs, schools, monasteries and *minars* as Islam was becoming more and more wide-spread among the people. The general look of the mosques was

also undergoing some changes. They were attracting much more attention and as a result their construction quality was improving significantly. Furthermore several patterns were being added to the main body of the mosque including the dome, the arch, the mihrab, the courtyard, the portal and the minaret, and ornamentations and decorative features were becoming more and more popular. (Pirnia, 2004)

At the same time a more esoteric view towards the teachings of Islam was shaping. In fact the Persian people had begun to notice the great depth in the Islamic Ideology and that it had been so complete, wholesome and profound. Thus the practices began to deepen, and the search for extreme wisdom and the urge to cultivate and explore inner life became popular. It was called Sufism and had influenced life in all its dimensions; physical, emotional, mental and spiritual. It was a lifestyle. (Karamustafa, 2007)

By comparing these two events that occurred in approximately the same historical period, we might be able to draw some conclusions and understand whether or not the changes made in mosque design, specifically the introduction of the 6 patterns, have been connected with Sufism and whether they are actually helping the mosque to create a better ambiance for the act of worship.

Aside from this historical timeline overlap, several scholars and authors including Ardalan and Bakhtiar (1979) Nasr (1987) and Akkach (2005) have also given some hints that these innovative patterns have some esoteric roots and are in fact responding to not only physical, emotional and mental, but also spiritual forces. But they have not gone far and have left it as assumptions.

So at this stage and with this information two research questions can be designed which can further help to answer the main research question:

- *Is the influence of the Sufi philosophy, the reason behind the creation of the 6 patterns of Persian mosque architecture?*

- *How has the Sufi philosophy influenced the 6 patterns of Persian mosque designs through the introduction of the 4 functional aspects of physical, astral, mental and causal?*

Therefore a framework was created to:

1. Thoroughly explore the Sufism ideology and the way they observe and interpret the universe and its contents;
2. Observe how they could have possibly influenced architecture at that period of time.

The first section was explained in chapter 2 – 1 and concluded that:

The human is given four vehicles in his worldly journey which are the physical, emotional, mental and spiritual bodies. Through these he is able to express himself on the various dimensions of physical, emotional (also known as astral), mental and spiritual. The whole universe in return has been created in a way to respond to all of these 4 dimensions. If we concentrate on one and forget the rest, we are not looking at the human being in its complete package.

The second section was explained in chapter 2 – 2 and concluded that:

Every manifested object whether man made or god made, necessarily comes from two fundamental components; form and matter. These components are actually two sets of effects commonly known as the elements of architecture. The manifested object is called a pattern which is a unique solution responding to a system of forces based on its function. These created patterns and features are repeated to create architecture the same way as they are to create nature. According to esoteric Islamic architecture, the system of forces that architecture generally responds to is the 4 aspects of the human existence.

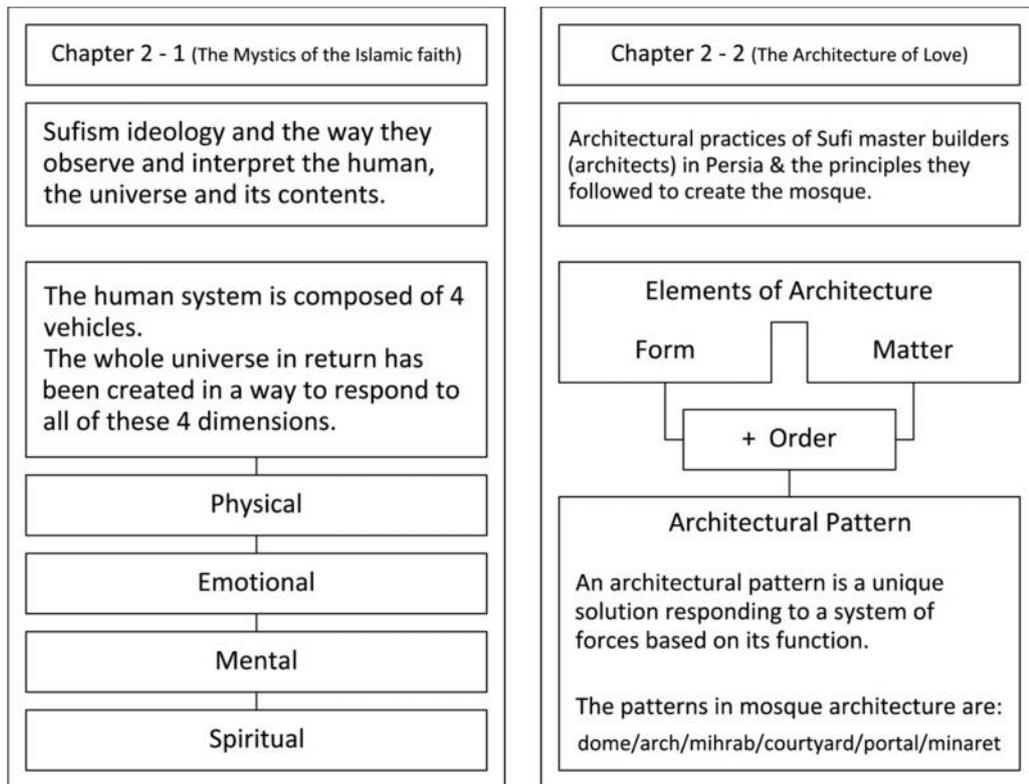


Figure 3.1 The series of discussions provided in chapter two. (Author)

In the case of the Persian mosque it is first required to examine whether the 6 mentioned patterns have been created in response to all of the 4 vehicles of the human being or are they only responding to some of them. We must also explore how they has been influenced in order to conclude whether or not they are actually helping the mosque create a better ambiance for the act of worship.

	Physical	Emotional	Mental	Spiritual
Dome				
Arch				
Mihrab				
Portal				
Courtyard				
Minaret				

Figure 3.2 Matrix relating the 6 patterns of Persian mosque to the 4 vehicles of human system. (Author)

By filling all the blocks of this matrix we will be able to draw out the complexity of relationships between the 6 architectural patterns of Persian mosque architecture and the practices & belief system of Sufi architects. If the matrix is completed successfully it will express that the 6 patterns of the Persian mosque have been introduced based on a system of belief (Sufism) which was a dominant factor of its time. Each box will be filled in a manner to create a harmony with the rest while responding to a unique force which makes it individually important as well.

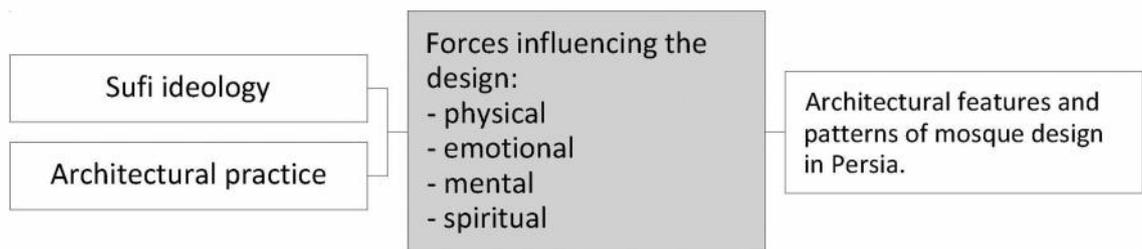


Figure 3.3 How specific patterns involved in mosque design, respond to various forces. (Author)

According to chapter 2-2, The Architecture of Love, there has been great amount of research done on many of the blocks of the matrix above. However they have mostly studied the significance of these patterns in Persian mosque architecture, focusing on only one category, independent from other forces which influence the overall formation of them. Thus since only a part of such matrix of forces and variables has been studied, the results do not propose a complete answer behind the advent of such complex forms and patterns.

These researches have been mostly revolving around the subjects of physical forces including statics, environment, climate and energy. A few others have focused on more behavioural and cultural studies, considering emotional values and some symbolic interpretations as their main independent variables. In other words previous scholars have expansively explained the different functions of these 6 patterns in the first three categories of physical, emotional and mental. The fourth aspect of the patterns though

has not been directly mentioned as previous architectural teachings have followed an apprenticeship system and has led to the loss of these precious teachings. Thus the fourth category is in fact the missing piece of the puzzle and must be filled in order to complete the process of the research.

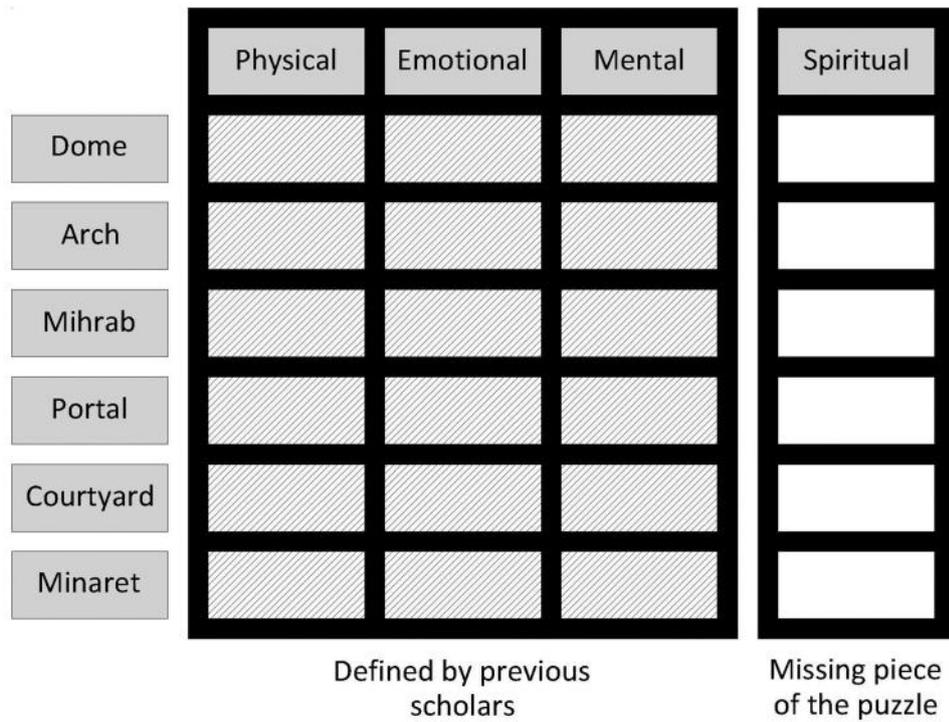


Figure 3.4 Spiritual function of the patterns are the missing piece shown by the research. (Author)

2- The second step is to explore how these 6 patterns are responding to the spiritual aspect of the human system, and what is exactly their spiritual significance.

The process of these two steps will in fact answer the two research questions.

We already know that the patterns have the first three (physical, emotional, and mental) functions according to chapter 2-2, Thus if they do actually have a spiritual function as well, we can conclude that their introduction is actually based on esoteric Islamic architecture and the Sufism ideology.

Furthermore if we explore how they are responding to the Spiritual aspect based on esoteric Islamic teachings and Sufism ideology, we can indeed conclude whether or not they are helping the mosque to create a better ambiance for the act of worship.

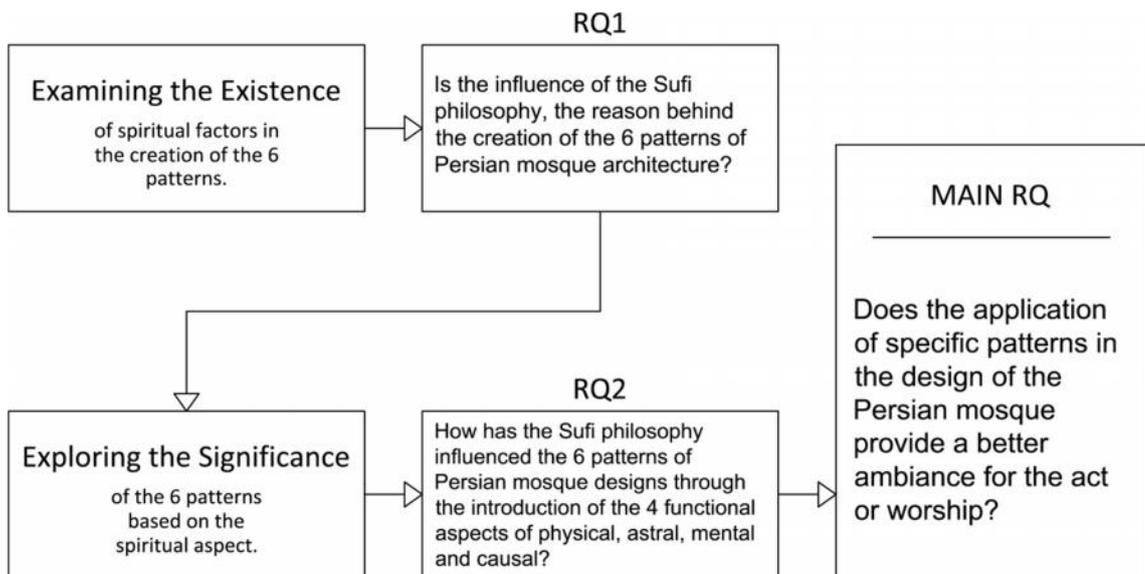


Figure 3.5 The procedure of answering the research questions. (Author)

In this procedure the Great Mosque of Esfahan and The Imperial Mosque of Esfahan have been chosen by the author to study as two cases which carry the greatest importance in Traditional Persian mosque architecture.

The Grand Mosque is the first example of a Persian mosque in which the discussed patterns began to emerge. It is one of the first examples of *Razi* style architecture,

influenced by the Sufi tradition. Furthermore, the building of the Great Mosque of Esfahan has undergone several repairs and restorations throughout history, therefore it can clearly picture the dominant patterns of mosque design in all the traditional Persian architectural styles known as the *Razi*, *Azari* and *Esfahani*. It is now considered the museum of Persian mosque architecture by many scholars. (Oleyki, 2009) A part of this mosque is being used by the Muslim worshippers today.

The Imperial Mosque on the other hand is a mosque that has not changed from its original format. Built in the *Esfahani* style, the last of the Persian traditional styles, it is believed to have been designed and constructed according to the greatest knowledge of the *Safavid* era which involved the esoteric Sufi teachings of Shies. It was considered the main mosque of its time and contains all the main patterns in its original design. (Oleyki, 2009)

3.3 METHODOLOGY

To identify the methodology of the research, based on Crotty's ideas, accepted by Creswell, one must consider four factors: the epistemology, the theoretical perspective, the methodology and the methods.(Crotty, 1998) Thus it is advisable to consider four questions in designing the research design and methodology:

- 1- *What epistemology- theory of knowledge embedded in the theoretical perspective- informs the research?*
- 2- *What theoretical perspective- philosophical stance- lies behind the methodology in questions?*
- 3- *What methodology- strategy or plan of action that links methods to outcomes- governs our choice and use of methods?*
- 4- *What methods- techniques and procedures- do we propose to use?'*(Creswell, 2003, p. 4 & 5)

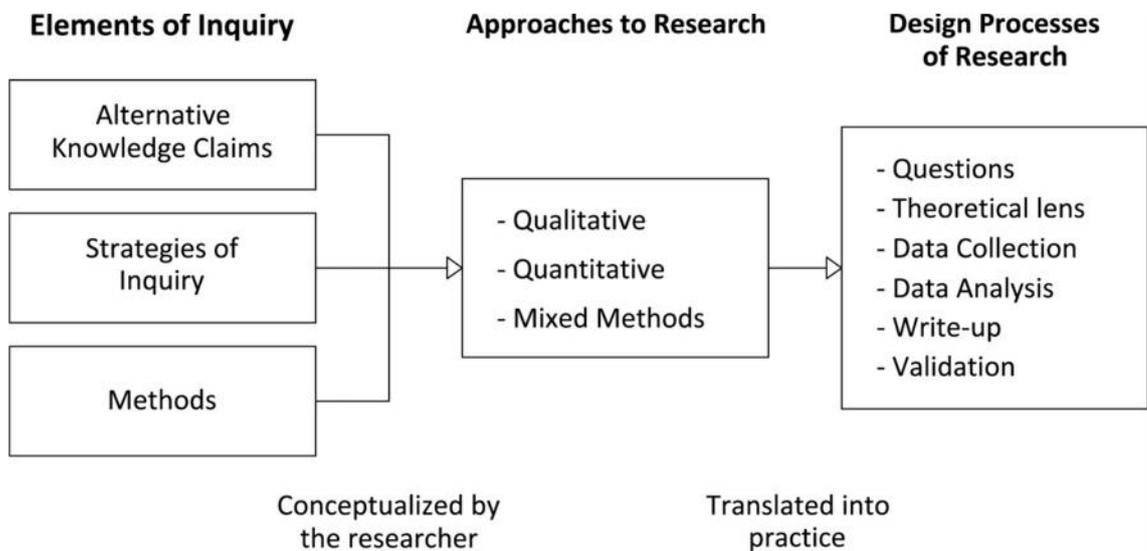


Figure 3.6 Diagram showing how epistemology, theoretical perspective, methodology & methods have been used in this thesis leading to selection of the approaches & the design process. (Creswell, 2003, p. 5)

3.3.1 EPISTEMOLOGY AND THEORETICAL PERSPECTIVE

Following this proposed pattern, the epistemology of the research should be defined first which deals with *'the nature of knowledge, its possibility, scope and general basis.'* (Crotty, 1998, p. 8) In fact epistemology defines a philosophical perspective which decides what kinds of knowledge are possible and adequate. Based on the nature of the research which is to explore the inner functions and reasons behind the creation of elaborate patterns of Persian mosque architecture, a constructivist view will be taken in providing answers to the research questions and the analysis of collected data.

In fact constructivism rejects the scientific objective views of the positivists to knowledge and believes that there is no objective truth; meanings are created from the interaction of people with the outer world. Thus mind is one of the significant elements in constructing meaning. However it is different from subjectivism in a way. Constructivists believe that there is an object, based on which the subjective meaning is constructed on; while the subjectivists believe that people make meaning from nothing. Crotty criticize the subjective view saying that *'we humans are not that creative,*

however. Even in subjectivism we make meaning out of something. We import meaning from somewhere else.' (Crotty, 1998, p. 9)

In this thesis thus, a constructive perspective has been chosen based on the idea that some patterns have been created and placed inside the Persian mosque by Sufi architects since they respond to a specific forces of nature. In fact the author believes that symbolic meanings and values have been constructed and added to these patterns in order to be experienced by people on their four spiritual, mental, emotional and physical levels. Therefore the 6 patterns of Persian mosques, which is believed to have been established by the Sufi architects, should be studied based on a constructive epistemology.

Constructivism is often combined with interpretivism since it deals with the subjective meanings constructed on objects and is one of the philosophical perspectives dealing with qualitative approach. In this philosophical stance, the author assumes that individuals seek to understand the world they live in and thus try to experience it in different levels. Their experiences often lead them to develop meanings towards specific objects, occasions or feelings. (Creswell, 2003) (Lincoln & Guba, 1985) Although these meanings are often various and different in the smallest scales which belongs to the unique individual differences, in cultural level, they share many similar beliefs and values. These socio-cultural meanings constructed on objects usually create styles.

In constructive data collections, the broader and more general the questions are, the better the results will be. Thus in the in-depth structured interviews the author tries to make the questions open-ended and lets the interviewee lead the discussion. Often the meanings and patterns, are created through history, and if studied will help in data analysis and interpretation. Also it is believed that if the researcher studies his/her own

culture his interpretations of certain situations will be more accurate since the same culture has shaped his/her personal, cultural and social experiences. (Creswell, 2003)

The characteristics of constructivism which are very similar to the philosophical perspective of this research can be defined as followed:

'1. Meanings are constructed by human beings as they engage with the world they are interpreting. Qualitative researchers tend to use open-ended questions so that participants can express their views.

2. Humans engage with their world and make sense of it based on their historical and social perspective- we are all born into a world of meaning bestowed upon us by our culture. Thus, qualitative researchers seek to understand the context or setting of the participants though visiting this context and gathering information personally. They also make an interpretation of what they find, an interpretation shaped by the researchers' own experiences and backgrounds.

3. The basic generation of meaning is always social, arising in and out of interaction with a human community. The process of qualitative research is largely inductive, with the inquirer generating meaning from the data collected in the field.' (Creswell, 2003, p. 9) (Crotty, 1998)

As a conclusion the theoretical perspective of this research is basically constructivism (very similar to interpretivism) which is imposed by the nature of data collection and the stated theoretical framework. It is believed that the Sufi teachings and practices and the way they viewed the universe and its order is the root cause of the creation of complex mosque design patterns. This belief system denotes the importance of four basic forces of *Jesm* or Physics, *Ravan* or Emotions and Psyche, and *Ruh* or Soul in the experience of human from the environment; therefore it plays an important role in the creation of

patterns. Dealing with Sufi Ideology, all data gathered from the case study should be interpreted in Sufi language to propose an accurate reason behind their use.

3.3.2 APPROACH

There are basically three approaches in conducting any research known as quantitative, qualitative and mixed methods. Each approach has its own strengths and weaknesses and it is not possible to say which one is better than the others. Their selection is basically dependent on the nature of research, its required information and its objectives. (Denzin & Lincoln, 2005)

Since the research deals with subjective meanings constructed on objects, and the nature of questions requires more interpretations, which is mostly connected to a system of beliefs and practices and their influences on architectural forms and patterns, a more qualitative approach is needed.

Suggested by scholars under the category of qualitative approach, there are several strategies which further define the methods of data collection and analysis including narratives, phenomenologies, ethnographies, grounded theory, and case studies. (Creswell, 2007) (Groat & Wang, 2002)

According to Yin (2003) the three main conditions that will determine which strategy should be used in any research are as following:

- 1- *The type of research question,*
- 2- *The control an investigator has over actual behavioural events and*
- 3- *The focus on contemporary as opposed to historical phenomena'* (Yin, 2003, p.

1)

In this research in order to examine and explore the influences of the Sufism Ideology in the creation of actual Persian mosques, case study seems to be the most appropriate method of data collection.

Based on Robert Yin's theories, case study is a preferred research strategy when "why" and "how" questions are asked, when the researcher has a little or no control over the events, and when the focus is more on the contemporary events within their real-life context. (Yin, 2003) However, Groat and Wang believe that case study can also be applied in studying the historical buildings or monuments in the field of architecture. (Groat & Wang, 2002) In this way, case study will become an exploratory study which can be further complemented with two other types of explanatory and descriptive. (Yin, 2003)

Table 3.2 Rationale of choosing case study as a proper strategy. (Author)

Criteria	Rationale
Nature of the Study	<ol style="list-style-type: none"> 1. Its main objective is to understand the case in depth and reveals the details about a phenomenon, an object, event, building to the researcher in which any phenomenon can be examined (Creswell, 2003) 2. Its primary concern is not controlling the variables and thus is dependant of the events and measurement of effects (Yin, 2003) 3. Its focus is on the case in its social, cultural and historical context (Groat & Wang, 2002) 4. The nature of questions being asked is 'why' and 'how' questions (Yin, 2003) 5. It uses a rich multiple set of data collection sources to achieve a better understanding of the subject (Groat & Wang, 2002) 6. Has the ability to generalize (Groat & Wang, 2002) <p>All the stated documents prove that case study is the best research strategy which can help the researcher to explore the data and achieve the desired objectives and conclusions.</p> <p>Therefore ethnography was not put into consideration since its aim is to study an intact cultural group in their natural setting and over a long period of time, and is not grounded theory since the objective is not to derive a general abstract theory from the views of the participants. The research is not also based on phenomenological research as it is not dealing with the essence of human experiences concerning an event or phenomenon, as experienced by participants. At last the research is not also narrative since the method of data collection is not based on asking people to provide stories about their lives which can help the researcher to come to a narrative chronology. (Creswell, 2003) (Creswell, 2007)</p>
Previous Studies	Almost all of the previous scholars who have studies the patterns of Persian mosques in detail have chosen case study as the proper research

	strategy such as Oleg Grabar, Mohammad Karim Pirnia and Eeugenio Galdieri. This might be because the traditional Persian mosques are now available very similar to their original content.
Advantages of the Method in this study	Case study is in fact the best method to examine how people's constructive mind have influenced the architecture of mosques through history and how subjective meanings have been influential in the creation of certain forms and patterns. In other words in order to examine and explore the spiritual functioning of these 6 patterns, they have to be examined within the context of a built examples.

3.3.3 CASE STUDY DESIGN

Case study can be a well compelling and convincing method when it is done well. (Groat & Wang, 2002) Therefore some tests have been designed by scholars to help the researcher verify the collected data.

Table 3.3 Case study tactics for four design tests. (Yin, 2003, p. 20)

Tests	Case Study Tactic	Phase of Research in Which Tactic Occurs
Construct Validity	▪ Use multiple sources of evidence	Data Collection
	▪ Establish chain of evidence	Data Collection
	▪ Have key informants review draft	Composition
Internal Validity	▪ Do pattern-matching	Data Analysis
	▪ Do explanation-building	Data Analysis
	▪ Address rival explanations	Data Analysis
	▪ Use logic models	Data Analysis
External Validity	▪ Use theory in single-case studies	Research Design
	▪ Use replication logic in multiple-case studies	Research Design
Reliability	▪ Use case study protocol	Data Collection
	▪ Develop case study database	Data Collection

In this research two cases will be studied to investigate all the 6 stated patterns and explore their function as parts of a complex system. These two cases are:

- 1- The Great Mosque of Esfahan which is the first example of a mosque built according to the Sufi beliefs in Persia and is also one of the most significant examples of mosque design worldwide. (Pirnia, 2004) (Oleyki, 2009)
- 2- The Imperial Mosque of Esfahan which is the greatest mosque that has been built by the grand master Ali Akbar *Esfahani* in the year 1020 A.H. and includes all the patterns in its classic appearance. (Pirnia, 2004)

The Grand Mosque of Esfahan is the most important and famous example of the Persian mosques according to several scholars. Basically this mosque is the first example of a Persian mosque in which the patterns that are now considered as a main part of mosque architecture worldwide were used. Many scholars like Pirnia (2004) and Kiani (2007) believe that many of these patterns were actually introduced to mosque architecture through this mosque. The building of the Great Mosque of Esfahan has undergone several repairs and restorations through history by architects of different periods and styles of architecture. Therefore it can best picture the dominant patterns of mosque design in all the Persian architectural styles known as *Razi*, *Khorasani*, *Azari* and *Esfahani* styles. This phenomenon has even made the Grand Mosque of Esfahan to be considered as the museum of Persian mosque architecture by many scholars including Pope (1965) Pirnia (2004) Kiani (2007) and Oleyki (2009.) A part of this mosque is even still being used by the Muslim worshippers. Thus the Great Mosque of Esfahan is one of the best cases which can picture the evolution of the Persian mosques through history and the role and importance of the 6 patterns in the context of the Persian mosque.

Table 3.4 The reasons why the Grand Mosque of Esfahan was chosen as a case to be studied. (Author)

Criteria	Rationale
Nature of the Case	<ol style="list-style-type: none"> 1. The Grand Mosque of Esfahan is the only mosque that has been present during all post-Islamic eras of architecture. (Pirnia 2004) (Pope 1965) 2. It is considered as the museum of Persian architecture since the changes occurred in each era did not totally demolish the efforts of the previous style. (Kargar 2010) 3. The features of mosque architecture are all present in the Grand Mosque, thus making it easy to study them all in detail. 4. According to history some of the patterns that are now considered as patterns of mosque design have been developed and introduced in the Grand Mosque of Esfahan. (Zargar 2007) (Kargar 2010) 5. A part of the Grand Mosque is still functioning as a house of worship. 6. Generalizing is possible through the study of its features and design since it has been considered as a model of mosque design for centuries up to now.

The Imperial Mosque of Esfahan is the earliest and most important mosque known to be built by the Great Master Ali Akbar *Esfahani*. It is also believed that Grand Master Sheikh Bahaei which is a greatly known architect and Sufi master was involved in the construction and design of the Imperial Mosque. (Blake, 1999) The great importance of this mosque is that it originally contains all the 6 patterns which have been present in many other mosques in Persian architecture all in one place. These patterns have been combined in a manner that has created the most classical example of a Persian mosque. It is known as the masterpiece of the *Esfahani* architecture and the finest example of seven colour ornamentations. (Pirnia, 2004)

Table 3.5 The reasons why the Imperial Mosque of Esfahan was chosen as a case to be studied. (Author)

Criteria	Rationale
Nature of the Case	<ol style="list-style-type: none"> 1. The Imperial Mosque of Esfahan is the greatest Persian mosque constructed during the Safavid Shiet era which is located in Esfahan. (Pirnia 2004) (Pope 1965) (Kiani, 2007) 2. It is the greatest art work of the Safavid era with the finest ornamentations and decorative features. 3. The features of mosque architecture are all present in the Grand Mosque in its original content thus making it easy to explore them all in detail. 4. It is well believed that the mosque has been built by a master builder and under the supervision of the Grand Sufi master builder Sheikh Bahaei. (Pirnia 2004) (Blake, 1999) 5. A part of the Grand Mosque is still functioning as a house of worship. 6. Generalizing is possible through the study of its features and design since it has been considered as a model of mosque design for centuries up to now.

It is also wise to mention that in addition to the mentioned rationale, there lies another reason in the selection of these two mosques for the case studies. As stated earlier in Chapter 2.2.1 according to Mirmoghtadaee (2009) Persian architecture has been divided into the three periods of Traditional, Transitional and Contemporary eras. According to Pirnia (2004) traditional architecture in Iran has begun in the era before the *Parsis* and is divided into the two periods of before and after Islam. In these periods there was a

profound connection between social behaviour and the built space and well established rules, geometries, spatial arrangements and patterns that were carefully followed by the master builders during construction. In the transitional period, which started from the *Qajar* dynasty and continued to the Pahlavi era, the western modernism influences entered the Persian Society and changed the traditional systems and belief; thus architecture also entered a new reign since the rules and patterns started to change from their original format to the standards of modern life. In the contemporary era which was introduced after the transitional era changes transferred from the built space to the demographic features of living, while the change did not happen in the traditional beliefs and values of people at the same rate. Thus a major conflict occurred between the physical building and the belief system of the inhabitants. The modern architecture of Iran is extremely poor in quality and order.(Mirmoghtadaee, 2009)

The aim of the research is to examine whether or not the Sufi teachings have influenced the creation of the traditional Persian mosques. Therefore The Grand Mosque which is known to be the first mosque that has been built in the *Razi* style has been chosen as the first and pioneer case. The second mosque is the Imperial Mosque belonging to the last traditional era, the *Esfahani* era. If the influences of Sufi teachings and principals were indeed present in the creation of the 6 patterns of both mosques, it can be concluded that these teachings were practiced in all of the Persian traditional architectural era. In other words the style of architecture introduced by the Grand Mosque in the *Razi* style established a new method of mosque design which included the introduction of these 6 patterns and had been practiced throughout the whole traditional architectural period.

Since only two cases are being studied, the prior beliefs, ideas and practices of Sufis leading to the construction of certain patterns, forms and symbols in the Grand Mosque of Esfahan and the Imperial Mosque have been studied by the Author. Thus the Sufi theory is used as a complement to the results of these case studies, as stated by Yin as

required information. (Yin, 2003) Therefore the diagram of conducting the case studies can be depicted as followed:

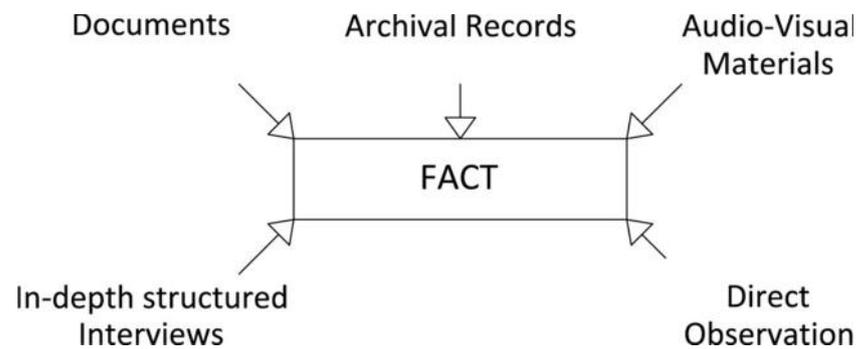


Figure 3.7 Diagram showing the convergence of evidence in the thesis' case studies. (Athor)

3.3.4 METHODS OF DATA COLLECTION

Methods of data collection vary based on the chosen approach for conducting the whole research, as stated in the following table.

Table 3.6 Qualitative, Quantitative and Mixed Methods procedures. (Creswell J. W., 2003, p. 17)

Quantitative Research Methods	Qualitative Research Methods	Mixed Methods Research Methods
Predetermined	Emerging methods	Both predetermined and emerging methods
Instrument based questions	Open-ended questions	Both open-ended and close-ended questions
Performance data, attitude data, observational data and census data	Interview data, observation data, document data and audio-visual data	Multiple forms of data drawing on all possibilities
Statistical analysis	Text and image analysis	Statistical and text analysis

In this research, three methods of data gathering will be used:

- 1- The primary method will be in-depth structured interviews to propose a general idea and outline for the future observations of the Great Mosque of Esfahan and the Imperial Mosque. The interview will first focus on the **existence** of spiritual factors which is related to answering the RQ1. In other words it will examine whether or not the 6 patterns actually had a spiritual function. Thus it will be

possible to conclude quite certainly whether the mosques have been influenced by, and the patterns have been introduced according to the Sufi beliefs. It is also wise to mention that the other three factors involved in the patterns and some significances of the spiritual factor have also been mentioned by the interviewees. Furthermore the topics of these interviews will be designed in a way to ask the experts about the actual spiritual functioning of these patterns in the two mosques. Therefore the data gathered through these interviews will also be used in the discussion to answer RQ2 which is related to how these 6 patterns influence the act of worship.

The interviews were conducted in December 2009 and September 2010 ranging from 30 to 100 minutes.

Table 3.7 Profile of the interviewees. (Author)

Interviewees	Position held by the interviewees	Experience in year
OstadBahramOleyki	Master builder, and the general Manager of repair and restoration of Imam Mosque of Esfahan, Alighap and JameAtigh mosque	48
AbdollahKargar	Master builder, and the general manager of repair and restoration of the great mosque of Esfahan	15
Dr. Mahdi Hojjat	Ph.D / Formal Manager and establisher of the Cultural Heritage Organization of Iran / President of the National Council Documents society of Iran / Architectural Theorist / University Professor / Book Author	28
Dr. Hamid Nadimi	Ph.D / Dean of the Islamic Studies department of the ShahidBeheshti University, Tehran / Manager of the reconstruction of Islamic religious buildings of Iraq / University Professor	26
Dr.FarzinNegarestan	Ph.D / Professional Architect / University Professor / Book Author / Directory Board of Nazar Research Centre, The centre for research on art, architecture & urbanism	19

2- The second method of data collection is direct observations. In this method the author will directly observe the 6 patterns in the context of these two mosques and will deeply explore the possible spiritual functions of these 6 patterns based on the Sufi ideology discussed in chapter 2-1 and 2-2. In this case the objective is to explore their actual spiritual significance & function as a pattern of the Persian mosque and how they are responding to the spiritual vehicle of the

human system. Therefore the data gathered using this method will be used to answer RQ2.

3- The third method of data collection will be using documents, archival records and material related to these two mosques provided by the National Heritage Society of Esfahan. The data provided by these documents will be used to further assist the process of the direct observation.

Table 3.8 Qualitative data collection types used in the research, their advantages and limitations.

(Creswell, 2003, p. 186 & 187) (Yin, 2003, p. 86)

Data Collection Types	Options Within Types	Advantages of the Type	Limitations of the Type
Interviews	<ul style="list-style-type: none"> ▪ Face-to-face: one on one in-depth interview 	<ul style="list-style-type: none"> ▪ Useful when participants cannot be observed directly ▪ Participants can provide historical information ▪ Allows researcher control over the line of questioning 	<ul style="list-style-type: none"> ▪ Provides indirect information filtered through the views of interviewees ▪ Provides information in a designed place rather than the natural field setting ▪ Researcher's presence may bias responses ▪ People are not equally articulate and perceptive
Observations	<ul style="list-style-type: none"> ▪ Observer as participant: role of researcher is known 	<ul style="list-style-type: none"> ▪ Researcher can record information as it is revealed ▪ Researcher can use his experience to interpret the collected data more efficiently 	<ul style="list-style-type: none"> ▪ Private information may be observed that the researcher cannot report
Documents	<ul style="list-style-type: none"> ▪ Private documents such as books, journals, diaries and letters ▪ Archival records of the mosque ▪ Electronic sources 	<ul style="list-style-type: none"> ▪ Enables a researcher to obtain the language and words of previous observers ▪ Can be accessed at a time convenient to the researcher – an unobtrusive source of information ▪ Represents data that are thoughtful, in that previous observers have given attention to compelling ▪ As written evidence, it saves a researcher the time and expense of transcribing 	<ul style="list-style-type: none"> ▪ May be protected information unavailable to public or private access ▪ Requires the researcher to search out the information in hard-to-find places ▪ Requires transcribing or optically scanning for computer entry ▪ Materials may be incomplete ▪ The documents may not be authentic accurate
Audiovisual materials	<ul style="list-style-type: none"> ▪ Photographs ▪ Videotapes ▪ Film 	<ul style="list-style-type: none"> ▪ May be an unobtrusive method of collecting data ▪ Provides an opportunity for previous observers to directly share their observation ▪ Creative in that it captures attention visually 	<ul style="list-style-type: none"> ▪ May be difficult to interpret ▪ May not be accessible publicly or privately ▪ The presence of an observer, may be disruptive and affect responses

3.4 SUMMARY

Each data collection method for conducting a case study of the proposed research has some advantages and a few limitations, which can be compensated by using different methods of data collection. Since the nature of questions needs more interpretations which mostly are connected to a system of beliefs and practices and their influences on architectural forms and patterns, a more qualitative approach is needed; and to study the influences of such belief system in the creation of actual mosques, case study is the most appropriate method of data collection.

Since the author must examine the existence of the spiritual factor in the patterns which have become part of the mosque architecture worldwide and deeply explore their spiritual functions, only two cases have been chosen in order to study them in detail. The first case is the Grand Mosque of Esfahan which according to the literature review chapter is the greatest Persian mosque that has even been build; and the second case is the Imperial mosque of Esfahan which is the greatest mosque that has been built by the well-known Grand Master Sheikh Bahaei, and includes all the patterns in its original design. These two mosques, which have been chronologically constructed far apart from each other, have been chosen also to examine the fact that whether or not Sufism ideology had influenced the Persian mosque architecture throughout the whole Persian traditional architectural period.

The process of the case study will be divided into two parts. The first part is in-depth structured interviews, which is designed mainly to examine whether or not the 6 patterns actually have spiritual functions in the Grand Mosque and the Imperial Mosque of Esfahan. Since these mosques are considered the greatest mosques of Persian Islamic architecture and that other mosques have followed their patterns and design, it can be concluded that after the *Razi* style, which is the rise of the esoteric architecture, and

until the *Esfahani* style mosques have been generally built according to the four aspects of the human system.

The second part will then deeply explore the 6 patterns in the context of these two mosques through a direct observation process which will be also enhanced using documents and archival records provided by the National Heritage Society of Esfahan in order to observe their spiritual functioning in detail according to Sufi ideology explained in chapter 2-1 and 2-2.

At this stage we will be able to answer the main research question:

Does the application of specific patterns in the design of the Persian mosque provide a better ambiance for the act or worship?

CHAPTER 4

CASE STUDY

4.1 INTRODUCTION

In this research two cases will be studied to focus on the 6 patterns of Persian mosque architecture and explore their function as parts of a complex system. These two cases are:

- 1- The Great Mosque of Esfahan which is the first example of a mosque built according to the Sufi beliefs in Persia and is also one of the most significant examples of mosque design worldwide. (Pirnia, 2004) (Oleyki, 2009)
- 2- The Imperial Mosque of Esfahan which is the greatest mosque that has been built by the grand master Ali Akbar Esfahani in the year 1020 A.H. and includes all the patterns in its classic appearance. (Pirnia, 2004)

This chapter will completely cover the process of these case studies. It will also include comprehensive discussions on the functions (especially spiritual) of the 6 patterns present in each case and eventually the conclusions derived from the studies. Three methods of data collection were used in this process:

- 1- In-depth structured interviews. These interviews will first focus on the existence of spiritual factors which is related to answering the RQ1 in order to examine whether or not the 6 patterns included in the design of these mosques have been designed based on esoteric Sufism ideology. Furthermore since the topics of these interviews have been designed in a way to ask the experts about the actual spiritual functioning of these patterns in the two mosques, the data gathered through these interviews will also be used in the discussion to answer RQ2 which is related to how these 6 patterns influence the act of worship.

- 2- Direct observations. The objective of this process is to explore the actual spiritual significance & function of the 6 patterns as patterns of the Persian mosque and how they are responding to the spiritual vehicle of the human system. Therefore the data gathered using this method will be used to answer RQ2.
- 3- Documents and archival records. The data provided by these documents will be used to further assist the process of the direct observation.

4.2 IN-DEPTH STRUCTURED INTERVIEWS

The interviews are designed based on a custom process due to cultural reasons. Persian people have lived so many years under the influence of many gnostic and esoteric teachings. The spiritual teachings of Hafiz and Rumi are now considered part of their lifestyle that cannot be replaced nor removed. Thus whatever they observe is from the filter of esoteric beliefs.

In this case if the interviews were designed in a manner which pointed directly towards the spirituality of the patterns and questioned the existence of spiritual factors in their creation, an accurate and logical answer would not have been derived. In other words, if the researcher would have asked: “Have spiritual factors existed in the creation of the 6 common pattern of mosque design in Persian mosque architecture?” the answer received from any Persian experts would be in an obvious manner: “Yes.”

Therefore a logical procedure was carefully designed in order to create an argument, guide the interview step by step and make a clear conclusion from the knowledge of expert.

In order to do so, 5 topics were prepared:

- 1- The reason why the act of worship is regarded to be greatly pleasant in the Grand Mosque and the Imperial Mosque.

- 2- The reason why these traditional Persian mosques are considered to be precious.
- 3- The means that have created such ambiance in these traditional Persian mosques.
- 4- The source which has introduced these patterns in these traditional Persian mosques.
- 5- The actual functions of the additional patterns in these traditional Persian mosques.

4.2.1 TOPIC 1: PLEASANT WORSHIP IN THE GRAND MOSQUE & THE IMPERIAL MOSQUE

Topic 1:

- The reason why the act of worship is regarded to be greatly pleasant in the Grand Mosque and the Imperial Mosque.

Aim of Topic 1:

The first topic guides the argument towards the environment of the research so that the interviewee could build the fundamental reasoning and rationale for further discussion.

The aim of this topic is to understand the reason behind the success and greatness of these two mosques throughout history by pointing to the factors that have created a pleasant ambiance for the worshiper. The focus will be more on **spiritual** factors.

Master Bahram Oleyki:

- *We see that the architect has put signs in every place of it **connecting the users to God**... You stand still and start thinking. It's so beautiful and so **spiritual**.*
- *Decorations create beauties and beauties are from the **essence of God**. It is not just to satisfy the eye, it pulls the worshipper to itself. God has made beauty and has confirmed it.*

- *Mosque generally means the place where “Sajdeh” or “Falling on the Ground” in gratitude to the Supreme God takes place; thus everything has to be put together to create an atmosphere that is **divine**.*

Abdollah Kargar:

- *One of the greatest characteristics of the traditional mosque (in particular, the Grand Mosque) is its humbleness, its **divine**.*

Dr. Mahdi Hojjat:

- *The traditional mosque is actually a manifestation of the “**Hamd**” chapter of the Quran. Every single verse is materialized and represented as the goal of man’s creation that has manifested in some patterns like the dome chamber, the four- iwans, the minaret, mihrab and the arches. These patterns were used to **transcendent the human soul spiritually**. When you look at a mosque, it is all you want.*

Dr. Hamid Nadimi:

- *I might not know what the reason is, but I can definitely conclude that it has something that keeps pulling people towards itself; they might feel much better there.*
- *the mosque is a place of **spirituality***
- *Since the mosque is the place for ultimate **spirituality**, there are definitely matters concerning the **human spirit**.*
- *What we have in the Grand Mosque and the Imperial Mosque is some kind of **sweet divinity** that we do not have it today.*
- *It is a **soul** within the building that holds you and you can communicate with and enjoy it.*

- *The feeling he gets before, while and after his prayer is so unique that he wants to experience it over and over; and since it is his **soul** that is treated he will never get bored of the experience.*

Dr. Farzin Negarestan:

- *What we see in this mosque is pure beauty because he does not act unless it is for the **uplifting of humanity**.*
- *When you enter the traditional mosque you get Goosebumps; when you are ritually being purified in the middle of the courtyard you feel expanded; when you enter an iwan in any of the four directions, you feel bliss. These are not simple facts, in the grand mosque they are completed and are functioning for the sake of **human spiritual growth**.*
- *It is an element of **remembrance**.*

Conclusion of Topic 1:

It can be clearly concluded that all the 5 experts agree on the fact that there is a spiritual ambiance present in these two glorious mosques that keeps the worshipper coming back to experience it again and again. This spirituality has been injected inside the mosque in order to uplift the human soul and accelerate his spiritual growth.

Some experts did not exactly know what this quality is, yet they knew that something exists that is divine.

4.2.2 TOPIC 2: WHY THE MOSQUES ARE GREATLY PRECIOUS

Topic 2:

- The reason why these traditional Persian mosques are considered to be precious.

Aim of Topic 2:

The aim of this topic is to understand the greatness of traditional mosques. In other words how and with what kind of knowledge this great ambiance is present in these two mosques?

In this manner the role of the architect will be the centre of focus in this topic and the knowledge he has used to design these masterpieces. Thus the means (patterns) of creating this ambiance will not be the issue of this topic.

Master Bahram Oleyki:

- *What made them beautiful and precious was their **creator**.*
- *To come to this stage, the **architect** has passed an evolutionary path which has made him perfect and to think and design perfect.*
- ***Every single level** has to be in its own place... They create spirituality and once **all levels** are gathered, they are considered architecture and they are of value.*

Abdollah Kargar:

- *The **architects** who created these mosques must have known many things. They had to understand **structure** in order to keep the building standing. He had to have the knowledge of **decorations, ornaments and design**; he also had to know **jurisprudence** as a religious figure; the architect was actually a spiritual person since he was creating a place to worship God.*

Dr. Mahdi Hojjat:

- *Obviously the **architect** that is the creator of this container has to have reached some high stages of human perfection in order to understand good quality. He must understand the most ultimate quality of human living which includes his acts, actions, feelings, emotions, etc. an architect is eligible to create only when*

he has understood the goal and this requires understanding the definition of the human being itself.

- *In general we can consider **3 basic levels** of human existence. The first is his **physical** existence, next is his **psychological** existence and third is his **spiritual** existence. What an architect has to achieve is a response to **all these major levels**. Traditional architects by considering **all these three levels** (functions) were able to create fantastic mosques that we still marvel at.*

Dr. Hamid Nadimi:

- *Language is a means of communication; it is a medium that has to be properly chosen in order to complement the communication. In the same way, architecture is also a means for communication which the **architect** carefully uses. It is a language.*
- *This language thus is not only concerned with the physical matters since there are features that have no physical or constructional functions; and since the mosque is the place for ultimate spirituality, there are definitely matters concerning the human spirit; however they are all involved.*

Dr. Farzin Negarestan:

- *The level of architecture directly depends on the spiritual level that the human being or its better if I say that **architect**, who is creating in the place of God, has reached. However it should not be solely that aspect; architecture does not only spiritually involve you since you are actually physically living in it. Thus the architect must have the knowledge of **all the aspects** simultaneously.*
- *The understanding of the whole complex of creation though is directly oriented towards the level of understanding of the **architect**. If he has purified himself in a way that has made him capable of representing God and his creational acts on*

earth, he can obviously create the Grand Mosque and the Imperial Mosque. In fact the level of creation carried out by the architect only depends of the evolution of his soul.

- *In fact all the features in the mosque have been generated in order to **solve all the problems** and this is where the value of the architect is highlighted.*

Conclusion of Topic 2:

From the above statements it can be concluded that the architect is the figure who creates this glorious pieces of art; and in order to do so he must have undergone several stages of purification and perfection. In fact the traditional architect was not just an ordinary human being, since he was a great figure which had the knowledge of structure, beauty, symbolism and spirituality. In this case he could have created a place that was precious on all levels.

4.2.3 TOPIC 3: THE MEANS OF CREATING THE GLORY

Topic 3:

- The means that have created such ambiance in these traditional Persian mosques.

Aim of Topic 3:

The aim of this topic is to determine the patterns of the Persian mosque according to the expert's perspective.

Master Bahram Oleyki:

- *The four-iwan*
- *The mihrab*
- *The minarets*
- *The arches*
- *The dome*

- *The courtyard*
- *The portal*

Abdollah Kargar:

- *The four-iwans model of the courtyard*
- *The dome*
- *The arches*
- *Symbolic decorations*

Dr. Mahdi Hojjat:

- *The dome chamber*
- *The four-iwan*
- *The minaret*
- *The mihrab*
- *The arches*

Dr. Hamid Nadimi:

- *The dome*
- *The arches*
- *The minaret*

Dr. Farzin Negarestan:

- *The courtyard*
- *The four-iwan model*
- *The dome*
- *The arches*
- *The portal*

Conclusion of Topic 3:

According to the experts' answers, the means of creating such spiritual ambiance in the mosque is in fact the patterns which create the whole mosque. These patterns have been designed according to all levels or aspects of the human life and to a great extent are exactly the same set of patterns derived from literature.

4.2.4 TOPIC 4: THE INTRODUCTION OF THE PATTERNS

Topic 4:

- The source which has introduced these patterns in these traditional Persian mosques.

Aim of Topic 4:

The aim of the fourth topic is to explore the source which these patterns have been generated from; the system of belief which the architect had followed in order to introduce these patterns to the Persian mosque or the procedure that saw these pattern become a part of the mosque's sanctuary.

Master Bahram Oleyki:

- *In traditional times the architect **loved** his work. He was completely devoted and his inner imagination which was made of true love was so vast, thus he was able to create beauties **from the inside**. Architecture has a deep root and if we look closer, we find that this root will eventually lead to the greatness of God; after all he is the only architect of all the earth and heaven, and one can only create beauty when this beauty is transfers to him by God.*
- *All of these are not Islamic, they are **universal**; the Christians, the Jews or any other follower love this approach and respect it.*

Abdollah Kargar:

- *Generally as we move forward through time, the quality of the building drops... This was because we lost our **faith**. We lost our **love** and since architecture is totally dependent on our beliefs, we moved further and further away from ourselves.*

Dr. Mahdi Hojjat:

- *A building can be nice, it can be good looking, but that is not its ultimate goal. “Memari” or “Architecture” comes from the root of “Omr” or “Life;” architecture means to give **life**. It addresses a life that it gives to its container.*
- *In fact it is the **third dimension** that makes the human being so special; and we have to consider it. The architect has to understand the good quality regarding the human’s **spiritual** needs. This is where all the masterpieces come from.*

Dr. Hamid Nadimi:

- *What is very important is the reason that all these patterns have been created for; in other words the start of the creation of mosque in the architecture language. Whatever the reason is, it must be a great reason that after centuries, we are still using the same language.*
- *Thus it can be concluded that the reason behind the creation of the dome was **not an issue that existed only in the era of its creation**, since after the time people accepted to continue using the same language while many other words have changed like the house.*

Dr. Farzin Negarestan:

- *Every human being is looking for an outer presentation of their **beliefs** and generally themselves. The architect is trying to express his **inner states** with the use of geometry, figures, volumes and patterns. In fact when he is creating a*

*mosque he understands the process of the prayer and he is aware of the spirituality and the divine presence in the **act of worship**; thus he wants to shape it physically; he wants to image it.*

Conclusion of Topic 4:

It can be concluded that these patterns have actually been created from an inner state or an esoteric state which is created through high levels of gnosis. Whether it is Sufism, Sheism or any other belief system, it is a universal fact that functions in the same way. It is timeless and is only gained when the architect's love for its ultimate creator in at its highest level. It can also be called faith, order or the fire within, but whatever it is, it carries a quality that everyone can feel and understand; and creates the patterns that provide a spiritual ambiance that every worshipper is willing to experience.

However it can be concluded that since Persian people have been Muslims from the day Islam has come to these lands, the original source which these patterns have been introduced from are actually esoteric dimensions of the Islamic faith which according to the literature review it is called Sufism.

4.2.5 TOPIC 5: FUNCTIONS OF THE INTRODUCED PATTERNS

Topic 5:

- The actual functions of the additional patterns in these traditional Persian mosques.

Aim of Topic 5:

The aim of this topic is to explore the functions of the mentioned patterns especially spiritual functions. Although the content of the topic is discussing the functions in general, previous topics will actually guide the argument towards a more spiritual and esoteric discussion. In other words, since the previous topics created an environment

that involved spiritual factors, the experts are expected to explain the causal aspect of the patterns if they actually exist.

Master Bahram Oleyki:

THE FOUR-IWAN:

- *One of the functions of the four Iwan pattern is designed to respond to the condition of each season. (Physical)*
- *It creates an echo that creates a beautiful ambience. It really moves you and makes you feel so special. Islamic architecture means to follow the invisible laws of nature and use them to lift the human higher. (Spiritual)*
- *The application of symmetry was considered a professional skill and even a divine act which comes from deep within. (Emotional)*

THE MIHRAB:

- *The mihrab was designed since in Islam it is advised that the Imam has to be humble, thus his standing level was considered lower than the level of others in order for him to fight his pride. (Mental)*
- *And when you are praying under it, you feel that you are purifying yourself; you feel the tension. (Spiritual)*

THE MINARET:

- *Some suggest that it was only for the call to prayer, while others suggest it was a sign for the mosque similar to what fire temples had previous to it. (Physical)*

THE ARCHES:

- *If we even look at the arches we see that they were constructed using odd scales which are yet again symbols referring to God. (Mental)*

THE DOME:

- *The dome is exactly similar to the arch. When the arch is extruded in a straight line it shapes a vault and when it rotates around a line it creates a dome. In fact*

all they have is completely similar. They are all beauties, symbols of the oneness of God. (Mental)

- *... are all tools to create a great praying mosque... The spirituality present in the domed area is so great; you will become happy the minute you step into the chamber. (Spiritual)*

THE COURTYARD:

- *An open space is placed to pull the worshipper up towards god. It is a place where the worshipper can internally talk with his creator. In a closed and small area, a man's spirit is not capable of flying, there is no creativity, and the imagination is not free. (Spiritual)*
- *At the very first you see the the greatness of God in the greatness of the beautiful portal; but when you want to enter the mosque, there is a small door that when you want to enter you must take a bow and show your humbleness and respect. (Emotional)*
- *When you pass that small dark pathway you reach the inner light that is most beautiful of all. You reach oneness with god. (Mental)*

Abdollah Kargar:

THE FOUR-IWAN COURTYARD

- *It is believed that the pattern was established in order to bring comfort for the worshippers in the four seasons of the year. (Physical)*
- *In the Islamic esoteric architecture, a square always represents the materialistic world and the circle represents the inner world. In building a mosque the application of creating a square courtyard and placing a single circle in the very centre is considered sacred and thus it is followed. In fact the courtyard or the whole world starts from one single point that is continuously moving and is shown by a water fountain. (Mental)*

- *When you start there and ritually purify, you are about to start something, and you can truly feel it. (Spiritual)*

THE DOME & THE ARCH

- *The four sides of this chamber are transformed into 8, 16 and 32 side which eventually turn into a complete circle and end to the middle point at its highest level. (Mental)*
- *In those days brick was the commonly used building material of the region, and in order to produce the best result it was used in the shape of a dome. (Physical)*
- *But what is important is the additional feeling it gives you which you want to praise. (Spiritual)*

Dr. Mahdi Hojjat

THE DOME CHAMBER, THE FOUR-IWANS, THE MINARET, MIHRAB & THE ARCHES:

- *The traditional mosque is actually a manifestation of the “Hamd” chapter of the Quran. Every single verse is materialized and represented as the goal of man’s creation that has manifested in some patterns like the dome chamber, the four-iwans, the minaret, mihrab and the arches. These patterns were used to transcend the human soul spiritually. When you look at a mosque, it is all you want. (Spiritual)*

Dr. Hamid Nadimi

THE DOME

- *I have personally seen that during a prayer, people would prefer to pray under a dome; I might not know what the reason is, but I can definitely conclude that it has something that keeps pulling people towards itself; a pressure; they might feel much better there. (Spiritual)*

- *The dome chamber is a room with a very high ceiling which will cause the spirit of the human being to ascend. There is something extra there and you know that.*

(Spiritual)

- *The dome has to communicate even in physical terms as it has to cover a wide area. **(Physical)***
- *The reason behind the creation of the dome was not an issue that existed only in the era of its creation, since after the time people accepted to continue using the same language. It was something timeless. **(Spiritual)***

THE ARCH:

- *It is more spiritual when you have a high roof, and a place that is filled with arches while the light quietly sneaks into every corner. So as an architect I respect the conceptual image that is present in the mind of people while I know that these features have helped the mosque become more divine. **(Spiritual)***

OTHER:

- *For this soul to be created, these patterns are playing the most significant role. These are the letters that have been put together to create the word mosque which is a place full of spirituality. **(Spiritual)***

Dr. Farzin Negarestan:

DOME

- *It has to be mentioned that under the dome, the worshipper feels much better. Maybe the form is such an evolved pattern introduced by and later improved by the architects that when you pray under it, you can feel God's presence. You cannot describe the feeling. **(Spiritual)***
- *The dome is functioning as a cover as well as its other functions. **(Physical)***
- *It is also an element of beauty and so on. **(Emotional)***

PORTAL

- *When you enter the traditional mosque you get Goosebumps. (Spiritual)*

COURTYARD

- *When you are ritually being purified in the middle of the courtyard you feel expanded. (Spiritual)*
- *Even when you are standing in the middle of the courtyard which is flat piece of land, you really want to fly and reach God. This is because there is a reality up there that we might not see it. (Spiritual)*

FOUR-IWAN

- *When you enter an iwan in any of the four directions, you feel bliss. These are not simple facts, in the grand mosque they are completed and are functioning for the sake of human spiritual growth. (Spiritual)*

Conclusion of Topic 5:

It can be clearly stated that all of the 5 experts totally agree that not only the pattern have spiritual functions, but count it as the main reason behind their introduction. In fact their existence is so obvious and so tangible according to the experts that no one has actually tried to find what it actually is and where it has come from. The only factor which is really important is that the architect who had been considered as a highly important figure was the one who had injected this spiritual essence from a divine source.

4.2.6 SUMMARY & CONCLUSION

A summary of the topics and the statement of interviewees are shown in table 4.1.

Table 4.1 Summary of the interviews. (Author)

	Master Bahram Oleiki	Abdollah Kargar	Dr. Mahdi Hodjat	Dr. Hamid Nadimi	Dr. Farzin Negarestan
<p>TOPIC 1</p> <p>The reason why the act of worship is regarded to be greatly pleasant in the Grand Mosque and the Imperial Mosque.</p>	<p>connecting the users to God</p> <p><i>It's so beautiful and so spiritual.</i></p> <p><i>to create an atmosphere that is divine.</i></p>	<p><i>One of the greatest characteristics of the traditional mosque (in particular, the Grand Mosque) is its humbleness, its divine.</i></p>	<p><i>a manifestation of the "Hamd" chapter of the Quran</i></p> <p><i>When you look at a mosque, it is all you want.</i></p>	<p><i>I might not know what the reason is, but I can definitely conclude that it has something that keeps pulling people towards itself; they might feel much better there.</i></p> <p><i>some kind of sweet divinity that we do not have it today.</i></p>	<p><i>What we see in this mosque is pure beauty because he does not act unless it is for the uplifting of humanity.</i></p> <p><i>It is an element of remembrance.</i></p>
<p>TOPIC 2</p> <p>The reason why these traditional Persian mosques are considered to be precious.</p>	<p><i>What made them beautiful and precious was their creator.</i></p> <p><i>the architect has passed an evolutionary path</i></p> <p><i>Every single level has to be in its own place</i></p> <p><i>once all levels are gathered, they are considered architecture</i></p>	<p><i>The architects who created these mosques must have known many things.</i></p> <p><i>They had to understand structure... decorations, ornaments and design; he also had to know jurisprudence</i></p>	<p><i>Obviously the architect that is the creator of this container has to have reached some high stages of human perfection</i></p> <p><i>we can consider 3 basic levels of human existence. physical psychological spiritual</i></p> <p><i>by considering all these three levels (functions) were able to create fantastic mosques</i></p>	<p><i>architecture is also a means for communication which the architect carefully uses</i></p> <p><i>not only concerned with the physical matters</i></p> <p><i>since the mosque is the place for ultimate spirituality, there are definitely matters concerning the human spirit; however they are all involved.</i></p>	<p><i>The level of architecture directly depends on the spiritual level that the... architect... has reached.</i></p> <p><i>Thus the architect must have the knowledge of all the aspects simultaneously.</i></p> <p><i>in order to solve all the problems and this is where the value of the architect is highlighted</i></p>
<p>TOPIC 3</p> <p>The means that have created such ambiance in these traditional Persian mosques.</p>	<p><i>The four-iwan</i></p> <p><i>The mihrab</i></p> <p><i>The minarets</i></p> <p><i>The arches</i></p> <p><i>The dome</i></p> <p><i>The courtyard</i></p>	<p><i>The four-iwans model of the courtyard</i></p> <p><i>The dome</i></p> <p><i>The arches</i></p> <p><i>Symbolic decorations</i></p>	<p><i>The dome chamber</i></p> <p><i>The four-iwan</i></p> <p><i>The minaret</i></p> <p><i>The mihrab</i></p> <p><i>The arches</i></p>	<p><i>The dome</i></p> <p><i>The arches</i></p> <p><i>The minaret</i></p>	<p><i>The courtyard</i></p> <p><i>The four-iwan model</i></p> <p><i>The dome</i></p> <p><i>The arches</i></p> <p><i>The portal</i></p>

	<i>The portal</i>				
<p>TOPIC 4</p> <p>The source which has introduced these patterns in these traditional Persian mosques.</p>	<p><i>the architect loved his work</i></p> <p><i>he was able to create beauties from the inside.</i></p> <p><i>they are universal</i></p>	<p><i>we lost our faith. We lost our love</i></p> <p><i>architecture is totally dependent on our beliefs</i></p>	<p><i>architecture means to give life. It addresses a life that it gives to its container.</i></p> <p><i>In fact it is the third dimension that makes the human being so special</i></p> <p><i>The architect has to understand the good quality regarding the human's spiritual needs.</i></p>	<p><i>Whatever the reason is, it must be a great reason that after centuries, we are still using the same language.</i></p> <p><i>not an issue that existed only in the era of its creation.</i></p>	<p><i>The architect is trying to express his inner states</i></p> <p><i>he understands the process of the prayer and he is aware of the spirituality and the divine presence in the act of worship; thus he wants to shape it physically; he wants to image it.</i></p>
<p>TOPIC 5</p> <p>The actual functions of the additional patterns in these traditional Persian mosques.</p>	<p><i>Physical</i></p> <p><i>Emotional</i></p> <p><i>Mental</i></p> <p><i>Spiritual</i></p>	<p><i>Physical</i></p> <p><i>Mental</i></p> <p><i>Spiritual</i></p>	<p><i>Spiritual</i></p>	<p><i>Physical</i></p> <p><i>Spiritual</i></p>	<p><i>Physical</i></p> <p><i>Emotional</i></p> <p><i>Spiritual</i></p>

To conclude the results driven from the interviews, first it has to be stated that it is well believed that in the Persian traditional mosque, there lies a unique sense of spirituality which has created a great sense of peace and bliss for the worshipper so that they wish to come back again and again to experience it. Great examples of this experience are the Grand Mosque and the Imperial Mosque of Esfahan which are known worldwide in creating an ambience that is most suitable for the act of worship.

This unique ambience has been made present in the Persian traditional mosque because of the high level of human perfection that the architect had achieved. The architect had gained this great level of spirituality through continuous esoteric meditations and purifications. The knowledge of the architect was not only directed towards a single

point since the architect must have had understood all the aspects of the human living in order to correctly respond to all of them.

In order to do so, some patterns were presented in the content of these mosques. These patterns are the dome, the arch, the portal, the courtyard, the mihrab and the minaret.

What is concluded from the interviews is that although these patterns had several functions, their actual and main function was to create a spiritual ambiance inside the mosque. These patterns were generated from esoteric and spiritual teachings and beliefs.

What has made these set of patterns survive through centuries and become a part of the sanctuary the sanctuary of the Persian mosque is that these patterns are responding to all the dimensions of the human existence. According to the Sufi philosophy, the human being is created in four different dimensions of physical, astral, mental and spiritual. Among these four aspects it is stated that spirituality is the most important since the mosque was a place where the human soul transcends spiritually.

As a general conclusion it can be strongly stated that these 6 patterns do have spiritual functions. Thus the **existence** of the fourth column has been approved and the RQ1 has been positively answered.

4.3 DIRECT OBSERVATIONS

4.3.1 THE GRAND MOSQUE OF ESFAHAN

4.3.1.1 INTRODUCTION

Now that the RQ1 has been answered, it has been understood that these 6 patterns have been introduced in the context of the Persian mosque with great influence from the esoteric Sufism ideology. Thus at this stage the Sufism ideology discussed in chapter 2-2 has become the base for the direct observations performed on the Grand Mosque and the Imperial Mosque.

This part of the data gathering process is designed mainly to focus on the RQ2 which is to understand *how has the Sufi philosophy influenced the 6 patterns of Persian mosque designs through the introduction of the 4 functional aspects of physical, astral, mental and causal?* The observations will be complemented with the help of documents and archival records provided by the National Heritage Society of Esfahan.

4.3.1.2 THE DOME

The Grand Mosque of Esfahan is composed of two main domes;

1. The southern dome: Nezam al-Molk dome;
2. The northern dome: Taj al-Molk dome.

The Southern Dome (Nezam al-Molk Dome):

The first fact that is obvious from the appearance of the dome is that it seems to be constructed based on Razi architecture since brick has been used to construct the entire pattern. The difference between this part and the surrounding shabistan is in the way brick has been used. In the shabistan brick has been used in a simple manner and with only little ornamentations which is related to either the Khorasani or early Razi era, while in the southern chamber brick has been used not only as the body of the dome, but also as ornamentation within the structure itself. However the ornaments are not over

used in the chamber so that its relation with the shabistans will not be lost. This can be seen in figures 4.1 to 4.4.



Figure 4.1 & 4.2 Instances of brickwork related to the Khorasani or early Razi era. (Author)



Figure 4.3 & 4.4 Instances of brickwork related to the Razi era within the southern chamber. (Author)

The way that the chamber has been connected to the surrounding shabistan is also another noticeable issue. There are two naves on the two western and eastern side of the chamber which serve as connections connecting the chamber to the shabistan while creating a hierarchy of spaces. These two naves are different in width, height and decorations; in fact it can be assumed that the western nave was actually a part of the existing shabistan and is not an actual nave however it serves as one. The eastern nave has several differences from the shabistan beside it, including the width, height and the format of columns which is obvious that it has been built in order to support the dome

chamber. Unfortunately since the western nave was closed at the time of the observation, there wasn't a possibility to directly compare it with the other one; however according to the plan provided by the National Heritage Society of Esfahan it can be observed that the western nave can be somehow considered as part of the shabistan, although it seems that the columns have been strengthened in order to create a visual symmetry in connection to the eastern nave and to structurally support the dome chamber. This fact has also been mentioned by Galdieri (1992.)

At this stage & referring to the decorations of the chamber itself and the format of its connection with the shabistans through the two naves, the Author believes that the dome chamber pattern has been created in the Razi era, and was added to the shabistan which was constructed earlier. This has been illustrated in figures 4.5 & 4.6.

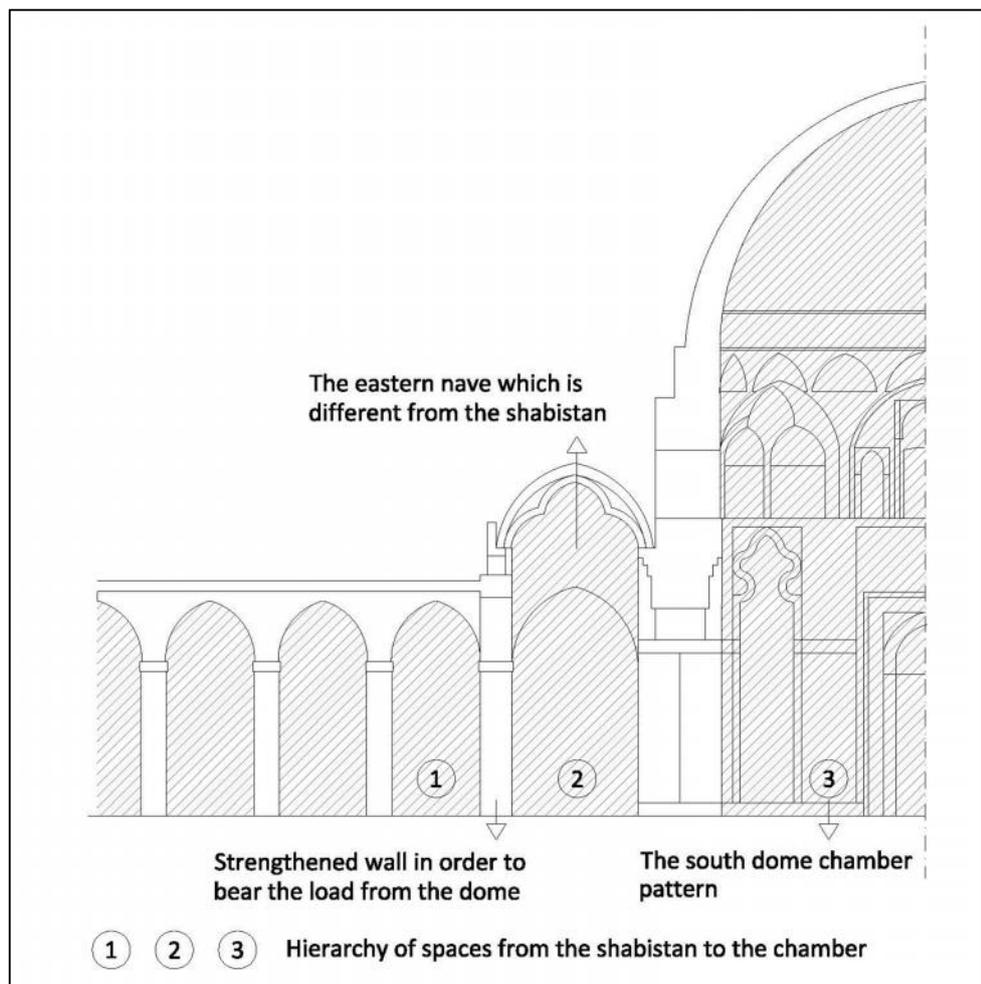


Figure 4.5 How the nave is added to the western side of the chamber. (Author)

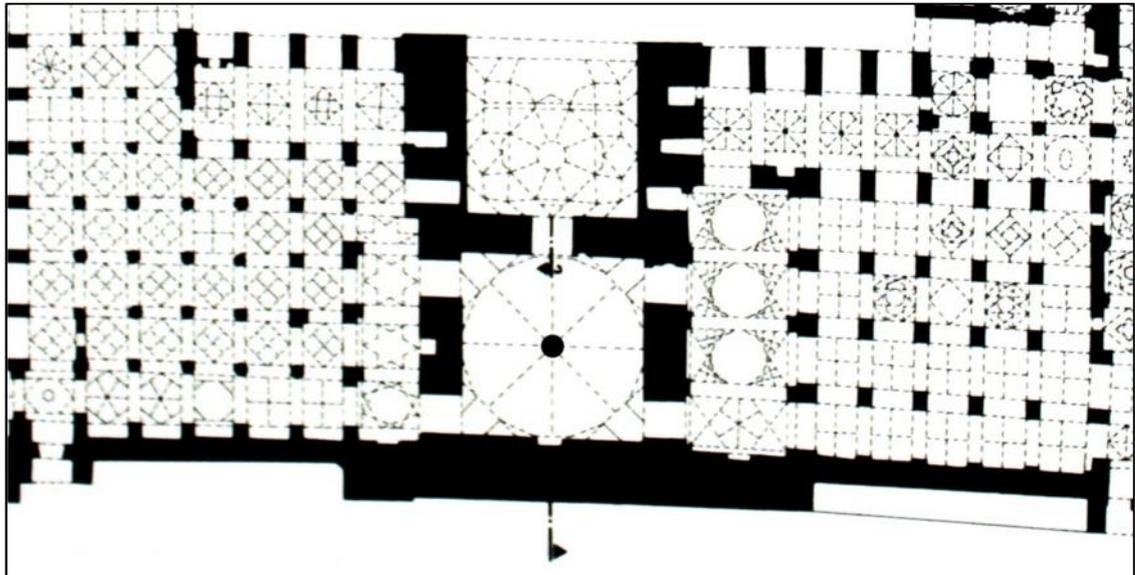


Figure 4.6 Comparison between the eastern and western nave according to the plan provided by the National Heritage Society of Esfahan. (Haji-Qassem, 2004, p. 57)

Brick is the main material used to construct the whole complex; it has been used in two different ways in the southern dome pattern:

- 1- The structure of the dome and the structure of the chamber;
- 2- The body of the whole dome chamber pattern.

'One of the greatest characteristics of the Grand mosque in particular is its humbleness, its divine. It is a mosque, which it's inside and out are actually one; a lesson that every man must learn is in fact taught in the mosque, and it's not just symbols, it actually transforms. If you take a layer of brick from the body, you will see the same; while if you take off a kashi off the walls of the Imperial Mosque, you won't like what you see.' (Kargar, 2009)

The structure of the dome itself is quite simple as shown in figure 4.7. 4 arches have been spread through the diameter of the dome in order to create a symmetrical structure. These 4 arches transfer the load of the whole dome towards 8 points of the chamber structure. These 8 points land on a circle belt which sits on smaller half-arches and

another 8 archs. These 8 archs eventually create the square form of the chamber which sits on the ground.

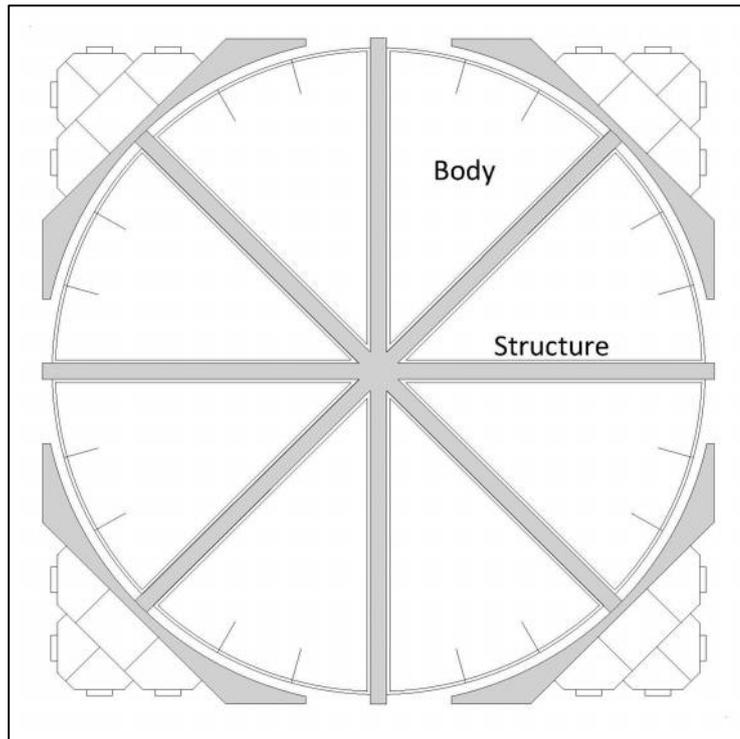


Figure 4.7 The plan of the southern dome chamber showing the structure of the patten. (Author)

The structure of the chamber is based on the multiples of 8. The square chamber transforms into 8, 16 and then a circle as shown in figure 4.8.

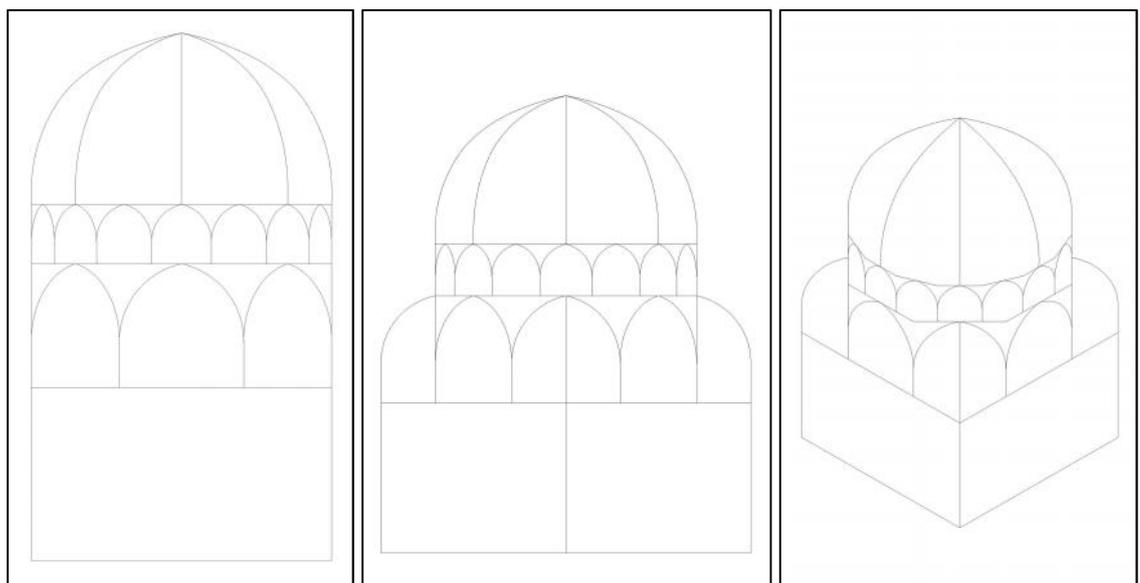


Figure 4.8 How the 4 sides of the square transformed into 8, 16 and then circle using arches. (Author)



Figure 4.9 How the 4 sides of the square transformed into 8, 16 and then circle using arches. (Author)

The decorations used in the southern dome can be divided according to their era. This part of the mosque has gone through several reconstructions which can be clearly seen within the body of the chamber.

The first set of decorations which seem to be the original piece of ornamentations is the brick ornaments. According to chapter 2-2 brick was the main material used in the Razi era which was vastly used in the structure of buildings and also the ornamentations. The second set is stucco coverings and carvings which is the style used in the Azari style. This type of ornamentations is used to cover the brick in some particular areas. They are mainly ruined or in a very poor condition; however their effect has remained. The third set is the Haft Rang Kashi or seven colour tiles along with marble stone bottom decorations. A very expensive type of decoration performed under the Safavids. These three types have been shown in figure 4.10.

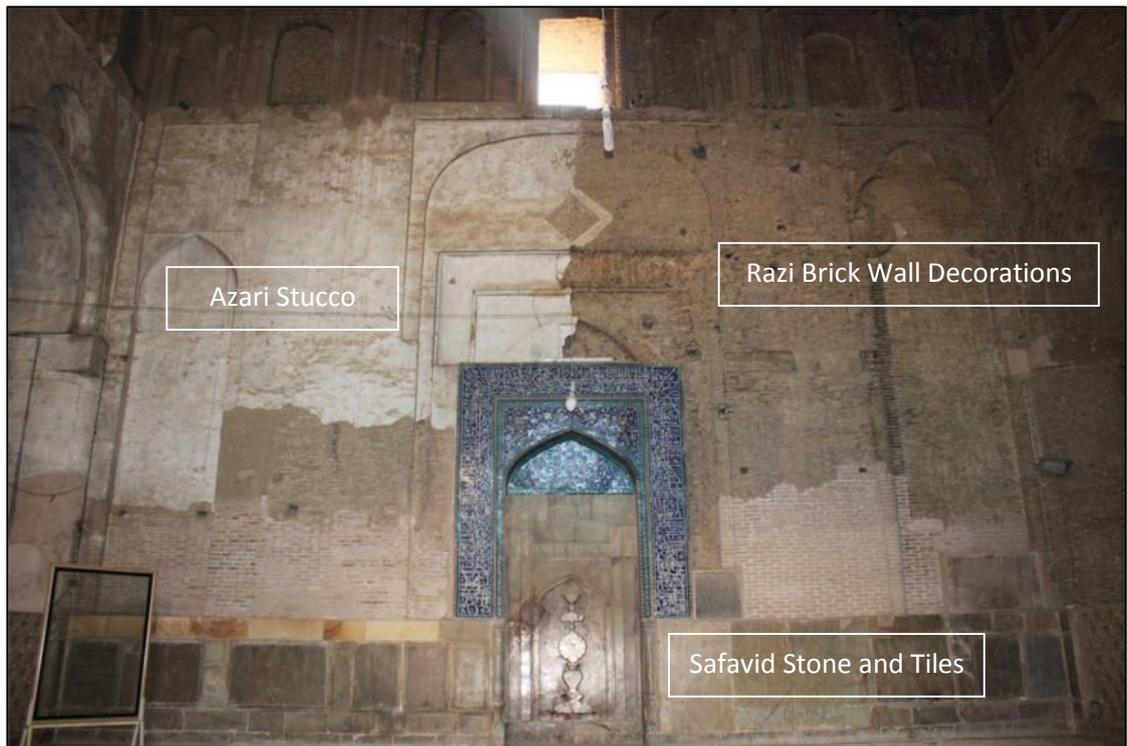


Figure 4.10 Three different ornamental styles which have been applied in the construction of the southern dome chamber. (Author)

'The mosque is a place of spirituality and the patterns, which of course are carefully chosen to complete the body of the language, must carry a spiritual meaning as well. For example the dome chamber is a room with a very high ceiling which will cause the spirit of the human being to ascend. This character is actually a part of the language pack it is involved in, and according to the pack, the dome has to communicate even in physical terms as it has to cover a wide area. In fact this is not only related to the Grand Mosque and the Imperia Mosque, this is a pattern that has been used in all kinds of mosques in all over the world, and even in different places of worship. Even a small church in a small village is built with a high ceiling.' (Nadimi, 2010)

The southern dome of the mosque has originally been built with plain brick as seen in figure 4.11, which is golden-yellow and can symbolically represent the activated crown chakra (prana centre) and the golden flame which appear on the 12th chakra of highly advanced spiritual practitioners. 12th chakra in Sufi teachings is an energy centre located

12 inches above the head and contains the soul energy. ‘*In the Bible, the existence of the 12th chakra is hinted as a great city with 12 gates guarded by 12 angels (Revelation 21:10-12)*’ (Sui C. K., 2005, p. 175) In ordinary people the 12th chakra appears as a point of light, while in highly developed spiritual practitioners and saints it appears like a golden ball of flame which in Christianity is called “the Pentecostal fire.” According to the Sufi beliefs, looking at the dome itself increases the connection of the man to the divine and accelerates the rate of spiritual development.

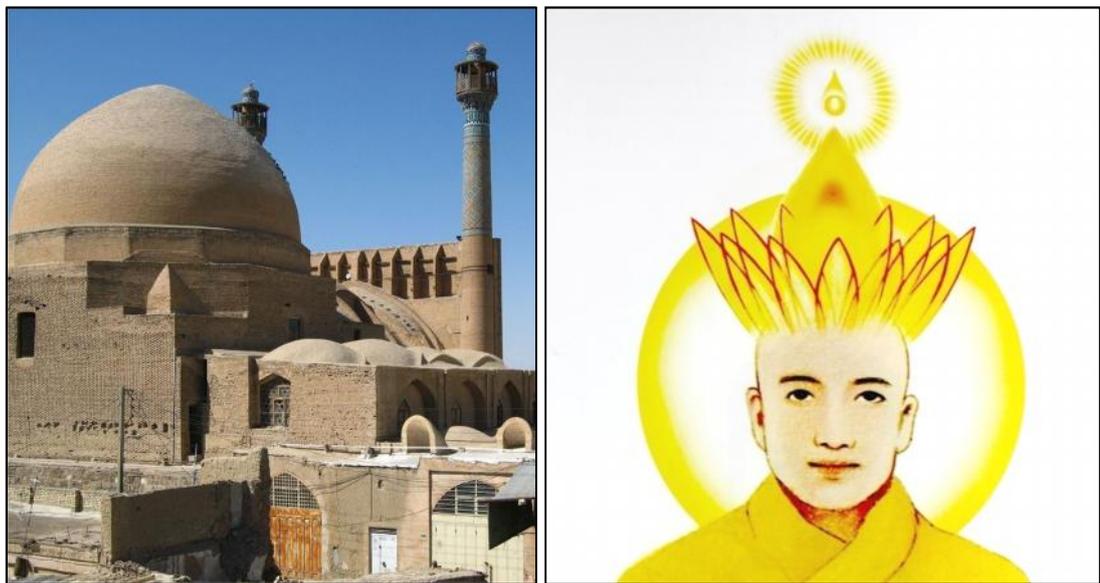


Figure 4.11 The exterior of the south dome. (Author)

Figure 4.12 The activated crown chakra, golden flame and the 12th chakra of a highly evolved practitioner. (Sui, 2005, p. 180)

It is also believed that mountains are symbols of sacred places for the primitive man. They have transformed to Ziggurats (example of which is in Choghazambil area in Iran), later to the pyramids and eventually to domes. That’s why in the Persian mosque design we have two types of domes; one is the straight type, called “*Rok*” Dome and one curved type called “*Nar*” Dome.

As stated previously, “*nar*” in Persian term means flame or fire, while “*rok*” meaning straight is the symbol of sacred mountains. In the Grand Mosque, the Nezam al-Molk

dome has been built in the model of “*nar*” domes according to Pirnia (2004) Pope (1965) Galdiery (1992) and many other scholars which further proves that it symbolizes the golden flame shown in figure 4.13 & 4.14.

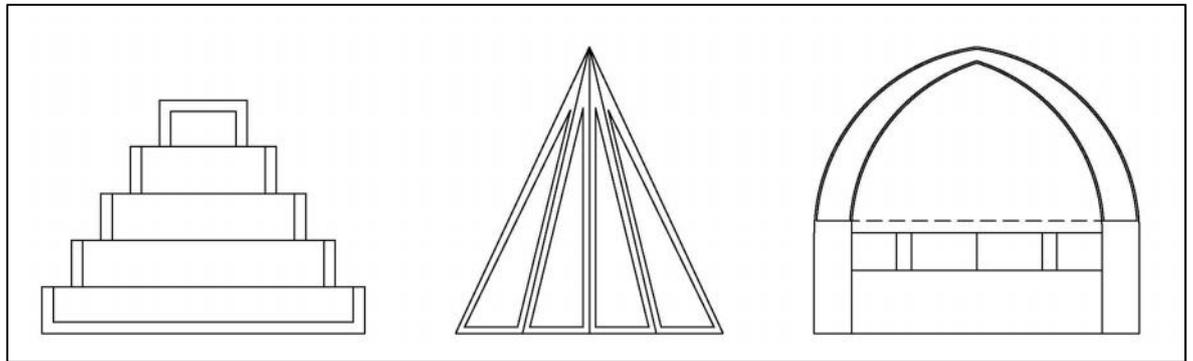


Figure 4.13 The Ziggurat, the Rok dome and the Nar dome. (Author)

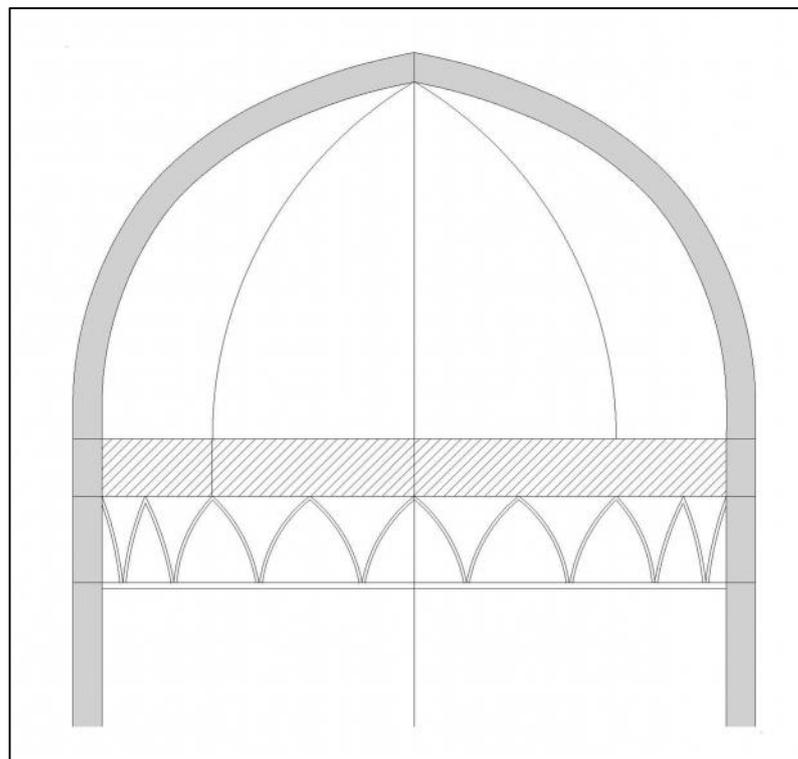


Figure 4.14 The shape of the southern dome completely resembling the shape of a nar or flame. (Author)

According to chapter 2 – 2, the dome chamber is actually a mandala that is considered as a prana centre which gives and receives prana or vitality shown in figure 4.15 & 4.16. The mandala begins with unity, creating its surrounding universe. In its creation the dot

gives birth to the line, a few lines are drawn around the dot until they intersect. Then petals, lines and patterns are born. The outer circle now stands for the consciousness of the whole; the outer square is in fact the four dimensional universe and the absolute centre is the essence of them all. (Ardalan & Bakhtiar, 1979)

'I have personally seen that during a prayer, people would prefer to pray under a dome; I might not know what the reason is, but I can definitely conclude that it has something that keeps pulling people towards itself; a pressure; they might feel much better there.' (Nadimi, 2010)

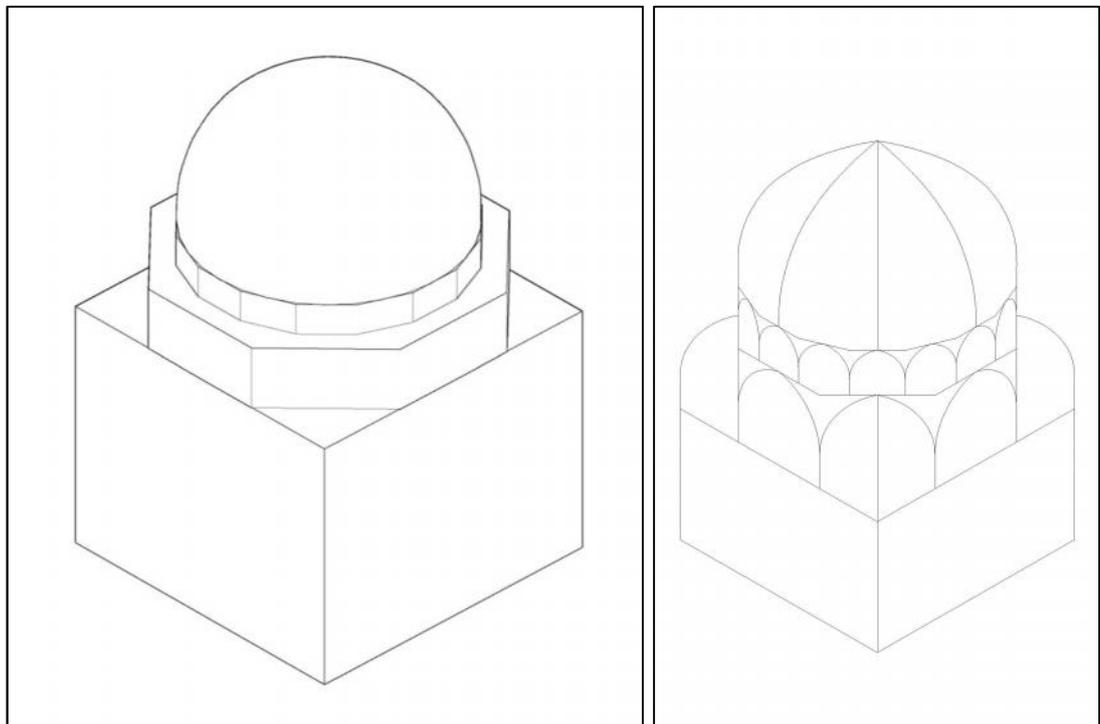


Figure 4.15 & 4.16 The pattern of the southern dome and the pattern described in chapter 2 – 2. (Author)

The issue remaining at this point though is that how does this mandala or prana centre relate to the spiritual vehicle of a human being and help create a better place for the act of worship?

One of the significant concepts dealing with spirituality in Sufi teachings is the concept of numerology which, as discussed in chapter 2-2, is usually bind with the science of

alphabets introduced as “Jafr.” It is directly related to the human causal body or the inner world of spirituality, (also known as the science of alchemy) by affecting the chakras of the human subtle body which continuously exchange energy with the outer environment and determine the states of the human spiritual growth.

Dealing with the concept of prana centres, it is important to understand and outline the importance of these centres in human life; and the factors and issues that can affect them. To do so, one must fully understand the function of each centre which is to a certain extent explained in chapter 2 – 1.

Therefore the number of petals used in the mandalic diagram of the southern dome should be considered in the first step, since it is believed that the geometrical composition of the centres determine the type of energy they produce. It can be figured out what the spiritual aim of the dome is, by relating it to the correspondent centre and studying the functions of that specific centre.

Based on the knowledge of numerology, the multiples of numbers basically create similar influences. For example if the number 9 creates specific vibrations, 18 and 27 also create rather similar effects in the same content. Furthermore, as explained in previous chapters, based on the knowledge of Jafr, three numbers, known as “*Kabir*” or large, “*Vasit*” or middle and “*Saghir*” or small, which are calculated carefully, and accurately following specific laws and calculations can be used interchangeably. For example, the *Kabir* number of al-Javad (one of the holy names of Allah) is 14 while its *Vasit* and *Saghir* numbers is 5. Therefore, based on the two stated laws, multiples of 14 and 5 can be used to create a quality connected to the holy name al-Javad using the correct techniques.

By considering these two laws and the knowledge of the chakras, the mandalic patterns of the dome will be studied.

The multiples of **eight** have been used in the construction of the Nezam al-Molk dome and also to transform the circular pattern of the dome to the quadrant pattern of its base as shown in figure 4.17 & 4.18.

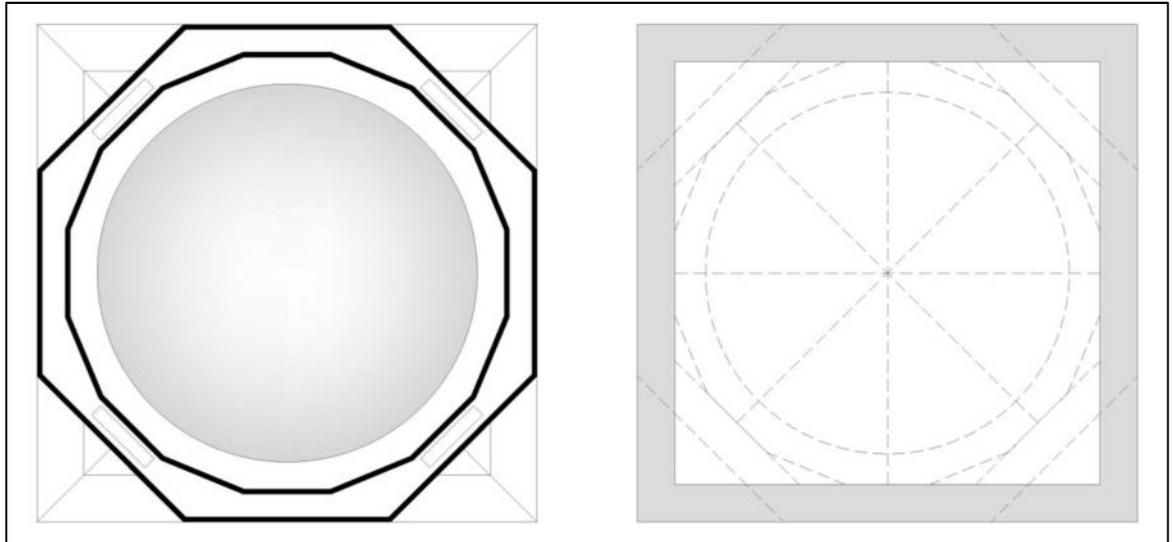


Figure 4.17 Inner transformation of the square to the circle in the southern dome. (Author)

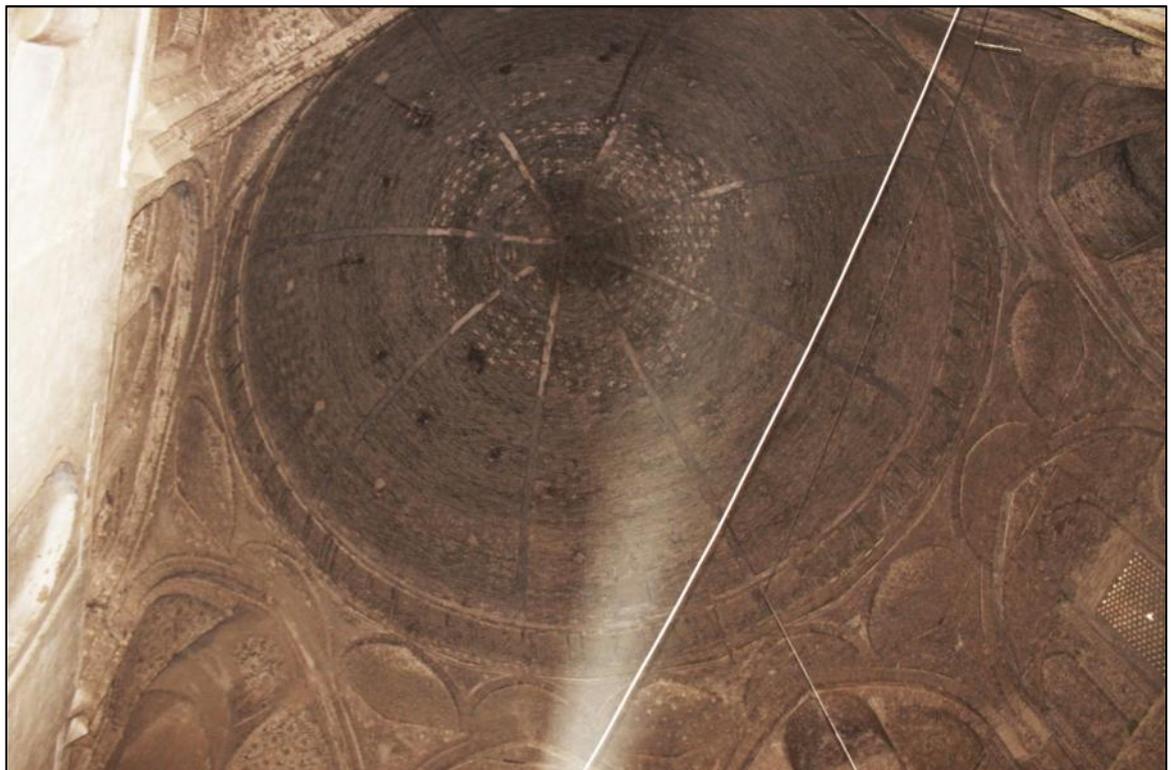


Figure 4.18 Inner transformation of the square to the circle in the southern dome. (Author)

While the number 8 corresponds to the large, middle and small numbers of the holy name of Allah, al-Hasib or the Accountant, it represents the navel energy centre in the Sufi chakra system shown in figure 4.19 & 4.20. Al-Hasib is the holy name, used in Islamic chanting to improve the life, materially and spiritually, and generates prosperity. In chakra system, the navel chakra is also associated with life. *'The navel chakra produces "synthetic golden chi (prana or life force) which facilitates or helps in the circulation of prana within the meridians (energy channels in the body)... Golden chi is necessary for the rapid evolution of the physical body... The navel chakra concretizes spiritual energy into a "golden ball of chi energy," which looks like a golden sun surrounded by rainbow-colour light. Otherwise, the body will not be a suitable vehicle for the higher evolved soul.'*(Sui C. K., 2003, p. 102)

In other words golden prana is restored in the navel centre and it is known as the spiritual fuel. It is the essence that creates the golden body. The golden body is a body made from higher vibrations; once it has been built, one can experience oneness with the higher soul and eventually with God. The process of creating the golden body was often known as the inner science of alchemy followed by an idiom that was commonly believed to turn lead into gold. In this case lead was a symbol of the physical body of the practitioner and gold was the golden body of a highly developed worshipper. The science of alchemy thus was the process in which several purifications and meditations took place in order to properly construct the gold. (Powell, 2005)

In the Lord's Prayer, the navel chakra is related to *'the phrase "On Earth as It Is in Heaven"... also means good action. This corresponds to the navel chakra which controls and regulates the basic chakra... Good actions correspond to the navel chakra.'*(Sui C. K., 2003, p. 102)



Figure 4.19 The navel chakra rotating alternately clockwise and counter clockwise. (Sui, 2006, p. 42)

Figure 4.20 The navel chakra in slow motion. It has eight petals. (Sui, 2003, p. 108)

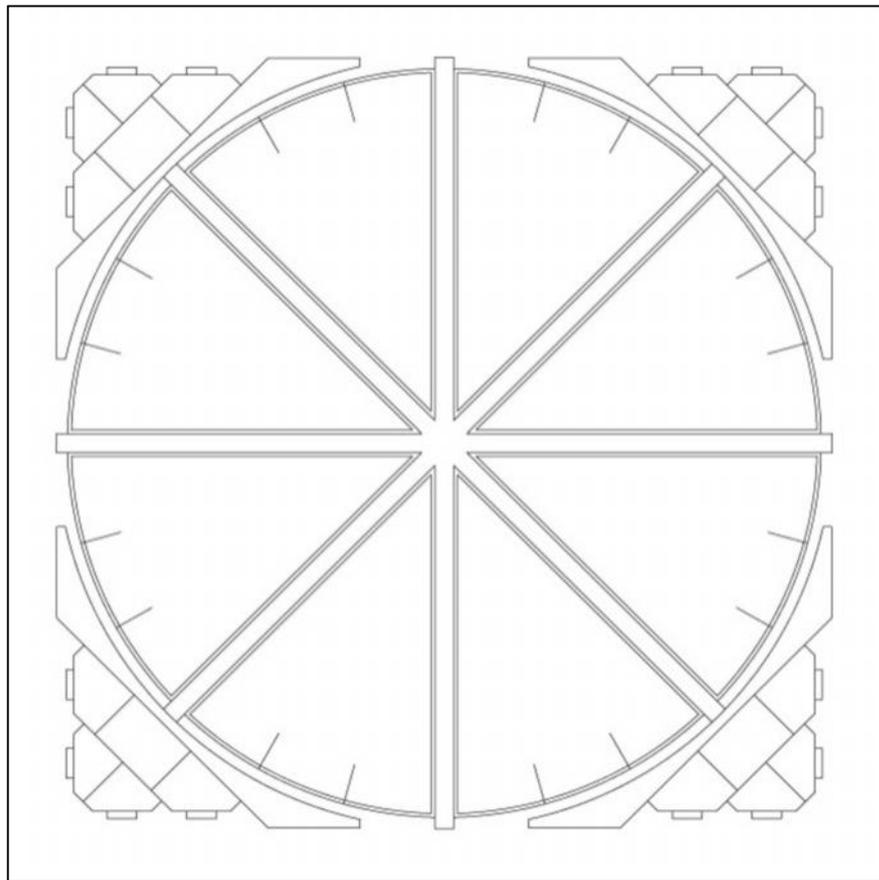


Figure 4.21 The 8 petals of the southern dome. (Author)

The issue that is very much interesting is that the number 8 and its multiples are not used only at the structure of the chamber. They are repeated in different portions of the chamber including the entrance iwan.

The southern iwan is actually made of two portions as seen in figure 4.22: the outer portion which will be studied in the courtyard pattern; and the inner part which contains a dome and is considered as the entrance to the southern chamber. It is interesting that these two are actually separated from each other with a single decorative arch at the middle. The inner section, which includes a dome and is the nearest part to the entrance of the southern chamber yet again, follows the number 8. It is an 8-sided dome that starts from an octagon at its base.

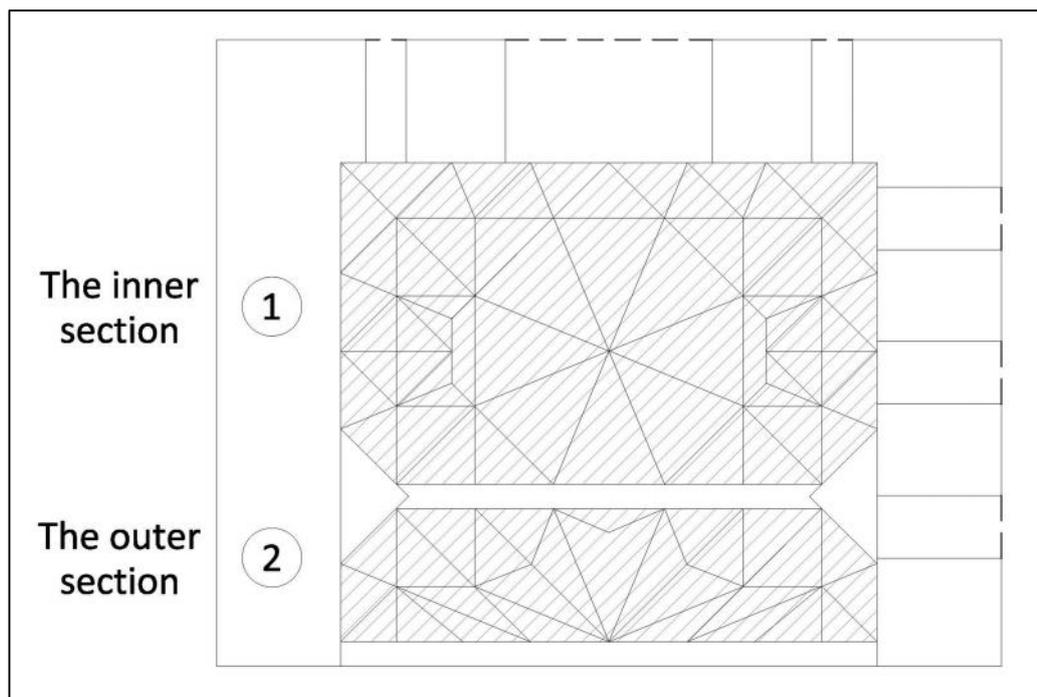


Figure 4.22 The plan of the structure of the southern iwan. (Author)

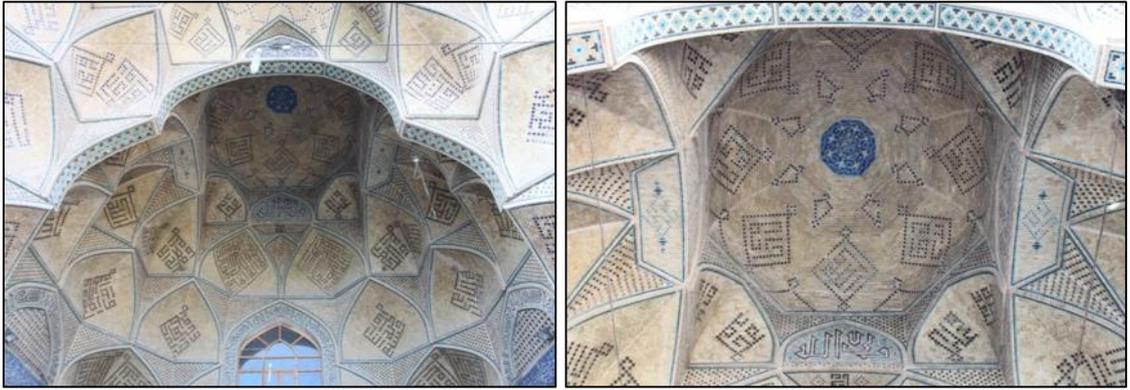


Figure 4.23 & 4.24 Separating the two parts of the south iwan with a decoration arch. (Author)

It can further be stated that even the decorations inside and around the south chamber mainly follow the number 8 and the pattern of the navel centre. Although al-Hasib seems to be that main name influencing the chamber pattern, there are 3 more names which have been widely used in this pattern: Ya Borhan, Ya Rahim & Ya Manan. These names have been written in the base of a square and have been followed by tile decorations all following the number 8. Furthermore the numerological number of all these names is also 8. These decorations can be seen in figures 4.15 to 4.28.

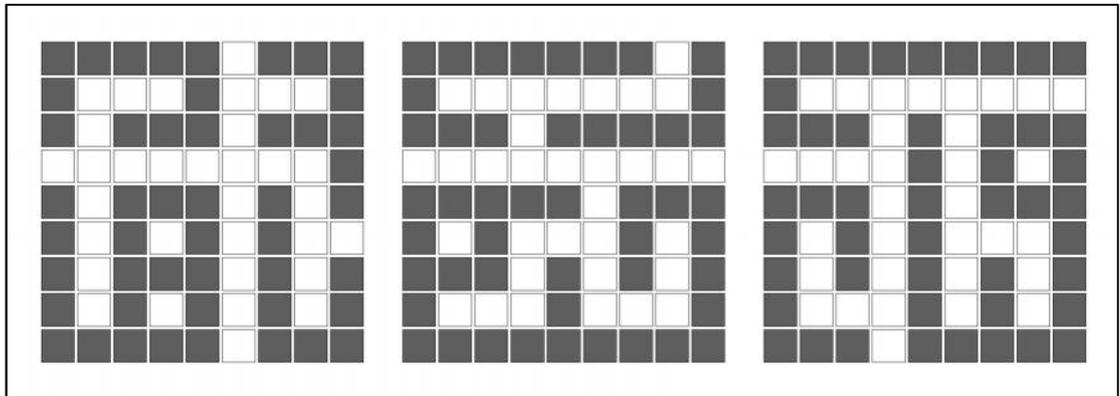


Figure 4.25 Ya Borhan, Ya Rahim & Ya Manan all of which their Abjad small number is 8. (Author)

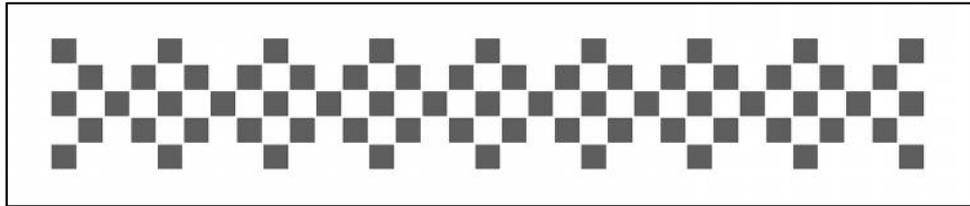
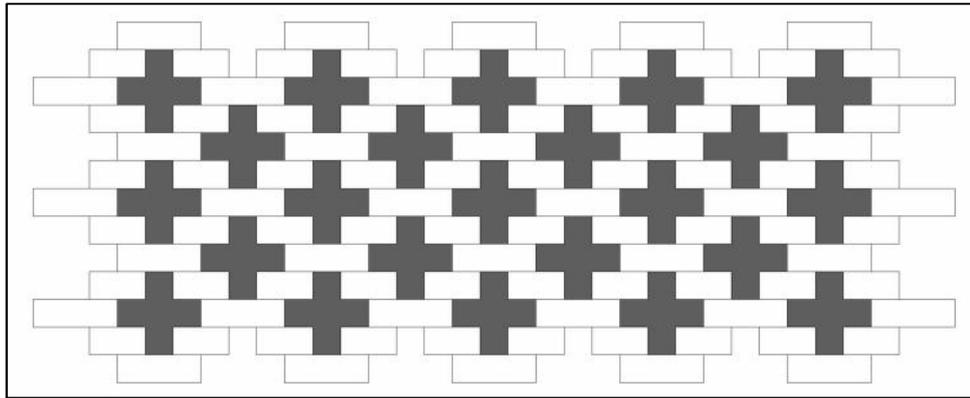


Figure 4.26 & 4.27 & 4.28 The use of 8 sided decorations and calligraphy to produce an affect and vibration to activate the navel chakra. (Author)

The pattern of the navel chakra is also used in the covered areas surrounding the southern dome where people performed their religious rituals. Many geometrical patterns shown in figures 4.29 to 4.35 were used in the ceiling designs; however all of them follow the 8 petal pattern of the Navel chakra.

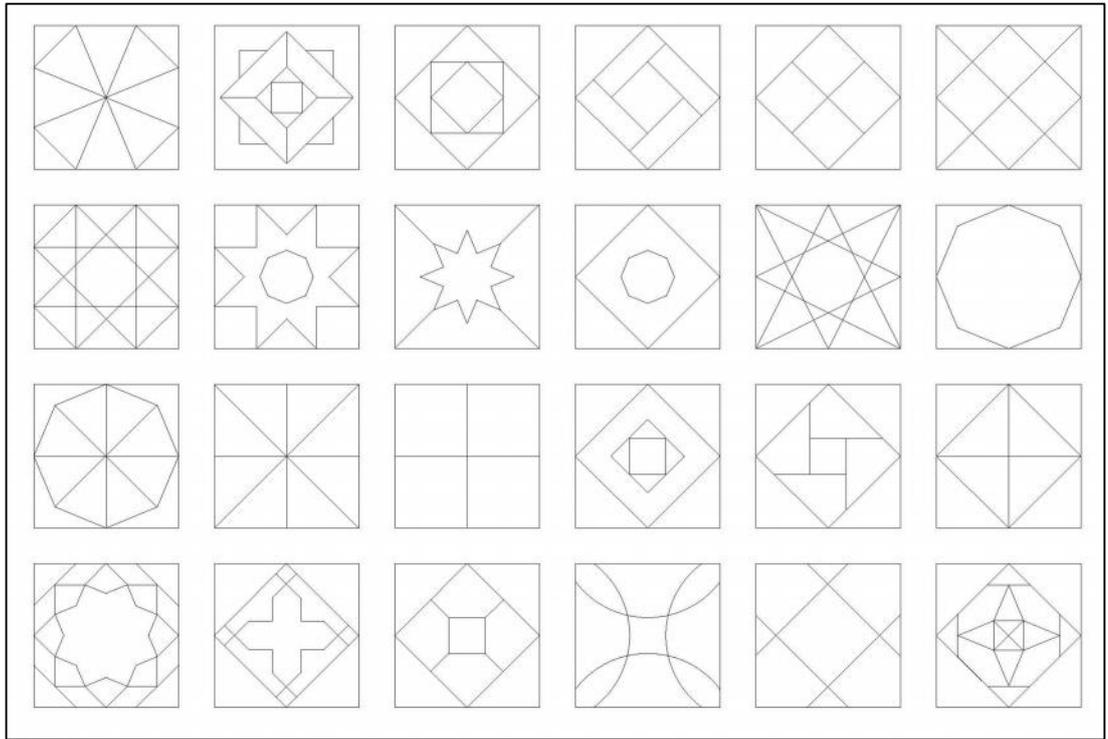


Figure 4.29 24 Different designs of the roof with 8 petals. (Author)

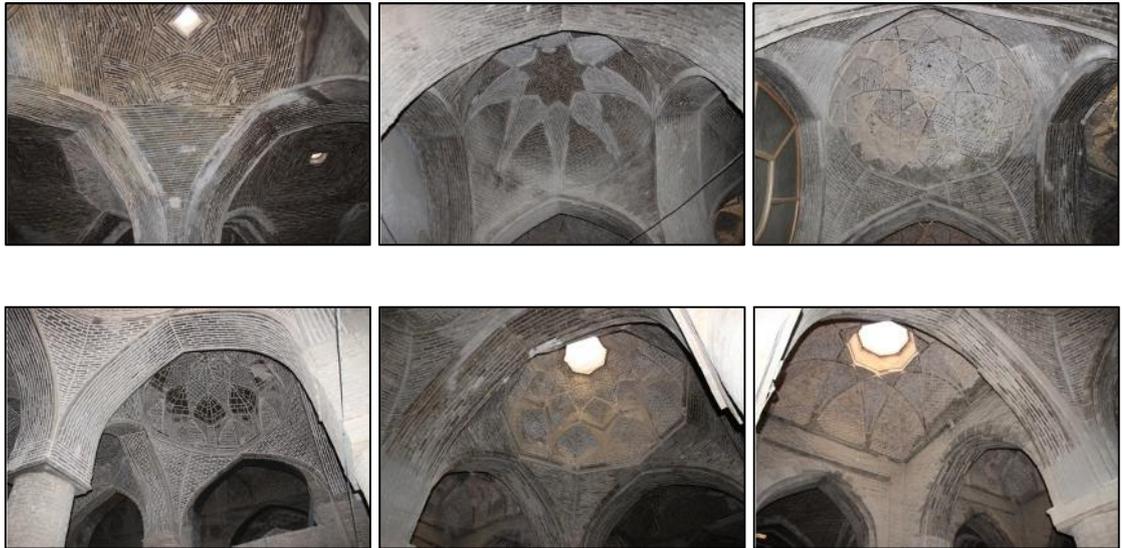


Figure 4.30 & 4.31 & 4.32 & 4.33 & 4.34 & 4.35 Instances of the 8 sided figures. (Author)

At this point it is completely clear that the southern dome has much more to offer than to only be a structural cover for a vast area; and although the mental and decoration functions of the dome chamber are clear, we simply cannot separate the functional aspects from each other. In other words the 4 aspects of structure, ornamentation, symbolism and spiritual have been blended together and work simultaneously in the

southern dome which has created a complete package that responds to all the need of a human being while worshipping. We can also conclude that the spiritual functions of the dome are clearly the most important and in a way the key to this relationship of functions.

'The dome has several forms and shapes which are each trying to demonstrate something. Even the decorations are not issues that have structural or physical reason; they are all trying to present something which eventually all together will be introduced as an ancient pattern that has created the language of architecture. This language thus is not only concerned with the physical matters since there are features that have no physical or constructional functions; and since the mosque is the place for ultimate spirituality, there are definitely matters concerning the human spirit; however they are all involved.' (Nadimi, 2010)

Three smaller domes which are involved in the eastern nave are also following the same 8 sided patterns, but the style and decoration is totally different from the shabistan area as they are assumed to be constructed in the Razi era. However the brick used in constructing them seems to be quite fresh and has been constructed quite precisely. In the construction of these three the concept of the karbandi has been used in order to transform the rectangle of the base into the top circle which is different to the rest of the covers. This can be seen in figures 4.36 & 4.37.

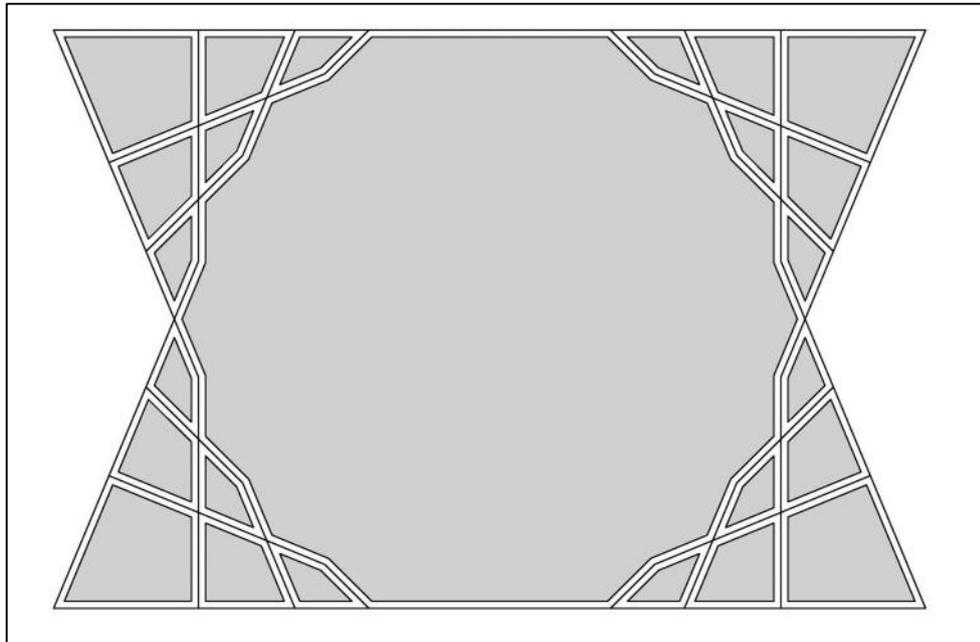


Figure 4.36 The figure of the karbandi used in the 3 domes of the eastern nave. (Author)



Figure 4.37 The figure of the karbandi used in the 3 domes of the eastern nave. (Author)

However the format of the smaller domes situated in the western nave beside the chamber seem to follow a different pattern; they are all patterns with 6 parts or 6 petals as shown in figure 4.38.

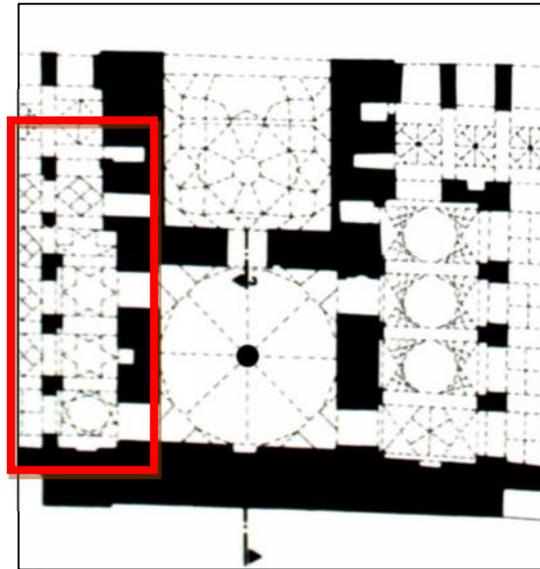


Figure 4.38 The 6 petals of the secondary domes in the western nave. (Haji-Qassemi, 2004, p. 57)

Esoterically speaking, these mandalic diagrams are basically very similar to the pattern of the Spleen chakra as being looked clairvoyantly which also has 6 petals shown in figures 4.39 & 4.40. Based on Sufi teachings, the spleen chakra or energy centre is located near the left bottom rib and its function is to absorb energy from the surroundings and distribute it to other energy centres. Thus *'the spleen chakra is the source of power and life energy. Without power and life energy, a person cannot be successful or victorious.'* (Sui, 2009) In fact the spleen chakra is the entry point of life energy to the human body. (Ya yá ibn abash Suhraward , John Walbridge, Hossein Ziai, 1999)

'In Lord's Prayer, it (the spleen chakra) corresponds to the phrase "Give us this day our daily bread." The word "bread" symbolizes life energy, which is required by the physical body in order to survive.' (Sui C. K., 2003, p. 118)

From the stated documents, it can be interpreted that the spleen chakra is the source of life and energy centre which is correspondent to the distribution of life energy.

The question asked here is that why do worshippers require this unique prana when they are passing through this nave which is in fact the entrance corridors for the chamber and

Another vital question at this point is that why these three domes are different from the eastern nave domes? According to previous investigations done by Galdieri (1992) and his team, the cover of the eastern nave did not exist and it was reconstructed during their work which was before the Iranian revolution. In this case there were no plans or patterns that they could have used in order to cover the nave. The only assumption that the team made was that it should have been karbandi according to the remaining structures. (Galdieri, 1992)

Furthermore there is one dome after the three domes, which was closed with a brick wall at the time when personal observation was done by this Author that in fact follows the 6 sided pattern of the western nave. This can be seen through the map provided by the National Heritage Society of Esfahan.

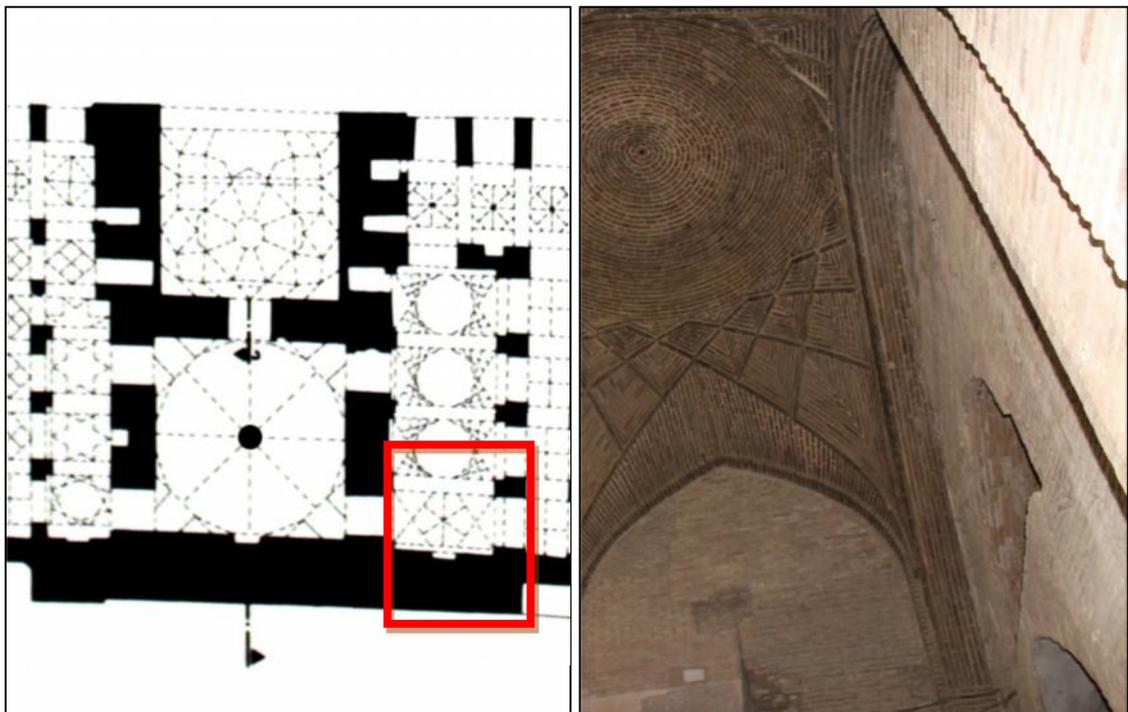


Figure 4.41 The 6 petals of the fourth domes in the eastern nave. (Haji-Qassemi, 2004, p. 57)

Figure 4.42 The fourth dome covered with a wall at the time of the observation. (Author)

At this point it can thus be assumed that the three mentioned domes in the eastern nave were reconstructed in a wrong manner and should have followed the 6 sided patterns of the western nave.

The Northern Dome (Taj al-Molk Dome):

The northern dome known as the Taj al-Molk dome is basically more aesthetically significant since its structure has finer details and a greater harmony between its elements. This dome is commonly called the “*Khaki*” dome meaning “earthly.”

The structure of this dome is different from the southern dome in two ways seen in figures 4.43 & 4.44:

- 1- The lines and geometrical pattern included in the dome are not structurally important and are in fact just decorative.
- 2- The body of the dome is itself the main structure; in other words although the south dome is considered to be constructed using a structural arch, the north dome actually exaggerates this fact with having no structural lines.

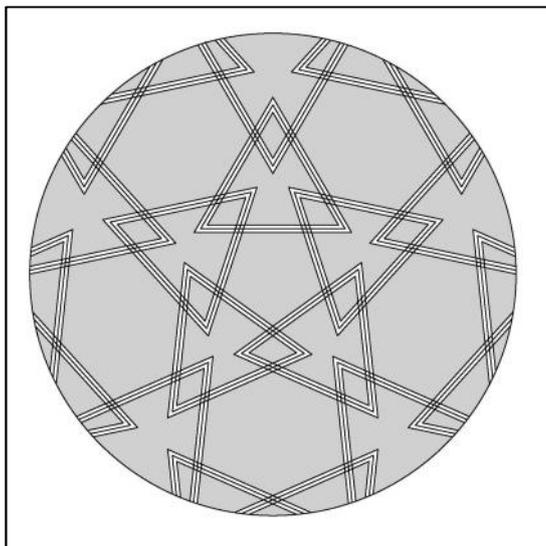


Figure 4.43 The decoration pattern of the northern dome. (Author)

Figure 4.44 The inner side of the northern dome chamber. (Author)

The structural process that the load of the dome is transferred to the ground is however quite similar to the southern dome; only instead of placing the circle on a 16 sided shape, it is placed on 16 points of the lower arches as shown in figure 4.45.

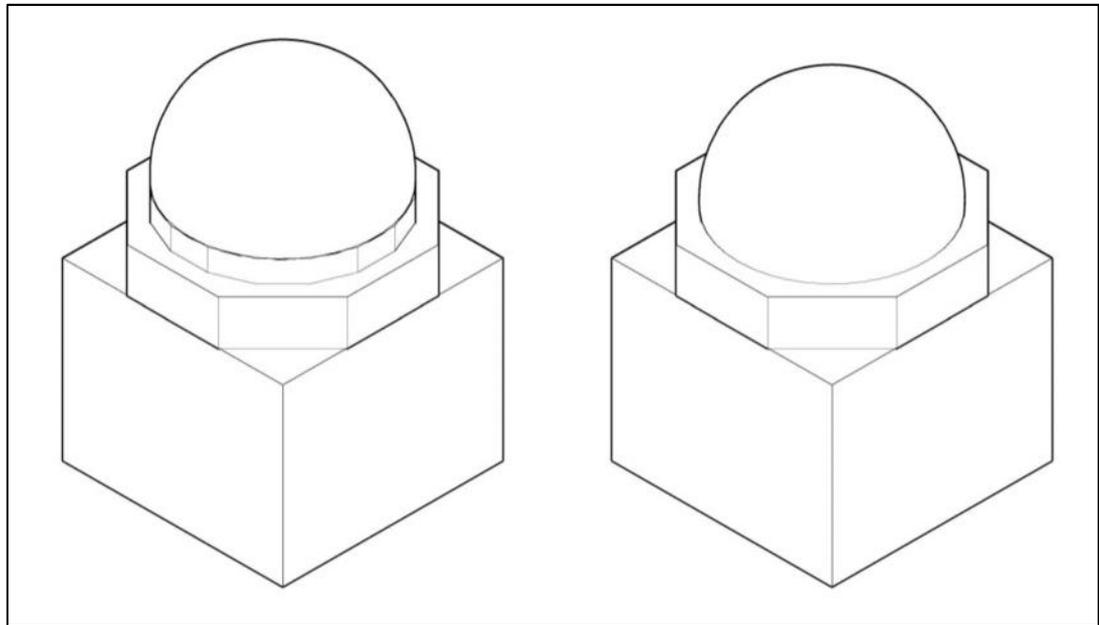


Figure 4.45 The comparison between the structures of the two domes. (Author)

Generally decorations of the two dome chamber patterns of the Grand Mosque can be divided into two categories:

The first group create a structure on which the rest of the building or a portion of it lies on. This style is evident in the southern dome which is composed of a brick skeleton dividing the dome into 8 parts.

The second category of ornamentations is the ones which are included in the body of the building as masonry and are abundantly used in the north chamber. These bricks are actually involved in the structural body of the chamber as well as having decoration purposes. Figure 4.46 is an example of this type of decorations.

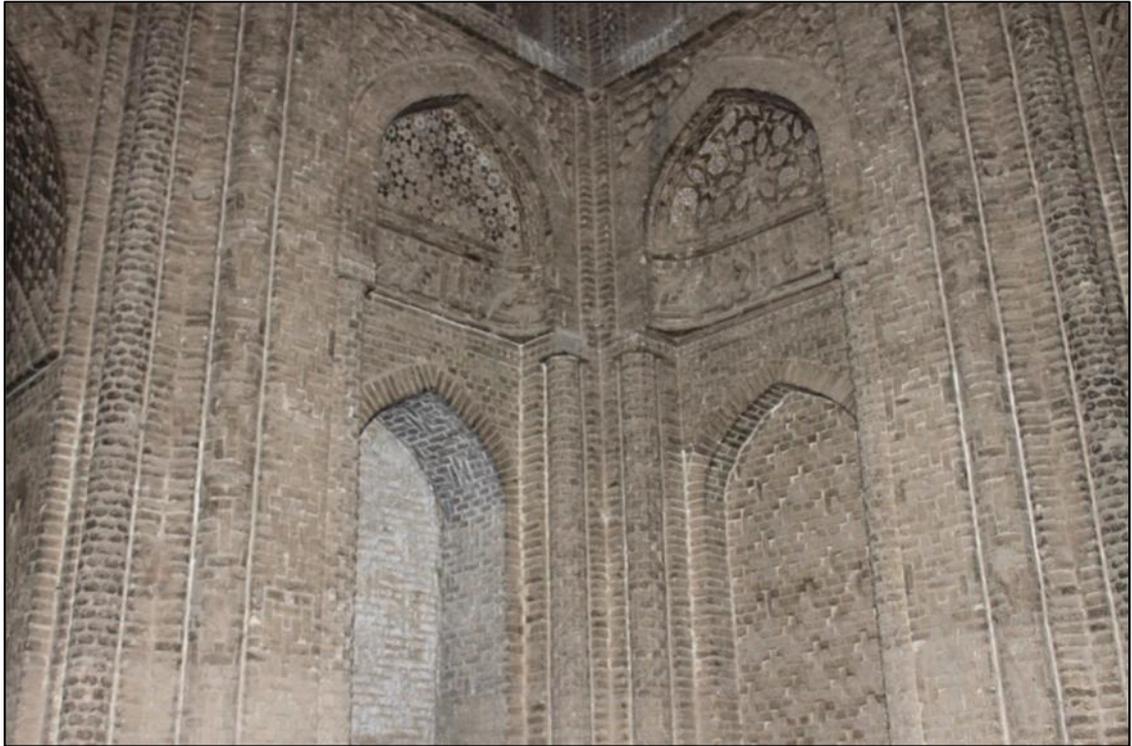


Figure 4.46 Brick decorations of the northern dome. (Author)

Analysing the geometrical figure which the Taj al-Molk dome is following, the multiples of 5 and 10 are clearly noticeable. In fact the central geometrical figure in this dome is a five-pointed star, and the multiples of 5 and 10 have been used around it as seen in figure 4.47. This geometrical figure has been used to transform the circle, which the five-pointed star is located, to the cubic form of the base structure. The latter geometrical shape which connects the dome to its cubic base is in fact a 10-pointed star as seen in the following diagram.

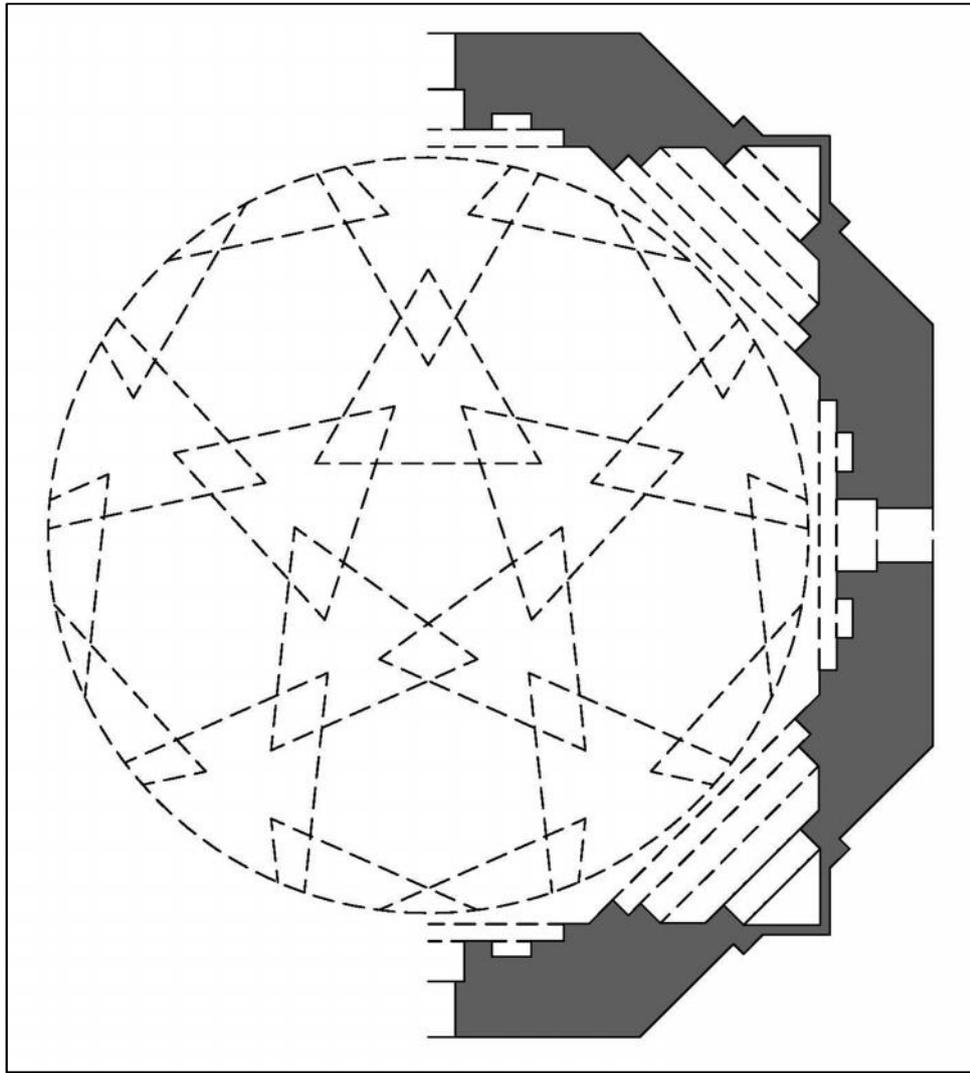


Figure 4.47 The geometrical pattern of the northern dome. (Author)

Using the multiples of five is very rare in the construction of Persian mosque domes, however based on esoteric Sufi teachings it has specific significances. Number 5 and more specifically 10 are basically associated with the Solar Plexus chakra shown in figures 4.48 & 4.49, which is a mandala with 10 petals. In fact *'the symbol of Gevurah (solar plexus chakra) is the pentagram or the five-pointed star.'* (Sui C. K., 2003, p. 102)

Based on the Sufi knowledge of jafar and numerology, 10 is the “vasit” or middle number of the holy name of Allah, al-Jalil which is usually used by the Sufi practitioners as chanting to gain position and dignity. Based on the knowledge of the

chakras in Sufi teachings, the solar plexus chakra is located in the diaphragm area, between the two ribs and is the centre for the will and dignity; *'it is the will centre of the masses. This is why in Kabbalah, the solar plexus chakra is also called "Strength."*' (Sui, 2009, p. 73)

In fact it is believed that the northern dome was not used as a place for the daily worship and it functioned as a relating space for the royal family in order to join ordinary people for the prayer of Fridays. (Haji-Qassemi, 2004) In this case it seems quite logical that the dome itself was a means of creating this kind of prana (dignity and power) in order to show the strength of the government and the king.



Figure 4.48 The solar plexus chakra rotating clockwise & counter clockwise. (Sui, 2006, p. 42)

Figure 4.49 The solar plexus chakra in slow motion. It has ten petals. (Sui, 2003, p. 94)



Figure 4.50 The 10 pointed figure on the dome of the northern chamber. (Author)

The interesting issue regarding the northern dome chamber pattern is the way it has been connected to the main body of the mosque shown in figure 4.51. In fact the chamber sits at the most northern part of the mosque and the shabistan starts only at its southern section. There is one central nave connecting the chamber to the northern iwan and further to the courtyard. Another nave is located at the middle of the mentioned nave in a perpendicular position to it. These naves have almost the same width and height of the surrounding shabistan; however they carry a very interesting difference. All the secondary domes used inside the shabistan are following the exact pattern that was used in the shabistan surrounding the southern dome which is 8 sided patterns. Quite similarly, the secondary domes inside the nave also follow the pattern of the western nave of the southern dome chamber which is 6 sided patterns. Thus in this case

it can be further approved that the eastern nave of the southern dome is not reconstructed in a correct manner and is different from its original.

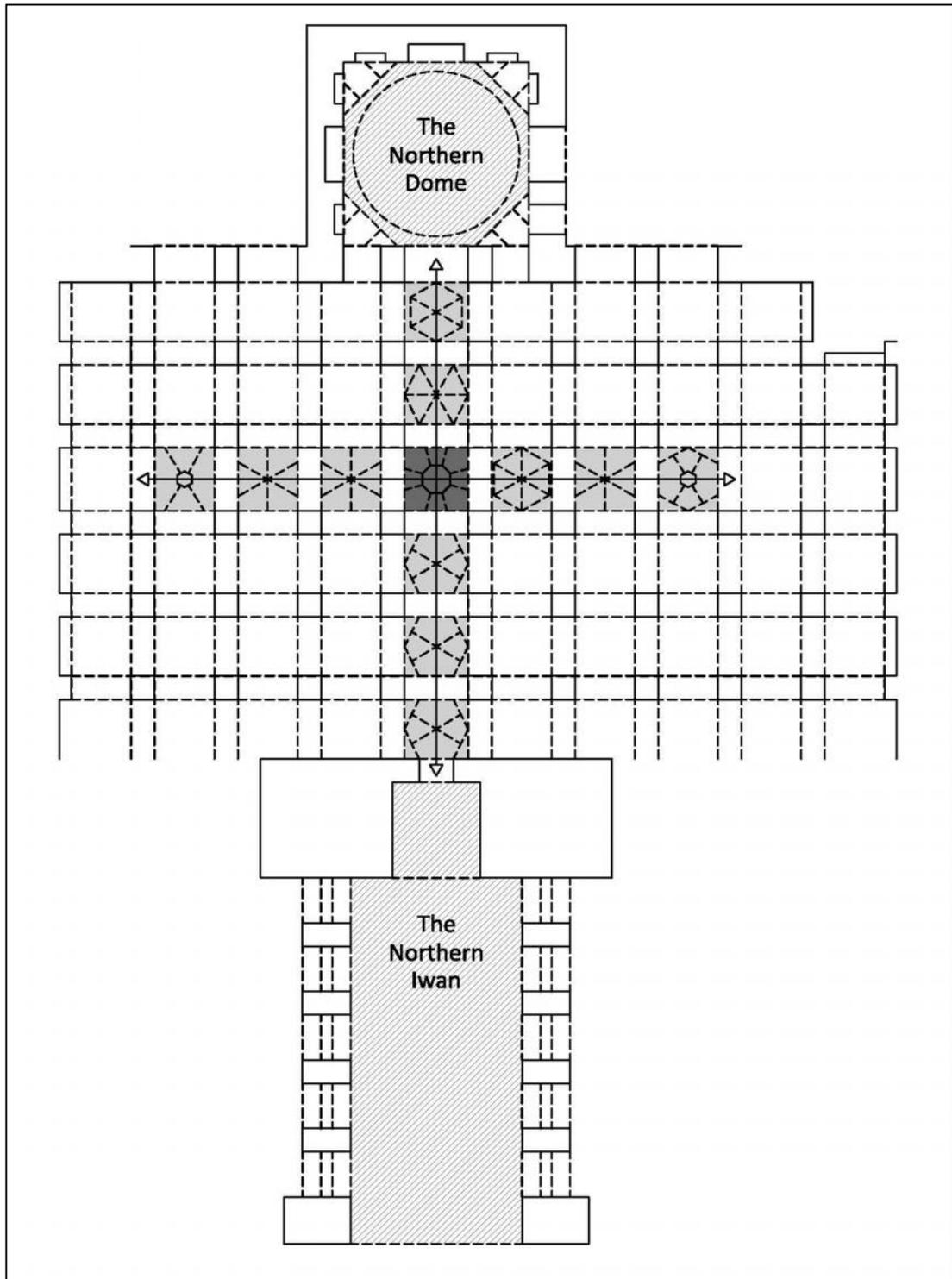


Figure 4.51 The two naves related to the northern chamber. (Author)



Figure 4.52 Comparison between the nave on the right and the shabistan on the left. (Author)

The northern dome is greatly rich in decorations and it seems that what remains today is the original version of its decoration which is all brick patterns. What is clearly obvious in all the patterns is that although there are different base patterns in the ornamentation design of the chamber they are mainly composed using the six petal patterns. Some of these patterns are shown in figure 4.53.

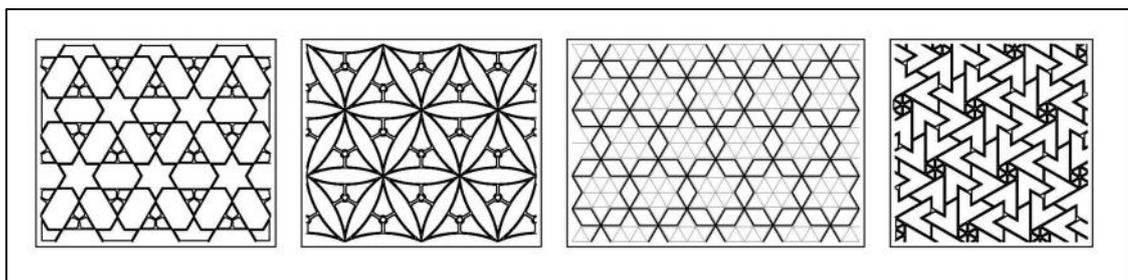


Figure 4.53 Decorative bricks inside the north chamber all created by using a 6 parts. (Author)

Although it can be assumed that the 6 parted patterns have the same spiritual function as the ones used in the southern domes, it can also be assumed that since the northern dome was less used as a place of the daily worship and was in fact a connection

between the royal family's living and the Grand Mosque, the 6 sided pattern address the 6 & 12 petals of the heart chakra as shown in figures 4.54 & 4.55.

'The heart chakra is "others-oriented," as in "What are the needs of other people?... What would other people feel?... and What would other people think?" (Sui, 2009, p. 94)

The heart centre is called "Chesed" in the Lord's Prayer. *'It means "mercy and loving-kindness.'*'(Sui, 2003, p. 83) It is a centre related to higher emotions and produces a sense of inner peace: *'Chesed is the centre of the emotional heart. Compared to the solar plexus chakra – Gevurah, the heart chakra – Chesed is the centre of higher emotions such as peace, serenity, joy, compassion, kindness, gentleness, tenderness, caring, consideration, patience, sensitivity, etc.'*(Sui, 2003, p. 84)

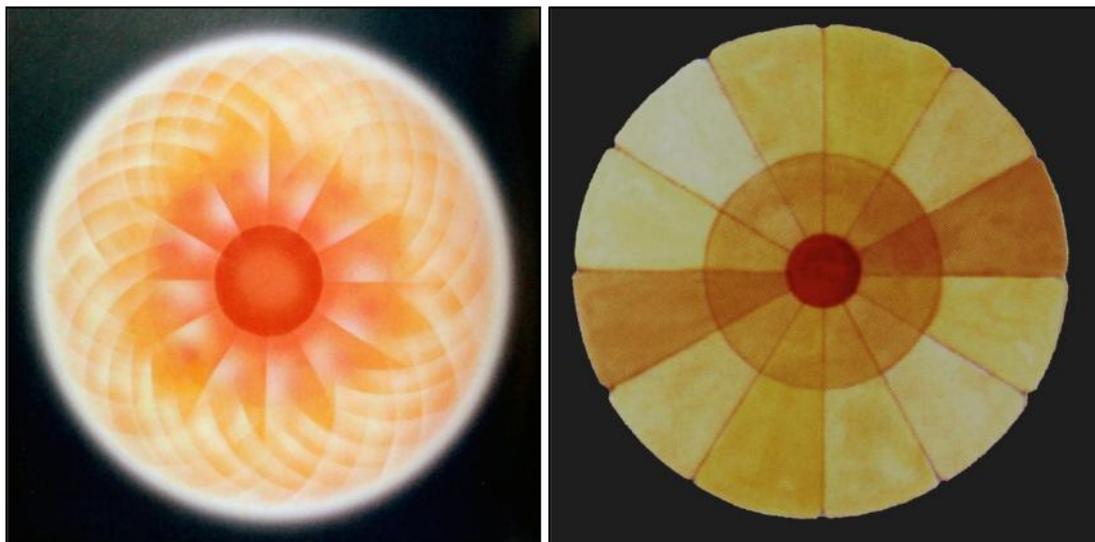


Figure 4.54 The heart chakra rotating alternately clockwise and counter clockwise. (Sui, 2006, p. 42)

Figure 4.55 The heart chakra in slow motion. It has twelve petals. (Sui, 2003, p. 82)

What can be actually assumed here is that the heart patterns were in fact used in this pattern and the following naves in order to regulate the solar plexus centre's functions; so that when the royal family are moving towards people their sense of "self

orientation” will change to a certain degree to “others orientation”. In this case they could communicate easily and more effectively with the people.

‘The activation of the heart chakra – Chesed ensures that the enhanced intellectual faculty and the increase in will power will be used properly and harmlessly.’ (Sui, 2003, p. 85)

As inferred from the stated data in this section, the design and construction of the dome pattern was basically based on all the four levels, from which spiritual functions even stand higher.

‘Maybe in creating a mosque the architect who has been spiritually evolved will find out that a new creation produces a greater amount of spiritual ambience than the dome. Maybe he will find that a new pattern is required and introduces it. What is important is that whatever is placed in there is must follow the same set of orders that has the divine goal behind it; although it has to be mentioned that under the dome, the worshipper feels much better. Maybe the form is such an evolved pattern introduced by and later improved by the architects that when you pray under it, you can feel God’s presence.’ (Negarestan, 2010)

4.3.1.3 THE ARCH

As dome is created from arch, revolving around a vertical axis shown in figure 4.56, its structural significance remains the same. Thus arches, as domes, became popular elements of Persian architecture to cover large spans, without using timber.

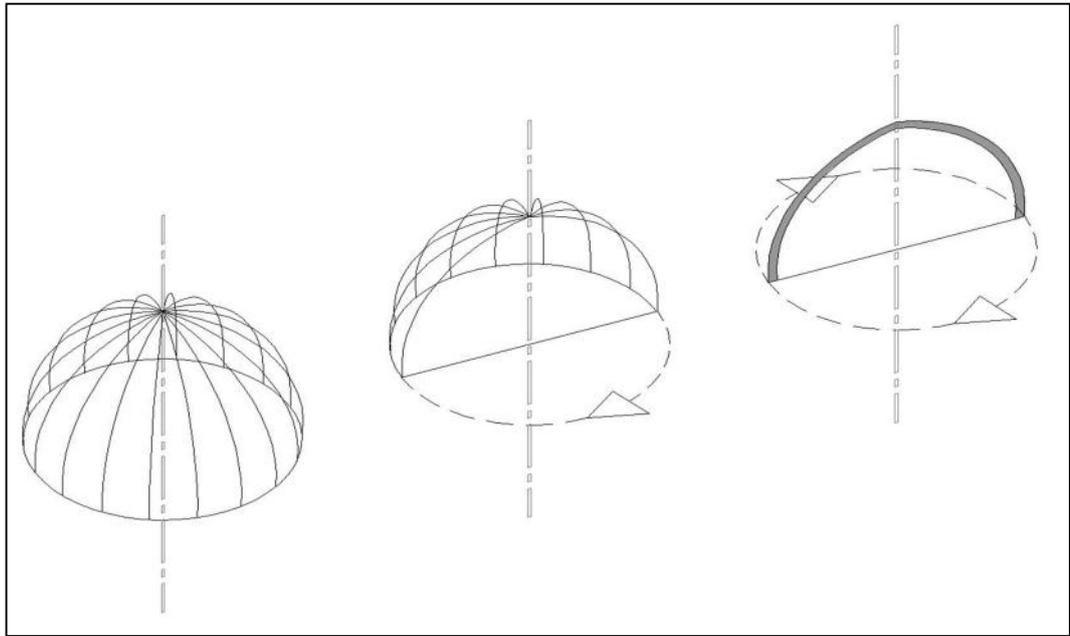


Figure 4.56 The creation of the dome from revolving an arch. (Author)

Studying the arches structurally, first the models of arches should be categorized based on their load-bearing capacities:

Basically in Persian architecture we have a wide range of arches categorized from structurally significant to merely ornamental models as explained by Zomorshidi (2008.) In the Grand Mosque of Esfahan examples of structural and ornamental models of arches have been used beside each other.

The important factors in determining the capacity of the arches to bear loads are the model of their creation (being pointed or straight) and the height of their edge. The pointed arches can bear loads more efficiently. The arches which rise higher are more structural than the low-rise ones. Some of the arches in this case are merely ornamental such as the “*Kalil*,” examples of which are widely used in decorations of the walls in the Grand Mosque as seen in figures 4.57 & 4.58.



Figure 4.57 An example of a Kalil decorative arch. (Author)

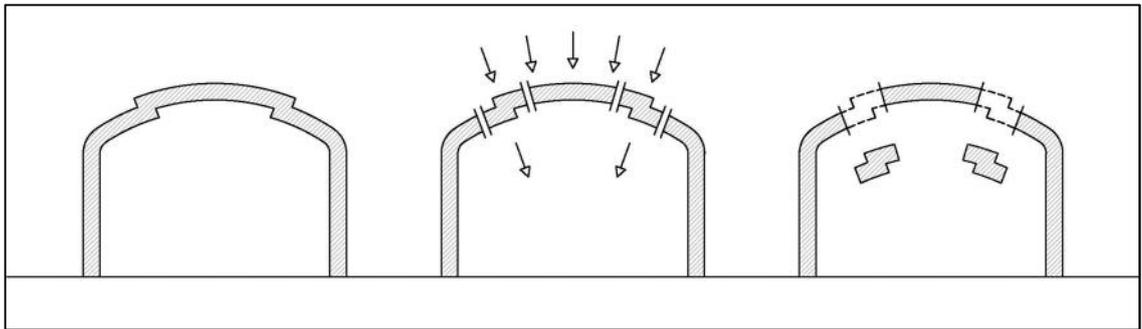


Figure 4.58 How the Kalil arch cannot bear any weight. (Author)



Figure 4.59 Structural arches mostly made in the pointed format. (Author)

Apart from the structural significance of the arches, they are also elements of ornamentation and decoration which makes them aesthetically significant as well. As shown in figures 4.60 to 4.62, the arches used in the Grand Mosque, are the elements of excessive decorations and they specifically have been used in the iwans to create aesthetic portals as a welcoming element. The decorations used on the arches are mostly symbolic, since arch itself is a symbolic expression of the man's desire to fly to divinity. In this way, the decorations of the arches also refer to the same concept; man's evolution from the lower levels of earth to the higher levels of sky (as a symbol of the divine realm.)



Figure 4.60 Excessive decorations on the arch. (Author)



Figure 4.61 Decorations on the arch of the entrance. (Author)



Figure 4.62 Symbolic decorations on the arches. (Author)

According to chapter 2-2 the two dimensional image of the dome can be traced from two sides shown in figure 4.63. The first is to trace the dome from top or bottom, which will result in the familiar form of the circle and the square surrounding it as its chamber base which was the issue of the previous discussions in the form of a mandala. (Ya yá ibn abash Suhraward , John Walbridge, Hossein Ziai, 1999)The second way of imaging the dome is to trace its cross section, which will result in the arch that created it. In this way the dome is observed from a perpendicular side. (Ardalan & Bakhtiar, 1979)

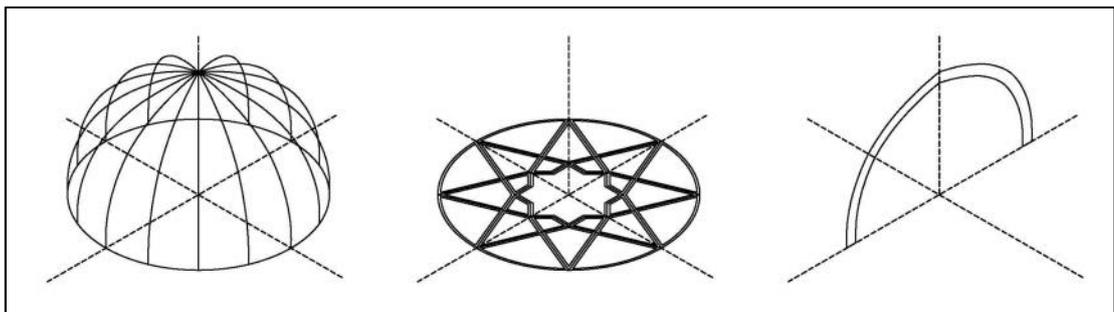


Figure 4.63 Tracing the dome from the top or from the side. (Author)

By comparing the two different two dimensional images created, it can be concluded that similar to the image from top or below from the dome, the perpendicular image includes the mandalic aspects of the dome as well. Although it might not look like a quadrant mandala, yet it is an image addressing a quality within this quality of transformation, thus the arch itself holds an aspect of the dome. This fact can be used to describe the divine aspect of the abundantly used arch in the design of the Grand Mosque. In this case it can also be concluded that the arch, similar to the two dimensional prana generators discussed in chapter 2 - 2, is another kind of prana generator which is also two dimensional. This fact can be the reason behind the use of arches in most of the patterns involved in mosque architecture in Persia. It is to place the worshipper under a two dimensional dome and thus increase the amount of prana within his body for him to transform faster. However in this case, as far as this Author can assume, there might not be different types of prana since the petals cannot be differentiated.

The arch has been also frequently used as an element of passage. It has been used by the Architects as a purifying element. It was believed that passing through an arch has a purifying effect on the worshipper's body which makes them spiritually purified from their daily vices for the act of worship. According to esoteric teachings, *'divine energy flows down to the practitioner filling him with divine light, love and power. The practitioner becomes a channel of this divine energy. Divine energy passes through the spiritual cord and the centres, and goes out to the aura. As this energy goes in and out, the cloud of negative thoughts and emotions are flushed out of the aura, thereby cleansing the aura.'* (Sui, 2005, p. 105)

The process of this act done by the arch could be easily described referring to the concept of lightning. Lightning usually strikes to the least resistant point and not specifically the nearest point. In reality, this is usually the nearest highest point, but if

there was a choice between a tall granite building and a shorter metal pole, lightning will chose the metal pole because it is more conductive to electricity.

The same procedure works in the concept of prana since prana is actually a type of physical matter similar to electricity as described in chapter 2 – 1. Thus it is absorbed by the arch (similar to the lightning rod) and it is transferred to the worshippers. Since Prana is always in the air, this procedure is a non-stop process. According to this assumption it can be understood why Prana is regarded to be more condensed under the dome pattern according to esoteric beliefs shown in figure 4.64.

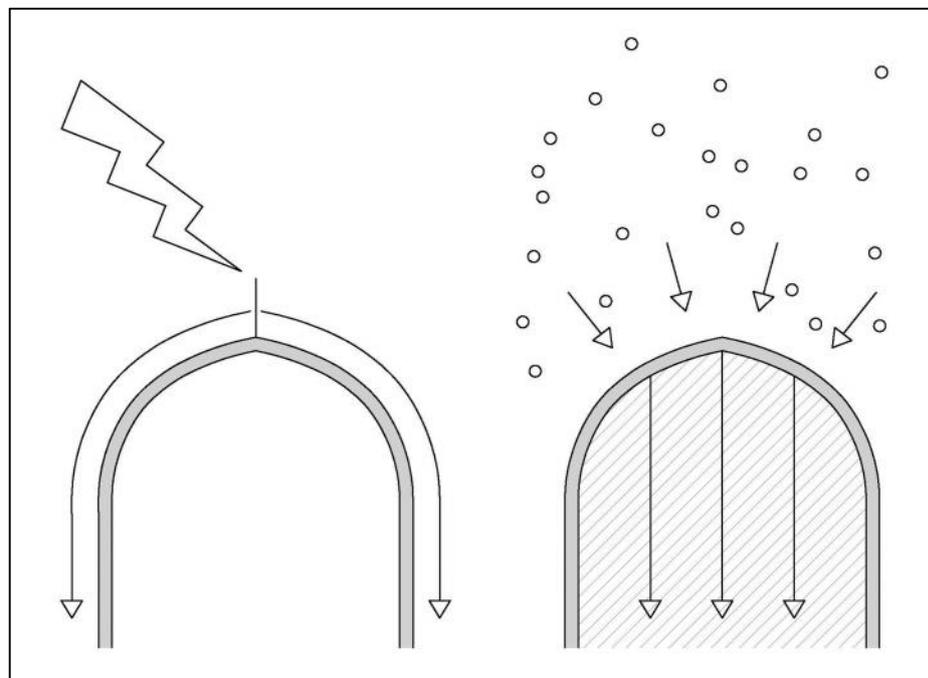


Figure 4.64 How the dome absorbs and condenses the prana in the air compared to how it transfers the electricity of lightning to the ground. (Author)

To further enhance this effect, traditional architects used to decorate the arches with more sacred figures, symbols and verses. That is why arches have been usually used as the entrance element and is filled with sacred symbolic decorations, usually symbolizing the act of purification, and sacred name and verses from Quran. In this case the captured and directed prana will somehow pass through a filter of verses that will transform the

vibration of the prana in order to suit the activity being done at the space in which it has been placed.

One of the symbolic figures used in decorations of the arches in the Grand Mosque, is the pattern of the swastika. Swastika is basically an Indo-Aryan symbol which was used to purify and energize a place or a person. Based on the rotation of the swastika symbol in clockwise or counter-clockwise motion, it can be energizing or purifying in order. The existence of this pattern on the arches proves their spiritual function as being a purifying element.

The sacred names appear on the arches are usually Allah, Mohammad and Ali who based on the Sufi Shia teachings is of great importance and respect. In this way these sacred names have been used to uplift the bodies of the worshippers spiritually and purify their systems. Some of these decorations can be seen in figures 4.65 to 4.68.



Figure 4.65 Different types of the swastika repeated in mainly the 4 arches of the four-iwans. (Author)

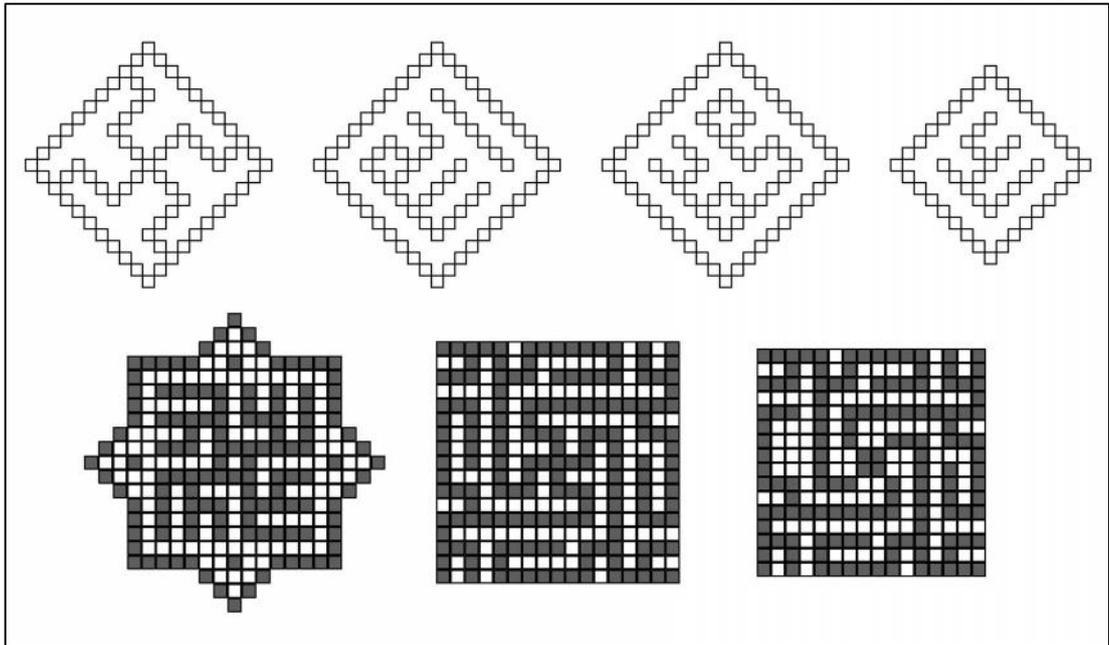


Figure 4.66 Calligraphic models of the swastika. (Author)

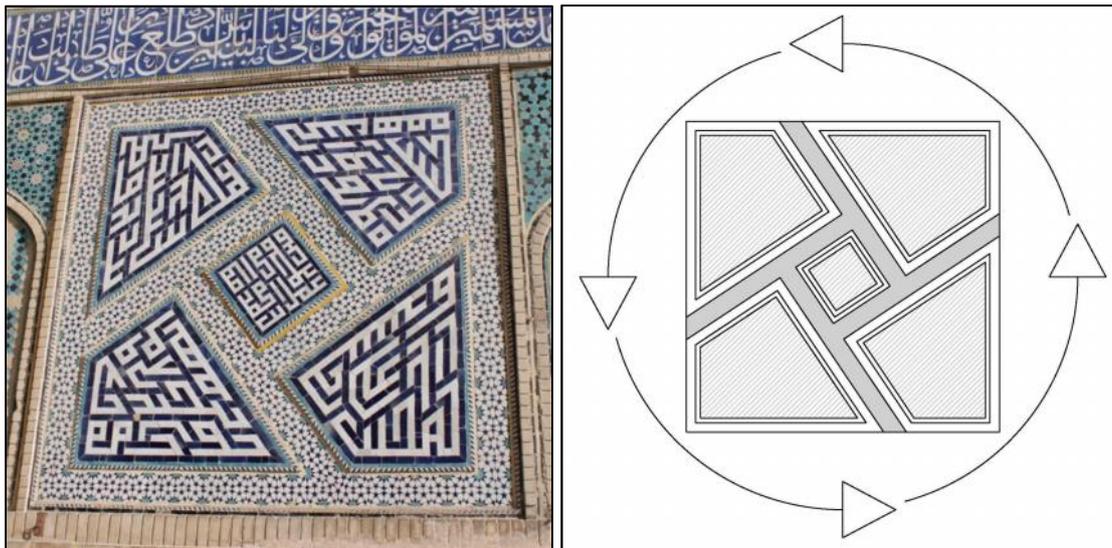


Figure 4.67 & 4.68 The major swastika located in the western iwan is also known as the rotating sun. It is significantly important as it is believed to be sacred and a great purifier. (Author)

4.3.1.4 THE MIHRAB

Since mihrab and the direction of Qibla are significant concepts in any mosque, including the Grand Mosque of Esfahan to the point that if the mosque is destroyed the mihrab should be preserved, to honour the spiritually evolved person who performs the act of prayers beneath the mihrab area, this pattern is filled with excessive decorations

and thus appears as a highly aesthetical element in mosque design. As evident from the observation, the mihrabs in the Grand Mosque of Esfahan are highly ornamental.

There are actually several mihrabs in different parts of the mosque. The most glorious mihrab of the grand mosque is the Oljaitu mihrab which was in fact part of another mosque called the Oljaitu mosque shown in figure 4.69. It was not included in the mosque from the beginning since its decorations indicate that it does not belong to the Razi era. (Pirnia, 2004)



Figure 4.69 The Oljaitu Mihrab carrying great decorative stucco carvings. (Author)

The main mihrab of the mosque is believed to be at the southern portion inside the Nezam al-Molk chamber shown in figure 4.70. What has remained from this mihrab is also not its original one since it is highly decorated in a Safavid style.



Figure 4.70 The south chamber mihrab which has been re-built by the Safavids. (Author)

In creating the mihrabs of the Grand Mosque, the model of the arch has been used as the main pattern of design. The placement of arch refers to the stated spiritual function of the arch as a purifying element. The symbolic figures and inscriptions used as decorations of the mihrab further explain its spiritual function. The arches used in the mihrabs, are usually ornamental rather than structural using the models of “Kalil,” which again indicate the importance of its spiritual function dealing with the concept and characteristics of mihrab.

One of the important figures that has been abundantly used in the Grand Mosque is the figure which symbolizes the human being in a subtle manner. This figure is used in the mihrab of the southern chamber as the main example and is carved with stone which is

clearly related to the Safavid era. *'We also see figures and graphs imaging the creation of the human being. The human is created from earth and water. The water is represented in seven waves, which is related to the seven stages of gnosis. Water along the earth creates a clay pot which is human being; the container of the soul. Thus the soul is the flower, which is rising towards the Supreme God.'* (Kargar, 2009)



Figure 4.71 The pattern of the human being evolution in the south chamber mihrab. (Author)



Figure 4.72 & 4.73 The pattern of the human being evolution in the south iwan. (Author)

4.3.1.5 THE PORTAL

The Grand Mosque is surrounded by the Bazaar which links it to the old square of the city. The portal thus is an element among the other functions pointing out the place of the mosque. What has remained from the several portals of the Grand Mosque is actually a small arched entrance which does not seem to be in its original content. It is though wise to mention that the original form of the mosque included many entrances from several directions, however the original ones do not seem to exist to this time but the author assumes there must have been some portals existing similar to the Iwans of the mosque.



Figure 4.74 The main portal of the Grand Mosque which is the only one used by date. (Author)

The portal of the Grand Mosque is constructed with excessive elaborative decorations, which are mostly symbolic to create a psychologically impressive experience for the worshippers who see the mosque and enter it. The entrance to the main body of the mosque is considered a journey. It guides the worshipper through a corridor, then it

represents a small semi-open area and then it is related to the shabistan as seen in figure 4.75.

‘The great portal of these two mosques is not exactly the same but they both follow a similar design principal. At the very first you see the greatness of the greatness of God in the greatness of the beautiful portal; but when you want to enter the mosque, there is a small door that when you want to enter you must take a bow and show your humbleness and respect.’ (Oleyki, 2009)

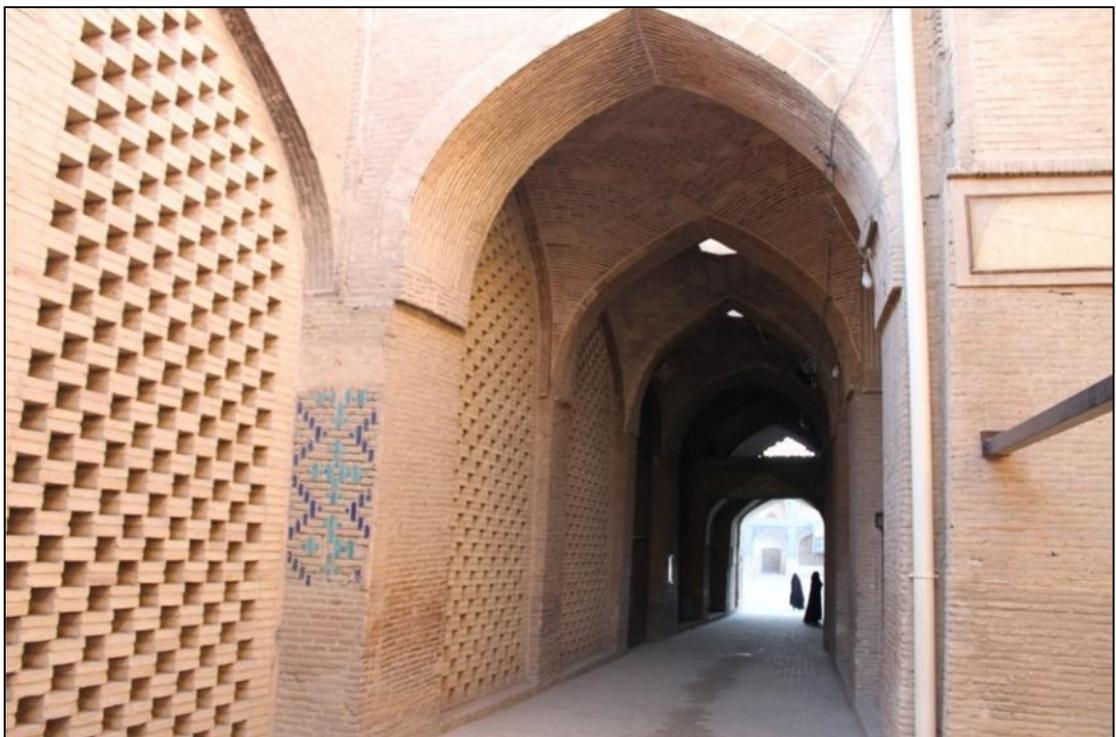


Figure 4.75 The entrance corridors leading to the courtyard. (Author)

In fact this pattern has been constructed based on a hierarchy of spaces to prevent sudden entrance to the mosque’s courtyard. It is assumed that the path towards the courtyard of the mosque was originally through the middle, through the east iwan in order to create a symmetrical openness for the worshipper who enters the courtyard as seen in figure 4.76; but this has changed today. It therefore acts as a pre-space to make the worshippers ready to enter such a significant spiritual place, with great glory and magnificence. This fact can be further explained by the two corridors on two sides of

the eastern iwan which one of them is suddenly finished and the other is connected to the back area which does not have anything in common with the grand mosque itself. However it cannot be completely approved since this Author did not find sufficient material and evidence.



Figure 4.76 A panoramic view when entering the central courtyard from the eastern iwan. (Author)

Traditionally Sufis believed that the mosque is the house of God, and thus it is sacred. Since many prayers have been done in the mosque and many sacred symbolic figures, inscriptions and mandalas have been used in its construction, and many spiritually evolved worshippers usually enter it, the vibration of the mosque is relatively high. It means that the spiritual level of the mosques, especially the Grand Mosque as the most commonly used mosque in Esfahan is extremely higher than other places and its surrounding environment. (The concept of Sacred & Profane) Since the people who enter the Grand Mosque to perform their daily prayers are not commonly spiritually developed and come from the outside world, suddenly being exposed to the spiritual energies in the mosque might have a radical reaction in their causal system.

Furthermore, based on Esoteric beliefs, spiritual or divine energy has a magnifying effect on the worshippers' body, meaning that all the bad and good energies (vices and virtues) become magnified when being exposed to it. Therefore, to prevent the radical reaction and magnification of the not so good energies (vices), the worshippers' system should be purified and cleansed first. This is done through the portal. This can in fact be explained through the abundant use of arches in the portal pattern. After the great arch of the portal, the worshippers are guided through a series of arches in a narrow passage that is filled with arches and vaults.

4.3.1.6 THE COURTYARD

The courtyard is a pattern that was present from the first example of mosque created by the prophet himself. But what makes it significantly important is how it has changed into a centred symmetrical pattern which has become the base for the introduction of the four-iwan pattern in Persian mosques. An Iwan is the gateway towards the shabistan and was commonly used for worshippers to pray. The Grand Mosque is known to be the first of its kind to present the pattern of 4 iwans placed around a square court.

The existence of a courtyard in the hot and dry region of Esfahan is environmentally significant: since Esfahan is located in the desert, the temperature of the city is extremely hot during day time and the buildings are usually disposed to desert winds and storms. Thus the outer space is usually plain with no windows, decorations and openings. In this way the courtyard is located in the centre to give access to fresh air, light and scenery without being disturbed by the desert winds which bring sand and dust to the indoor space. The formation is seen in figure 4.77.

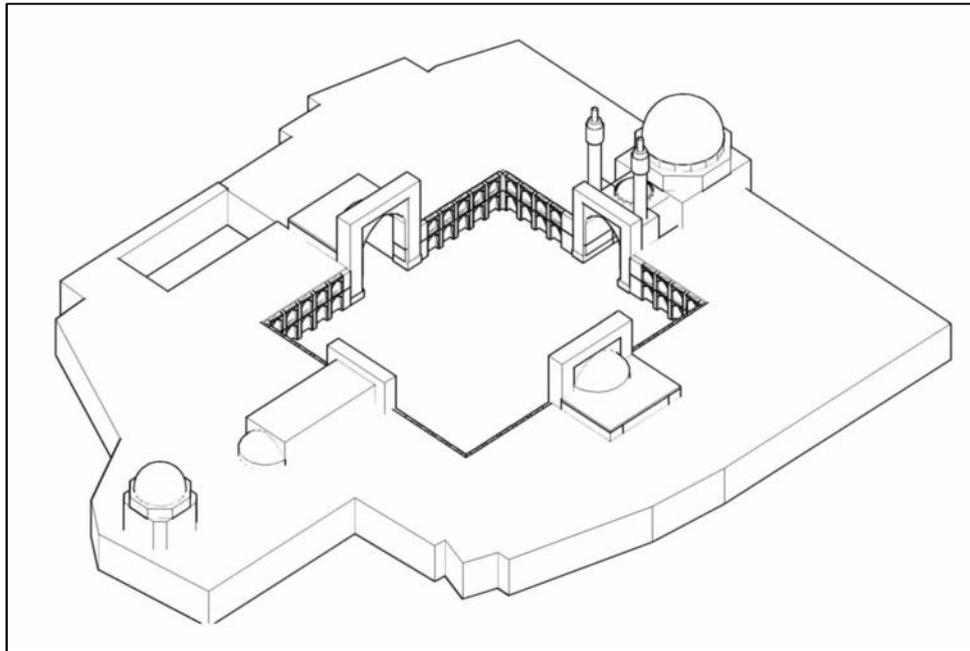


Figure 4.77 The position of the courtyard and the arrangement of spaces. (Author)

To decrease the influence of sun through providing enough shading, the courtyard in the Grand Mosque is in the form of central yard so that two facades are always shady which create a flow of air between the cooler and hotter fronts. The environmental significance of the courtyard can be further explained by the four-iwan pattern; the four – iwan pattern has been created in order to respond to the condition of each season as shown in figure 4.78. Worshippers perform the necessary rituals according to the season and under the iwan designated for that season.

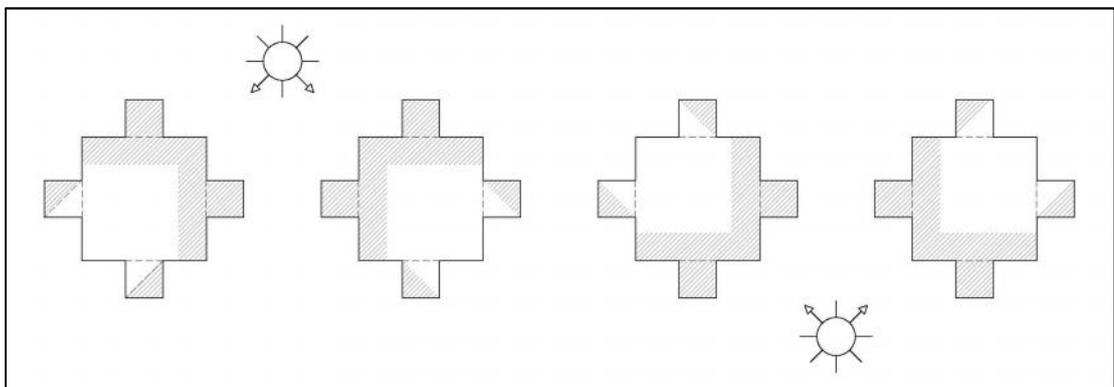


Figure 4.78 The geometrical arrangement of the courtyard providing a shaded area at all times. (Author)

The existence of a central pool in the centre of the yard which reflects the beauty of the interior façades with 4 iwans, in fact adds to the beauty of the indoor space. The central yard is usually used for taking ablution and acts as a gathering place before and after the prayers.



Figure 4.79 The central courtyard. (<http://media.farsnews.com>)

Decorations also play an important role in the courtyard especially at the four iwans. Proportion is in fact one of the methods of gaining aesthetics in creating the iwans. Although their sizes are not the same, they follow the same scaling system. Therefore they appear connected to each other in a harmonious way as shown in figures 4.80 to 4.83.





Figure 4.80 & 4.81 & 4.82 & 4.83 Proportions of the four iwans. (Author)

One of the patterns abundantly used in the decorations of the iwans, is the “Chahar Toranj” or the “Four Bergamot” which is also known as the spinning sun or the swastika which was explained in the arch section. It is a symbol indicating the circular movement of every being and the flow of his life force. This pattern is a symbol of the cleansing and energizing effect of the chakra and has been used in the mosque in various ways; in some cases it is used as a purely geometric form while some have verses written in them and others are actually made with sacred words like Allah, Mohammad and Ali.

Symbolically speaking the central courtyard in the Grand Mosque is an expression of unity in multiplicity. This means that the existence of the central courtyard in the mosque, emphasis on the central axis or the central point which is called “birth point” in esoteric teachings. The four iwan around this one point address the multiplicity of creation. They are all facing the one and only point which is actually nothingness. In other words the 4-sided world becomes one in the image of the courtyard. In this way the central point and the central axis which the whole mosque have been constructed around, symbolically refer to God as one which is regarded as the only force of creation. In this way it represents the common belief in Sufi teachings stating “unity in multiplicity and multiplicity in unity.”

'In the Islamic esoteric architecture, a square always represents the materialistic world and the circle represents the inner world. In building a mosque the application of creating a square courtyard and placing a single circle in the very centre is considered sacred and thus it is followed. In fact the courtyard or the whole world starts from one single point that is continuously moving and is shown by a water fountain. When you start there and ritually purify, you are about to start something, and you can truly feel it.' (Kargar, 2009)

Another symbolical interpretation is that the Grand Mosque building is a huge mandala which represents the human body. Therefore every part of the mosque is relatively associated with one or more organs in the body. In this way it creates analogy between the mosque's structure and the human body system to represent the micro-micro theory. In this categorization, the middle part of the mosque, is where the heart and navel are located in human body, thus it should be built open or with less load. The expression of this belief system is manifested in the creation of the central courtyard in the Grand Mosque.

Analysing the model of the mandala and its spiritual functions shown in figures 4.84 to 4.86, the centre is usually a significant point in receiving the divine energies and connecting the body of the mandala (which in this case is the courtyard) with the spiritual energy known as "*Barkah*" in Islamic terms. It is evident from the patterns of the chakras (as an expression of the mandala), that the centre is the means of exchanging energy; chakra exchanges energy with the surrounding environment from its centre. (Ardalan & Bakhtiar, 1979) (Nadimi, 2010)

'This is indeed not unique to the dome. When you enter the traditional mosque you get Goosebumps; when you are ritually being purified in the middle of the courtyard you feel expanded; when you enter an iwan in any of the four directions, you feel bliss.

These are not simple facts, in the grand mosque they are completed and are functioning for the sake of human spiritual growth.’ (Negarestan, 2010)

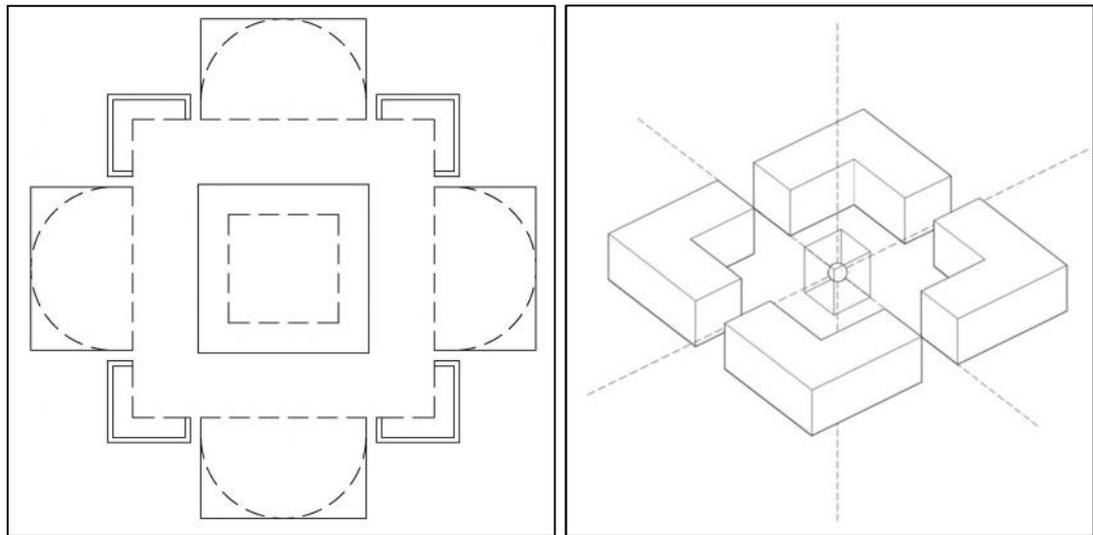


Figure 4.84 & 4.85 The four iwan pattern creating a mandala in the courtyard. (Author)

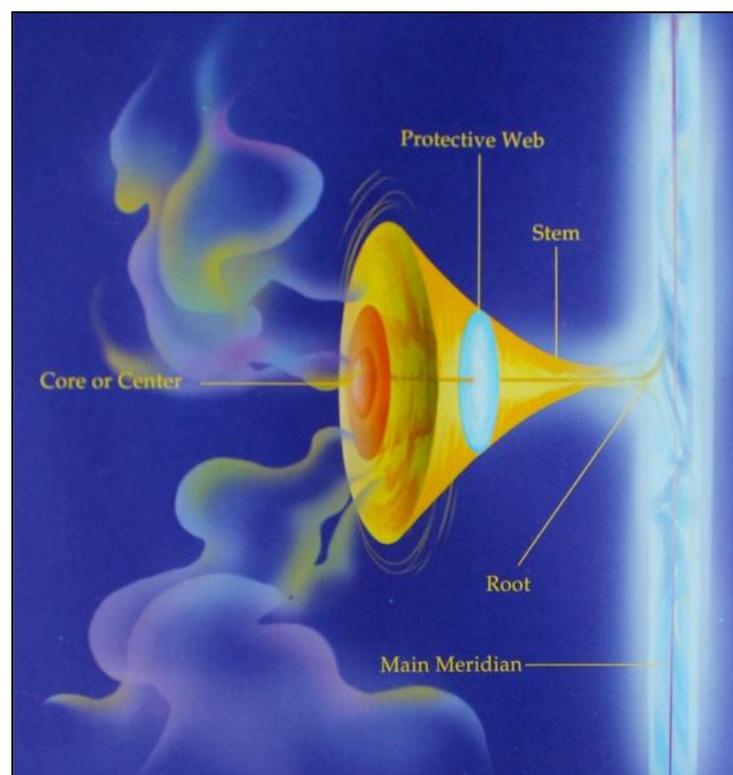


Figure 4.86 The accurate function of the chakra. (Sui, 2009, p. 20)

In the ancient Persian Culture before Islam, the central point of the places of worship was of a great importance in which the holy fire was placed as the centre of the whole

complex. Compared to the mandalic format, the centre of the mandala is known as the bindu, the sperm or the essence of creation which in the Islamic philosophy it is the one and only Supreme Being. The fire was mistakenly interpreted by the ordinary people as God. This fact is the reason why many consider Zoroastrians and Mithraists as worshippers of fire. (Pirnia, 2004)

The centre point of the mandala is the ultimate point which compared to the three-dimensional built example, is a point where the most prana is gathered. Thus it was best to place a fire there for it to be known as sacred, since it could have absorbed and held a great amount of vitality. The centre point of the fire temple in this case was empty of any human being and the worshippers orbited around the holy fire in order to be purified. Since the fire had a great amount of vitality, the purification ritual was not just an ordinary rotation act, and purification really occurred as this great amount of prana purified the worshippers.

After the Islam, the main point was moved since the more important issue was the Qibla wall. This issue is completely obvious in the Grand Mosque. The dome chamber is placed near the Qibla wall in order for the worshippers to receive this great amount of prana directly. However the centre point has not been omitted. The courtyard of the Grand Mosque in this pattern is actually the central point of the whole building.

In this pattern instead of placing a holly fire, water is placed; since in Islamic teachings water is considered as a purifying element. In this case prana is absorbed by the water and as the worshippers perform their ritual purification, they are indeed cleansed, purified and prepared for the group prayer. This pattern is shown in figures 4.87 & 4.88.

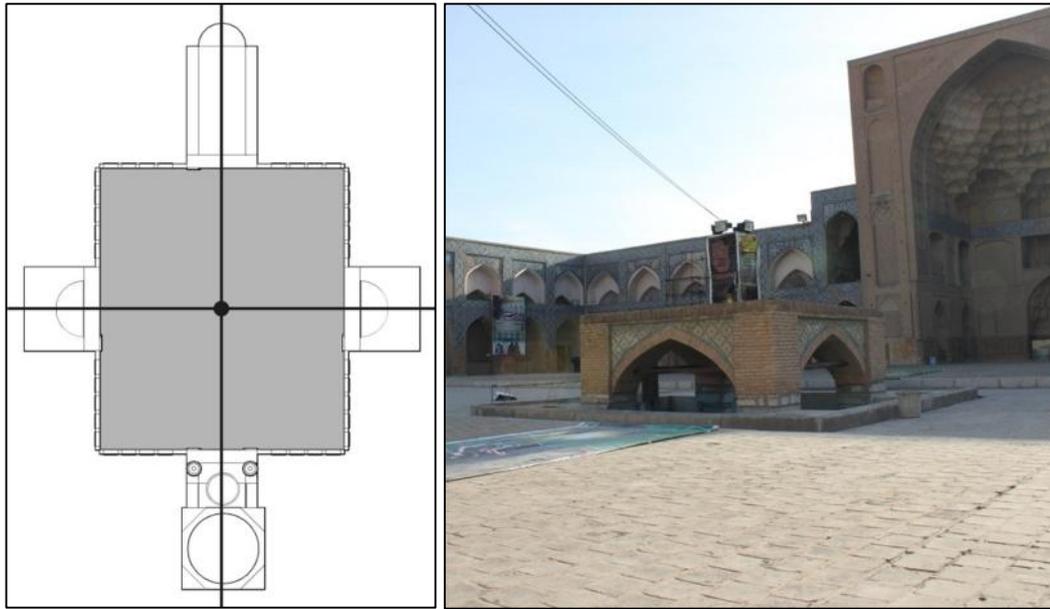


Figure 4.87 The mandala of the grand mosque with the pattern of the four iwan. (Author)

Figure 4.88 The central bindu or the centre of the courtyard. (Author)

4.3.1.7 THE MINARET

As discussed earlier, the creation of minaret dates back to the period before Islam which was to serve as a guide at nights for showing direction to the city, especially in deserts. After Islam, since minarets were already elements of showing direction, it was used in the mosques, including the Grand Mosque to show the location of the mosque in the city.

Furthermore, they act as structural bearing reins for the huge arch of the portal & *iwans*. Since the *iwans* in the grand mosque are made of a huge arch, to make the arch structurally stable, the base of the arch should be strengthened. However, since strengthening the bases, means the base should be built thick and heavy which decreases its beauty and sometime is not possible, two minarets have been used on two sides of the arch to act as structural bearing reins shown in figures 4.89 to 4.91.

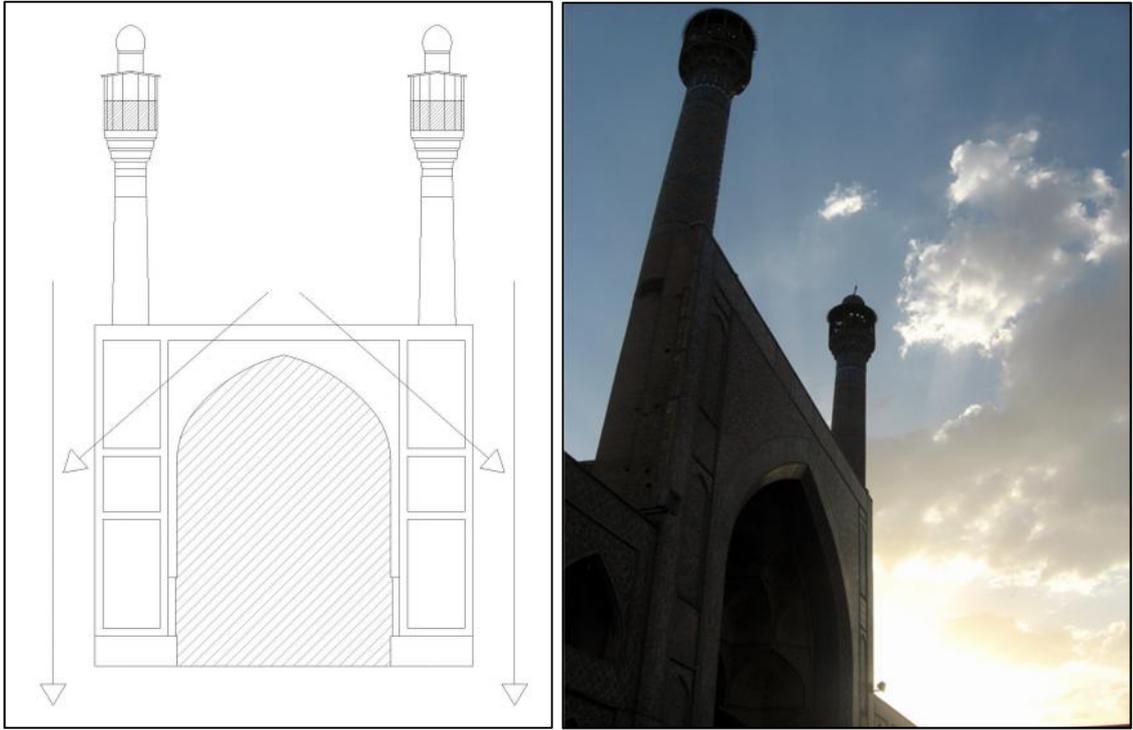


Figure 4.89 & 4.90 How the minarets transfer the load of the main arch to the ground. (Author)



Figure 4.91 The double minarets of the Grand Mosque. (Author)

Minaret on the emotional level, expresses the dignity of the Ground Mosque which is noticeable from every part of the city. Thus it is accompanied with colourful tile decorations to increase the impression of the mosque on the worshippers.

Furthermore based on stories, minarets are seen as the hands of worshippers reaching high to the sky to reach the divine energies.

'In a very natural manner, everyone points to the skies. The God is not up there, the earth is a sphere; why are they pointing up? Although it is the mind of the human that visualizes God as a very great being, and thus points to its greatness in the skies, it creates a feeling, a sense that is tangible, which pulls you high. This is not the mind anymore. Whatever we see in the traditional mosque is pointing up high: the dome, the arches, even when you are standing in the middle of the courtyard which is flat piece of land, you really want to fly and reach God. This is because there is a reality up there that we might not see it. Even when the mind thinks that god is up there, this thought might have come from a reality. The mosque is helping to find that reality so that we can connect to it. It is an element of remembrance.' (Negarestan, 2010)



Figure 4.92 Minarets and the dome imaging a worshipper. (Author)

Symbolically, minaret in the Grand Mosque is a representation of the vertical axis. As explained in chapter 2 - 2, the minaret is a symbolical representation of man's ontological axis and also the symbol of 1 or "Alif" which refers to God.

Some scholars including Hillenbrand (2000) believe that minarets were used as places where worshippers secluded themselves and underwent a series of spiritual purifications and meditations. This is because the minaret acts as a channel to receive and anchor prana in the mosque. Similar to the act of the lightning receiver element, which is used to attract lightning and safely direct it to the ground, the minarets in the Grand Mosque which are high and narrow can direct the spiritual energy known as *barkah* in Islamic terms to the mosque land. Thus the place of the mosque in this way will be lodged with tremendous amount of spiritual energy. This might be the reason why in Islamic tradition the mosque should not be destructed at all unless a new mosque is going to be

built in their place, because in the place where the mosque is located a lot of spiritual energy has been anchored which is not suited for other purposes.

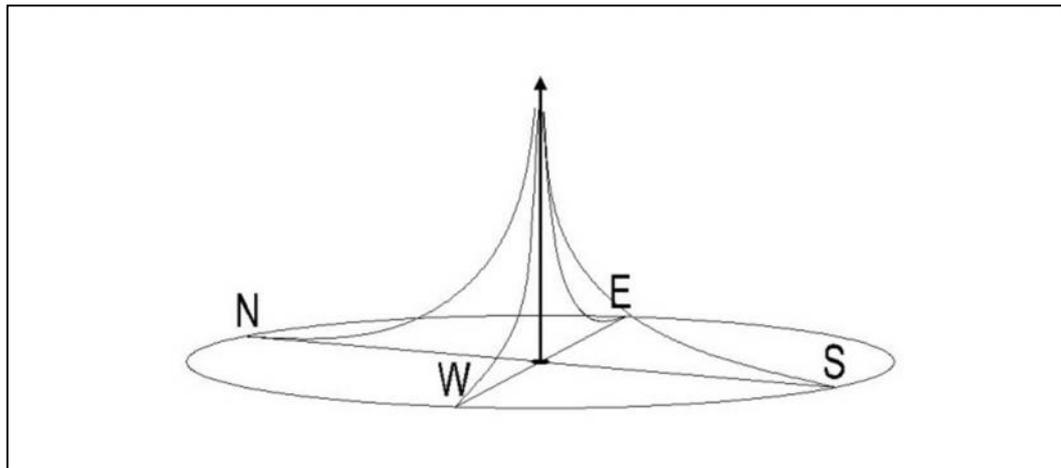


Figure 4.93 The vertical force that the minaret holds. (Author)

Although this fact might seem logical, this researcher believes that the minaret pattern does not have a strong spiritual function and in fact is not as vital as the other 5 patterns of the Persian mosque.

‘What is very important is the reason that all these patterns have been created for; in other words the start of the creation of mosque in the architecture language. Whatever the reason is, it must be a great reason that after centuries, we are still using the same language. Thus it can be concluded that the reason behind the creation of the dome was not an issue that existed only in the era of its creation, since after the time people accepted to continue using the same language while many other words have changed like the house. Now I can easily build a very wide roof with concrete but I actually prefer to build the mosque with all the features since I believe it is more divine. In other words it is more spiritual when you have a high roof, and a place that is filled with arches while the light quietly sneaks into every corner. So as an architect I respect the conceptual image that is present in the mind of people while I know that these features have helped the mosque become more divine.’ (Nadimi, 2010)

Although this researcher believes there is an ocean that has to be explored in the content of the Grand mosque, the above issues were a very small portion of the knowledge Sufi master builders included in this mosque.

4.3.2 THE IMPERIAL MOSQUE OF ESFAHAN

4.3.2.1 INTRODUCTION

Similar to the previous section, this part will cover the functional aspects of the 6 main patterns of the Imperial Mosque of Esfahan with a focus on the spiritual functions.

4.3.2.2 THE DOME

The Imperial mosque of Esfahan is composed of one great dome and two smaller domes on the two sides of the courtyard in a symmetrical manner. The form and construction of these two sets of domes are completely different from each other.

The Central Dome:

The central main dome has been built in the form of a two-shelled dome in order to increase the structural stability of the dome's structure. The inner dome is built based on a specific model of pointed domes with structural significance. The outer dome on the other hand is built in the form of "Nari" dome which in Persian term means fire or flame described in the previous section.

The structure of the dome is however quite straight forward as shown in figures 4.94 to 4.97. The square of the chamber which is made visible through using a bond of Quranic calligraphy divides into 8 sections with each section creating an arch. These 8 arches then become the base of the next 8 which together create 16 arches. Eventually the second set of 8 arches, transform into 16 arches creating 24 arches all together that holds the second circle bond of Quranic calligraphy and finally the dome itself.

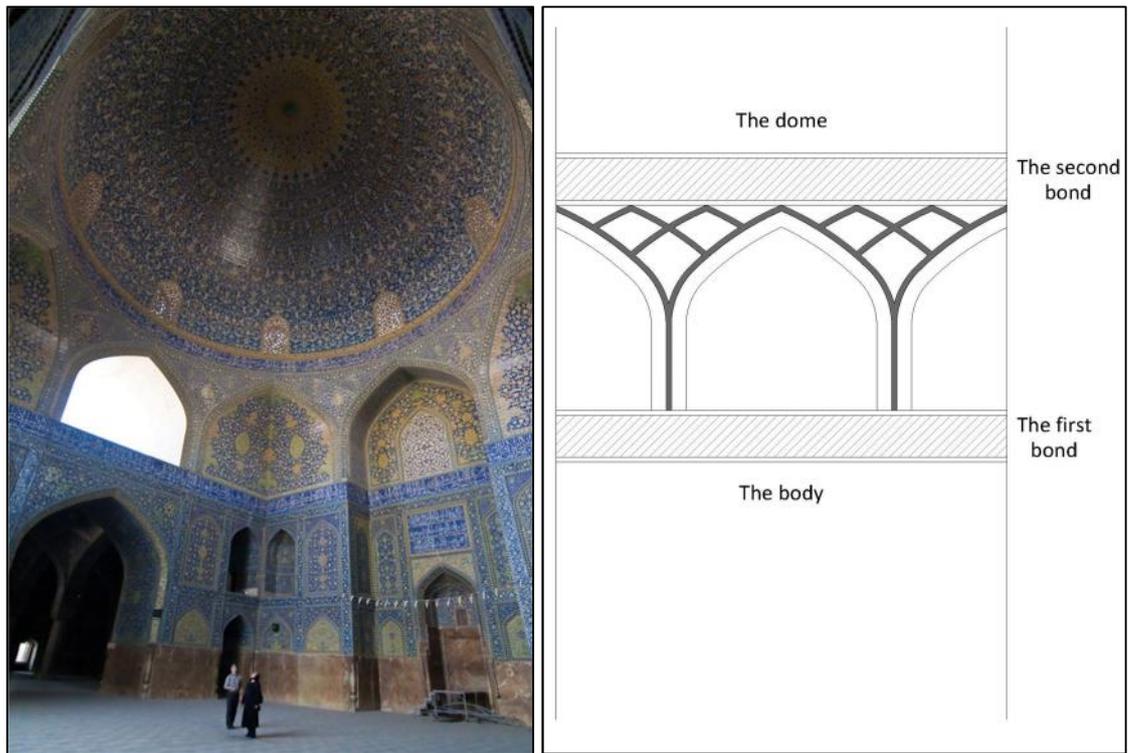


Figure 4.94 & 4.95 The interior of the dome chamber & the transformation of square to circle. (Author)

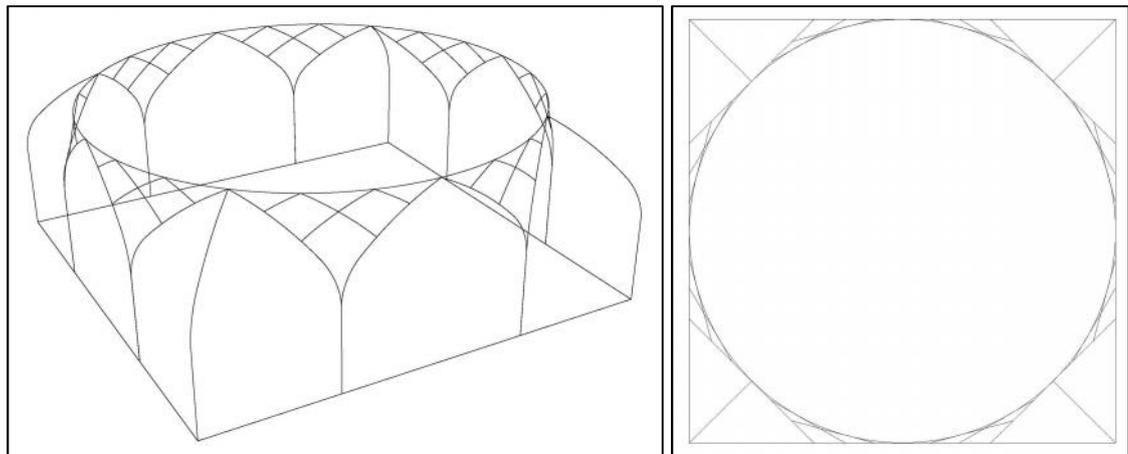


Figure 4.96 & 4.97 The transformation of the square to the circle by using intersectional arches. (Author)

The dome is decorated with seven-colour tile-work which had become popular in Esfahani architectural period. The outer dome is mainly decorated with light blue while the inner dome is navy with a great gold sun figure in the central part known in the Persian language as “Shamse.”

The inner dome has been cut a bit short and has attached to a vertical wall located at the stem of the domes; the height of this vertical wall (stem) is higher than the standard

height used in double-shelled domes in order to provide several openings around the dome to let daylight come inside. This pattern has been used in order to indicate that the physical world is pure darkness, a shadow which has not shown itself until the light is presented. The world is born in light and colour springs from this colourless being. (Ardalan, 1974) The world of colours thus has been introduced as the manifested world of multiplicity or the concept of physical life; and just as the being of colour is totally dependent on the being of light, creation is dependent on God. This concept is shown in figures 4.98 & 4.99.



Figure 4.98 The colours of the central dome and the decorative openings on the vertical wall. (Author)

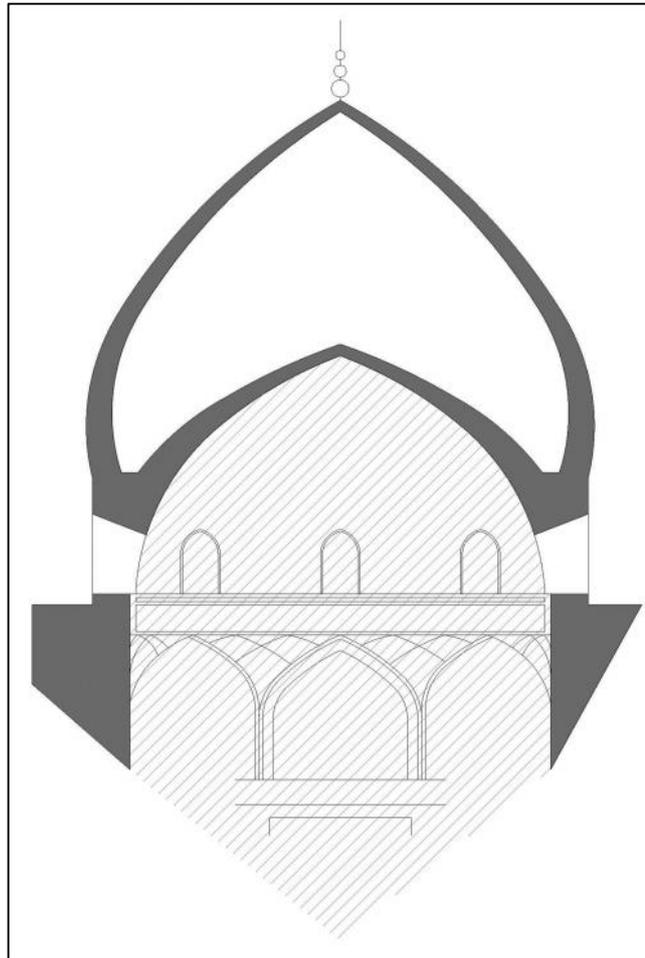


Figure 4.99 Eight openings around the dome allowing sunlight to reach inside. (Author)

Using the model of discrete double-shelled dome is also significant on an astral (emotional) level in two different aspects. The outer layer has been constructed in the form of *nari* which is seen in figure 4.100 that reaches high and not only increases the glory and magnificence of the mosque, but also is noticeable from any part of the city. The inner layer on the other hand, has been built following the proportions of the human body and in more relevance to the worshippers' experience; thus it creates a comfortable place, with elegant decorations. This causes a regulated sense of scale for the people.



Figure 4.100 The Imperial Mosque dome serving as a symbol for the mosque from distance. (Author)

Symbolically speaking the outer dome which appears in light blue is the symbol of the blue pearl as shown in figures 4.101 & 4.102. Basically the blue pearl, which is located in the area of pineal gland and in Sufi beliefs meditating on it, is a mean to develop spiritually and finally get access to the inner world. Peacock's feather is also a symbol of blue pearl which has been commonly used in symbolic decorations of traditional Persian houses. In fact the blue pearl is believed to be the gateway to heaven in Sufi beliefs.

'The seed of consciousness or the blue pearl is connected with the higher soul, but it is not the higher soul. The blue pearl is like a computer terminal, while the higher soul is like the mainframe computer. Just as the terminal gives you access to the mainframe computer, the blue pearl, by meditating on it, gives you access to your higher soul.' (Sui C. K., 2005, p. 146)

The inner dome in this case symbolically represents the golden flame. The sun figure or "shamseh" which is located in the centre of the inner dome further proves this

assumption. The golden flame represents the 12th chakra of a highly spiritually evolved worshipper who has experienced the inner world, which was further discussed in the previous section.



Figure 4.101 The Blue Pearl. (Sui C. K., 2005, p. 180)

Figure 4.102 The outer cover of the central dome resembling the blue pearl. (Author)

The similarity between the blue pearl and the exterior of the central dome is not only symbolically significant, it is assumed to have spiritual functions as well. According to esoteric beliefs, the human soul is connected to his higher soul with a thread known as the spiritual cord. This cord is called “Habl-Allah” or the “Rope of God” in Islamic terminology. As the practitioner improves his spiritual development, the spiritual cord becomes thicker to a point which the human soul can become one with his higher soul and eventually one with god.

By meditating on the blue pearl, the connection between the human soul and his higher soul increases and thus the spiritual cord becomes thicker. *‘With the regular practice of Meditations for Soul Realization, the spiritual cord becomes as thick as that of the thumb in just several months. In a few years’ time, the cord becomes a pillar of light.*

The chakras and the aura also become extremely bright. The amount of divine energy that comes down is tremendous.’ (Sui C. K., 2005, p. 47)

‘By meditating on the seed of consciousness or the blue pearl, one can come in contact with the higher soul and have access to inner worlds or inner universes.’ (Sui C. K., 2005, p. 147)

The blue pearl is believed to function as a terminal in order to access to the inner world; (Ya yá ibn ʿabash Suhraward , John Walbridge, Hossein Ziai, 1999) so the reason why blue has become the dominant colour in the Imperial Mosque as shown in figures 4.103 & 4.104 is to paint the inner world with all its beauty and splendour. In fact the architect has permanently tried to create elements of remembrance for the worshipper in order to turn their attention towards the importance of the blue pearl and at the same time increase their connection to their higher soul.



Figure 4.103 & 4.104 The blue colour of inner dome covers and other decorations. (Author)

‘If we take a look at our ancient architecture, like these two glorious mosques, we see that the architect has put signs in every place of it connecting the users to God... When the architect designs the dome, this dome is complete only when its decorations are

complete its structure is complete and serves as a place where people can pray at. Decorations create beauties and beauties are from the essence of God. It is not just to satisfy the eye, it pulls the worshipper to itself. God has made beauty and has confirmed it. Every single level has to be in its own place. Beauties create the tendency of ascending for the spirit. They create spirituality and once all levels are gathered, they are considered architecture and they are of value. Beauty is one of them.’ (Oleyki, 2009)

The knowledge of Jafr and numerology and its relation to the centres of the human body, and the knowledge of Alchemy have also been applied in the design of the Imperial Mosque.

The main dome of the Imperial Mosque basically represents a complex mandalic diagram with 32 petals shown in figure 4.105. These 32 petals eventually transform into 8 creating 8 openings on the ring of the dome. As explained in chapter 4-2 the geometrical pattern of a star with 8 petals corresponds to the navel chakra which can directly transform the spiritual prana into golden prana. This also shows the deep connection between the guidelines used in constructing the 2 mosques.



Figure 4.105 The inner cover of the central dome resembling the navel Chakra. (Author)

In the body of the main dome, there is also another number involved. As explained in the structural section, the higher bond of Quranic calligraphy which the dome laid on has been constructed on 24 arches. The application of this number in the content of the central dome is quite interesting. In fact the number of the mandalic diagram with 24 or 12 petals refers to the forehead chakra in esoteric teachings shown in figures 4.106 & 4.107. Although it is clear that this is not the main focus of the architect in designing the main dome pattern, it is worth exploring the function of it.

'The forehead chakra is the centre of lower buddhic or cosmic consciousness. It is the centre of wisdom or lower intuition. The activation of the forehead gives one access to the spiritual world... direct knowing with clairvoyance is lower intuition. Forehead chakra is the centre of higher clairvoyance. It gives a person the ability to see truth using the third eye or spiritual eye.' (Sui C. K., 2009, p. 136)

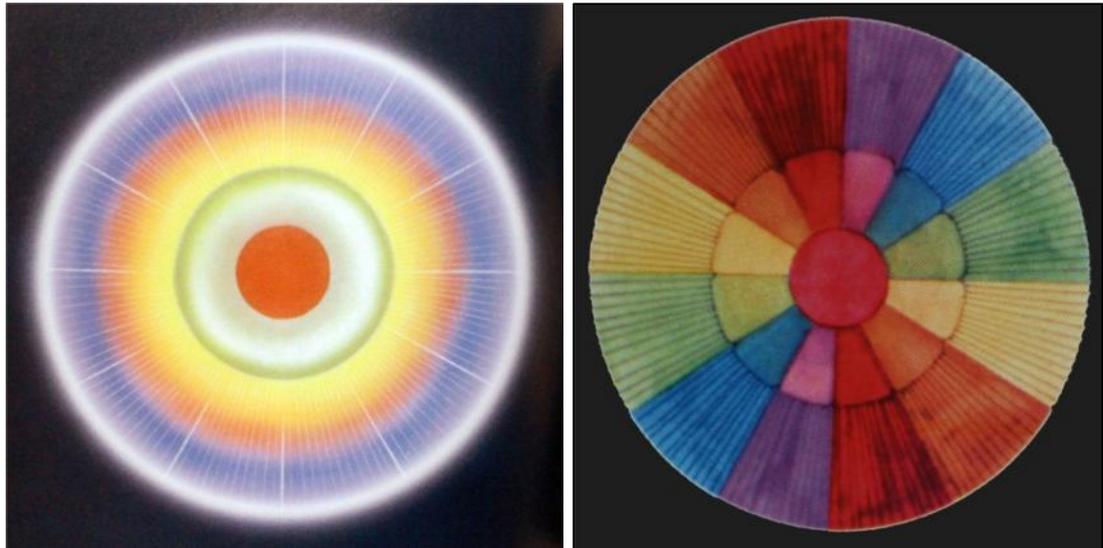


Figure 4.106 The forehead chakra rotating alternately clockwise & counter clockwise. (Sui, 2006, p. 42)

Figure 4.107 The forehead chakra in slow motion. It has twelve petals. (Sui C. K., 2003, p. 38)

The *shabistans* located on the two sides of the central dome are also covered with the use of small domes shown in figures 4.108 to 4.110. There are totally 8 small domes on each side of the central chamber which have different decorations.

The interesting fact regarding these small domes is that although they have been decorated differently, they all follow the number-8 pattern, in their decorations and subsequently follow the pattern of the navel chakra which is also similar to the covers used in the *shabistans* of the Grand Mosque.

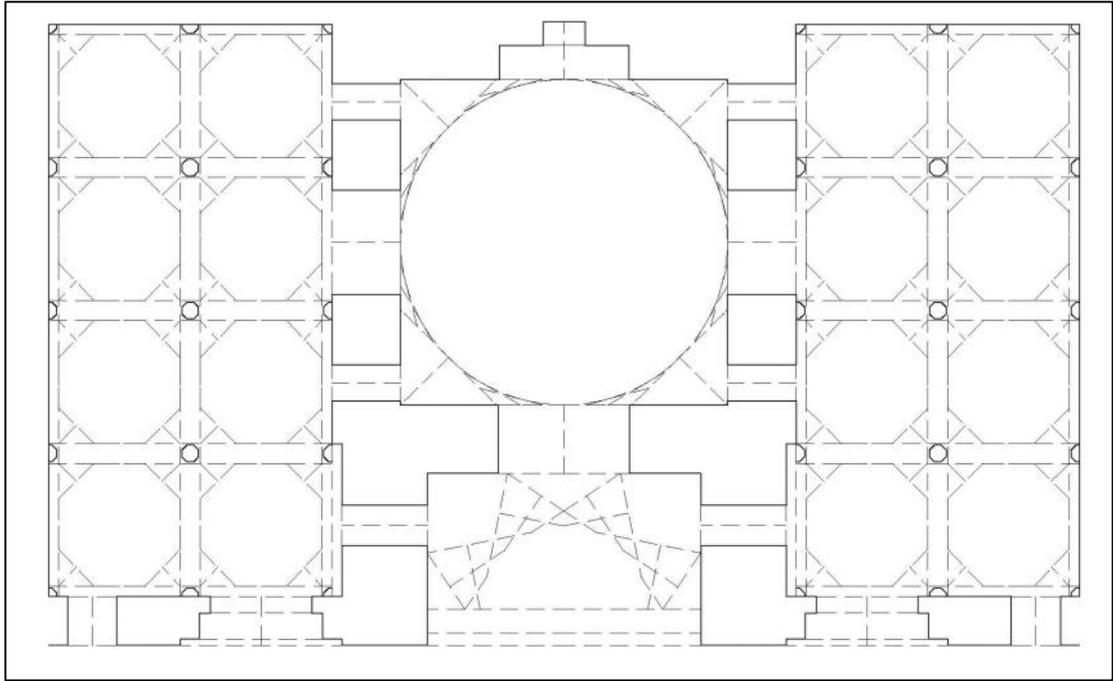


Figure 4.108 The arrangement of the 8 smaller domes on each side of the main central dome. (Author)



Figure 4.109 & 4.110 The decoration and structure of the shabistan's small domes. (Author)

At this stage it can be concluded that since the formation of the central dome patterns in the Imperial Mosque and the Grand Mosque of Esfahan are very similar & both correspond to the same esoteric concept, the spiritual functions of these pattern within the context of the two mosques are also similar. Furthermore, this spiritual function has been so essential to the overall function of the mosque in general that it has been present in the Grand Mosque and also 500 years later in the Imperial Mosque.

The Secondary Domes:

There are two other domes on the two sides of the courtyard in a symmetrical manner which can be considered as the entrances to the two smaller courtyards served as schools behind them. The formation of these domes are shown in figure 4.111.

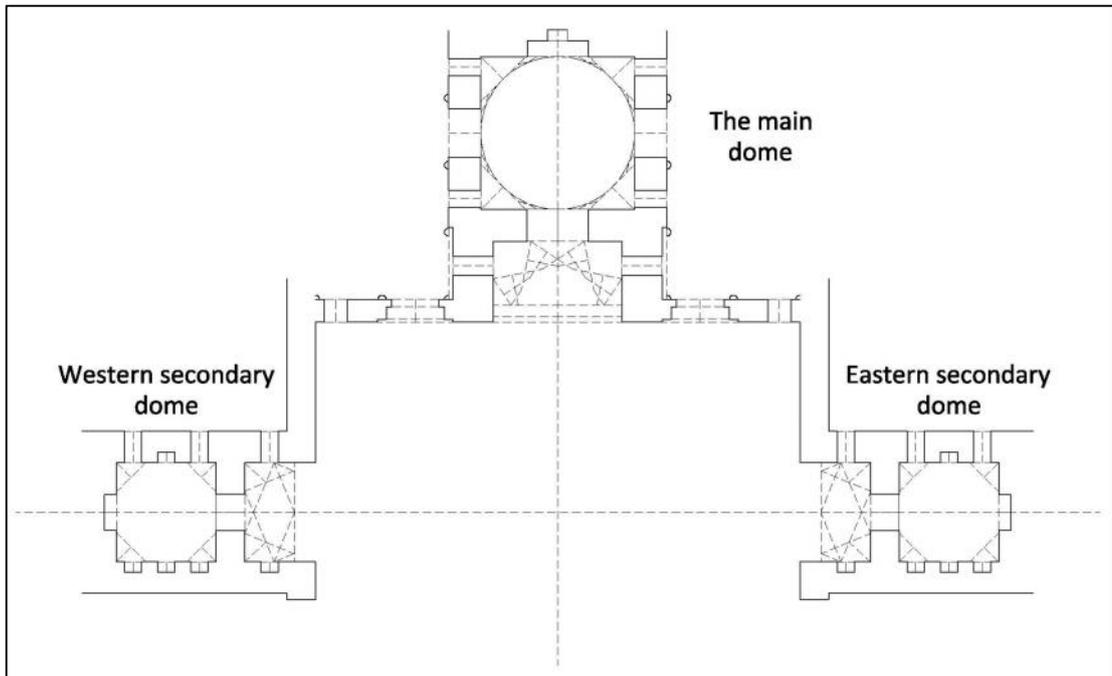


Figure 4.111 The position of the two secondary domes compared to the central main dome. (Author)

These secondary domes are both single-shelled with a low rise roof; however they are both load-bearing domes. Their structural method follows exactly the method used in the central dome by transferring the 4 sides of the square to 24 points and eventually to the circle base of the dome.

The decorations of these two domes are different from each other although they both follow the number 16. Furthermore 4 windows have been placed in the body of each dome that allows daylight to reach inside shown in figures 4.112 & 4.113.



Figure 4.112 & 4.113 The two secondary domes located behind the east & west iwans. (Author)

The inner patterns of the two secondary domes are created using 16 petals. The mandalic diagram which is composed of 16 petals is in fact related to the throat centre shown in figures 4.114 & 4.115. The throat chakra is located at the centre of the throat. (Powell, 2005) *'The throat chakra is the centre of the concrete mind or the lower mental*

faculty. It is through the use of the throat chakra or the concrete mind that a person acquires knowledge.’ (Sui M. C., 2009, p. 116)

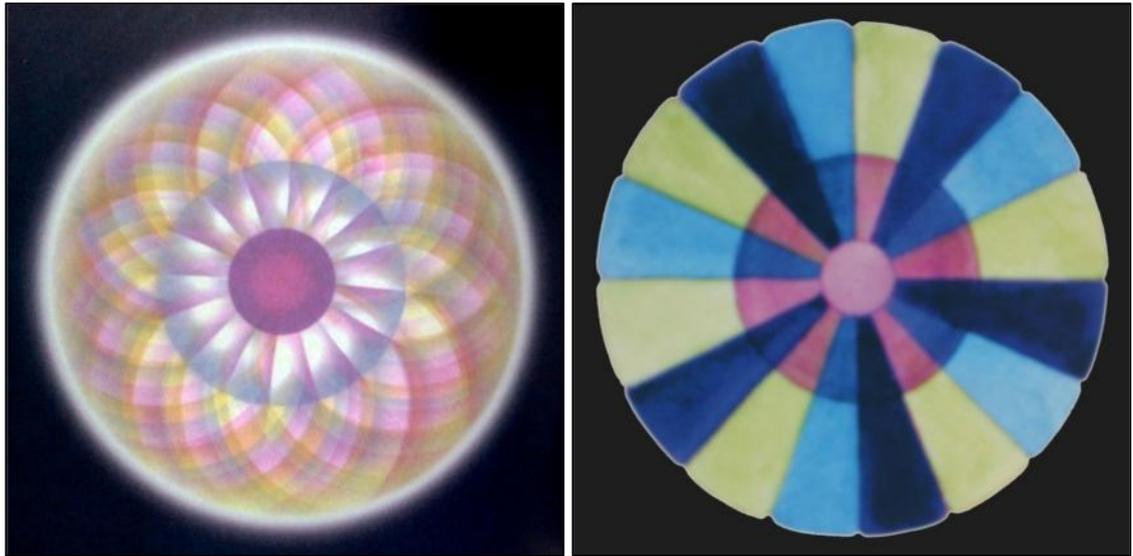


Figure 4.114 The throat chakra rotating alternately clockwise and counter clockwise. (Sui, 2006, p. 42)

Figure 4.115 The throat chakra in slow motion. It has sixteen petals. (Sui C. K., 2003, p. 72)

In this case the students who passed through these chambers and entered their school environment would have had a strong and activated throat chakra which would aid them in their process of learning.

4.3.2.3 THE ARCH

The Imperial Mosque of Esfahan does not include a wide range of *shabistans* since it was not constructed in order to house a great number of worshippers inside; the main *shabistans* though are placed on the two sides of the central dome chamber and another secondary shabistan is placed on the right side of the eastern *iwan*.

In the construction of the whole Mosque, two main different types of arches have been used. One is structural which has been widely used to cover the *iwan* areas and its pattern is based on sharp “*panj-o-haft*” arch model in Persian architecture.

Basically the model of “*panj-o-haft*,” which literally means “5 & 7,” has been established in Persian architecture as a load-bearing arch model and is very popular in

covering the roof of *iwans*. In order to improve the load-bearing capacity of the arches in the Imperial Mosque, the architects have used the model of sharp *panj-o-haft*. When the height of the arch increases, its load-bearing capacity will improve as well. Therefore, the model of sharp *panj-o-haft* is one of the most appropriate arches to be used in covering the large span of the *iwans*. This type of arches are shown in figures 4.116 to 4.118.

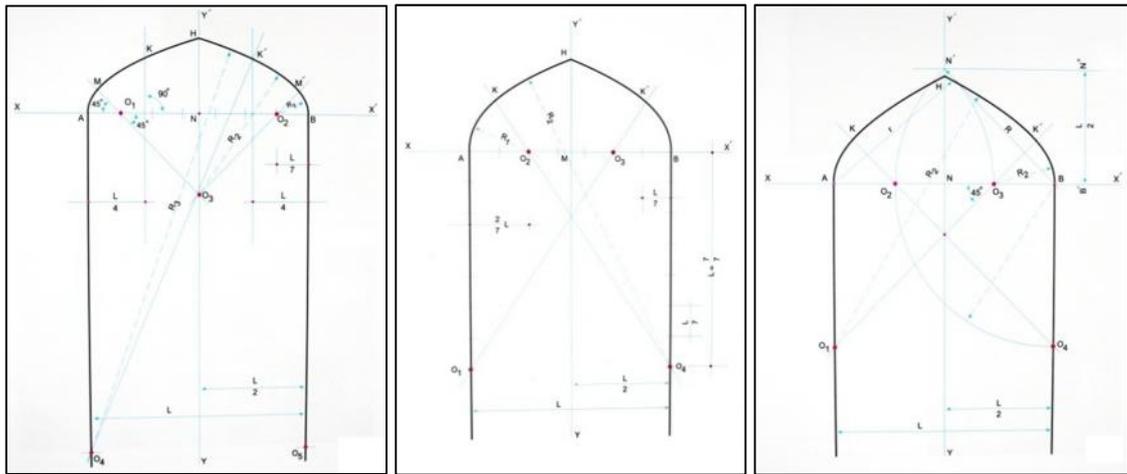


Figure 4.116 The panj-o-haft low rise arch. (Zomorshidi, 2008, p. 214)

Figure 4.117 The panj-o-haft medium rise arch. (Zomorshidi, 2008, p. 208)

Figure 4.118 The panj-o-haft high rise arch. (Zomorshidi, 2008, p. 204)

In the Safavid era, visual aesthetics had gained enormous importance and in order to create a sense of unity the arches all followed a single pattern which was the pointed model. In this case, to keep a uniform model, the second types of arches, which are the decorative arches, were also constructed using the *panj-o-haft* pattern, which is considered as a load bearing model as seen in figures 4.119 & 4.120.

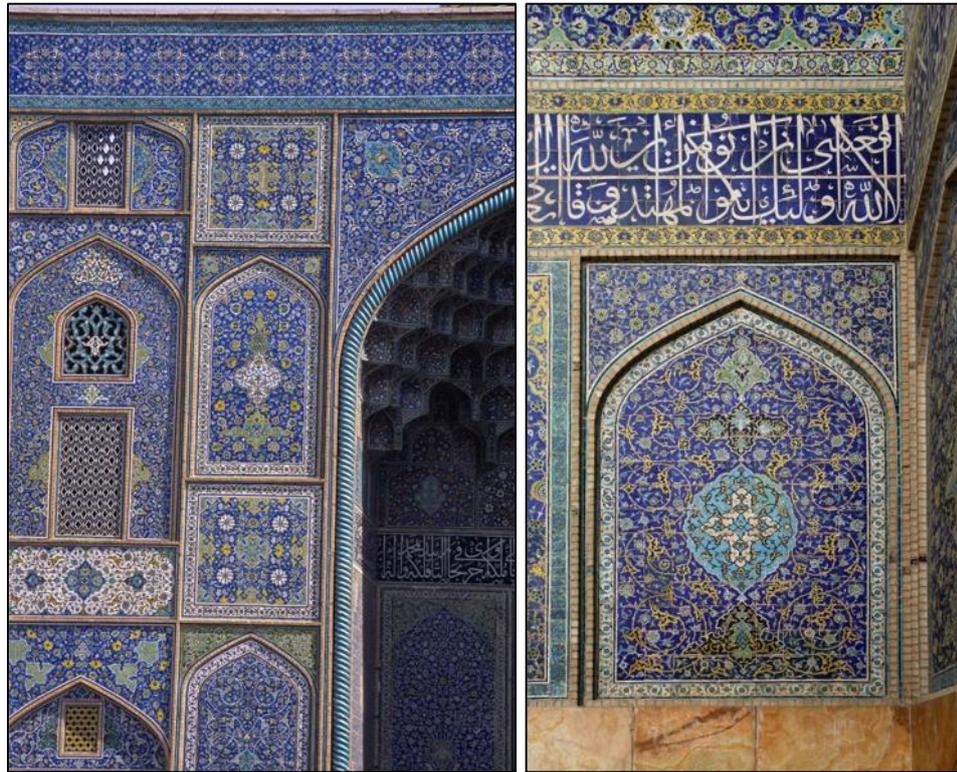


Figure 4.119 & 4.120 Decorative arches in the mosque following the model of panj-o-haft. (Author)

The patterns used in decorating the arches of the Imperial Mosque are mostly symbolic which address advanced spiritual Sufi beliefs. The most common symbolic patterns used in the decorations are the holy names of Allah, Prophet Mohammad and Imam Ali, which usually appear in a navy blue background which is addressing the inner world. Mohammad and Ali are actually considered the first spiritual teachers of esoteric Islam and thus are respected greatly. The spiritual teacher is often named as Guru in the Indo-Aryan culture. It has been originated from the word Zoroaster which means the teacher from the sun; thus the spiritual teacher symbolizes the radiating sun. (Sui C. K., 2004)

This is why these sacred names are mainly written in white and yellow colour and on a blue background, symbolizing the inner world. According to the Sufi beliefs, *'the function of the Guru is to interact with you personally and also in the inner world.'* (Sui C. K., 2004, p. 2)

The patterns of heavenly plants, sacred verses of Quran and esoteric poems constitute the rest of the decorations and cover the whole body of the building as shown in figure 4.121.

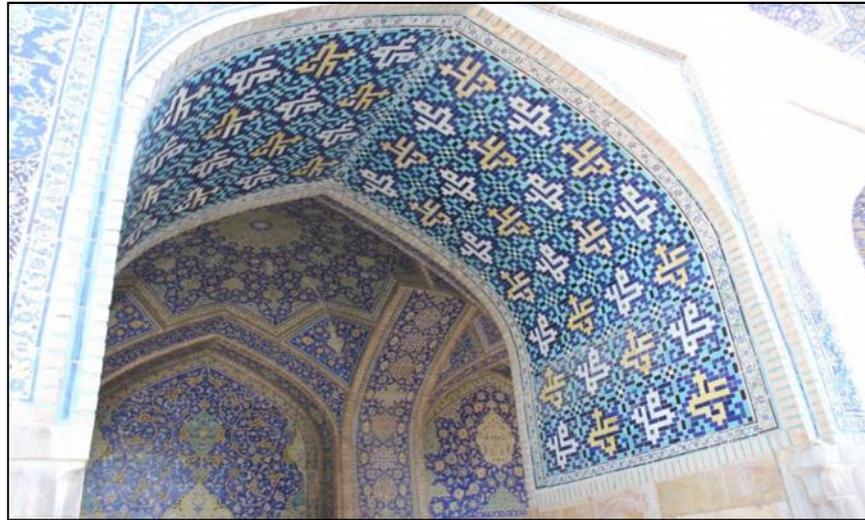


Figure 4.121 Decorations of the Imperial Mosque using sacred names on a blue background. (Author)

The arch itself is considered the symbolic expression of the dome which refers to the vault of the sky or the divine realm. In this case passing through or even looking thorough the arch symbolically refers to passing through the darkness and into the light, or from earth to heaven. This transformation has been imaged several times in different parts of the mosque. This beautiful concept if shown in figures 4.122 & 4.123.

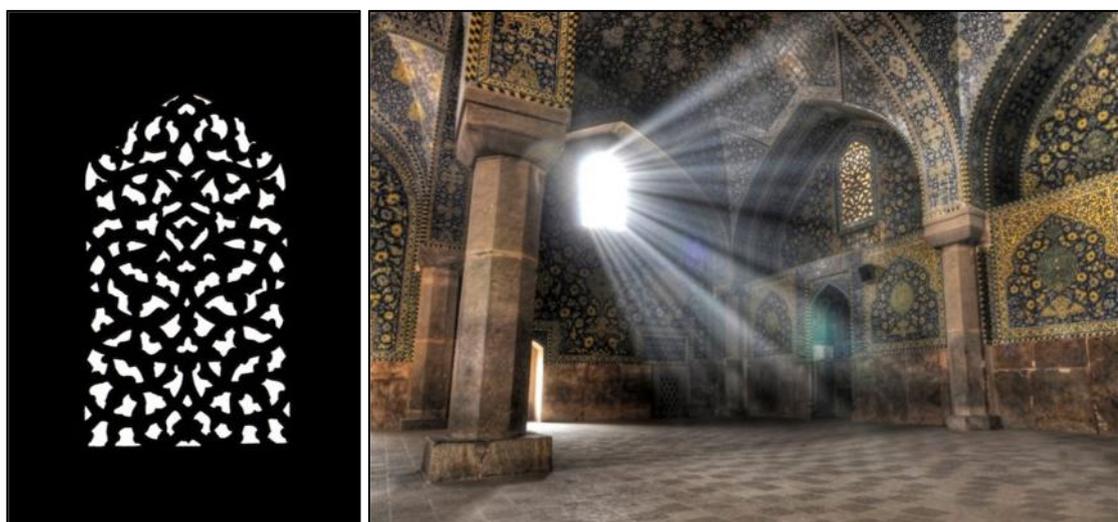


Figure 4.122 & 4.123 Luminous arch windows resembling the light shining down from heaven. (Author)

Although the stated interpretation seems to be symbolic in origin, it actually denotes the spiritual function of the arches as well. Based on traditional Persian teachings, arch is an element of purification by producing a great amount of prana which washes the subtle bodies of the worshipper; therefore passing through the arch has a purifying effect on the worshippers' energy system (subtle prana), known as "*Lataef*" or the "Subtle(s)" in Islamic terminology. This concept is shown in figures 4.124 & 4.125.



Figure 4.124 & 4.125 Placing the arch pattern before entering the central dome chamber and while entering the courtyard as the element of passage. (Author)

In addition to using the arch as an element of spiritual purification, several symbols have also been used in order to magnify this effect as shown in figures 4.126 to 4.128. The swastika is a pattern that has been repeated several times on the body of the arches. The swastika which is a popular symbol in Indo-Aryan teachings is believed to have a purifying effect on the energy system depending on the rotation. Holy names, verses and esoteric poems have all been written in the format of the swastika. It is believed that looking at sacred names or reciting them creates a finer vibration which disintegrates

the grosser vibrations of the worshipper's body which in other words is equal to spiritual purification.



Figure 4.126 & 4.127 & 4.128 Sacred names of Mohammad and Ali written in a swastika format in order to have a cleansing and energizing effect on the worshipper. (Author)

The major swastika pattern however is placed in the body of the east and west iwan in both clock wise and counter clock wise motion shown in figure 4.129; thus they are assumed to have both cleansing and energizing effects. These two iwans are considered as entrances for the theological schools.



Figure 4.129 The major swastika pattern placed in the body of the east and west iwans. (Author)

4.3.2.4 THE MIHRAB

Mihrab is basically an element to show the direction of the Qibla and therefore the main mihrab is located inside the southern wall of the central chamber shown in figures 4.130 & 4.131. However there are also several smaller mihrabs which are situated inside all dome chambers and shabistan in the mosque and are used in order to emphasize the direction of Qibla.

The main mihrab appears having fine decorations and symbolic ornaments. The use of heavenly plants, sacred verses and symbolic forms in creating the mihrabs of the Imperial Mosque not only highlight it as an element of beauty in the mosque, but also introduce it as a sacred pattern with symbolical significance.

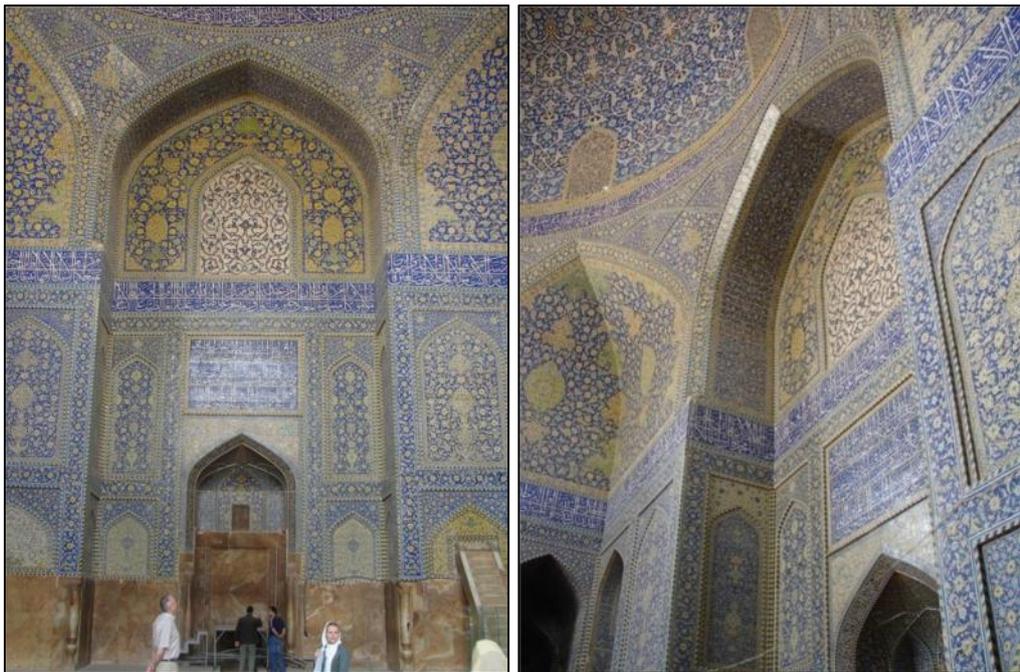


Figure 4.130 & 4.131 Heavenly plants, sacred verses & symbolic forms in creating the mihrab. (Author)

Similar to the mihrab pattern of the Grand Mosque the arch pattern which is a purifying element has been used in the creation of the main mihrab of the Imperial Mosque. Here however there are two important issues that must be highlighted. First, is that the southern wall of the chamber has been moved inside in order to place the mihrab under

a very huge arch. This arch is actually one of the 8 main arches that connect the chamber to the dome. This can be seen in figures 4.132 & 4.133.

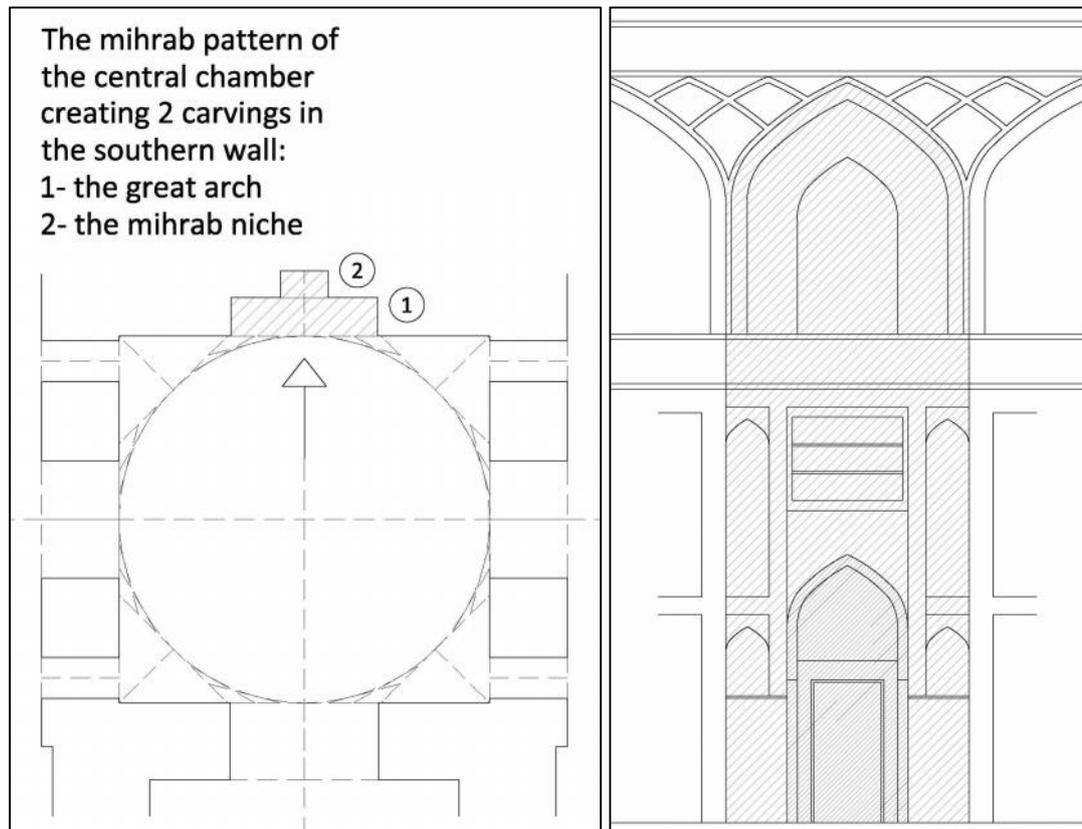


Figure 4.132 & 4.133 The mihrab located in the central dome chamber on the southern wall. (Author)

Second, is that the decoration inside the mihrab niche includes a mini dome with the mandalic figure of a 12 pointed star shown in figure 4.134. As discussed earlier, this mandalic figure is related to the forehead centre and is the centre for wisdom and lower intuition. *‘Wisdom is knowing through “direct inner perception” accompanied by inner vision. The forehead chakra is the third eye. With the use of the third eye, one can see true nature of things or events. One can understand the nature of an object just by direct inner seeing, without having to study, without having to use logic and reason.’* (Sui M. C., 2009, p. 139)



Figure 4.134 The mandalic pattern of half a 12 pointed star in the main mihrab decorations. (Author)

The imam or leader of the prayer is the person who performs his rituals beneath the mihrab niche and thus he is most influenced by this pattern. Since the imam gives a public spiritual speech usually after the act has finished, an activated forehead chakra acts as an inner guide and directs the speech.

4.3.2.5 THE PORTAL

The portal has been used in the Imperial Mosque physically to serve two purposes:

- 1- To solve the angle difference between the direction of the Qibla and the city roads;
- 2- To create a noticeable entrance so that people from distance are able to locate the mosque and access it easier. In fact the portal of the Imperial Mosque has been raised high in the sky to act as an indication of direction.

Since the “Naghsh-e-Jahan” square is built based on the Esfahani “Ron;” meanings that it is oriented towards northwest-southeast, there is around 45 degrees difference

between the orientation of the square and the Qibla's axis, which is towards northeast-southwest in Persia. The architect has used the entrance portal as a means of creating northeast-southwest orientation for the Imperial Mosque so that it faces the Qibla. In this way the northern iwan, located immediately after the "hashti" area has been rotated in a way that one cannot enter the mosque's "mian-sara" or courtyard directly from the entrance gate, rather through passing a number of corridors located around the northern iwan.

Furthermore, in the architectural hierarchy of the Imperial Mosque, the portal has been designed as a series of pre-spaces shown in figures 4.135 & 4.136. On physical level, this strategy was used to avoid uncontrolled view toward the mosque's interior space while on the emotional level this hierarchy of pre-spaces has been used so that the worshipper would be (psychologically) ready to enter such great spiritual space by passing through several other spaces.

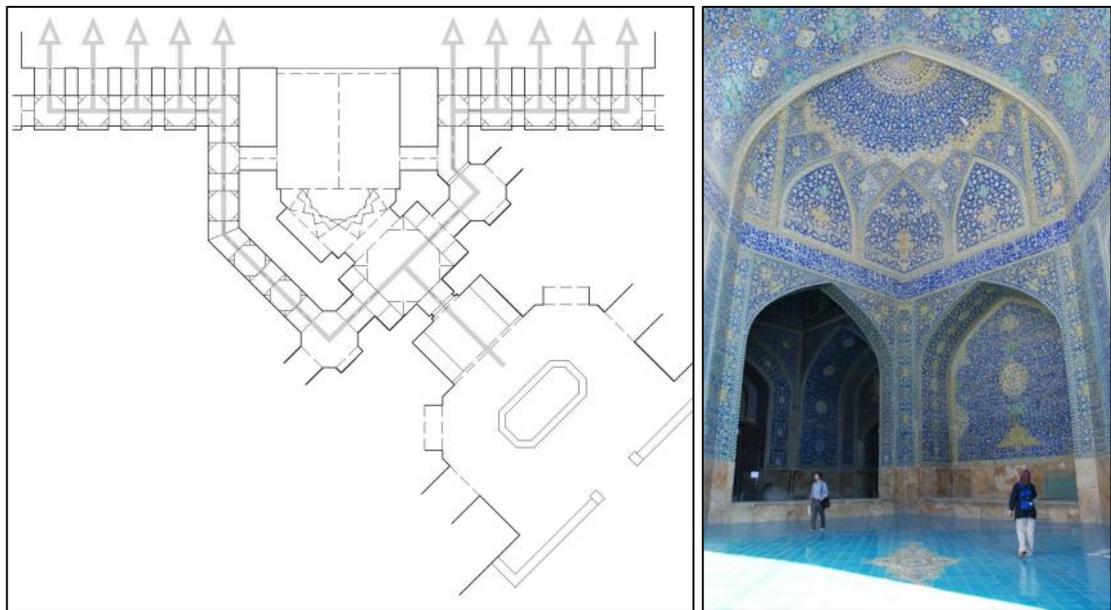


Figure 4.135 & 4.136 The portal of the mosque that has solved the angular difference between Naghsh – e- Jahan square and the Qibla direction. (Author)

The magnificent decorations of the portal, which are mostly symbolic, have been used in order to further create an impressive expression on the worshippers who enter the

mosque. The hierarchy of pre-spaces of the portal in this case guides the worshippers in a way that they enter the central courtyard from the north side which allows them to face the main southern iwan.

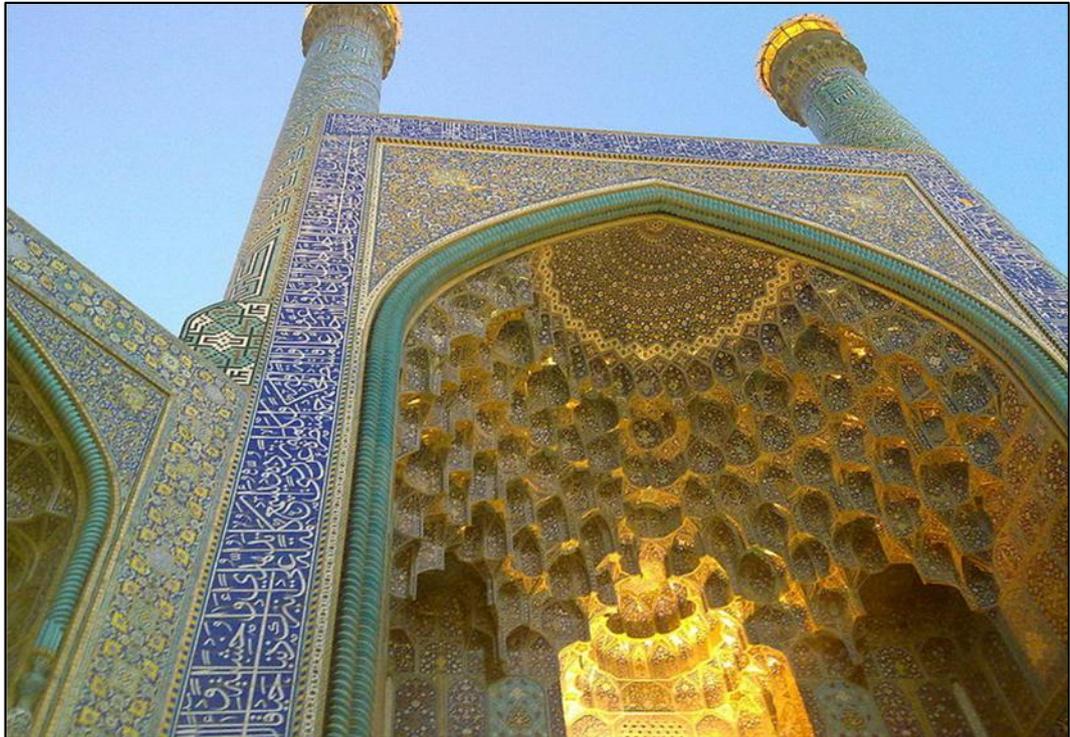


Figure 4.137 Decorations of the Grand portal. (Author)

Symbolically speaking, the creation of the portal in the Imperial Mosque represents a border or boundary between the profane outer space and the sacred inner space of the mosque. The portal is an edge between the usual common urban spaces and the sacred inner space of the mosque. This fact has also been made visually significant with the use of different materials in order to separate the two areas. The Sacred mosque is blue and resembles the inner world, while the profane surroundings are brick which is corresponding to the earth element and the materialistic world. This concept is shown in figure 4.138.

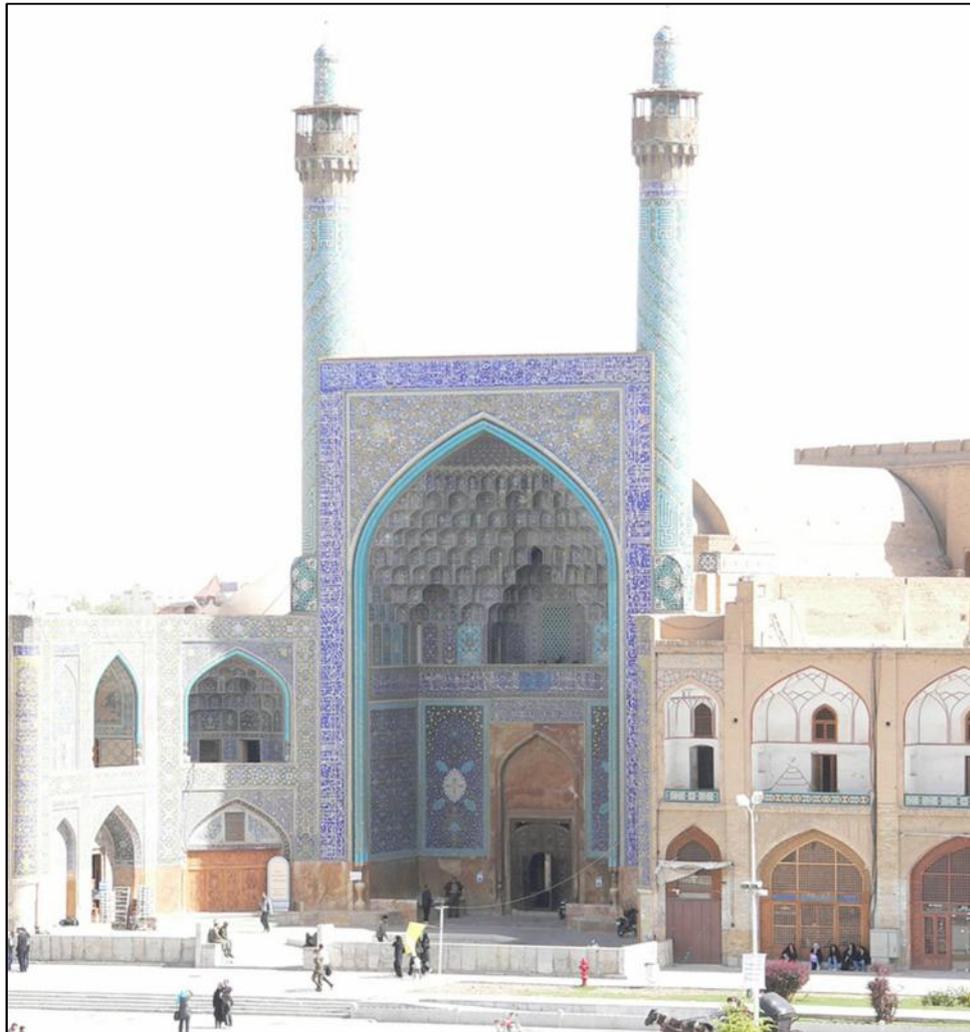


Figure 4.138 The use of different materials in order to separate the sacred from the profane. (Author)

Basically, the symbolic expression of the portal as an edge between sacred and profane and the existence of a number of pre-spaces before entering the mosque's area are spiritually significant as well. As explained in the Grand Mosque section, the mosque area is highly charged with spiritual energy, so that to decrease the rate of radical reaction or inconvenience in the energy system of the worshippers, they are esoterically purified first before their entrance. This has been done through the use of portal and its pre-architectural spaces.

In the construction of the portal pattern, the arch element has been used again which as discussed has a purifying effect. In order to enhance its affect, many symbolic patterns such as the swastika, holly names and divine verses of Quran have also been carved and

used on the portal. The hierarchy of pre-spaces also in spiritual level has been used to prepare the worshippers to enter the sacred space of the mosque seen in figure 4.139. All of this is again similar to the pattern of the portal in the Grand Mosque.



Figure 4.139 The portal and its introductory surroundings. (Author)

4.3.2.6 THE COURTYARD

The creation of central courtyard in the Imperial Mosque on a physical level can be identified as an environmental answer to the hot and dry region of Esfahan. Being located at the desert area, the temperature of Esfahan city is extremely hot in day time, especially in summer.

Furthermore, since Esfahan is a dry city with strong seasonal winds, the buildings are exposed to desert storms, thus in order to reduce the destructive influence of these winds, the exterior façade of the buildings usually appears with no windows or unnecessary openings. This is also evident in the design of the Imperial Mosque. There is actually no entrance to the mosque other than the one facing the Naghsh e Jahan Square. All the other openings in the building are towards the central courtyard. In this

way the central courtyard is used to provide fresh air, light and scenery without being disturbed by the desert storms and dust. It also provides enough shading for the worshippers during summer days. This is shown in figure 4.140.

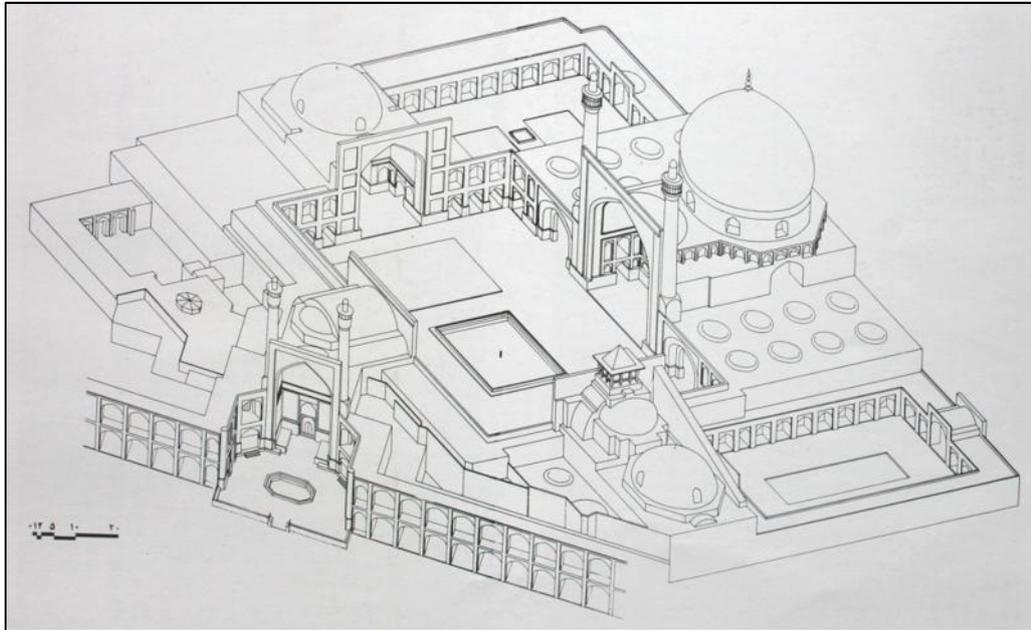


Figure 4.140 The creation of spaces around a central courtyard. (Haji-Qassemi, 1996, p. 23)

On the emotional level, the existence of the central yard and its central pool in the centre of the yard creates a feeling of expansion as shown in figures 4.141 to 4.143. *‘When you pass that small dark pathway you reach the inner light that is most beautiful of all. You reach oneness with god. Here you just want to sit down and stare at whatever there is presented. Here the human spirit flies since the human is determined to ascend. The central courtyard makes the worshipper calm. It is the place where we see God’s blessing when it rains or snows or even when the sunlight decorates it.’* (Oleyki, 2009)



Figure 4.141 & 4.142 & 4.143 The north, south, east-western iwans creating the 4-iwan pattern. (Author)

This beautiful indoor space is used by the worshippers to take ablution (vozu) and also as a gathering area before and after the prayers. Ornamentations of the courtyard facades in this case provide a beautiful spiritual space to calm the astral (emotional) body and mind to prepare the worshippers for the prayers.

The central courtyard in the Imperial mosque has been designed according to the belief in the statement: “unity in multiplicity.” This statement means that from unity or God, multiplicity or worlds are created and multiplicity will eventually achieve unity or God. The point of unity in the Imperial Mosque is the centre of the courtyard where a central pool has been located as shown in figure 4.144. The situation of the pool further emphasizes this central point. In this way, the multiplicity of the 4-sided world which is symbolized by the four iwans, representing the four directions, becomes one once their image has been reflected on the central pool. The central point which in Indian term is called bindu represents the essence of God as the source of creation, which the whole mosque structure is built around.



Figure 4.144 The central courtyard in the Imperial mosque & the pool. (Author)

Through analysing the pattern of mandala and its spiritual significance, it is evident that the centre is a significant place from which the creation of the mandala takes place. In fact from the study of the mandalas, it is believed that the centre is the point where spiritual energy is transferred to the mandala. This is equal to the navel of the human body in the macro-micro theory. Since it is from the navel that foetus receives energy from the mother and gains life, the mandala receives spiritual energy from the central point which has been created from. The importance of the centre, as a means of exchanging energy, is also evident in the patterns of chakras and the dome patterns (examples of mandala in Persian architecture) as seen in figure 4.145. In this case, the central courtyard in the Imperial Mosque is not only a place of exchanging physical substances such as light and air but also spiritually, it is a place of exchanging spiritual energy.

'In building a mosque the application of creating a square courtyard and placing a single circle in the very centre is considered sacred and thus it is followed. In fact the courtyard or the whole world starts from one single point that is continuously moving

and is shown by a water fountain. When you start there and ritually purify, you are about to start something, and you can truly feel it.’ (Kargar, 2009)

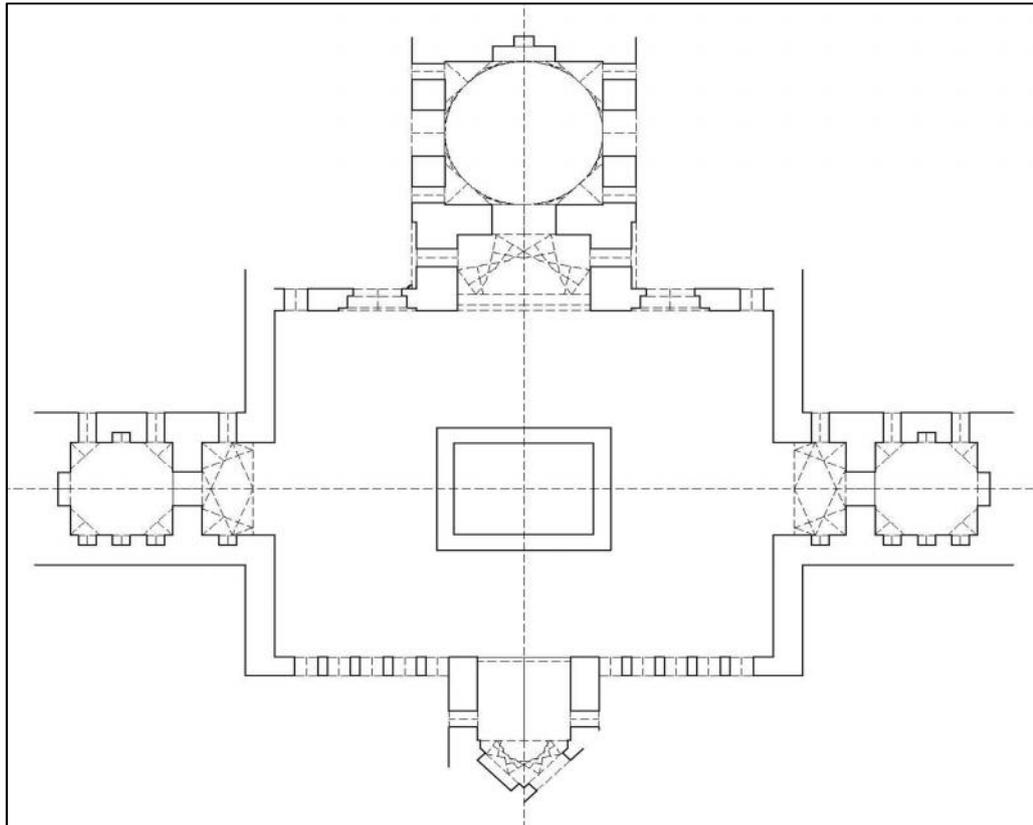


Figure 4.145 The creation of the courtyard mandala. (Author)

4.3.2.7 THE MINARET

The minaret on the physical level acts as a point of direction in the Imperial Mosque of Esfahan. It is also used to call for prayers. In fact minaret was significant to the Persian architect builders from early Islamic eras, following the model of mills in pre-Islamic periods. Therefore the minarets of the Imperial Mosque have been raised so high so that the worshippers from most of the places of the city can determine the place of this mosque.

In addition to being a point of direction, the two pairs of minarets in the Imperial Mosque, act as structural bearing reins to restrain the huge arches of the portal and the southern iwan. In fact to make the arch of the portal and the south iwan, which cover a

wide span, structurally strengthened and stable, the base of the arch should be strengthened. Strengthening the base means to increase the thickness of the base or to add structural bearing reins to it. Since increasing the heaviness and thickness of the base is not suitable for the portal and reduces its proportional beauty, two minarets have been used to serve the strengthening purpose.



Figure 4.146 The minarets of the mosque acting as a sign for the mosque. (Author)

On the emotional level, the two pairs of minarets of the Imperial Mosque have been built high to increase the dignity of the mosque and to create an impressive experience for the worshippers who pass through the portal and the southern iwan. To increase the aesthetical influence of the minarets, they are decorated with fine decorations and colourful tile-works.



Figure 4.147 & 4.148 decorations of the minarets. (Author)

Minarets in the Imperial Mosque are also symbols of the vertical axis which refer to God and the divine realm. Its vertical orientation therefore according to Ardalan and Bakhtiar (1979) is a symbolical expression of “Alif,” or 1 referring to God as the only one. This concept is beautifully portrayed in figure 4.149.

This symbolism have been interpreted by some of the scholars like Negarestan (2010) as man’s ontological axis which means that in order for man to perceive God, he should focus his attention from the earthy activities to the vertical axis and the sky as a representation of the divine realm.



Figure 4.149 Symbolic decorations on the minaret using sacred names. (Author)

Spiritually, the minarets of the Imperial Mosque can be perceived as the hands of the worshipper reaching the sky to receive the spiritual energies. This statement means that, minarets have been used by the master builders to create a channel to anchor the spiritual energy from the heavens into the mosque. In fact any high and narrow element acts as an energy receiver. Minarets therefore in the Imperial Mosque are energy channels or receivers of the spiritual energy, from which spiritual energies enter the mosque and are lodged into its building.

Since through the use of these patterns the mosque's place will be charged with tremendous amount of spiritual energy, it was believed by the Sufis that mosques are not allowed to be destructed, unless a new mosque is going to be built in its place. It means that the place of the mosque was highly important in Sufi beliefs whose function could not be changed.

'The understanding of the whole complex of creation though is directly oriented towards the level of understanding of the architect. If he has purified himself in a way that has made him capable of representing God and his creational acts on earth, he can obviously create the Grand Mosque and the Imperial Mosque. In fact the level of creation carried out by the architect only depends of the evolution of his soul. When Sheikh Bahaei is creating you know the end result will be great, since he is known as a great master that has gone through several stages of perfection; thus he creates the Imperial Mosque. What we see in this mosque is pure beauty because he does not act unless it is for the uplifting of humanity. In this case whatever he presents is beautiful in all of its levels since it carries the ultimate goal, and when you are aiming for that, whatever you state or create or picture, is beautiful.' (Negarestan, 2010)

4.3.3 DISCUSSION & ANALYSIS

The study was done on the 6 patterns of each mosque to explore their physical, emotional, mental and spiritual function based on the Sufism ideology. Since the first three functions were determined previously by several scholars, the focus of this observation was to explore the spiritual functions of the 6 patterns more than the other 3.

From the several esoteric sciences practiced by the Sufis including the science of Alchemy (Kimia) Numerology (Jafr) Astrology (Nojum) and more, described in chapter 2-2, the Author focused on the science of Alchemy and Numerology as a base for the direct observation on the 2 cases.

4.3.3.1 THE DOME

'The spirituality present in the domed area is so great; you will become happy the minute you step into the chamber. An open space is placed to pull the worshipper up towards god. It is a place where the worshipper can internally talk with his creator. In a closed and small area, a man's spirit is not capable of flying, there is no creativity, and the imagination is not free.' (Oleyki, 2009)

The Sufi architects viewed the dome as a pattern that has the ability to gather and hold a great amount of Prana or vitality within itself. Many scholars including Ardalan & Bakhtiar (1979) and Snodgrass (1985) believe that the dome in this case is similar to a mandala or a cosmo-gram. A diagram filled with lines, patterns and vibrations, which is originally related to the ancient Indo-Aryan culture. In this case the dome is filled with Prana which is the basic substance for life; it is what keeps the body alive and healthy.

'I have personally seen that during a prayer, people would prefer to pray under a dome; I might not know what the reason is, but I can definitely conclude that it has

something that keeps pulling people towards itself; a pressure; they might feel much better there.' (Nadimi, 2010)

Now in order to use this great amount of Prana for the purpose of the act of worship, the master builder (architect) combined this concept with the concept of numerology and alchemy. Different shapes and ornaments were created on the structure of the dome which corresponded to the different centres of the human body and influenced them.

The Grand Mosque of Esfahan

The multiples of **eight** have been used in the construction of the Nezam al-Molk dome and also to transform the circular pattern of the dome to the quadrant pattern of its base. (figure 4.17)

Number 8 corresponds to the navel energy centre in the Sufi chakra system. It is a centre within the body that transforms the spiritual energy into golden energy which is the main substance to build the golden body according to the esoteric science of Alchemy. *'The navel chakra produces "synthetic golden chi (prana or life force) which facilitates or helps in the circulation of prana within the meridians (energy channels in the body)... Golden chi is necessary for the rapid evolution of the physical body... The navel chakra concretizes spiritual energy into a "golden ball of chi energy," which looks like a golden sun surrounded by rainbow-colour light. Otherwise, the body will not be a suitable vehicle for the higher evolved soul.'* (Sui C. K., 2003, p. 102)

In other words golden Prana is restored in the navel centre and it is known as spiritual fuel. It is the essence that creates the golden body. The golden body is a body made from higher vibrations; once it has been built, one can experience oneness with the higher soul and eventually with God. The process of creating the golden body was often known as the inner science of Alchemy followed by an idiom that was commonly

believed to turn lead into gold. In this case lead was a symbol of the physical body of the practitioner and gold was the golden body of a highly developed worshipper.

Furthermore the Author has realised that within the structure of the main dome chamber, the ornaments and calligraphy features that have been used are also following the number 8. Although al-Hasib seems to be that main name influencing the chamber pattern, there are 3 more names which have been widely used in this pattern: Ya Borhan, Ya Rahim & Ya Manan. These names have been written in the base of a square and have been followed by tile decorations all following the number 8. The numerological value of all these names is interestingly 8. (figure 4.25)

The 8-sided format is also used in the shabistan areas surrounding the main dome chamber where the masses performed the act of worship. (figure 4.29)

The Imperial Mosque of Esfahan

The main dome of the Imperial Mosque also represents a mandalic diagram with 8 petals. The geometrical pattern of this star, again, refers to the navel centre. This is quite obvious since the petals eventually turn into 8 openings on the stem of the inner dome.

The shabistans on the two side of the central dome are also covered with the use of small domes. There are totally 8 small domes on each side of the central chamber which have different decorations.

The interesting fact regarding these small domes is that although they have been decorated differently, they all follow the number-8 pattern, in their decorations and subsequently follow the pattern of the navel chakra. (figure 4.108)

Comparing the dome pattern of the two mosques, the Author believes that the dome as a Prana generator has been used along with 8 sided formats in the context of these mosques in order to activate the Navel Chakra of the worshipper; and since the Navel is

the centre that transforms spiritual energy into golden energy it is directly influencing the worshipper on a spiritual plane. In this case according to the esoteric ideology of Sufism it is in fact contributing to the uplift of the human soul and thus contributing directly to create a better ambiance for the place of worship.

4.3.3.2 THE ARCH

It is believed that the 3 dimensional mandalic form of dome can be traced as a 2 dimensional figure in two ways; the first way is to trace the dome from the top, which the result will be the format of the commonly known mandala. This is also called a flat Prana generator by Master Choa Kok Sui (2004.) The second way is to trace the dome from the side, which will result in the form of the arch. (Ardalan & Bakhtiar, 1979)

In this case the arch is also considered as a Prana generator which contains a high level of Prana within itself. In fact Master Choa Kok Sui (2005) believes that it actually concentrates and condenses the Prana beneath itself. Once the energy is condensed it is like a shower of Prana that is able to purify the Worshipper. *'Divine energy flows down to the practitioner filling him with divine light, love and power. The practitioner becomes a channel of this divine energy. Divine energy passes through the spiritual cord and the centres, and goes out to the aura. As this energy goes in and out, the cloud of negative thoughts and emotions are flushed out of the aura, thereby cleansing the aura.'* (Sui, 2005, p. 105)

The Grand Mosque of Esfahan

This concept is completely evident in the Grand Mosque since the arch pattern has been mainly used as the element of passage. Wherever there is a movement of people, there are several arches placed so that the worshippers can pass through them. (figure 4.59)

This has also been enhanced by the use of symbols and figures that are believed to have purifying effects like the swastika as shown in figure 4.66 to 4.68.

The Imperial Mosque of Esfahan

The same procedure is also observed in the Imperial Mosque. Arches have mainly created walkways that are basically elements of passage. Even the gateways between different spaces of the mosque have been designed with arches. (figure 4.124 to 4.125)

Similar to the Grand mosque in addition to using the arch as an element of spiritual purification, several symbols have also been used in order to magnify this effect. The swastika is a pattern that has been repeated several times on the body of the arches. The swastika which is a popular symbol in Indo-Aryan teachings is believed to have a purifying effect on the energy system. Holy names, verses and esoteric poems have all been written in the format of the swastika. (4.126 to 4.128)

By comparing the arch pattern within the two mosques the author believes that the arch, as a re-shaped mandala, has been placed in areas before the act of worship is performed as the element of passage which is in fact a ritualistic purification done unconsciously by the worshipper. This has been further enhanced by decorating the arches in great detail with symbols & figures that help in the act of purification. In this case the worshipper will be esoterically prepared.

4.3.3.3 THE MIHRAB

The Grand Mosque of Esfahan

In creating the several mihrabs placed in the Grand Mosque, the pattern of the arch has been used as the main feature of design integrated with the mihrab niche. The placement of arch in this case refers to the stated spiritual function of the arch as a ritualistic purifying element. This effect has yet again been enhanced by the use of symbols and esoteric figures. (figure 4.70)

The Imperial Mosque of Esfahan

Similar to the grand mosque, the main mihrab of the Imperial mosque has been also integrated with the pattern of the arch as a purifier. However there is an interesting fact regarding this pattern in the Imperial Mosque that is very well worth mentioning. The decoration inside the mihrab niche consists of the mandalic figure of a 12 pointed star. This mandalic figure is actually corresponding to the forehead chakra which is the centre for wisdom and lower intuition. *'Wisdom is knowing through "direct inner perception" accompanied by inner vision. The forehead chakra is the third eye. With the use of the third eye, one can see true nature of things or events. One can understand the nature of an object just by direct inner seeing, without having to study, without having to use logic and reason.'* (Sui M. C., 2009, p. 139)

The Author believes that this is to activate the higher intellectual faculty of the Imam who is leading the act. (figure 4.134)

4.3.3.4 THE PORTAL

The Grand Mosque of Esfahan

The portal of the Grand Mosque which functions as an entrance to the mosque is in fact the separation between the outside world and the mosque. Once the people enter, they are then guided through a hallway full of arches which can also be considered as part of the portal pattern and then they are welcomed to the central courtyard. By considering the ritualistic purification function of the arch, this hierarchy can easily be explained. The worshippers are in fact spiritually purified while entering through a series of arches with the portal being the largest; then they enter a place which from traditional times esoteric teachings believe it is the house of God. (4.75)

The Imperial Mosque of Esfahan

The expression of regarding the portal pattern as an edge between the sacred and the profane and the existence of a number of pre-spaces before entering the mosque's area

similar to the Grand mosque are spiritually significant. This hierarchy of pre-spaces has been used to prepare the worshippers to enter the sacred space of the mosque.

Yet again in order to magnify the purification process, several symbols and verses of Quran have been used as decoration and ornamentation figures within the pattern of the portal. (figure 4.135)

4.3.3.5 THE COURTYARD

The Grand Mosque of Esfahan

The centre of the Mandalic pattern is believed to be the main point of it. It contains the highest amount of Prana and is considered as the point which gives birth to the rest of the mandala. In Islamic architecture however, since the direction of the Qibla was the main focus, the dome chamber was placed beside the Qibla wall. This caused the creation of a bigger mandala within the context of the Grand Mosque which is known as the 4 Iwan Courtyard pattern. In fact there were 3 other iwans added to the courtyard in order to complete the mandalic diagram. In this case the centre was kept empty since the amount of Prana there was extremely high which could damage the physical body of the worshippers. Thus the element of water was placed in order to absorb and restore this energy and as the ritualistic purification with water, known as Vozu, is taking place, they can benefit from it. (figure 4.77)

Imperial Mosque of Esfahan

The exact same pattern has also been used in the Imperial Mosque which sees the 4 iwans on the 4 sides of the courtyard and the element of water at the centre point of it. (figure 4.145)

By comparing the courtyard pattern of these two mosques the Author believes that the aim of creating a huge 4 iwan courtyard with such precise geometry was in fact to bring the qualities of a main mandala within the context of the Persian mosque.

Many scholars like Pirnia (2004) however believe that this pattern is not a new pattern introduced by Islamic architecture since it has been present even before Islam in the shape of Zoroastrian fire temples. In these temples instead of water, the holy fire was placed in the centre and the worshippers orbited it. Other examples are the Holy house of Kaaba, Stupas and some traditional churches. They all have used the format of the mandala and placed an element in order to absorb and gather the spiritual energy.

4.3.3.6 THE MINARET

Although the Author has not found a convincing spiritual function for the minaret pattern, some scholars have made some assumptions on this matter. According to Hillenbrand (2000) the minarets were used as places where worshippers secluded themselves and underwent a series of spiritual purifications and meditations. This can perhaps be explained using the fact that the minarets functioned as domes in a smaller scale, yet with more intensity because of their geometry.

CHAPTER 5

CONCLUSIONS

5.1 CONCLUSIONS

The very first question appeared when studies showed that the patterns that were present in the design of the Persian mosque were not present in the design of the very first mosque created by the Great Prophet of Islam. Thus the main research question was created:

Does the application of specific patterns in the design of the Persian mosque provide a better ambiance for the act or worship?

After studying the birth of these patterns and the date they were added to the Persian mosque it was clear that there was a historic overlap between the architectural changes, and the cultural and belief system of the society known as Sufism in general. Therefore the belief system of this ideology and the architectural roots of the style were carefully studied and 2 major objectives were created in order to help answer the main research question:

- 1- To examine whether or not the Sufi ideology has been the main reason that has led to the introduction of the 6 main patterns of the Persian Mosque.*
- 2- To explore the physical, emotional, mental and spiritual influences of Sufism on the main patterns of the Persian Mosque; and examine whether or not they have helped in creating a better ambiance for the act of worship.*

Based on the Sufi ideology, the universe is composed of 4 different levels which are inter-connected. It means that each of these levels continuously, influences and is influenced by the rest. These four levels include the physical, the astral (emotional), the mental, and the causal (spiritual) levels, among which causal or spiritual level is the

most important, as it is the level of divine from which existence is originated. The human is also given four vehicles which through these he is able to express himself on the various dimensions of physical, emotional (also known as astral), mental and spiritual.

In the case of the Persian mosque it was first required to examine whether the 6 mentioned patterns have been created in response to all of the 4 vehicles of the human being or not; and since previous scholars have expansively explained the different functions of these 6 patterns in the first three categories of physical, emotional and mental, the forth column of the matrix became the main focus of the research.

	Physical	Emotional	Mental	Spiritual
Dome				
Arch				
Mihrab				
Portal				
Courtyard				
Minaret				

Defined by previous scholars Missing piece of the puzzle

Figure 5.1 Spiritual functions of the patterns is the missing piece of the puzzle. (Author)

At this stage in order to complete the matrix the Great Mosque of Esfahan and The Imperial Mosque of Esfahan were chosen to study as two cases which carry the greatest importance in Traditional Persian mosque architecture using three methods of data collection.

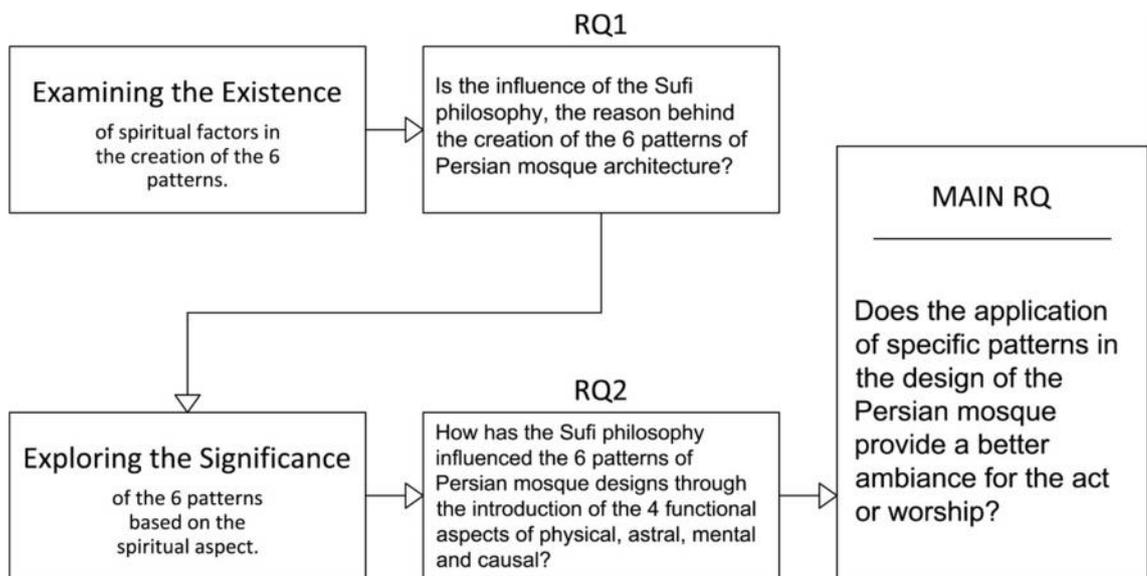


Figure 5.2 The procedure of answering the research questions. (Author)

The primary method was in-depth structured interviews which focused on the existence of spiritual factors which is related to answering the RQ1. In other words it examined whether or not the 6 patterns actually had a spiritual function. The conclusion was that although these patterns had several functions, their actual and main function was to create a spiritual ambiance inside the mosque. These patterns were generated from esoteric and spiritual teachings and beliefs.

The second method of data collection was direct observation which was further assist by a third method using documents, archival records and material related to these two mosques provided by the National Heritage Society of Esfahan. This was to explore how the Sufi philosophy has influenced the 6 patterns of Persian mosque designs through the introduction of the 4 functional aspects of physical, astral, mental and causal; related to RQ2. The conclusion was as following:

The Grand Mosque of Esfahan:

Table 5.1 The spiritual significances of the six Patterns involved in the Grand Mosque. (Author)

	Spiritual Functions
Dome	<p>The Southern Dome:</p> <p>The southern dome chamber is similar to the pattern of a 3 dimensional mandala discussed in chapter 2 and thus it is considered as a prana (or vitality) generator.</p> <p>The multiples of eight have been used in the construction of the Nezam al-Molk dome. Number 8 corresponds to the large, middle and small numbers of the holy name of Allah, al-Hasib or the Accountant; it represents the navel chakra in the Sufi chakra system. Golden prana is restored in the navel centre and it is known as the spiritual fuel. It is the essence that creates the golden body related to the esoteric science of alchemy.</p> <p>The Northern Dome:</p> <p>The central geometrical pattern in this dome is a five-pointed star, around which the multiples of 5 and 10 have been used.</p> <p>Based on the Sufi knowledge of Jafr and numerology, 10 is the “vasit” or middle number of the holy name of Allah, al-Jalil which is usually used by the Sufi practitioners as a chanting to gain position and dignity. It corresponds to the solar plexus centre with 10 petals.</p> <p>This pattern functioned as a relating space for the royal family in order to join the prayer of Fridays and it was not used for daily worship. Thus the format of the 10 petals was used to activate the navel chakra and increase the level of dignity within the royal family when meeting the crowd.</p>
Arch	<p>The two dimensional image of the dome can be traced from two sides. The first is to trace the dome from top or bottom, which will result in the familiar form of the circle and the square surrounding it as its chamber base which generates the form of a 2 dimensional mandala.</p> <p>The second way of imaging the dome is to trace its cross section, which will result in the arch that created it. In this way the dome is observed from a perpendicular side and is also regarded as a mandala or prana generator.</p> <p>It has been used by the Architects as a purifying element. Passing through an arch has a purifying effect on the worshipper’s body. Prana is absorbed by the arch (similar to the lightning rod) and it is transferred to the worshippers, creating an esoteric shower anytime they pass through it.</p>
Mihrab	<p>In creating the mihrabs of the Grand Mosque, the model of the arch has been used as the main pattern of design. The placement of arch refers to the stated spiritual function of the arch as a purifying element.</p>
Portal	<p>Since the people who enter the Grand Mosque to perform their daily prayers come from the profane outside world, suddenly being exposed to the spiritual energies in the mosque might have a radical reaction in their system.</p> <p>Therefore, to prevent the radical reaction, the worshippers’ system should be purified and cleansed first. This is done through the portal which holds the pattern of the arch.</p>
Courtyard	<p>Analysing the model of the mandala and its spiritual functions, the centre is usually a significant point in receiving the divine energies and connecting the body of the mandala (which in this case is the courtyard) with the spiritual energy known as “barkah” in Islamic terms.</p> <p>In this case prana is absorbed by the water and as the worshippers perform their ritual purification, they are indeed cleansed, purified and ready for the group prayer.</p>
Minaret	<p>The minaret acts as a channel to receive and anchor energy in the mosque.</p>

The Imperial Mosque of Esfahan:

Table 5.2 The spiritual significances of the six Patterns involved in the Imperial Mosque. (Author)

	Spiritual Functions
Dome	<p>The Central Dome:</p> <p>The outer dome which appears in light blue is the symbol of the blue pearl. By meditating on the blue pearl, the connection between the human soul and his higher soul increases and thus the spiritual cord becomes thicker.</p> <p>The main dome of the Imperial Mosque basically represents a complex mandalic diagram with 32 leading to 8 petals. The geometrical pattern of this star yet again refers to the navel centre. This is quite obvious since the 32 petals eventually turn into 8 openings on the base of the inner dome.</p> <p>The Secondary Domes:</p> <p>The two secondary domes are entrances for the schools. The inner patterns of the two secondary domes are created using 16 petals. The mandalic diagram which is composed of 16 petals is in fact related to the throat chakra. The throat activates the mental faculty and is related to knowledge and seeking knowledge.</p>
Arch	<p>Based on traditional Persian teachings, arch is an element of purification by producing a great amount of prana which washes the subtle bodies of the worshipper; therefore passing through the arch has a purifying effect on the worshippers' energy system (subtle prana), known as "Lataef" or the "Subtle(s)" in Islamic terminology.</p>
Mihrab	<p>The southern wall of the chamber has been resisted inside in order to place the mihrab under a very huge arch in order to strengthen the purifying effect of the arch and mihrab pattern.</p> <p>The decoration inside the mihrab niche consists of the mandalic pattern of a 12 pointed star. This mandalic pattern is related to the forehead chakra and is the centre for wisdom and lower intuition. Since the imam gives a public spiritual speech usually after the act has finished, an activated forehead centre acts as an inner guide and directs the speech.</p>
Portal	<p>The mosque area is highly charged by spiritual energy, so that to decrease the rate of radical reactions or inconvenience in the energy system of the worshippers, or in other words to get the most benefits from entering the mosque, worshippers should be purified first before their entrance. This has been done through the use of portal and its pre-architectural spaces.</p>
Courtyard	<p>The centre is a point of transference of spiritual energy to the mandala, which is equal to the navel of the human body in macro-micro theory. Since it is from the navel that foetus receives energy from the mother and gain life, the mandala receives spiritual vitality from the central point.</p> <p>The central pool (holy water) has been situated in the central point of the Persian mosque.</p>
Minaret	<p>The minarets have been placed to create a channel to anchor the spiritual energy into the mosque. In fact any high and narrow element erecting toward the sky acts as an energy receiver.</p>

The spiritual function of the patterns of the Persian mosque is well believed to be the most important function among all the four, since the mosque is in fact a divine place created for a divine act of worship to uplift the human soul. With that and by also referring to the two above tables, we can conclude that these 6 patterns clearly influence the Persian mosque by creating a better ambiance for the act of worship as their spiritual aspect influences the causal (spiritual) vehicle of the worshipper. In other words the Sufi master builder (architect) has used the esoteric sciences of Numerology and Alchemy in creating these patterns and adding them to the body of the Persian traditional mosque to directly affect the spiritual vehicle of the human being and to create a suitable space for the act of worship. Studying these two Persian mosques shows that esoteric sciences were well present, and strongly influential in the design of an Islamic place of worship; and although previous discussions show that Sufism was in fact the main ideology that had the greatest impact, its teachings are completely present and precisely evident in every corner of these two traditional mosques.

The spiritual functions of the 6 patterns within the Grand Mosque show that esoteric sciences like Numerology and Alchemy were very important from the early times in the Persian lands where the Razi style was born, and kept their value throughout the traditional period. In fact since some of the patterns including the dome chamber and the 4-iwan courtyard were introduced first within this mosque, we can even conclude that spiritual aspects were the reason they were created in the first place.

The spiritual functions of the patterns of the Imperial Mosque show that not only these esoteric teachings didn't lose their value; they actually became even more important in a way that the mosque was built with greater focus on issues such as a perfect symmetry in the 4-iwan courtyard, a magnificent design within the dome chamber petals, extreme colours and ornamentations including several symbols and signs, a wonderful hierarchy of spaces with arches, domes and vaults, and much more. Furthermore having the exact

same spiritual function among the patterns of both mosques show that the teachings and guidelines used to create such beauty, were in fact the same, and it was the same ideology common while building the Grand Mosque which continued up until the time the Imperial Mosque was constructed. In other words the guidelines used to build the Grand Mosque, related to the first traditional post-Islamic period (Razi), was used throughout the entire Persian traditional architecture era, since the Imperial mosque is related to the last traditional post-Islamic period (Esfahani or Safavi).

The main matrix of functions for the 6 patterns can thus be completed as shown in table 5.3. Therefore by referring to this table we can to a great extent conclude that this system had been present in all of Persia's traditional mosques as most of them follow the patterns and the system presented and introduced in the Grand Mosque and the Imperial Mosque. What is also very important at this stage is the certainty in which we can generalize this topic to the entire body of Persian mosque. In fact as mentioned earlier, the Grand Mosque has been the museum of Persian mosque architecture in which many of the future mosques have tried to replicate and create the same ambient. The Imperial Mosque is also considered an incredibly complete mosque in terms of containing all the patterns of Persian mosque architecture; therefore to claim that this system has indeed been a system and a belief pattern that has been introduced by the Sufi movement and has spread throughout the entire architectural ecosystem practiced in the Persian lands to create and construct a place of worship is not irrelevant. The system of observing the architectural building as a piece of divine creation, design by a great representative of the Supreme Being which is responding to the 4 aspects of physical, emotional, mental and spiritual of the human existence is indeed the system that had been practiced in ancient Persia and had led to the creation of such glorious mosques.

5.2 RECOMMENDATIONS

In order to enhance the quality of contemporary Persian mosques, considering the established patterns and their four functional aspects, a few factors could be involved during the designing stages:

- The 6 patterns derived from the study of the traditional Persian mosques, should be integrated with the modern technologies and the requirements of today life style to be applicable to current Persian societies.
- To promote the proper use of these 6 patterns, the four functional aspects of each pattern and their importance should be integrated into the Islamic architecture educational system. This will further emphasize on the importance of their use among junior generations.
- Government and economical policies, play a significant role to promote the proper culture in the design and construction of Persian mosques with acceptable qualities, which create a spiritual ambience.
- The active use of the 6 patterns, considering their four functional aspects, should be organized and emphasized in architectural societies to improve the qualities of current mosque architecture and ascend it to the standards of traditional Persian mosques.

5.3 STRENGTHS OF THE STUDY

The strengths of the study include:

- Understanding the fundamental belief system behind the creation of the 6 patterns of Persian mosque design, which explains the reasons behind the establishment of these patterns and their use.

- Discussing the four functional aspects in the creation of each pattern, which further highlights the importance of spiritual aspects and proposes a guideline in designing the future Persian mosques.
- Performing a detailed data analysis and discussion from the interviews, documents and direct observations with an integrated approach which confirms the achievements of previous scholars and further explains the spiritual functions of the common patterns.
- The use of multiple sources of data collection to have a broader view towards Persian mosque architecture and how it is related to the Sufi philosophy.

5.4 LIMITATIONS OF THE STUDY

The present study highlights some limitations that should be taken into consideration for future studies, as followed:

- The study is limited to the study of traditional Persian Mosques of Esfahan.
- The focus of the case study was more on studying and analysing the remaining constructed patterns and therefore some decorations and paintings which have been damaged through history could not be studied. Although the interviews have been conducted to compensate the shortage of required data, still there might be a few facts which have not been studied in this research.
- The focus of research is to identify the principles and patterns through comparative studies, observations and interview; but not to scientifically measure and prove their functions. In other words, the aim of this research was more to identify and present the importance of spiritual functions, beside the previously discussed physical, emotional and mental functions in the

creation of the 6 patterns of Persian mosque. Measuring the amount of influence of the patterns on actual cases was not part of this study.

5.5 FUTURE RESEARCH

Considering the strengths and the limitations of the present study, few recommendations can be proposed for the future researches done under the same theme to expand the body of knowledge, including:

1. To scientifically measure the functions of each proposed pattern through the use of GDV cameras and other instruments and also through integrating the knowledge of traditional alternative medicine and the patterns of the traditional Persian mosque. In this way, the proposed spiritual functions for each pattern can be measured and examined scientifically.
2. To study the patterns of traditional Persian mosques in other architectural styles of traditional era (including Khorasani, Razi, Azari and Esfahani) and compare them with the 6 established patterns of mosque architecture in Razi era. In this way, the creation of these 6 patterns and their evolution throughout each period of traditional Persian architecture will be determined.
3. To conduct a comparative study between the traditional Persian mosques and the mosques of the contemporary era to find transformations of this pattern language (composed of the 6 patterns of traditional Persian mosque) in contemporary societies.
4. Future studies can be done to adapt the patterns of traditional mosque architecture, identified through this research, with modern technologies and modern lifestyle.
5. Future researches and studies can also be conducted to see whether any additional concepts or patterns can be added to the proposed architectural patterns dealing with Persian mosque architecture.

6. A comparative study can be done on the 6 important patterns of Persian mosque with mosques of other countries which have been influenced by Sufi philosophy (such as India or Turkey) to measure the influence of Persian culture besides the Sufi philosophy.

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APPENDIX A

INTERVIEWS

Master Bahram Oleyki

Different styles introduced different works, proficiencies and crafts. They were all specific in their own way, yet beautiful. What made them beautiful and precious was their creator. In traditional times the architect loved his work. He was completely devoted and his inner imagination which was made of true love was so vast, thus he was able to create beauties from the inside. Architecture has a deep root and if we look closer, we find that this root will eventually lead to the greatness of God; after all he is the only architect of all the earth and heaven, and one can only create beauty when this beauty is transferred to him by God. It's like a teacher nurturing his student. This is why an architect cannot easily become an architect unless he has inspiration from God and this is when he has understood the oneness of his greatness.

If we take a look at our ancient architecture, like these two glorious mosques, we see that the architect has put signs in every place of it connecting the users to God. When you enter them, after the dark entrance passage, you reach a vast and shining courtyard. You stand still and start thinking. It's so beautiful and so spiritual. When you enter these buildings you see that all the openings are in "Fard" or "Odd" numbers which means one and it is in fact indicating the oneness of the Supreme God.

To come to this stage, the architect has passed an evolutionary path which has made him perfect and to think and design perfect. When the architect designs the dome, this dome is complete only when its decorations are complete its structure is complete and serves as a place where people can pray at. Decorations create beauties and beauties are from the essence of God. It is not just to satisfy the eye, it pulls the worshipper to itself. God has made beauty and has confirmed it. Every single level has to be in its own place.

Beauties create the tendency of ascending for the spirit. They create spirituality and once all levels are gathered, they are considered architecture and they are of value. Beauty is one of them.

The book of Islamic architecture in Iran is the Grand Mosque of Esfahan. It was built during several eras and under the supervision of several architects. Thus creativities were put beside each other in order to create a masterpiece. The later architects just followed the directions and guidelines of the earlier ones. The Imperial mosque is also a grand jewel. In the case of these two, not all architects were allowed to be involved in the process of their designs. You had to be qualified and a master to do so. This is why these are considered masterpieces and are so precious. However it has to be mentioned that different tastes were always an issue and this is why visual differences appear.

Esfahan generally has four seasons, with different climatic configurations. Summer has a very hot weather with a burning sun; spring is graceful, it has beautiful flowers; autumn is moderate, while sometimes it rains and turns cold; and winter is the coldest. In order to make use of these 4 different climatic configurations, each of the four fronts around the central courtyard of these two mosques was built based on one season. Thus the buildings were built in accordance with these 4 weather styles. Talking about the main feature of these two mosques, one of the functions of the four Iwan pattern is designed to respond to the condition of each season. People pray under each of the Iwans according to their seasonal use. Of course this is not all. Vaults hold voices and vibrations within themselves. When the “Moadhen” or “The One Who Calls for Prayer” calls for worship, the sound of “Allah Akbar” or “The God is the Most Great” spins in the atmosphere of the arched Iwan, and gets trapped there; thus it creates an echo that creates a beautiful ambience. It really moves you and makes you feel so special. Islamic architecture means to follow the invisible laws of nature and use them to lift the human higher.

In our architecture, specially our Islamic architecture we see many cases of symmetry. The application of symmetry was considered a professional skill and even a divine act which comes from deep within. An architect created a place according to time, budget, needs and values of the place and the owner. There were no restrictions.

Moving to the next pattern, the mihrab was designed since in Islam it is advised that the Imam has to be humble, thus his standing level was considered lower than the level of others in order for him to fight his pride. The mihrab was placed in almost every single individual space as a symbol of inner battles. And when you are praying under it, you feel that you are purifying yourself; you feel the tension.

The function of the minarets is not exactly determined. Some suggest that it was only for the call to prayer, while others suggest it was a sign for the mosque similar to what fire temples had previous to it.

When we talk about arches, we yet again come to the fact that all patterns and elements were placed to mention the greatness of God. If we even look at the arches we see that they were constructed using odd scales which are yet again symbols referring to God.

The dome is exactly similar to the arch. When the arch is extruded in a straight line it shapes a vault and when it rotates around a line it creates a dome. In fact all they have is completely similar. They are all beauties, symbols of the oneness of God and are all tools to create a great praying mosque. They are all about how our small minds understand his greatness. The spirituality present in the domed area is so great; you will become happy the minute you step into the chamber. An open space is placed to pull the worshipper up towards god. It is a place where the worshipper can internally talk with his creator. In a closed and small area, a man's spirit is not capable of flying, there is no creativity, and the imagination is not free.

The great portal of these two mosques is not exactly the same but they both follow a similar design principal. At the very first you see the greatness of the greatness of God in the greatness of the beautiful portal; but when you want to enter the mosque, there is a small door that when you want to enter you must take a bow and show your humbleness and respect. When you pass that small dark pathway you reach the inner light that is most beautiful of all. You reach oneness with god. Here you just want to sit down and stare at whatever there is presented. Here the human spirit flies since the human is determined to ascend. The central courtyard makes the worshipper calm. It is the place where we see God's blessing when it rains or snows or even when the sunlight decorates it.

Even the details are in great importance, the rain spout of the houses is wooden while we see mosques are from stone. This is because the sound they produce is important, they are different. All of these are not Islamic, they are universal; the Christians, the Jews or any other follower love this approach and respect it.

Mosque generally means the place where "Sajdeh" or "Falling on the Ground" in gratitude to the Supreme God takes place; thus everything has to be put together to create an atmosphere that is divine.

Our today architecture has lost its ancient wisdom it is so modern without any identity, because the universities are so much theoretical without practicality. Saadi has said: although you know a lot, if you don't apply it, you know nothing. It is time to work things out; the academies have to make students really build; for example build a mosque and after its construction demolish it and built it again.

Wherever the traditional master architect was, he was with God. God sees us; he is with us; "he is our everything."

Abdollah Kargar

The greatest mosque we have here in Iran is the Grand Mosque of Esfahan; since it has been built during various periods from Khorasani period until the Safavid era and even beyond. There are architectural instances related to each and every single era of its life. We see brick works, marbles, stuccos and even glazed clay all beside each other creating different ornamental patterns which is yet again related to different styles. But generally as we move forward through time, the quality of the building drops. Decorations transform from “Moaragh” which was part of the structure into “Haft Rang” which was only a decoration cover. This was because we lost our faith. We lost our love and since architecture is totally dependent on our beliefs, we moved further and further away from ourselves.

One of the most significant features of the Grand Mosque of Esfahan which is also strongly present in the Imperial Mosque is the four Iwans. Iwan is the gateway towards the shabistan and was commonly used for worshippers to pray at. The Grand Mosque was the first of its kind to present the pattern of 4 iwans places around a square court. It is believed that the pattern was established in order to bring comfort for the worshippers in the four seasons of the year; however we can always observe that from a deeper perspective. In the Islamic esoteric architecture, a square always represents the materialistic world and the circle represents the inner world. In building a mosque the application of creating a square courtyard and placing a single circle in the very centre is considered sacred and thus it is followed. In fact the courtyard or the whole world starts from one single point that is continuously moving and is shown by a water fountain. When you start there and ritually purify, you are about to start something, and you can truly feel it.

Quite similarly are the dome and the arch (as a 2dimentional pattern of the dome). At the very base there lies a square chamber or a small room. The four sides of this

chamber are transformed into 8, 16 and 32 side which eventually turn into a complete circle and end to the middle point at its highest level. In our Islamic architecture nothing was symbolized without a reason. But what is important is the additional feeling it gives you which you want to praise.

Of course it has to be mentioned that the creation of the dome also had structural reasons. In those days brick was the commonly used building material of the region, and in order to produce the best result it was used in the shape of a dome.

In these two mosques which are the two largest mosques of Esfahan, almost all the features are present. Both of them were at the centre of importance in their era. They were both a part of a greater complex composed of bazaars, schools, baths and caravansaries. The greatest artists of all time were invited to present their skills and arts.

Furthermore one of the greatest characteristics of the Grand mosque in particular is its humbleness, its divine. It is a mosque, which its inside and out are actually one; a lesson that every man must learn is in fact taught in the mosque, and it's not just symbols, it actually transforms. If you take a layer of brick from the body, you will see the same; while if you take off a kashi off the walls of the Imperial Mosque, you won't like what you see.

The architects who created these mosques must have known many things. They had to understand structure in order to keep the building standing. He had to have the knowledge of decorations, ornaments and design; he also had to know jurisprudence as a religious figure; the architect was actually a spiritual person since he was creating a place to worship God.

Generally we believe that the world has been created by a sound, an explosion of a vibration that has put every single particle in its correct place and manner. As explained before the square is also a sign of the physical realities. If we concentrate on the

ornaments of the mosques, we clearly see that it is indicating that the world is all made from vibrations and movements.

We also see figures and graphs imaging the creation of the human being. The human is created from earth and water. The water is represented in seven waves, which is related to the seven stages of gnosis. Water along the earth creates a clay pot which is human being; the container of the soul. Thus the soul is the flower, which is rising towards the Supreme God.

Another pattern, which is richly used in the decorations of these two mosques, is the “ChaharToranj” or the “Four Bergamot” which is also known as the spinning sun or the swastika. It is a sign indicating the circular movement of every being and the flow of his life force. There is also a verse written inside it making it look more decorative. In fact after Islam came to the Persian lands, Persian architects mixed the tradition of previous styles with the beliefs of the new-born religion. In other words Islam did not restrict or eliminate its previous instances; instead it complemented them, completed them and introduced a greater package, which was a whole and truly transformed. All these signs and progresses are clearly visible in these two great mosques.

Dr. Mahdi Hojjat

Generally an architect has to have a precise understanding of the form of an ideal living, since the subject of architecture is to shape human lives from shaping buildings. This means that when an architect is designing a building, his goal is to figure out how the living, that takes place inside the building, will be controlled by the features and patterns of his creation. This living includes either act or feeling. So when the architect is designing a window, a door, and stairs or even if he changes the colour, he is not actually in love with these patterns, which unfortunately nowadays this has become the

subject of architecture; in fact these features are just simple tools to reach a much greater goal.

In order for the architect to reach this vital goal, he must obviously understand what kind of living is going to be occurring in the building. If I decide to place a window here, move it back and forth or make it bigger or smaller, I must not at all think of the window which is the pattern by itself, instead I should think of the quality of the living and the way that window will influence it.

Architecture from this perspective is the mirror of human living; it actually reflects the actual life of its inhabitants. When you look into a mirror, you are looking at the image that it reflects which is you. You don't waste your time looking at its glass or the quality of its frame. Quite similarly, the body of architecture is a tool that by looking at it, we can understand the quality of the human living. So we don't waste our time focusing on the tool itself.

Now that I want to place a window, which will obviously cause a quality of looking, I definitely have to be fully aware of the fact that what quality of looking is actually good, thus I must know the good quality prior to the creation. In this case in every single feature of the building the architect has to understand the good quality of the feature, or in other words he must know exactly how this feature could bring a good quality to the living occurring in the whole building. In this case he can create architecture.

Furthermore according to this approach, whatever is considered as creativity in the architectural process is not at all creativity in creating new and strange forms, which have never before been introduced. Creativity is to create a building that for example if I am sitting and having breakfast, I would have the greatest moment of my life. A building can be nice, it can be good looking, but that is not its ultimate goal. "Memari"

or “Architecture” comes from the root of “Omr” or “Life;” architecture means to give life. It addresses a life that it gives to its container.

Obviously the architect that is the creator of this container has to have reached some high stages of human perfection in order to understand good quality. He must understand the most ultimate quality of human living which includes his acts, actions, feelings, emotions, etc. an architect is eligible to create only when he has understood the goal and this requires understanding the definition of the human being itself. Who is he? What is he after? Where is he going next? What is important for him? What is not important for him?

There are special kinds of birds that when they look for a place to build their nest, they first sit there, move themselves and actually imagine themselves living in the nest once it is completed. After they have found a perfect place, which provides them with a good living quality, they start building.

Today we have lost our way because the human itself has lost its divine aspects and has transformed into an animal with little soul left. After the modern age, the level of humanity dropped and man lost his value. Now he is not living in houses, he is living in nests. Thus we cannot expect the architect to have a divine image from the being he is creating for and his qualities. Various cultural waves, destructions and offences have caused great problems.

In general we can consider 3 basic levels of human existence. The first is his physical existence, next is his psychological existence and third is his spiritual existence. What an architect has to achieve is a response to all these major levels. Traditional architects by considering all these three levels (functions) were able to create fantastic mosques that we still marvel at.

If we put human inside a container where we call it architecture, and assume that we have responded to all his psychological needs, he still needs more. The human is the ultimate creation. Even when we are talking about psychological needs we have to have in mind that we are not only talking about emotions; animals also have emotions and will become angry when we bother them; human is more than that. In fact it is the third dimension that makes the human being so special; and we have to consider it. The architect has to understand the good quality regarding the human's spiritual needs. This is where all the masterpieces come from. Thus the more you improve and become perfect, the more you reflect to your architecture, the better the quality which your building is providing will be. Architecture is therefore a tool to produce good living qualities. With this people are transformed. It can reach levels that become food for the soul and when you reach this perfection, you don't even mind if your physical needs are not responded to.

Architecture can reach such levels. Once you closed your mouth, the real mouth opens; this is why we fast. It is not as if we are against our physical needs, in fact we see them in less value compared to divine needs. For example what kind of food is good? A food that is delicious, nutritious and maybe even good-looking. Furthermore it has to be pure. We cannot eat a food that is "Najes" or "Impure." In other words it has to be "Halal" or "Solvent." Similarly, what kind of window is good? A window that provides good ventilation, a good view, light and a window that is halal. How? How should a halal window look like? What are its qualities? When a question like this appears, it is actually addressing something beyond physics and emotions. It means to provide a building with a window that my soul appreciates. From this perspective the traditional mosque is actually a manifestation of the "Hamd" chapter of the Quran. Every single verse is materialized and represented as the goal of man's creation that has manifested in some patterns like the dome chamber, the four-iwans, the minaret, mihrab and the

arches. These patterns were used to transcend the human soul spiritually. When you look at a mosque, it is all you want.

Dr. Hamid Nadimi

We actually need to study the worshippers. I have personally seen that during a prayer, people would prefer to pray under a dome; I might not know what the reason is, but I can definitely conclude that it has something that keeps pulling people towards itself; a pressure; they might feel much better there. However this is a fact that needs years of examinations and studies.

Architecture generally is considered as a language which is trying to make a close communication with its user according to the user's needs, exactly like the way we are communicating now via talking. If I speak Persian, it is because I know you understand Persian so I can communicate thoroughly. If I start to add some Mandarin words to my speech, you will not understand. Thus language is a means of communication; it is a medium that has to be properly chosen in order to complement the communication. In the same way, architecture is also a means for communication which the architect carefully uses. It is a language. For example if I want to build a mosque in Iran, I have to follow the conceptual image that is present in the mind of people that has been created over centuries. This conceptual image of the Persian mosque is so popular that even when a kid is drawing a mosque, he will first draw a dome and then the minarets. Here if you show a glassy building to someone and ask if this can be a mosque, their respond will be negative. In fact there exists a word called mosque which has a defined figure in the mind of people who have lived alongside it. Thus mosque has become a word in the architectural language body that whenever you mention it people know what you are talking about. Therefore if I start building a mosque in Iran, I will definitely follow and in fact I must follow what previously existed, and more importantly what people during several years believe.

From a deeper point of view, the mosque is a place of spirituality and the patterns, which of course are carefully chosen to complete the body of the language, must carry a spiritual meaning as well. For example the dome chamber is a room with a very high ceiling which will cause the spirit of the human being to ascend. This character is actually a part of the language pack it is involved in, and according to the pack, the dome has to communicate even in physical terms as it has to cover a wide area. In fact this is not only related to the Grand Mosque and the Imperia Mosque, this is a pattern that has been used in all kinds of mosques in all over the world, and even in different places of worship. Even a small church in a small village is built with a high ceiling.

People have always lived with symbols and their belief system in history that always influenced the architecture language. It is true that the dome had to be built because of the available materials, but the dome itself could have been built in a very simpler manner. The dome has several forms and shapes which are each trying to demonstrate something. Even the decorations are not issues that have structural or physical reason; they are all trying to present something which eventually all together will be introduced as an ancient pattern that has created the language of architecture. This language thus is not only concerned with the physical matters since there are features that have no physical or constructional functions; and since the mosque is the place for ultimate spirituality, there are definitely matters concerning the human spirit; however they are all involved.

What is very important is the reason that all these patterns have been created for; in other words the start of the creation of mosque in the architecture language. Whatever the reason is, it must be a great reason that after centuries, we are still using the same language. Thus it can be concluded that the reason behind the creation of the dome was not an issue that existed only in the era of its creation, since after the time people accepted to continue using the same language while many other words have changed

like the house. Now I can easily build a very wide roof with concrete but I actually prefer to build the mosque with all the features since I believe it is more divine. In other words it is more spiritual when you have a high roof, and a place that is filled with arches while the light quietly sneaks into every corner. So as an architect I respect the conceptual image that is present in the mind of people while I know that these features have helped the mosque become more divine.

There are also some instances that do not want to use the language, and intentionally destroy it. Those believe that we should not blindly follow what people have done in centuries. In this case he does believe in any other function and thinks the creation of the dome was only because there were no wood around. But if you ask the people, they will never know, since they have never heard of that language before.

We also have to have in mind that there are some needs that have been changed during years. Nowadays land is so few and expensive that many mosques do not even have a courtyard. Of course if you want to keep the pattern, you must take caution on the place you want to build.

What we have in the Grand Mosque and the Imperial Mosque is some kind of sweet divinity that we do not have it today. Even in the smallest mosque of the past we have this feeling. It really moves you and you can easily sense it. It is a soul within the building that holds you and you can communicate with and enjoy it. This is a part of the language which not many people understand. You can easily tell whether you have it or not, but you can't tell what it really is. This soul has caused a great scholar like Alexander to search for it many years and still hasn't found the answer to it. I don't know what it really is, no one knows but it is there. In the Nature of Order book, Alexander can't tell you what it is. He cannot tell you what is causing something to be

alive, to have the fire, but he is mentioning towards it by every means. He cannot tell you how you can re-create that fire.

For this soul to be created, these patterns are playing the most significant role. These are the letters that have been put together to create the word mosque which is a place full of spirituality. Even the decorations and ornaments, the geometry and the colours are playing role in this language. They all affect the human soul in fine manners that the worshipper prefers to worship in the mosque rather than his house. The feeling he gets before, while and after his prayer is so unique that he wants to experience it over and over; and since it is his soul that is treated he will never get bored of the experience.

Dr. Farzin Negarestan

The human being is a creation that has inside a divine spark which is in fact the most important part of his being. Other layers and bodies are subsidiary and are present in order to improve and uplift that divine spark in order to reach a great level of perfection. Thus the level of architecture directly depends on the spiritual level that the human being or its better if I say that architect, who is creating in the place of God, has reached. However it should not be solely that aspect; architecture does not only spiritually involve you since you are actually physically living in it. Thus the architect must have the knowledge of all the aspects simultaneously. He has to have a complete knowledge in order to create the best piece of art; he must be complete himself to a great extent. In the Grand mosque and the Imperial mosque, the architect is actually carrying out the task of God on earth; he is literally simulating what only God is capable of doing, since everything is created by him. Even a single leaf will not fall without the permission of the Supreme God since there has been a program in the universe that the leaf had had to fall. This is in fact an absolute order which we cannot understand completely. In these mosques we see the order yet in a very smaller scale. If there is a single pattern it is definitely following a specific orderly process. It is though wise to

mention that if you observe only a single piece of this creation, you will see disorder; in a single leaf if you look at the stripes, you will feel that they are each going to a different place, but this is not true. Even the disorder created in the finest piece of a leaf is following an order that we might not even be aware of. This can also be described in the mosques as well. If you zoom in a piece of kashi work, you will see that they are cut into not-geometrical and non-symmetrical pieces; however these pieces were actually pieces of a greater piece which in order to bake them and harden them in the oven, they had to be cut into smaller pieces. What you see at the end is a brilliant picture which is all order and beauty. This beauty is completely dependent to the viewer; it is true that the beauty is there, but every person according to his or her level of development will sense a part of this beauty. One might love the colour; the other might love the proportion; one might love the spiritual ambience that is created by a specific picture; one might find it romantic and so forth. The understanding of the whole complex of creation though is directly oriented towards the level of understanding of the architect. If he has purified himself in a way that has made him capable of representing God and his creational acts on earth, he can obviously create the Grand Mosque and the Imperial Mosque. In fact the level of creation carried out by the architect only depends of the evolution of his soul. When Sheikh Bahaei is creating you know the end result will be great, since he is known as a great master that has gone through several stages of perfection; thus he creates the Imperial Mosque. What we see in this mosque is pure beauty because he does not act unless it is for the uplifting of humanity. In this case whatever he presents is beautiful in all of its levels since it carries the ultimate goal, and when you are aiming for that, whatever you state or create or picture, is beautiful.

As the level of divine presence is increased in the architectural building, the architect has a more difficult task. Any architect similar to Sheikh Bahaei, which were not only present in traditional times, who is designing the place where God is remembered, must

understand that divine spark, and must understand the human soul. If anyone reaches that purified level, he can do the same as Bahaei; and in fact he might not even come to the conclusion that a dome is required. Maybe in creating a mosque the architect who has been spiritually evolved will find out that a new creation produces a greater amount of spiritual ambience than the dome. Maybe he will find that a new pattern is required and introduces it. What is important is that whatever is placed in there must follow the same set of orders that has the divine goal behind it; although it has to be mentioned that under the dome, the worshipper feels much better. Maybe the form is such an evolved pattern introduced by and later improved by the architects that when you pray under it, you can feel God's presence. This is indeed not unique to the dome. When you enter the traditional mosque you get Goosebumps; when you are ritually being purified in the middle of the courtyard you feel expanded; when you enter an iwan in any of the four directions, you feel bliss. These are not simple facts, in the grand mosque they are completed and are functioning for the sake of human spiritual growth.

What is really surprising about these patterns is that they are all made in their simplest way yet they are functioning so much. For example the dome is created from a single mud brick with minimum costs without the aid of metal beams or columns can be a cover for a vast area like the central chamber. The architect has made the ultimate use for what god has given him. Nowadays we see that architects use so much material for no reason; and when you get to know the architect you see that he is not an evolved man.

Every human being is looking for an outer presentation of their beliefs and generally themselves. The architect is trying to express his inner states with the use of geometry, figures, volumes and patterns. In fact when he is creating a mosque he understands the process of the prayer and he is aware of the spirituality and the divine presence in the act of worship; thus he wants to shape it physically; he wants to image it. In a very

natural manner, everyone points to the skies. The God is not up there, the earth is a sphere; why are they pointing up? Although it is the mind of the human that visualizes God as a very great being, and thus points to its greatness in the skies, it creates a feeling, a sense that is tangible, which pulls you high. This is not the mind anymore. Whatever we see in the traditional mosque is pointing up high: the dome, the arches, even when you are standing in the middle of the courtyard which is flat piece of land, you really want to fly and reach God. This is because there is a reality up there that we might not see it. Even when the mind thinks that god is up there, this thought might have come from a reality. The mosque is helping to find that reality so that we can connect to it. It is an element of remembrance. The more the architect is evolved, the greater the mosque will be. This is why we believe that the Grand mosque is the most magnificent piece of architecture; because the element of remembering the Supreme God is amazingly high. The ambience it is providing is great and this is done with the use of these patterns.

All of the patterns that create a mosque are not doing only one task. The dome is functioning as a cover as well as its other functions. It is also an element of beauty and so on. In fact all the features in the mosque have been generated in order to solve all the problems and this is where the value of the architect is highlighted. When he was creating a dome, he had in mind that first: the mosque requires a spiritual ambience, then a shelter, then a beautiful appearance and so forth. In fact he creates the forms patterns and shapes and then blows the spirit or the spark within himself in order to bring to life the solid walls of his creation. This is the breath of the supreme god and this is where the architect's level of oneness is important.