ABSTRACT

Mosque design should not be seen from just the external form, but the effective use of its interior should also be taken into consideration. This study is quite thorough in formulating a set of guiding principles through literature and site observations of selected mosques in Malaysia built from 1728 until 2005. Mihrab, which is contained in the Qibla wall, exists in almost all mosques built around the globe, carrying vital functions of orientating the Muslim prostration activities in mosques towards the Ka'aba in Mecca whilst providing the very own space for Imam in congregations. The methodology in this study is through plan analysis, observation and historical research. This thesis synthesizes Mihrab through the analysis of its design and ornamentation from the selected 23 historical and contemporary mosques in Malaysia. Firstly, this study looks at Mihrab as a focal point that needs to be emphasized with a high degree of visibility by examining the mosque layout especially at the prayer hall area, where prostration activities should be aided by mosques liturgical elements such as Mihrab and Qibla wall. Secondly, the evolution of Mihrab form is seen from the typological study that gives five styles of Mihrab applied in Malaysian mosques. Thirdly, observation on the ornamentation of Mihrab and Qibla wall has revealed that Malaysian mosques have their own tell tale motifs of vegetation that portray Malaysian identity in its own special way. The findings show that Malaysian Mihrabs and Qibla walls were not only styled with influences from abroad as there are styles uniquely originated and associated with the Malays. Study on Mihrab proves that cultural and social values of the local Muslims are still significant even though Malaysia perceived influences from Indians, Arabs and Chinese traders, including the British.

ABSTRAK

Senireka dan senibina masjid tidak lengkap jika dilihat hanya dari segi rekabentuk fizikal luaran tetapi hendaklah disertakan dengan rekabentuk seni atur ruang dalaman. Mihrab yang biasanya terletak pada dinding Qibla membawa tugasan yang berperanan sebagai penunjuk arah Ka'aba kepada Muslim seluruh dunia ketika menjalankan ibadah solat sama ada bersendirian mahupun berjemaah di dalam masjid. Mihrab pada masa yang sama merupakan kawasan bersolat Imam sewaktu mengetuai jema'ah. Kajian yang menyeluruh ini yang ditimba melalui pemerhatian rapi dapat memberi garis panduan kepada prinsip asas pembinaan ruang dalaman masjid. Pemerhatian yang melibatkan pengumpulan dan penghuraian data di dalam bentuk carta tipologi dijalankan ke atas Mihrab dari 23 buah masjid terpilih di Malaysia. Pertama, ruang solat masjid diteliti untuk memastikan penglihatan terhadap dinding Qibla dan Mihrab sebagai titik tumpu adalah jelas dari pintu masuk ke ruang solat. Kedua, pemerhatian dijalankan ke atas bentuk-bentuk Mihrab. Daripada pemerhatian tersebut, sebanyak lima bentuk Mihrab berbeza telah didapati. Kajian menunjukkan bahawa ada rekabentuk dan gaya Mihrab yang unik dan tersendiri menggambarkan identity tempatan. Ketiga dapat dilihat dengan jelas bahawa motif-motif yang digunakan tidak semuanya dicedok dari masjid luar negara tetapi tidak kurang yang menceritakan satu evolusi pada ornamentasi pada dinding dan ruang Mihrab yang mempamerkan motif tempatan dengan gaya tersendiri. Masjid adalah cabang senibina yang menerima perubahan dan kemajuan mengikut peredaran sosial dan budaya kaum. Kajian terhadap komponen masjid seperti Mihrab membuktikan yang pengaruh tempatan masih kukuh meskipun Malaysia melalui penaklukan British dan menerima pedagang-pedagang dari China, Arab dan India.

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Nur'Izzati Balqis, Nur'Aini Zulaikha, Nur Qalbi Khadijah

... I will always, always love and be proud of you...

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CHAPTER 1: INTRODUCTION

1.1 BACKGROUND OF THE RESEARCH

Mosque is the most frequent and familiar monument in Islamic architecture of the world. Any observation pertaining to Islamic art and architecture will touch on the art and architecture of mosque; because a single mosque could tell a lot about the history of Islamic architecture and hence it is sometimes referred to as the architecture of Muslims. Therefore, with all its components externally and internally, mosque should be studied in great details as they (mosque and its components) contain vast information on cultural, social and religious needs of Muslims all over the world.

The spatial composition and quality of mosque architecture should assist in encouraging the believers to adore being in the mosque and within its compound. Whence performing a prayer, the believers must reach the state of $khusyu'^1$, as mentioned in the Al-Quran;

"Successful indeed are the believers. Those who offer their prayer with *al-Khusyu*" Al-Quran, Surah Al-Mukminun 23: verses 1-2

One way to reach the state of *khusyu*', is the believers should 'want to' be in the mosque on their own voluntary will and capacity. The glory and success of a mosque relies mainly on the devotion and submission of the believers. Therefore, in satisfying the needs of the growing community of devotees with dynamic nature of usage, design and planning of mosque is given some element of flexibility (Iskandar, 2005; p: 77). Mosque is where prostrations of the Muslims take place either in congregation or alone. Qibla wall is one of mosque's important components as it determines the line of *Ka'aba* direction where the Muslims should face when performing prayers. Hillenbrand (1994; p: 31) once quoted that a building cannot be called a mosque without the wall which is correctly oriented towards the Qibla. The Qibla wall which contains the

¹ To perform prayers with focus, concentration and humbleness towards Allah the Almighty.

Mihrab (that is understood not only by scholars but also Muslims in general as an indication of the direction towards Mecca), holds many roles according to *Hadiths* and Islamic way of life.

Mihrab and Qibla wall are the two elements that exist in any mosque design as an orientation of prayers and prostration activity which are very significant. All aspects in designing the form of Mihrab on the Qibla wall should be taken into consideration so that the functions will not be misapprehended. These designs and styles will also show the interior beauty of mosque.

Islam is a religion that stresses beauty in all aspects. Al Ghazzali's² interprets that all creation in Islam must have the reflections of Allah's beauty and majesty as to support the *Hadith*, "Allah is beautiful and He loves beauty" (Wijdan, 2001). Al-Ghazzali also mentioned that;

"The beauty of each object lies just in its characteristic perfection. When all possible traits of perfection appear in an object, it represents the highest stage of beauty...The beautiful work of an author, the beautiful poem of a poet, the beautiful painting of a painter or the building of an architect reveal also the inner beauty of these men".

Al-Ghazzali (Ettinghausen, 1948)

Then Gonzalez (2001; p: 22-24) looks through the principle of 'beauty' from Ibn

Haytham thoughts as the closest to the aesthetic philosophy to the Islamic Middle Age;

"Position, (wad) produces beauty and many things that look beautiful do so only because of order and position. Beautiful writing also is regarded as such because of order alone. For the beauty of writing is due only to the soundness of the shapes of letters and their composition among themselves, so that when the composition and order is not regular and proportionate, the writing will not be beautiful, even though the shapes of individual letters may be correct and sound. Indeed writing is considered beautiful when of regular composition, even though the letters in it are not quite sound. Similarly many forms of visible objects are felt to be beautiful and appealing only because of the composition and order of their parts among themselves".

Ibn Haytham (Gonzalez's, 2001; p: 22-24)

² Abu Hamid Muhammad al-Ghazali (1058-1111) was one of the foremost intellects of medieval Islam. His personal discontent with scholastic orthodoxy led him to mysticism and the writing of a monumental work which harmonized the tendencies of both orthodoxy and mysticism within Islam (as translated by W. Montgomery Watt on al-Ghazali's autobiography, *The Faith and Practice of al-Ghazali* (1953).

In order for the creation to be perfect, Robert Grosseteste (1253) as quoted by Gonzalez (2001), Geometry is the answer to gain perfection in nature. The principles of geometry are present in every part of the universe. Natural phenomenon lies within the lines, angles and figures. Without geometrical means, it is rather impossible to reach 'proper quid'³ in nature. Taking all these thoughts (Al-Ghazzali, Ibn Haytham and Robert Grosseteste) into consideration, the writer concludes that beauty and perfection of mosque art and architecture is vital to encourage the faithful Muslim to perform their prayers in the mosques prayer halls.

Building a mosque is not something that can be done with mere superficial knowledge on Islam only but deep thoughts and consideration must be put into, especially in positioning the order of the mosque components. Some geometrical alignments and ornamentation may be employed and added to the design of mosque to gain perfection. The ornamentation added should be carefully positioned in order to avoid confusion in the mosque components especially on the Qibla wall. Qibla wall with its Mihrab is the focus of the believers upon entering a mosque. Making the Qibla wall different from other walls will guide the users on the $Ka'aba^4$ direction, despite the complicated floor plan of the mosque.

1.2 RESEARCH GAP

Research on mosque architecture in Malaysia is carried out extensively by Malaysian scholars. Ghafar (1999) came up with a classification of mosque architecture in Malaysia. He made a distinguished research on classifying the mosques of Malaysia through the physical appearance and construction methods. According to Ghafar, the architectural styles of mosques in Malaysia are classified into three categories:

³ The principles of geometry hold true within the entire universe and within every part of it: it is through its lines, angles and figures represent all the causes of natural phenomena. Those are the true property of nature.

⁴ The small, cubed building known as the Ka'aba is the building towards which Muslims face five times a day, everyday, in prayer. This has been the case since the time of Prophet Mohammad ²⁰⁰/₂₀₀.

Vernacular, Colonial and Modern styles. Ghafar (1999) concluded that the architectural styles of mosque in Malaysia are governed under five main factors namely ethnic culture, climatic conditions, colonialism, technology utilisation and the political environment. These factors determine mosque designs, forms, shapes sizes and locations. Classification made by Ghafar (1999) is mostly on the physical or external looks of the mosques which does not concern spatial arrangements of the interior and also the mosque's interior components.

Indigenous artistic creation of Muslim in South East Asia is materialized by Zakaria (1994) encompassing ornamentation on mosques, tombstones, coins and other tangible materials between the 9th and the 16th century. Zakaria covered the historical mosques of South East Asia quite substantively and Mihrab ornamentation is part of Islamic Art in South East Asia. He added that, mosques in the medieval South East Asia were considered to be the centre of power, where every ruler (a Sultan or a King) wanted to be associated with a mosque. Mosques during the medieval Islamic period were products of indigenous handwork from planning to the completion stage; from woodcutters, carpenters, bricklayers to stone carvers; all these skill workers would respond to their local condition such as providing air space within the tiered roofs and the usage of verandah (serambi). Zakaria mentioned that the existence of ornamentation in mosques in medieval period was brought in by the Buddhist converts. Among the earliest is turtle ornament in the Mihrab of Demak Mosque (Figure 1.1; p: 5). His book can be categorized as historical containing descriptions on the existing features and ornaments on the mosques. His research covered a wide scope however not much has been discussed in detail on Malaysian mosques and ornamentation.

Halim (2004) made a distinction by capturing mosque architecture in Malaysia and Indonesia with detailed explanation on each mosque. Most of the mosques under his study are similar to the ones covered by Zakaria (1994). In general his research works together with the collection of invaluable photographs and sketches do help in getting the general idea on the history of mosque architecture in Malaysia and the *Nusantara* (Malay Archipelago). Looking through the photographs and sketches, it is obvious that most of the traditional and vernacular mosques in *Nusantara* branch out from the same origin of design. Thus, further explanation on the technical sides such as the evolution of *Nusantara* mosques design and layout would give perfection to his book.



Figure 1.1: Turtle Ornament on Masjid Demak Mihrab Wall⁵

Further investigations should be made to trace the various changes made to the interior spatial arrangement of mosques in Malaysia as part of Islamic world architecture. The spatial analysis of mosques has been conducted earlier by Bandyopadhay and Sibley (2003). Their study was quite successful pertaining to differences in the mosques built by the Ibadis of Central Omani in comparison with the ones built by *Sunni/Wahabbi* in Saudi Arabia. The invaluable finding established that the interesting exchanges in mosques form and organization of Central Omani are actually a result of different tribal migration patterns and sectarian incursions in Northern Oman and United Arab Emirates (Bandyopadhay and Sibley, 2003). This finding supports the notion of different cultures affecting the architecture and design of mosques.

Prior to those scholars, Notkin (1989) did a study of interior spatial organization on mosques and civil buildings in Central Asia. He said such a study is important to prove the correlation between structural-genetic determination of spatial structure which is

⁵ Retieved from <u>www.eastjava.com/books/walisongo/html</u> on 28th December 2010

unfolding over a period of time and its functional implementation will be determined. As described by Bandyopadhay and Sibley (2003) the classification of spatial structure will give definite answers to the origin of the shapes.

The former and latter scholars support the notion of how different cultural needs affect the architecture and design of mosques. The three scholars centered their studies on mosque buildings in the Muslim world of Central Asia. Only then could it be shown whether these adoptions and adaptations are actually needed in forming the mosques design for Malaysia.

Utaberta, (2009; p: 35-38) did a typological study of mosques based on the external look of selected Malaysian mosques. Most of the mosques in Malaysia contemporarily are said to be facing a 'Revivalism Crisis'. Earlier, this notion has been taken by Tajuddin (1998), saying that mosque architecture in Malaysia is facing an 'inferiority complex'. Both scholars centered their research works mostly on the external look of Malaysian mosques that features on the Ottoman and Safavids monumental styles. Tajuddin, (1998) worked on a very descriptive study on proving the benefits of having mosque as a community development centre. He believes that by doing so, mosques can be occupied and glorified similar to the one built by the Prophet Muhammad ²⁰/₂₀'s mosque is much appreciated, but the present community is different from during the early years of Islam and surely their needs are also ways apart and this explains why there are additional components found in mosques built after the Prophet Muhammad ²⁰/₂₀'s era.

Mosque architecture is similar to residential architecture and both of them are categorized under socially inspired type that cannot be studied based only on physical factors. According to Tice (1993), this type of architecture should give the feeling of

6

comfort through spatial arrangement that satisfies the psychological tranquility to the users in different cultural needs. Spatial arrangement of a mosque relates to the placement and condition of the components internally.

Hasan-uddin (2002), analyses the physical form of mosque throughout the world by means of plans, elevations and photographs. This study too owes detailed explanation and conclusion on the typological result of mosque especially in South East Asia.

Mosque or masjid or also referred to as the house of God, is a building where Muslims go for worship (Collins Dictionary 2003). Clarifying on the word 'worship' is a very subjective matter. Wherever the worship is performed, alone or in a congregation, total submission or full attention and concentration towards the prayer is mandatory. Going to the mosque must primarily be on voluntarily basis (*ikhlas*) and not because of secondary ritualistic purpose (El Gohary 1984).

Additional programmes held in mosque could be a motivation factor of going, but these programmes should not be the primary purpose for 'wanting to be' (*iqtikaf*) within the boundaries of the mosque compound. Prophet Muhammad ⁽¹⁾/₍₂₎'s mosque (Figure 1.2 and 1.3), in Medina and most of the mosques built during the medieval period brought forward the principle of directionality from the entrance to face towards the Qibla.





Figure 1.2: The Prophet's mosque after Creswel

Figure 1.3: The Prophet's mosque diagram (author's own)

On making sacred places Brown (1997) said that the direction towards the Qibla serves as one real goal or centre of devotion indicated by its prayer niche (Mihrab). The Qibla wall would orientate the faithful in togetherness all over the globe towards a single center that was commanded by Allah the Almighty through his Prophet Muhammad ²⁰/₂₀.

Rafique (1982) stated that being humans, Muslims have been reevaluating their tradition to answer the call of ever changing circumstances. New adaptation will then be done to face modernization. This results in the alteration which is in line with the needs of the believers while maintaining the fundamentals of the Islamic way of life.

1.3 RESEARCH QUESTIONS

The evolution of contemporary mosque designs makes one wonder on the real focus of intention in having this religious purpose building which leads to more questions regarding the existence of mosque components and their importance in terms of social, culture, political and historical values. It is hoped that this research will disclose the answers for the queries regarding:

1. Mihrab Existence

According to Botsworth (1994), Mihrab did not exist on the Qibla wall of the Prophet Muhammad²⁰⁰'s earliest mosque. So how did the Mihrab get to be so important in mosque architecture?

2. Influences of Malaysian Mosques Design

During the 15th Century, Malacca or Melaka (a state in Malaysia) was one of the busiest port in this region. Traders came from the East and West and brought with them goods as well as their social, cultural and architectural influences. This study will look into the influences that were brought in by the traders on the design of mosque in Malaysia particularly in the treatment of the Mihrab and the Qibla wall?

3. Mihrab Design in Malaysia

The states in Malaysia received Islam at different time frames and from different agents. For example, Melaka received Islam through the Chinese, Indian and Middle-East traders during its glorious period as a busy port. The stone inscribed with Islamic rules in Malay Language was found to be at a different period in Terengganu (East Coast of Malaysia). Penang, located at the North of Malaysia, received Islam through Arab and Indian traders at a later date. The states of Malaysia appear to have range of period to embrace Islam and acquire Islamic civilization. Is there any style or influence on different ways of designing a mosque and its components (including the Mihrab) in each of these states?

4. Mosque Internal Components in Malaysia

Many studies found out that contemporary mosques in Malaysia are said to be copy-cats of the Middle-East mosques. This notion is obviously stated based on the physical look of the monumental and gigantic modern mosques. Will this conception be different if the mosques are studied through their internal components and layouts?

1.4 RESEARCH AIM AND OBJECTIVES

Muslim should observe focus and total attention continuously during prostration to Allah the Almighty. Out of all the components of mosque, Qibla wall with its Mihrab is the most appropriate to act as the main focus of the whole mosque interior. This focus of attention could be enhanced through ornamenting the Mihrab with aesthetical Islamic arts. This research analyses the importance of the Mihrab and Qibla wall to be designed in detail with full consideration and not as mere components in mosque. The main aim of this thesis is to synthesise the Mihrab through the analysis of its various designs and ornamentation from the selected historical and contemporary mosques in Malaysia. In order to achieve the aim, the objectives listed below are taken:

- To study on the historical origin, first existence of Mihrab and Islamic standpoint towards Mihrab existence on Qibla Wall in order to determine the majority of Mihrab form and design in Medieval mosques.
- 2. To classify the types of Mosque design in Malaysia with respect to the built years to overview the possible influences gained by the Mihrabs.
- To examine the level of Mihrab visibility from the entrance points in order to measure the existence of liturgical axis that provides ultimate focus to visitors.
- 4. To analyse various styles of ornamentation on selected Mihrabs including calligraphy, two dimensional and three dimensional geometrical patterns in order to generate typological table showing motifs, ornamentation, their origins and influences
- 5. To identify types of Mihrabs used in Malaysian mosques in order to generate typological analysis to the shapes and forms including their origins.

1.5 THESIS STRUCTURE

Chapter One is basically on the introduction of this study. It shows the background of this research and its research gaps, research questions, research aims and objectives. It also introduces the bases of research structure where the overall representation of this thesis is simplified into a flow chart. The 23 mosques are divided into three categories according to the built years that also respond to the historical time chart of Malaysia. The said categories are;

• Historical mosques built from 1700 to 1956 are divided into 2 categories;

1. Traditional/Vernacular Mosques

- 2. Colonial Mosques
- After Independence mosques built from 1957 to 2005

Chapter Two is mainly on the historical literature such as the existence of Mihrab on the Qibla wall of the Prophet Muhammad 's's mosque. Mihrab and Qibla wall is then proven to be the most important elements in a mosque. The overall scenario of mosques in Malaysia is also revealed in this chapter. A historical time chart of Malaysia marks important events in Malaysian history is done in a simplified table that helps the research in tracing possible influences gained by mosque architecture in Malaysia. Islamic point of view in the aesthetics creation in mosque as Mihrab and Qibla wall are among the elements that are mostly elaborated with motifs and ornamentation is also explained thoroughly.

Chapter Three looks into Mihrab found in mosques built during the medieval period. Ten mosques were chosen throughout the Islamic Dynasties. In order to list their characteristics, these mosques are analysed by looking at:

- 1. The overall floor plan of the mosque especially main prayer hall; Visibility of the Mihrab and Qibla wall from the entrance/entrances point is examined. If the level of visibility is high, then there should be a liturgical axis that gives focus of attention to believers towards the Qibla wall.
- 2. The form and design of Mihrab;

Various forms and designs of the Mihrab used in these medieval mosques are identified and distinct typologies are tabulated.

3. The motif and ornamentation.

Various motifs and ornamentation styles of the Mihrab used in these medieval mosques are identified. Distinct typologies and their origins are tabulated.

Chapter Four is where detail explanation on the Research Methodology used to carry out the case study research, samplings and visits made to selected mosques of Malaysia are elaborated. The first sample of 179 mosques is then screened down to 23 in three different stages. This screening process is explained in the Research Methodology chapter.

Chapter Five provides the extracted Research Findings from the visits and detail observation of the 23 mosques which has been selected to be Case Studies for this thesis. Should further explanation and elaboration needed whilst going through the findings in this chapter, then Chapter Six and Seven shall be referred.

Chapter Six and Seven are the elaboration and detailed analysis of the 23 case studies.

This chapter contains all the information recorded by several means (photographs, informal interviews, onsite observations and recorded data) during the site visit. Focus of the findings and observations is based on the characteristics seen in the medieval mosques (Chapter Three).

Chapter Eight elaborates the analysis of findings obtained in Chapter Five. The analysis is again studied in three sections:

- 1. Relationship between mosques' built dates and mosque floor plan analysis. This will show how Mihrab visibility and *safs* formation were taken into consideration by previous builders over a certain period of time.
- 2. Evolution of Mihrab niche form throughout the years. This will give a general idea on the types of Mihrab found in mosques built in Malaysia.
- 3. Study on the calligraphy works and motifs used for ornamentation on Qibla wall and Mihrab. Common verses, styles of calligraphy, motifs and geometrical patterns are studied. These motifs and geometrical patterns may be vernacular or adapted from other countries or Islamic dynasties.

Chapter Nine elaborates the conclusion of the overall thesis where the contributions to knowledge are defined. Limitations of study and proposals for future undertakings are also listed in this chapter.

CHAPTER 2: MOSQUE ARCHITECTURE IN GENERAL

Tracing the historical values of mosque architecture on certain culture or country is imperative to understand the evolution of religion and cultural paradigm. From trace records, the intensity of adoption and adaptation from external values and changes towards modernization could be responded to. Alsamija (2005), pointed out that this exercise would be able to set a point of reference in overcoming the issues on contemporary mosque art and architecture.

2.1 MOSQUE ARCHITECTURE

Study within the boundaries of mosque art and architecture has turned to be an eminent and favourite subject/topic among scholars these days. Various methodologies have been adopted and hence valuable information was captured and used for the enhancement and evolvement of Muslim religious buildings. In almost every research, explanation on the functions and importance of mosques would be above all other contents.

However, this thesis will not be repeating the same explanation on general usage of mosque or its importance to the Muslims but it will emphasize on the components of mosque, their significance in cultural needs and their necessity in the contemporary world. Therefore, "styles" of mosques architecture will not be observed and interpreted as traditional, colonial or hybrid by just observing their built form or physical appearance but rather on their internal and external components with the main focus given to the mosque Mihrab. This will allow extractions to the quality of new mosques and regain the missing values of the past that could be included in the future design of mosques especially in Malaysia.

Kuban's research in 1974, believed that the original mosque built by the Prophet Muhammad 🛎 (including its compound) were made up of four main components namely the entrance, *hujra* (apartments for the prophet's wives), *suffa* (for the visitors or the poor to rest for the night), *zulla* and the *sahn* (courtyard). *Zulla* is a covered rectangular space where *solah* (prayers) were performed and one of the longer walls in this area is called the Qibla wall.

After the demise of Prophet Muhammad ²⁶, the administration of the Muslims and Islam in general, including the mosques were taken over by his four companions and then by a number of Islamic dynasties such as the Ummayad, Abbasid, Fatimids, Safavids, Ottoman and many more. Even though the leadership of Islam and the architecture of mosques changed over time, the basic components inside the *zulla* (main prayer hall) remained the same with a few components being added following the needs of the believers during the period of that particular mosque was built.

This thesis determines the basic components of mosques and their liturgical roles similar to the time of the Prophet Muhammad ﷺ. Then added components are examined in order to understand their roles and functions to the believers, their cultures and their mosques.

2.1.1 Reviews on Mosque Components

In his study on early Muslim architecture after the Prophet's mosque, Kuban, (1974), lists eight important components in mosques namely the *Haram*, *Qibla* wall, Courtyard, *Riwaq* (arcades), *Mihrab*, *Mimbar*, *Minaret* and *Maqsura*. Twenty years later, Frishman (1994) added *Dikka* (a tribune for the leaders), *Kursi* (Al-Quran holder), and *Maida* (for ablution) and left out *Riwaq* from Kuban's (1974) list. Frishman (1994) derived the list from his research on mosque throughout the Muslim world including South East Asia. Later, Ashraf (2006) made another list in his book on the study of arts in Islamic civilization: Courtyard, *Sahn*, *Riwaq*, *Minaret*, *Mihrab* and *Qibla* wall, from the two former

scholars of Kuban (1974) and Frishman (1994) were kept whilst other elements such as *Qubbah* (dome), *Aisled*(sanctuary), *Iwan* and Cresting or Crenellations were added to the list.

The study of components is crucial to determine the overall mosque designs as stated by Hasan-uddin, (1994; 247-248) who believes that mosque design in different time and regions, evolves in creating new expressions in various terms and the terms include the national identity.

"Changes in mosque design are an important indicator in understanding Muslim Society today." He believes that mosque in different time and regions, evolves in creating new expressions in various terms which include national identity. Hasan-uddin, (1994; 247-248)

2.1.2 Prayer hall

Most of the mosques built in the Middle-east have two sections of prayer hall i.e. a covered area called the *haram* or *zulla* and a courtyard called the *sahn* (Figure 2.1 below). Surrounding the three sides of this courtyard is the arcade called *riwaq* (Frishman 1994;32-41).



Figure 2.1: The Great Mosque of Damascus - Arieda 2003

Congregational and individual prayers could be performed in all these three areas and thus maximizes the practicality of the mosque or to be more precise, the prayer hall. Therefore it is imperative to take into consideration the three aspects listed below when designing the prayer hall to optimize its daily usage.

- The prayer hall is best designed to be rectangle where the longer sides lay parallel to the Qibla wall. This designed had been practised in medieval mosques but had not been accepted as a compulsory guideline for mosque design in Malaysia.
- 2) There should not be any obstruction in the prayer hall especially in the *haram*. The clarity of the prayer hall will complement the maximum usage of space. This will lead to the continuity of the *safs* (praying lines in congregation) and maximize the visibility of the *makmum* (congregation) to see the *imam* (preacher) presenting the *khutba* (sermons).
- 3) The number of worshippers is the major criterion to be considered in determining the size of prayer hall. Prayer halls should be able to expand when the congregation gets larger especially during Friday and *Eid* prayers. The size of the prayer hall is normally the yardstick of mosque extent.

Most contemporary mosques in Malaysia fail to adapt these aspects in their design. Instead, the roof over prayer hall is always given the most emphasis and strongest personality from the external feature. The prayer halls are often covered by a big dome which has to be supported by series of columns erected in the prayer hall. These columns will cause distraction to *safs* (praying lines

2.1.3 Qibla Wall, Mihrab and Mimbar

Every prayer hall must include a Qibla wall to show the direction to prostrate upon entering the mosque. Qibla is the direction to face when Muslim pray at all times. Initially, the direction of the Qibla was towards the Al-Aqsa Mosque in Jerusalem. The Qibla was then directed towards *Ka'aba* in Mecca after about two years after *Hijra* when the Prophet Muhammad server a revelation from Allah the Almighty (Fehervari 1970; 702-707). The Prophet Muhammad 16 receives a lot of revelations from Allah the Almighty including the command to perform Friday prayers at the mosque replacing the *Zohr* prayers every Friday. This command is compulsory for men and is optional for women. Mosques that offer these Friday prayers are sometimes referred to as *Jami*'. Inside each of these *Jami*' mosque is a *Mimbar* or pulpit, positioned at the right side of the Mihrab. The Mihrab is normally a semi circular niche located at the center of the Qibla wall¹. The *Imam* or preacher will stand and deliver the Friday *khutba* or sermon on the *Mimbar* (pulpit). The *Mimbar* (pulpit) is often raised by a staircase of various heights to enhance the congregation's sight of the *imam* whilst listening to him delivering the *khutba* (sermon).

Initially, the Prophet Muhammad ²⁶/₂₆ would stand and deliver his *khutba* on the same level where his congregation sat. As his followers increased, the prayer hall was made bigger and he started to preach on top of a platform which was raised by three steps to reach the larger audience. Hence the *Mimbar* came into existence and became a common feature is all *Jami'* mosques. The height of the *Mimbar* should be proportionate to the size of the prayer hall.

In Malaysia, the *Mimbar* is ornamented and sometimes its height could reach a single storey regardless to the size of the prayer hall. In some contemporary Malaysian mosques, the *Mimbar* was designed to be attached to the Qibla wall with the staircase hidden on the other side of the wall².

2.1.4 Dikka and Kursi

Dikka is stationed parallel to the Qibla wall, in line with the Mihrab and raised a single storey in height. Here the respondents (the mosque's official bearers) repeat the prayer movements and relay the responses of the *imam* (at the

¹ For more information on Mihrab and Qibla wall refer to chapter 3

² For more information on this *Mimbar* design, refer to Pahang State mosque on chapter 5 and chapter 6.

Mihrab) aloud to be heard by the rest of the congregation at the back of the mosque. *Dikka* can only be found in mosques with a spacious prayer hall. In some mosques the *Dikka* is placed in the exterior praying area or court yard. *Kursi* normally placed adjacent to a *Dikka*. Similar to the *Dikka*, it is also a raised platform. Here the *muezzin*, the *qadi* or other mosque's official bearers recite the verses of Al-Quran in between prayer times. The *Dikka* and the *Kursi* were used during the medieval period and in some contemporary Middle East mosques. However, they have become less popular in the overall contemporary Islamic architecture because of the invention of modern technology such as microphones, amplifiers and loud speakers. Subsequently, the use of recorded Al-Quran recitations has diminishes the existence of the *Kursi*.





Dikka of Sultan Hasan mosque

Dikka of Ibnu Tulun mosque

Figure 2.2: Examples of Dikka in the Medieval Mosques³

2.1.5 Minaret

Minaret usually resembles a tower and is erected on the exterior of mosque buildings. Originally it is used to ensure the *adhan* (call for prayer) could be heard at a maximum radius. Bloom (1991) challenged Creswell's (1926) theory when he found that there is no evidence indicating that the towers were used by *muezzin* when calling for prayers.

³ Historical Cairo (A Walk Through the Islamic City) Antonious, Jim.

Another explanation to the existence of the *minaret* in mosque architecture states that during the Abbasid dynasty it demonstrated power of the religious authority. However, other dynasty that opposed to the Abbasid power like the Fatimids would not build any *minarets* to their mosques⁴.

In East Africa, Iran and Arabia calls for prayer were mostly made from the mosque courtyard or the roof top similar to the time of the Prophet Muhammad¹⁰⁵.

In Malaysia, *minaret* is deemed to be an essential element to be built together with the mosque. Unfortunately it only serves as a local landmark especially for the mosques built around and cities and urban areas.

2.1.6 Portal (Entrance)

The entrance of mosque built during the medieval period plays the role of concealing the interior from the external view. This gives the feeling of being enclosed in one place free from the hustle and bustle of the outside activities and thus acts as the threshold. Medieval mosques always have tall and monumental main portal and this is in contrast with the entrance to vernacular Malaysian mosques which looks more humble and open.

A study conducted by Salamah (2001), found that the impression made by the entrances of public buildings is more than a mere welcoming space. Building entrances can evoke a strong image that includes non-verbal messages to the visitors on the activities happening inside. Consequently, emotional effect could be felt by the visitors either inviting or repelling. Hence, maximizing the visibility of carefully and appropriately ornamented Mihrab and Qibla wall

⁴ Retrieved from the Dictionary of Islamic Architecture,

Archnet:*archnet*.org/library/dictionary/entry.jsp?, 17th June 2008.

should be considered in depth as this would imply what ought to happen inside the mosques.

2.1.7 Ablution Pool/Fountain

Performing ablution should be the first activity to take place before a devotee enters a mosque unless he has taken ablution before reaching the mosque. The ablution area is an important component in any mosques and must be placed at a point which could easily be seen and reached. According to the space syntax research made by Aazam, (2007); based on the analysis of the visual points and prostration points segment, the three elements that are considered the most active areas are the entrance, the prayer hall and the courtyard. Therefore, the ablution pool/fountain area has a tendency to have similar spatial syntactic qualities. It is probably the most used space because it is always positioned adjacent to the verandah and the praying area. Investigating the spatial arrangement of all these spaces must be taken into serious consideration as they complement all the important activities in mosques.

2.1.8 Verandah/Corridor

This element is one of the extensions from the basic form of mosque resulting from cultural diversity. In tropical climate buildings, the verandah is always introduced as an out door shaded space to cool off before entering the building. In Malaysian, verandah and corridor is one of the important components in a building design including mosque design. In most of the traditional Malaysian houses, the verandah acts as the transitional space between the public area (the entrance) and the private area (the living room and other parts of the house).

2.1.9 Sahn or Courtyard

The *sahn* or courtyard is the most common component found not only in mosques but also in other Islamic buildings. It serves to accommodate large crowd of worshippers during congregational prayers especially Friday prayers and special prayers such as *Eid*. Most of the mosque built in the Middle-East; positioned the ablution pool/fountain in the middle of the *sahn* (court yard).

From the explanations above, it is quite clear that some of the components of mosques are vital and some are less significant. Components like the *dikka* and the *kursi* used to have some important roles on the overall performance of a mosque but their existence is fading towards extinction.

Apart from the importance of its components, the overall performance of a mosque lies on the devotees to glorify it. The more believers come to prostate and *iqtikaf*, the more glorious the mosque will be. Hence designers should take serious consideration in building a mosque that is most welcoming to the believers and provide the most comfort for them to do *ibadah*.

For example, entering a mosque without a signified Qibla wall will cause confusion to the users especially in complex hypostyle mosques that are extensively built contemporarily. Therefore, the Qibla wall must project itself to the visitors at any point of entry. The axis and clear visibility towards the Qibla wall must also be given serious thought by the designers because prostration and other *ibadah* activities of Muslims rely majorly on orientation and concentration where unity of the religion can be achieved.

2.1.10 Internal Components of Mosque Architecture

Civilization does not only concern the modernization or the high technology used, but also the conservation of invaluable historical and artistic values of the tribe. For Muslims, from different cultures and civilization, mosque is the most important place in portraying the values of civilization that result in the establishment of Muslim architectural identity. Only from the different design and ornamentation in mosques, we will see the different cultures of various tribes in Islam throughout the world.

Contemporary mosque, especially in Malaysia takes up the influences from famous mosques all over the Islamic world. Taking the medieval middle-east as the main basis mosque architecture is assumed to be an unwise decision to be made (Tajuddin 1998). This action, on the other hand, if studied deeper, must be done with extra detail by taking only qualities that are suitable for our climate and culture. Apart from considering practical arrangement of mosque floor plan, this public building must also be erected with great consideration on the appropriate ornamentation to the interior. Using calligraphy and geometrical patterns, Islamic arts need special treatment because they carry certain meanings. From the way the components are designed and materialized, their origin could be determined. Even though the dome of a particular mosque could be from Ottoman generation, the interior might say differently so, is it fair to call it as an Ottoman? Gigantic external look most likely gives complex floor plan leaving the users in confusion when entering the mosques, especially when there is no focal point on where the direction of Qibla wall could be.

Internal aesthetics of mosques that follows the strict regulation of Islamic arts and patterns has the characteristics of "turning off" one's attention from the outside environment to the inside environment that one is in. This will give all the concentration (*khusyu*') that one needs while performing prayers. According to El Gohary (1984),

"Whether consciously or unconsciously, alpha rhythm and unconscious constructs are developed in the one at prayer in a mosque through the influence of architectural forms and decoration". El Gohary, 1984; 134 The point mentioned in the study of El Gohary is on the interior part of mosque and this shows how important is the interior composition in comparison with the psychological needs of the exterior, but not to be taken wrongly, external aesthetic should not be overlooked as it still has role of the first impression.

2.2 MOSQUE SCENARIO IN MALAYSIA

Even though the coming of Islam to Malaysia took place sometime in the 14th century, the mosque architectural style in the period of first Islamic embracement in Malaysia has not yet been proven. Until this moment, there is no archeological evidence that clearly shows even the primary shape of mosque dating to that time. This is probably due to the mosques being built in timber construction during that time and according to Hashim (1996) timber has short life span that rarely goes beyond 200 years.

The earliest mosques found in Malaysia are very simple, using single multi functional space which reflects the social and cultural value of the community that have been transformed into a vernacular architecture.

Evidence of the earliest mosque found so far has been agreed to be Masjid Kampung Laut located in the east coast of Malaysia. Mosques during the period were built modestly smaller. These mosques were built in this manner because they were mostly constructed by *ulama* or religious teachers and not by expert builders or architects. Using available materials and style (following the traditional houses), they erected the sacred buildings with bare necessities. One very important feature of the mosques during that generation is that the design was answerable to the climate of Malaysia that is hot and humid. The layered roof or "*atap tumpang*" for example, allows air circulation in between the roof layerings. Malaysian traditional mosques built in the 18th century mostly provided clear and easy circulation to ease the users seeking directions. These positive qualities in spatial arrangement of Malaysian traditional mosque could still be adopted in the modern era to provide comfort and familiarity in the form and spatial arrangements to the users.

Mosque architecture is not a static phenomenon; it evolves from time to time. This shows that mosque architecture act as a symbol of Islam and the Muslim attitude of always thinking, inspiring and far from being static. Similar concept applies to the muslims and mosques in Malaysia specifically and Southeast Asia generally.

In spite of the total change to the facade of mosques during the period of colonization, necessary elements of mosque interior still remained. In the 19th century the British colony influenced a new transformation and elements to the mosques by introducing new architectural styles, materials and construction technologies at the time. Mosque building material was mostly made of concrete and brickwork. Almost all the mosques built during the colonial period were designed by non-Muslim foreign architects. Their design relied so much on European architecture, thus taking little reference from the Middle-east, where Islam originated. As a result, thick concrete structure with fewer openings does not allow much natural ventilation and daylight penetration making it quite impractical for tropical environment.

Over time, changes occur and matters regarding the administration of mosques are no longer under the supervision of the community alone, but mostly in the hands of Islamic rulers and leading political party in the region. The scenario is quite similar to the Middle East during medieval period, where mosques started to become the symbol of power by the ruling government after the Prophet Muhammad $\stackrel{\text{def}}{\cong}$ and his four companions r.a. Nevertheless in the medieval case, in spite of having monumental physical look, the interior organization is still clearly defined with strong axis from the $\frac{24}{24}$

entrance point to the Mihrab point as shown in the Great Mosque of Damascus during the Umayyad Period.

When Malaysia achieved her independence in 1957, Malaysia had all the freedom to design and built its own mosque style by engaging its own architects and builders. As a result, Masjid Negara or the National Mosque proudly stands with its uniqueness of opened-umbrella shaped roof. The structure is of modern design but the humbleness of Muslim architecture is kept in the mosque design.

After 50 years of independence, Malaysia has become a developing Islamic country. Mosques are now designed in a variety of styles and since the 1980s, distinct Middle-Eastern style with huge domes and multiple *minarets* were built. Consequently, there are some efforts in reinforcing the design with traditional Malaysian e.g. Masjid Al-Azim (Al-Azim Mosque) in Melaka which was built in the 20th century.

One of the Malaysian pioneers in mosque architectural critiques, Tajuddin (1998) mentioned in his book;

"In creating a place for Muslims to worship, the architect must create a structure that is clearly identifiable as a mosque, but without excessive embellishment".

Tajuddin (1998)

He also challenged the modern builders who express grandeur in Islam through mosques architecture and take mosques as a fortress of seclusion from the worldly life. He strongly believes that by making the mosque as a community development centre will gather and unite the Muslims through the activities in the mosque, opposed to the luxurious look of a mosque and strictly decided that mosques should be simple and functional. He is true for the part indicating excessive embellishment, simple and functional but has gone a little too far in trying to implement the community centre in mosques when he went on saying,
"...mosque interior should be designed in a manner of an educational or a public place of social-interaction and not as a somber atmosphere fit for meditation".

Tajuddin (1998)

The above quotation needs further elaboration or it could be misleading to the readers. The prayer hall area that contains Mihrab, *Mimbar* and Qibla wall should be the very place to be intimate with Allah the Almighty. The place should be quiet and far from being a place of social interaction. Probably the social-interaction could be done in the mosque compound but definitely not in the prayer hall.

Most of the modern and contemporary mosques were built with a beautiful and majestic look that might draw the attention of the believers who would want to perform their prayers and meditation towards Allah the Almighty. Unfortunately in order to achieve this majestic and monumental look, some mosques were built on hilltops, in the middle of a manmade lake or in the worse scenario, on a faraway land with big fenced compound.

These majestic external facades might be an important attracting factor but properly decorated interior will make the visitors want to be intimate with Allah the Almighty inside the mosque with the highest degree of concentration and submission. With proper positioning of ornamentation, more believers will be called in to enlighten the mosques. Mosques will eventually trace back their glory to the time of Prophet Muhammad¹⁵⁵. When mosques are visited gradually, the notion of creating them as a community development center will then be adapted without doubt.

2.2.1 Overview on Mosque Components in Malaysia

• Entrance

Unlike medieval mosques which have tall and monumental portal, vernacular Malaysian mosques' entrance looks humble and open. Its entrance is similar to the traditional house. In colonial mosques, the entrance started to look like a threshold between outside and inside. Whereas in modern and contemporary mosques, there are varieties of entrance styles following the portals from the middle-east mosques such as portal *iwan*, arched entrance gate and raised entrance by gigantic staircase.







Entrance to Kampung Laut Mosque: open and humble through normal sized door Entrance to Muhammadiah Mosque (colonial) through arched way. Entrance with dome chamberof modern Ismail Petra Mosque

Figure 2.3: Entrance to Traditional, Colonial and Modern Mosques

• Verandah, Terrace and Courtyard

This element is one of the extensions from the basic form of mosque resulting from cultural diversity. Verandah is always introduced as a provision of shaded space to cool off (whilst still out door) before entering a tropical building. In traditional and vernacular mosque design, verandah mostly functions as a place for informal religious classes or sometimes used as a meeting place for informal discussion before or after congregational prayers. Verandah will also act as extra praying area and when the need arise, similar to the function of courtyards. In colonial mosques, verandah is almost non-existence as it had been replaced with intermediate terrace between external and internal. Most of the mosques during colonials are made of thick wall concrete and as a result, praying lines (*safs*) will not be continuous to the terrace area during a full house congregation. This is one of the drawbacks of colonial mosques and the condition is worsen with the application of a mechanical ventilation system.



Kampung Laut Mosque with flexible praying area

Discontinuity of praying lines in colonial mosque: Muhammadiah Mosque

Figure 2.4: Verandah in Connection with Praying Lines (Safs)

Contemporary mosque which were normally built with concrete and completed with mechanical ventilation and artificial lighting mostly employ the courtyard in its design. Courtyards in contemporary mosque architecture in Malaysia have two designs; one is to be the extra praying area and the other is meant for landscaping area or courtyard garden. Both designs actually give a cooling effect to the prayer hall adjacent to the courtyards.

Ablution Pool, Tapped Ablution and Ablution Fountain

Traditional Malaysian mosques use ablution pool instead of ablution fountain or water from taps. Most of the old traditional mosque was built by a riverside and the ablution water is taken from the river and collected in a pool. Some of the traditional and vernacular mosques collected rain water in their pools and thus reduces water wastage from ablution as stated in the *Hadith* below:

'Abdullah ibn 'Umar narrated that the Messenger of Allah passed by Sa'd while he was performing ablution and said, "What is this extravagance, Sa'd?" He said, "Is there extravagance in the use of water?" He said, "Yes, even if you are at a flowing river." Related by Ahmad and Ibnu Majah

When mosques started to be designed by British architects, alternative such as tapped water system had been applied. Ablution pool no longer exists as in the traditional and vernacular mosque. In contemporary mosques, tapped ablution water is designed in modern high technology. In some modern mosques, the water is dispensed and stopped automatically using infra-red sensory system.

• Prayer Hall

Traditional mosque in Malaysia is of central pyramidal roof structure and thus the positioning of columns (normally four) inside the mosques is easily controlled. Normally, the shape of its prayer hall is either square or rectangle. If it is rectangle, the sides parallel to the Qibla wall is longer to allow better length of praying line (*safs*). It is mentioned in the *Hadith* (below) that performing congregation in the first line/row is the best;

"Did people know the importance of the *adhān* and of being in the first row, and they had no choice but to draw lots for it, they would draw lots for it."

From Bukhari and Muslim as reported by Abu Hurairah

Therefore, design of prayer halls should allow long *safs* (praying lines) to allow more believers to be in the front rows.

Colonial architects who designed Malaysian mosques during the time did not think about the praying lines and being closer to the *Imam*. Their designs are sometimes hybrids between Christian churches and great medieval mosques. Rectangle prayer halls such as Sultan Ibrahim Mosque, Johor and Muhammadiah Mosque, Kelantan are among the examples that have shorter Qibla wall compared to the side walls (Figure 2.5 below).

The Ubudiyah Mosque in Perak is another classic example with its beautiful and picturesque facade promoted as tourist attraction. The main building shape of eight pointed star leaves the prayer hall in octagonal shape which allows the praying lines to be uneven in lengths.

The prayer halls of contemporary mosques vary in shapes and designs. The understanding on prayer line form is no longer an important reminder to the builders. Circular shaped prayer hall such as the Penang State Mosque is not advisable because it does not ensure regularity of prayer lines (Khattab, 2002; 140).





Longitudinal prayer hall: Sultan Ibrahim Mosque from colonial

Octagonal prayer hall: Ubudiyah Mosque from colonial



Circular prayer hall: Penang State Mosque from contemporary

Figure 2.5: Various Shapes of Prayer Hall - Author's Own Diagrams

Mihrab and Qibla Wall⁵

External Features

Traditional and vernacular Malaysian mosques do not employ domes as their physical feature. The roof is always the traditional pitched roof (as in the traditional Malay houses) or the tiered pyramidal roof or traditionally known as 'atap tumpang'; shown in Figure 2.6, page 31. Domes covering mosque roofs

⁵ Mihrab and Qibla wall is discussed broadly in the following chapters.

started to appear in Malaysia when the colonials started to build mosques. The domes of colonial architects are always the onion shaped Mughal style. Contemporary mosques in Malaysia feature a handful of roof styles and materials. There are multiple domes, central dome and umbrella dome.



Layered roof



Onion dome





Umbrella roof

Overall, *minaret* in Malaysian mosques is normally positioned detached from the main building but Colonial mosque *minaret* is always attached to the mosque main buildings. The top of these *minarets* are normally around two or three storey high and often reachable by a normal sized person via an internal staircase but highly impractical as the staircase is always very slim. Hence the *minarets*' function to call for *Adhan* has been improvised and activated by putting or hanging electrical loud speaker cones at the top.



Wooden *minaret* is detached from mosque structure.



Concrete *minaret* is attached to the mosque structure.



Specially designed *minaret* is detached from the mosque structure.

Figure 2.7: *Minaret* Styles

2.2.2 Time Chart⁶ of Malaysia as part of *Nusantara*

500 - 1300	Srivijaya (Southern Sumatera) act as a centre of extensive federation of trading network.
1400 -1511	Melaka followed Srivijaya as major entreports for international trade located in the Straits of Malacca.
1511	Portuguese occupied Melaka and Malay elites moved south to trade.
1550 - 1630	Acheh (Northern Sumatra) becomes leading trade and cultural centre.
From the early 17 th Century	Migrations from Minangkabau (East and West coast of Sumatera) into the river valleys south of Melaka. A region known as Negeri Sembilan.
1641	forces with the Dutch from Batavia dislodge Portuguese from Malacca.
1766	First Sultan of Selangor was throne. A relative of the Bugis Sultanate.
1786	Francis Light took possession of Penang.
1794	Melaka was held by the British Empire.
1826	Melaka, Penang and Singapore were administered by the British.
1874	British Resident came to Perak
1896	Perak, Selangor, Negeri Sembilan and Pahang became Federated Malay States under the rule of the British Resident-General
1909	Kedah, Perlis, Kelantan and Terengganu were transferred from the Kingdom of Siam's authority to the British Empire.
1941	Japanese occupied Malaysia.
1946	United Malays Nationalist Organisation (UMNO) was formed.
1957(31 st Aug)	Tanah Melayu or Malaya declared Independence from the British

2.3 MIHRAB EXISTENCE

Looking back to the earliest mosque built by the Prophet Muhammad²⁵⁵, roofed area consisting the prayer hall, called *zulla*, open courtyard (*sahn*) and both the spaces are surrounded by arcades called *riwaq* and *suffa* are the only components found in the building. *Suffa* is a dormitory for travelers (*musafir*), (Kuban1974).

The mosque was then enlarged and renovated following the expanding number of the believers. The renovation included decorative elements and the existence of Mihrab⁷,

⁶ The time chart is shortlisted from *AShort History of Malaysia- Linking East and West* by Virginia Matheson Hooker (2003) New South Wales.

which is not recorded to be existed during the Prophet Muhammad ²⁶⁵ time. It is believed that the introduction of Mihrab in the Prophet's mosque was built during the Caliphate of Al-Walid and governorship of Umar bin Abdul Aziz. Umar bin Abdul Aziz is the one responsible in introducing the Mihrab to the Prophet Muhammad²⁶⁵'s mosque in Medina (Whelan, 1986).

The first was called *Mihrab Mudjawwaf* which formed in semicircular and concaved (Figure 2.9 p: 34). A governor as pious and humble as Umar r.a. should have decided all the beneficial aspects towards the good mission of Islam before coming to any decision. With this information the thesis gets the strength to go on saying Mihrab is undoubtedly a functional and vital elements in assisting prayers. According to Iskandar (2005; 77), the innovation and existence of Mihrab is welcomed by Muslim community back in Caliph Umar r.a. time until medieval and contemporary, which he categorized as *bid'ah hasanah*⁸.



Figure 2.8: The Prophet's Mosque Components (Kuban 1974)

⁷ Refer to chapter 3 for the explanation of Mihrab

⁸ The term *bid'ah hasanah* is given to new innovation that is proven to make improvement so it is not religiously suspect.



Figure 2.9: The Prophet Muhammad s Nosque - Mihrab Mudjawwaf

Jean Sauveget (1947) made the accusation of Mihrab being borrowed from church apse and Mihrab has no other function then being a "smaller replica of the palace apse" (p 30). Commenting on the function of Mihrab as the indication of *Ka'aba* direction, Sauveget stressed on saying Mihrab does not act as orientation point but the whole Qibla wall is.

What was said by Sauveget is partly correct when he ridiculed on the indication of *Ka'aba* direction which role is taken by Mihrab. But he should consider on the real ritual of congregational prayer where the *imam* or the prayer leader is positioned in the Mihrab which is part of the Qibla wall. By making it as a niche, some practical configuration has been achieved that is a *saf* (praying line) space is saved and the first row of followers should be next to the Qibla wall (Kuban, 1974).

About forty years after Sauveget's assumption, El Gohary (1984) who made a research incorporating the psychological effects of the users with the functions of mosque components, such as Mihrab. According to El Gohary (1986), a good curved niche as a Mihrab gives the feeling of being concealed and protected. Those feelings are most conducive to total attention (*khusyu*') towards the prayer and achieving *khusyu*' in prayer is very much recommended in Islam. So apart from being *sutrat al-musalla*⁹ (El

⁹ The concealment of a person in prayer. A person who performs prayer alone must shield himself from distraction and passersby.

Gohary, 1986; 119), Mihrab also provide a special place deserved by the *imam* in leading the congregation prayers. Obviously Sauveget's assumption on the function of Mihrab has to be rectified to avoid misinterpretation by the younger generation on the history of Islamic art and architecture. As the indicator of Qibla direction, Mihrab plays a big role in integrating the diversifying cultures of the Islamic believers spiritually and physically. Jean Sauvaget (1947), is among the pioneering group of historians criticizing the existence of Mihrab in mosques

"In practice, it is not the Mihrab that marks the direction of prayer, rather the entire wall at the end of the hall; when this is incorrectly oriented, the faithful cannot position themselves as they should if the imam standing himself before the Mihrab, and having adjusted his position deliberately, does not serve as their model"

Sauvaget 1947; 27

Sauveget also mentioned the word *inutility* and *serves no purpose* in clarifying the Mihrab his article, taking the Mihrab of Great Mosque of Damascus Syria for example. The faithful believers of Islam know that even though Mihrab is said to be the indication of Qibla wall, it does not mark the direction of prayer as per se. As Muslims they have known better that they should perform *solah* with "*Qiyyam*". Literally *Qiyyam* means standing straight facing the right path, with both front shoulders parallel to the Qibla direction/wall. As stated in the Al-Quran, Allah the Almighty says:

"Therefore, stand firm (on the straight path) as you are commanded and those who turn in repentance with you. And do not transgress, for He (Allah) sees well all that you do"

Al-Quran, Surah Hud (11): verse 112

If the meaning of the word *Qiyyam* is comprehended, there should not be a problem of positioning ourselves in prayer. Giving benefit of the doubts, Sauveget did make a good point to be taken by modern mosque builders when designing and ornamenting the Mihrab and Qibla wall when he further stated;

"To remedy this inconvenience, care is generally taken to provide multiple Mihrabs by constructing auxiliary niches at different points along the wall..."

Sauvaget 1947; 27

The statement will be investigated further in the research as it helps to identify some ways to achieve successful and meaningful design of Mihrab and Qibla wall.

In finding the origin of the word "Mihrab" somehow took Sergeant (1959) to various scholars' point of views. In one of his findings, Mihrab in the earlier Islamic period demonstrated that it does not mean for the niche on Qibla wall but rather for the indication where the Prophet Muhammad and normally made the prostration.

In the holy Al-Quran the term Mihrab has been mentioned five times;

- 3:37 So her Lord (Allâh) accepted her with goodly acceptance. He made her grow in a good manner and put her under the care of Zakariyâ (Zachariya). Every time he entered *Al-Mihrâb* (visit) her, he found her supplied with sustenance. He said: "O Maryam (Mary)! From where have you got this?" She said, "This is from Allâh." Verily, Allâh provides sustenance to whom He wills, without limit."
- 2. **3:39** Then the angels called him, while he was standing in prayer in *Al-Mihrâb* (a praying place or a private room), (saying): "Allâh gives you glad tidings of Yahya (John), confirming (believing in) the Word from Allâh [i.e. the creation of 'Iesa (Jesus) a.s. the Word from Allâh ("Be!" and he was!)], noble, keeping away from sexual relations with women, a Prophet, from among the righteous."
- 3. **19:11** Then he came forth unto his people from the chamber (Mihrab) and asked them by signs to glorify *God* in the morning and in the evening.
- 4. **34:13** They made for him what he desired of *Maharib*, and statues, and pools of deep reservoirs, and heavy pots. "O family of David, work to show thanks." Only a few of My servants are appreciative.
- 5. **38:21** And has the news of the litigants reached you? When they climbed over the wall into al-Mihrab;

According to Al-Quran translation by Islamic Foundation United Kingdom (2008), the term Mihrab in the holy book Al-Quran signifies the quarters that were usually built in synagogues and sanctuaries on a raised platform adjacent to the place of congregational worship, which served as the residence of caretakers, servants and beggars. In the first verse it explains that Mary lived in a quarters of this kind and devoted all her time to worship and prayer¹⁰.

Mihrab today is known as a functional space for *imam* and as an orientation device for prayer. Archaeological evidence confirmed the existence of Mihrab which in the form of concaved niche used during Umayyad dynasty and the representation has been interpreted as a prayer niche (Khoury 1998; 2). But Miles (1952) have not confirmed on the real shape of the Mihrab.

Khoury (1998) also elaborated that Mihrab does not show as an architectural element but it is more as a "sign-set of indeterminate meaning", that comes together with form, function and terminology. These three elements interact dynamically in producing meaning of Mihrab. The true meaning of Mihrab has an essential cultural value and this results Mihrab sets with different forms and functions. Khoury (1988;18) investigated Mihrab in terms of form, function and meaning and found that the answer for the investigation lies in the concave niche of the Prophet Muhammad ²⁰⁰, 's mosque. Khoury (1998) continued explaining that the Prophet Muhammad²⁰⁰, 's Mihrab, either seen as a space or niche, either as *imam*'s (prayer leader) place or symbol of leadership, actually marks the later Mihrabs with meaning and Islamic identity.

According to the Encyclopedia of Islam (Bosworth et. al.1994) there was no evidence that the Mihrab formed a niche on the Qibla wall during the earliest Islamic era. In the very early mosques, after the Prophet Muhammad⁽²⁾'s time, it was only indicated by stripes of paint and sometimes block of stone embedded in Qibla wall. The first and oldest surviving Mihrab, according to Creswell (1932) is the Mihrab of Sulayman under *Qubbat as-Sakhra* (Dome of the Rock) in Jerusalem. It is named after the Prophet Sulayman a.s. because it was used to be the place where he prayed. It is made

 $^{^{10}}$ The translation and elaboration are taken from: Towards Understanding the Quran presented online by <u>www.islamic-foundation.com</u>, with kind permission from <u>Islamic Foundation UK</u>. Retrieved on Saturday 6th February 2010

of marble panel in a rock cut chamber. Further evidence supporting Creswell (1932) is when Miles (1952). George C. Miles found out that image of the Mihrab said above has been repeated on reversed side of coins during the time of Caliph Abd al-Malik r.a.(694-695).

2.3.1 Mihrab in Islam and Islamic Architecture

The origin of the word Mihrab is hard to define as it carries vast number of expression. Whatever or however the word been interpreted by whomever scholars, it should be realised that the importance of its existence in Muslim everyday prayers especially when the prayer is performed in congregation. Looking back on its significance during the Prophet Muhammad²⁰⁰,'s time, a lance which is called '*harba*', owned by the Prophet Muhammad²⁰⁰, always planted first to indicate the direction of Qibla and where the *safs* should be generated (Wijdan Ali 1999).

Although many interpretation were made by scholars, Miles (1952 pp 156-171) found the most accurate explanation on the existence of Mihrab when he identified the "harba" as "anazah" and found evidence from a rare silver dirham in 75/695-696. The coins showed the image of 'anazah, which symbolize authority enclosed by arch similar to a Mihrab. This finding is strengthen by Al- Bukhary in his tafsir of Hadith saying that 'anazah is a short lance that was carried by the Prophet Muhammad and was placed in front of him every time he led the congregational prayer. The 'anazah was used as a sutrah or screen as it is necessary for prayer leader or those praying alone to place a screen in front of him to avoid direct disturbances from people (or animal) passing before him (Al-Bukhary and Muslim, 363 & 778). During the time, the prayer hall was empty without any walls or contained in building.

The *tafsir* (translation) gives the indication that the Mihrab and Qibla wall must be clearly defined and should be the first thing to be positioned in mosques as a practical aid for the believers (Ashraf, 2006; 212).

The evidence is proven further when the Muslims in Maghrib or Morocco and Algeria used the term '*anazah* for their Mihrab. Mihrab nowadays exists in all the mosques built all around the world, with variety of design and ornamentation. Even though the Mihrab has variety of shapes and forms, they are all up to one goal: they have an important function towards the prayers as well as carrying the glory and uniqueness of Islamic art and architecture with them.

Evidences have been laid been laid to confirm on the importance of beauty in Islam. Beauty is best portrayed in mosques as the leading symbols of Islamic art and architecture. Interior beauty of mosques should be considered as highly as the exterior design of mosque architecture. One of the ways to achieve this is by designing and ornamenting the Mihrab and Qibla wall appropriately.

Mihrab is often the focus for architectural decoration with its embellishment from the latest architectural techniques. But this modern way of decorations is sometimes too superficial and only taken on the surface. To achieve the design appropriateness of Mihrab, there is a need to turn back in time to look through the history in looking for the historical values of Mihrab from the historians and scholars who unassumingly have studied deeply on the evolution of Islamic art and architecture.

Sauveget (1947; 122-157) believed that Mihrab on mosques actually originated from the *Basilica* churches. In Muslim faith and religion, it is not the niche or the concave that is sacred but the direction it expresses. In Mihrab the direction of the user and *imam* (prayer leader) is facing towards the wall and the

followers come behind him, whilst in churches, the preacher stands by the apse facing the followers. Here lies a great difference in the meaning of the space (be it altar or niche), in Islamic faith, from the devotional purpose of Christian church's altar. Furthermore the dimension of mosque is normally longer to the side which contains the Qibla wall. Different from a church plan, it is much longer to the side which is perpendicular to the altar. The meaning of Mihrab is far from the apse, altar or temple recess. The accusation for not being totally original in existence may be true at some part, but most of all it does carry some important role in mosques purpose and architecture.

Taking it from the Medieval Islamic art and architecture, the Mihrab is considered as the focal point or the visual peak of any mosque. Just as the Prophet Muhammad stationed by the planted '*harba*' indicating the Qibla direction and lead the congregational prayer, the Mihrab is where the *imam* stations himself while leading the congregation prayer. Like what had been stated by Frishman (1994):

"In mosque interiors, the direction of Mecca is indicated by the Qibla wall in which the Mihrab niche is incorporated. As the focal point of the building, the Mihrab is often its most elaborately decorated feature."

Frishman, 1994; 36

2.4 ISLAMIC ORNAMENTATION AS MOSQUE COMPONENT

At some point this time scholars are still wondering on comprehensive study of the history, function and significance of ornamentation in Islamic architecture especially in mosques. The organizations of the ornamentation, which covers vegetal, geometrical, epigraphic and figural or even a combination of two or more of these elements are in need for some evaluation and elaboration. Most of the time, these ornaments will reflect local traditions with a mixture of foreign influences, subject to the geographical area of the particular Islamic world. Islamic ornamentation is the very element that

sews architecture and religion resulting serene, intelligible, structured and highly spiritual of Islamic art and architecture.

Mosques, as symbol of Islamic architecture must play an important role in reflecting the superiority of Allah the Almighty. There are many ways in making it successful and one of them is through the high quality of aesthetic value. Aesthetic value in Islamic architecture is normally portrayed by the highest degree of motifs and ornamentation, that normally done extensively on the exterior and interior sides of the Islamic buildings, historically.

Study done by El Gohary (1984) has shown that repetitive Islamic geometrical patterns in mosques give the similar effects as the blank or white walls. Ornamented interior will give the psychologically "turns off" one's awareness of the external environment (El Gohary 1984; 40). This paradoxical statement is studied in his research where the unconscious constructs are developed at prayer in a mosque through the influence of architectural forms and Islamic decorations. He brought in the therapeutic dimension usage of decorative works in bath houses by saying that their functions are not just for increasing the spirits (*taqwiya*) but also removing the worries and bad thoughts off the Muslim minds. These high spirits and positive thoughts are achieved and carried to the mosques where they would perform their prayers.

Human is regarded as a reflection of the innate beauty of the Almighty who had created the universe. Beauty in Islamic art and civilisation, to elaborate is a wide scope to be covered and this includes the appreciation of symmetry, balance, and also the expressions of sense of all-pervading life force were compatible with Islamic aesthetic principle (Kerlogue, 2004)

According to Brolin (2000), modernist's on art and architecture of Islamic or Western architecture, stressed on design principles, spatial organizations, and the structural and physical strength of buildings without paying much attention to the quality and usage of motifs and ornamentation. This situation is deeply regretted by Brolin (2000), with lengthy explanation on the banishment and return of ornamentation in architecture in his book by stating,

"Architects who use ornament today, even those with international reputations, are frequently ridiculed by important architectural opinion-makers"

Brolin, 2000;

The above statement is supported by Trilling (2001) with a strong argument on the twentieth century modernists who systematically excluded ornaments from the mainstream of Western art. 'Less is more', an art appreciation by Ludwig Mies van der Rohe, is said to be originated from Robert Browning poem titled 'Andrea del Sarto' and he was cursed with lack of passion. If the said slogan is actually right, then in effect ornamentation and its study is a waste of time. Whereas in art and architecture aesthetic value, most of all created by ornamentations has made a long journey through all the decades, with brilliant colour sense and inventions on the level of detail promoting the development and civilization of the people.

The importance of the medieval period art and architecture rests not only in the fact it was the time when so many of the ethnic, literary, religious, social and artistic features of traditional Islam was created, but also significant to recognize that the period is more or less contemporary with Romanesque and Gothic Europe. Like most of the problems posed by Islamic art and architecture scholars, the question of the growth and character of Islamic architectural design of ornamentation has never been discussed in entirety and deeply. They are mostly of random thoughts which may trigger wrong perceptions on the nature of Islamic art and is one of the world's religious architecture that does not only concern the Middle East countries.

Ornamentation in Islamic architecture mentioned by Grube (1978), serves several functions. Among the functions are giving the effect of weightlessness to the structure and creating articulation and non limitation to the space. Here, Grube (1978) looks at

the physical functions of Islamic ornamentation. Seralgedin (1996) though, sees ornamentation as glue in uniting the Muslims with their architectural forms and decorations. Nevertheless, both of the renowned scholars seemed agreeable that the ornamentations which give sense of being inside a place with the articulation and embellishment of the interior are inspiring and notably assets to Islamic art. The former touched on the large amount of decorative treatments of surfaces that show rich development of designs that differentiate Islamic art and architecture from non-Muslim world. Then later, Serageldin (1996), on the other hand is proud of the ornamentation in Islamic art and architecture that turns out to be both a source of artistic expression as well as inspiration.

The concept of decoration in Islamic art is flexible in nature, independent of form, material and scale, transforming the whole space ambience. According to Jones (1978), in order to trace the history of decoration and ornamentation that is being applied to Islamic monumental architecture, examination on the three chronological phases must be done. They are:

- The Classical Heritage: Determine the first phase of Islamic art (7th-8th Century). Techniques of ornamentation still inspired by the late Classical world or earlier Christian architecture. From painted mosaics, came stucco, tiles and bricks by end of the period.
- 2. The Eastern Influences: This is when Persian style of ornamentation took place together with further eastern countries such as Afghanistan and Turkistan. Remarkable decorative effects obtained by geometric bricks and terracotta patterns. This is the time when entrance portals and Mihrabs were heavily emphasized, muqarnas that were deeply recessed until 14th Century when glazed tiles combined with bricks, which result a much simpler look covering large surfaces.

3. Colour: Usage of colours in the third phase of Islamic architectural decoration took over the recessed and relieved of three dimensional textures. Sharp contrasts of dark and light coloured ceramic tiles were produced in heavy geometrical and floral patterns. This was at its summit during the Ottoman and Mughal periods.

Even though the three phases covered the entire Muslim world with variety of styles and materials, the goal set to one mission is to achieve a high standard of great psychological and visual impact. This is also answerable to the *Hadith* mentioning beauty as one of Allah the Almighty qualities and He (Allah) loves beauty.

According to D'Azebo (1958), social development and the character of Islamic ornamentation could be recognized by studying the classical heritage, the influences of the east and the illuminations. Psychological study of art has revealed on the close connection between individual style and personality, to some extent has shown a connection between style and mode of individual integration socially.

This notion becomes stronger when supported by Grabar (1983) when he talks about the development of Islamic archaeological research. Significant questions must always be queried, such as how it is developed, how it is spread and how the construction devices develop. The research results should no longer rely on the number of excavations organized looking for objects, or historically important places which sometimes lead to a complex, abstruse and overly abstract. It is important, according to Grabar (1983), before going deeper into certain ornamentation in Islamic art; first the transformations in visual forms from the religion understanding and opinion should be classified. These results of cultural products will be the evidence of civilization with some communal symbolism or motifs in the ornamentation and also the yard stick in measuring the technology level of the Muslim community. The classification will capture the changes appeared in available images and techniques created. In the medieval mosques, effort had been put so much in beautifying the house of God. The organization of the motif and ornamentation may be vegetal, geometric or epigraphic and most of the time a combination of two or more of these elements. The results of design and ornamentation could be different from one region to another. For example Malaysian way of ornamenting their mosque is different from the Arabs, but there should be a little if not much influence from the origins as they all come from one religion and community that is Islam. This is the main symbolic meaning in Islamic art that explains unity in diversity.

2.4.1 Characteristics of Islamic Ornamentation

One of the motives of Islamic traditional buildings is to make the life of believers and users correspond to their built environment, thus inter-relate strongly and harmoniously (Mortada, 2003). This point should be taken into deep consideration by Muslim authority throughout the world. Preserving Islamic faith and enhancing the application of *Syari'ah* in mosques should be the major point. With the mosque roles in religious and education, they should come hand in hand with the needs of the society in the effort to maintain an acceptable level of the basic needs of human well-being; that is beauty with the existence of motifs and ornamentation that will welcome anybody who enters the physical environment concerned.

Appreciation of symmetry, balances and also the expressions of universal life force (Kerlogue, 2004) leads to the first characteristic of Islamic ornamentation that put much strength in the infinity of patterns. It includes the intricate geometric patterns which clearly portray the infinity of Allah the Almighty. Geometry in Islamic art and architecture create the basic patterns in design, with its interlaced lines passing over and under carrying various patterns. Still taking

geometric principles as the basic guidance, meanders and circles showed the

most amazing imagination and inventiveness. (Baer 1998). The multiplication of any geometric pattern of architectural element on a different scale in one plane also helps avoid sharp contrast and clear definition of scale and surface.

2.4.2 Motifs of Geometrical Figures

Fitted on top of the geometrical basic guidelines, comes the motifs of geometrical figures that would come in floral or vegetal figures. The said figures vary throughout the Islamic regions, differentiate by geography and chronology. It can also be said that the whole of Islamic patterns represents a combination of many different styles. Those styles are sometimes adapted and absorbed from famous classical samples of various cultures (Lee 1987; 182-197). Lee's statement is much agreeable as far as this thesis is concerned, in the design and ornamentation of Mihrab and Qibla wall in Malaysian context.

Countries in the Middle East would apply motifs such as vine scrolls and other vegetal appeared in the Al-Janna as mentioned in the Al-Quran while Malaysian would use traditional motifs taken from local vegetal such as rice plant and lotus. Nowadays there appear to be adaptations of Middle East motifs and geometrical patterns in Malaysian contemporary mosques.

Both geometrical background and the motifs are mostly produced in two dimensional patterns on the mosque components. Some of the time, the geometrical patterns are in three dimensional non-structural forms which is called arabesques. Almost in all of the cases these geometrical patterns and nonstructural components are always subordinated throughout the composition. The existence of the geometrical components seldom emphasized to a certain point in the composition. According to Madden (1975; 423-430), this is done to express that Islam is independent in any historical happenings and occasions happen around the universe. This exhibits the universal character of Allah the Almighty. Geometry is the most appropriate approach to represent Allah's unbounded existence (Peker 2007).

2.4.3 Arabic Calligraphy

Second in line of the Islamic art characteristics is the presence of Arabic Calligraphy. This is said to be the ultimate art that transformed the words of the Al-Quran into a visual work of art. In this important discovery in Islamic art, the existence is subject to the overall purpose of Islamic consciousness.

Calligraphy is simply joined letters and became the simplest form of Naskh script, then "plasticized" so that they could be angulated: as in the oldest Kufic script, stretched, prolonged, bent, thickened, overlapped, and complicated as in the Thuluth script. They are sometimes made in three dimensional arabesques on carved wood as screen or stucco decoration on wall complementing the geometric composition.

Kufic script

The term "*Kufic*" was derived from the word Kufa, representing the place it was developed (Imamuddin, 1983). This type of script is angular and has specific measurement which only reached its perfection in the late 8th century. This earliest script was used in producing Al-Quran for the next three hundred years until 12th Century. Like any other elements of Islamic art, Kufic script was also modified to satisfy different cultural tastes of the universe throughout the centuries.

As a result, the original Arabic Kufic, parented three other Kufic categories, they are squared, Fatimid and modern. Squared Kufic is the most popular script to be found on building walls, especially in the halls of prayer ('Afifi 1990).



Figure 2.10: One of the Earliest Kufic Script¹¹

After the 13th century, this type of script lost its popularity when artists became more interested in cursive script. This was the moment when Kufic script modernized and spread without specific rules for the purpose of decoration.

Naskh Script

This elegant script is the most used in reproducing the Quran because it is easily written and read. According to Salameh (2001), naskh means "eradicting" because it took over Kufic script which at that time only used for decoration and not for writing the Quran anymore. The interpretation then made further by Ahmad Ebeed (2005) who said that Naskh also means '*copy*' because it was used in the copying of Al-Quran, writing back the Hadith, and other religious books. In order to allow Muslims who do not speak Arabic to be able to read the Al-Quran, The diacritical signs are added and this has upgraded its beauty and elegance.

اللهِ الرَّحمن

Figure 2.11: Naskh Script¹²

Until now, almost all Muslim around the world are familiar with Naskh script and considered to be the supreme script among all others (Hamzah, 2007).

¹¹ Retrieved from <u>http://www.caroun.com/Calligraphy/aCalligraphyGeneral/Kufic/KuficScript.html</u> on the 24th August 2007

¹² Retrieved from <u>www.crulp.org/.../Fonts/nafeesNaskh.html</u> on 24th August 2008

Thuluth script

The script is often looked complicated and hard to be read by someone who does not understand Arabic words. The proportion is complex compared to the two scripts above. In this script, the Arabic letters are often linked, and most of the time intersect and cursive. It started with more simplified basic Thuluth but because basic Thuluth is seen as less ornamental, designers often opt for a more ornamented one, for example *Jalli Thuluth* or *Aynali Thuluth* ('Afifi 1998).



Figure 2.12: Thuluth Script¹³

Thuluth becomes popular for its ornamental quality and the beauty of this script is taken to embellish most of mosque walls. The greatest achievement is when this type of script is used on the *Kiswa* of Ka'aba in Mecca (Hamzah, 2007).

There are many more calligraphy styles used in the Arab countries such as *Diwani, Riq'a, Ta'liq* and *Nasta'liq* but the three above (*Kufic, Naskh and Thuluth*) are the ones mostly used calligraphy styles in decorating mosque walls of Malaysia.

Mahmood (1981) in his scholarly research found out that Islamic calligraphy is not some art pieces that have to be looked at, read and passed. They are tell tale pieces of art that need to be comprehended and remembered because the most popular wordings taken by Muslim across the centuries for the Arabic calligraphy on mosques walls are the ones taken from the Al-Quran. Calligraphy is filled with aesthetic value as well as being a message conveying precise meanings of Al-Quran and *Hadiths*.

¹³ Retrieved From: <u>www.moa.ubc.ca/spiritofislam/unity/thuluth.html</u> on 24th August 2008

Ornamentation in Islamic art and architecture, apart from testifying diverse artistic influences incorporated in the architectural statement of buildings, also acts as complements to the architectural statement. So much so, thoughtful ornamentation will affect the behaviour of the users with the sense of interiority accompanying the building users (Seralgedin 1996).

2.5 BEAUTY FROM ISLAMIC POINT OF VIEW

Before going further on discussing the available ornamentations in Islamic world, let us look at the needs of having proper design and ornamentation on Islamic artifacts and buildings. An exhibition organized by Hood Museum of Art in 1991¹⁴, explored the complex imagery of Paradise in Islamic art that elaborates on the extraordinary richness and beauty of Islamic Art. This exhibition was intended for the western scholars to have an access to the splendors of Islamic art and culture. This event is important to mention as there is no such elaboration of information has been done until today.

Wijdan 2004, who believes in Al-Ghazali thoughts on Islam and Aesthetics said that Al-Ghazali is one of the most spiritual philosophers of Islam and his perception of beauty comes from the *Hadith* of the Prophet Muhammad²⁰⁰, "Allah is beautiful and He loves beauty".

Every thing appeared in the universe is created by Allah the Almighty, should be beautiful in its own way because every little thing created reflects Allah's majesty and beauty. The view of Al-Ghazali actually studied earlier by Ettinghausen, (1976) who discovered the two-way meaning of aesthetic in Islam. Ettinghausen (1976) emphasized on the rejection of Al-Ghazali on beauty that is seen on the external, because apart from perceiving beauty with the five common senses, it can also be seen from the sixth

¹⁴ There is a book published in conjunction with the exhibition titled, Images of Paradise in Islamic Art. Introductory chapter by Sheila s. Blair and Jonathan M. Bloom

sense, which is using the heart, soul, spiritual and moral values. Taking this into the

appreciation of art, one could conclude on the two types of art; religious and secular.

Another scholar looked at aesthetic and beauty in Islam in a slightly different way is

Gonzalez, (2001; 5-26) when she brought in the story of "King Solomon's Trap".

Gonzales again quoted Al-Ghazali saying on the two ways of perceiving beauty:

"The eye perceives the outer and surface of things, but not their inner essences; moreover, it perceives only their shapes and their forms not their real nature"

Al-Ghazali in Gonzalez (2001; 5-26).

Gonzalez explained on the above Al-Ghazali's saying by giving example on a story in the

Al-Quran;

She was invited to enter the court, al-sarh. When she saw it, she took it for a sheet of water, and uncovered her legs. Solomon told her: "This is a court paved with tiles of glass". She said, "I have wronged myself and I submit to the Lord of all the worlds with Solomon" (Solomon intended to put Balqis into trials to reveal her shortcomings)

Al-Quran, Sura Al-Naml 27: verse 44

The *surah* shows how high level of aesthetic creation on the interior part of the castle has deceived *Balqis*, the Queen of Sheba who was well known for her brightness and wealth. The astonishingly beautiful castle of the Prophet Solomon a.s.' put the Queen into thinking that Allah the Almighty had given Prophet Solomon a.s. more than what had been given by her god and people of Sheba at that time worshipped the sun. She was interested to know more about Islam and then embraced Islam and married the Prophet Solomon a.s.¹⁵. Taking this Quranic story into the contemporary world, aesthetic is beautiful, cognitive, and expressive also possess a specific status which go with its functional purpose. Islamic art and architecture as symbol of Islamic civilization must play an important role in reflecting the superiority of Allah the Almighty. One of the many ways of showing this is through the high level of aesthetic

¹⁵ To fully comprehend the aesthetic function of the story, consultation of the Islamic exegesis is necessary. Here the author's comprehension and elaboration is all based on Tafsir Al-Maraghi.

value with appropriate design and ornamentation. If the creation in context concern architecture of mosque, attention must also be given to the visual appropriateness of the interior design and ornamentation as important as the rest of the structure and components.

Apart from the Al-Quran and *Hadiths*, the importance of ornamentation in Islamic art and architecture has also been observed by looking at its purpose and affects to the users. According to Haider (1996) faith means to accept all the ideas that attribute Islamic parameter without demanding any strict evidence. The origin of having ornamentation especially in mosques is the faithful thirst for the cognizance of Allah the Almighty. The feelings are derived in striving to be closer to the One who has no location. So, there is a need for us, the believers of Islam to put forth some ideas on how Islamic faith becoming synonyms with the certitude about Islam. This is the reason why as believed by Haider (1996) that creation of ornaments and artwork especially in prostration places (mosques) are the true symbols that express faith in the religion's followers. Words from the Al-Quran for example, are known to be the words of Allah the Almighty, become operative in artistic production.

Nasr (1985) stated that the group/groups that ridiculed the beauty and intelligibility of Islamic art do not only include western historians but also a large number of Muslims that called them as modernists or reformers. Nasr (1985) assumed that the statement of those scholars as denials as they should have realized that architecture and art are valued through the depth of aesthetical value. Beautiful Islamic ornamentation evokes certain therapeutic responses. Islam is a beautiful religion, and mosque as a symbol of the religion's existence, should be built according to this overall guide.

The place to perform prayer is vital to be studied on every scope, as this will lead to the concentration and sincerity of the performers. This is the time when the believers of Allah the Almighty can be intimate with Him. If the prayer is performed alone, the

place may be at home, (houses) and if it is performed in congregation, one of the places should be in the mosques.

2.6 MOSQUE ORNAMENTATION

Appreciating the existence of Islamic art is a global concern especially when there have been many scholarly journals and books centered their scope of studies on. Islamic art includes decorating buildings of Islamic architecture such as mosques and palaces. According to Al Bayati (1983), Islamic ornamentation in terms of calligraphy, geometrical pattern and foliation, when appropriately applied will produce more functional space and give pleasant effect on the ambience.

Mosque should portray a special quality of something very sacred and serene on the interior that will invite the believers in Islam to submit to Allah the Almighty without anybody or anything else in between. Beauty in Islam is not a contentious issue to be discussed and it is clear enough if looked through the eyes of classical Islamic philosophers. For instance a famous spiritual philosopher of Islam, Al-Ghazali¹⁶ relates the artistic creations of Muslims as in close proximity to the existence of God. According to Al-Ghazali, the awareness of beauty as seen by *Sufi* perception is much related to firstly the *Hadith* saying God is beautiful and Loves beauty (a *Hadith* of the Prophet Muhammad \cong in *Sahih Muslim* 1.93:91.), secondly everything in the universe is created by God and those things will reflect God's majesty and beauty. Therefore men as one of God's creation must lead their life revealing God's way of guiding us (Wijdan Ali 2001).

There is also an indication of aesthetics found in Al-Quran concerning a Prophet-king, Sulaiman a.s. when the Al-Quran describes on the visit of Queen Balqis of Sheba to the

¹⁶ Al-Ghazâlî (c.1055-1111) was one of the most prominent and influential philosophers, theologians, jurists, and mystics of Sunni Islam. He was active at a time when Sunni theology had just passed through its consolidation and entered a period of intense challenges from Shiite Ismâ'îlite theology and the Arabic tradition of Aristotelian philosophy (*falsafa*). (Stanford Encyclopedia of Philosophy 2007)

Prophet Sulaiman's a.s. palace (Sura al-Naml of Al-Quran 27:44). The Prophet Sulaiman a.s. is one of the prophets that lived before the Prophet Muhammad Gonzalez (2001), did a thorough research on the said parable from Al-Quran especially on the final incident where aesthetical creation of the Prophet Sulaiman's a.s. court had actually deceived the intelligent Queen of Sheba. She realized that the Prophet Sulaiman's a.s. God, Allah the Almighty, had bestowed upon him more than her god, the sun. (Tafsir Al Maraghi). From her research, Gonzalez (2001) found out that the Prophet Sulaiman a.s. is the founder of a powerful artistic paradigm.

Many more guided interpretations could be derived from this particular parable but the gist concerning this thesis taken from Gonzalez paper is that the ornamentation of the Prophet Sulaiman a.s.' court had made *Queen Balqis* admitted to the greatness of Allah the Almighty, embraced Islam and married His prophet. None of the sentences in the parable mentioned about how the physical appearance of the palace was like. A lesson should be learnt from this Quranic history in designing the interior of mosques where the aesthetics would invite the faithful, or may be passers-by would catch glimpses of the ornamented Qibla wall and attracted to the beauty of Islamic art and architecture.

2.7 CONCLUSION

The result of modernist movement has always misinterpreted the existence of ornamentation as symbol of luxury. Mosque symbolizes the existence of a beautiful religion that is Islam. Visiting the house of Allah *Al-Jameel* (the beautiful) or a sacred place where we could spend our time getting intimate with Him we should encounter the joy of beauty at all levels of His existence. Unfortunately, in the modern world, we always provide nice decoration with marble banking halls and agree with so utilitarian and aesthetically poor mosques internal. The prayer hall for example, if it is not for the small niche that demarcated the Qibla wall and dome on top, the mosque could be misapprehended as a multipurpose hall.

Mosques should be categorized under socially inspired type and this type is like residential where it should be studied together with its relationship to social factors such as users' needs physically and psychologically (Tice 1993). These buildings should give the highest comfort that satisfy the psychological tranquility to the users in different cultural needs. In the Al-Quran, it has been mentioned in about 120 passages describing the paradise (Al Janna) being a beautiful place giving serene sense. As in the following verse;

"For them will be Gardens of Eternity; beneath them rivers will flow; they will be adorned therein with bracelets of gold and they will wear green garments of fine silk and heavy brocade; they will recline therein on raised thrones. How good the recompense! How beautiful a couch to recline on!"

Al-Quran, Surah Al-Kahf 18: verse 107

This is the starting point where most of the medieval mosque, for example the Great Mosque of Damascus, put forward their aesthetics feature of motifs and ornamentation, which portrayed the Paradise garden symbolically.

On the later erections of medieval mosques for example Mosque of Al-Hakim under Fatimids dynasty, those features from paradise are then simplified to be in structured geometrical designs that are pleasing to the eyes of whoever witnessing them. Everyone in this world would not oppose to be in a beautiful place and this is shown clearly when we opted for beautiful houses for us to live in.

This theory is then taken into deep consideration by Abdel Rahman (2002) and he called the scheme of beauty as the grand tradition of Islamic architecture. This so called beauty emerged through the manifestation of floral and geometrical motifs in arabesques and the beautiful Islamic Calligraphy inspired from the meaningful Quranic verses. Where else is the most suitable place to instill all those precious artistic and ornamental values other than in mosques, the very place where all believers come at least once a week or five times a day at the most.

CHAPTER 3: MIHRAB IN MEDIEVAL MOSQUES

The field of Islamic art and architecture takes up a huge coverage of Islamic lands between the Atlantic and the Indian Oceans; from the Sahara Desert to the greens of Central Asia (Bloom et al 2002; xi). The styles of these Islamic art and architecture were formed from the 7th until the early 20th century and have influenced the Islamic built environment around the world since then especially in the design and making of mosque and its components.

Figure 3.1 below, shows the timeline of various Muslim Dynasties that has administered, expand and spread the Islamic faith, guided by verses of the Al-Quran and *Hadiths*, throughout the world beginning with the Ummayad Dynasty to the fall of the Ottoman Empire in 1922.



Figure 3.1: Medieval Timeline

Retrieved from: www.middle-ages.org.uk/middle-ages-timeline.htm

3.1 THE ISLAMIC DYNASTIES AND THEIR MOSQUES

According to Hasan-uddin (1983) mosque is a centre piece of research that has formed and treasured the fundamental basis of Muslim architecture. With this notion, prior to a study on mosque architecture is planned to take place, it is only fair that study on the mosques built in the medieval period to be studied first. In order to avoid indeterminate state, the author sees that it is best to go through the periods of Islamic dynasties in selecting the mosques to be on this study list. The Islamic Dynasties are customarily linked with the genesis of Islamic art and architecture because simultaneously, history of Islamic military conquests from the death of the Prophet Muhammad ²⁰/₂₀ in 632 AD could be traced in chronological and geographical ways (Hillenbrand, 1999; 11).

3.1.1 The Umayyads and Their Mosques

Most of the mosques during the Umayyad Dynasty were conversion of temples and churches, which had undergone major renovation. Different from churches, which normally give the feeling of being enclosed, mosques in the medieval Islamic era, especially during the Umayyad Dynasty, is opened to the courtyard providing free flow of daylight and air.

According to Wijdan Ali (1999), Umayyad architecture is respectfully shown in the Great Mosque of Damascus. It is also a clear example on the innovative use of space, where a number of new, important and meaningful elements of Islamic architecture are contained.

When Damascus was taken by the Muslims, many churches were converted into mosques. A prominent example is the Great Mosque of Damascus which started as an Aramean temple in 3000BC. It was then taken by the Christians, under the Emperor Theodosius, as their church of St John the Baptist, in 379 AD. Major changes were made to the floor plan in order for it to become a mosque. The west door of the church had to be blocked and the north wall was pierced to allow the existence of doorways which ended with a lateral axis perpendicular to the direction of the Qibla. In inaugurating the mosque, it was said that Caliph Al- Walid bin Abdul Malik made the announcement stated below (Flood 2000).

"Inhabitants of Damascus, four things give you mark superiority over the rest of the world: your climate, your water, your fruits, and your baths. To this I wanted to add a fifth: this mosque". Flood, 2000 on Caliph Al- Walid bin Abdul Malik

The Great Mosque of Cordoba is another significant example of Islamic architecture built in the Umayyad Dynasty. Even though the mosque went through major renovations and expansions, the basic formula of arcades was maintained in each of the additions. The arches create mysterious space that is often described as a forest of stone (Alejandro, 2005; 81-85).



Great Mosque of Cordoba Great Mosque of Damascus Diagrams showing floor plans with the imaginary axis lines drawn from prayer hall entrance to mihrab (Retrieved from: Arieda, 2003)

Figure 3.2: Umayyad Mosques

Mihrab Visibility

The floor plan of both mosques in Figure 3.2 shows clear visibility of the Qibla wall from the entrance via the courtyard creating focal point for the users towards the Qibla direction. In Damascus Mosque, a series of arcades provide aisles that emphasized position of Mihrab (Flood, 2000; 193).

• Mihrab Shape

The Mihrab is in semi-circular shaped niche and formed in concave. This is one feature that is certain to be found in Caliph Al-Walid mosques (Flood, 2000). A small dome in front of the Mihrab is employed to terminate the axial nave made by the centre aisle. However, Mihrab of the Cordoba Mosque is not a niche from the Qibla wall but rather an octagonal shaped chamber built along the Qibla wall.



Figure 3.3: Mihrab Niche of Damascus Mosque and Mihrab Chamber of Cordoba Mosque



Figure 3.4: Vine Frieze in Damascus Mosque After Flood 2000. Retrieved from: <u>www.hispanic-</u> <u>muslim-architecture-iii.html</u> (figure 3-3 & 3-4)

Mihrab Ornamentation

According to Flood, (2000; 111) in the Great Mosque of Damascus, existence of vine frieze on top of the Mihrab frame is part of building standards during the reign of Caliph Al-Walid. It was set to be a defining decorative style in most imperial mosques built during the time. The vision of *Al-Firdausi* is taken as the main component of ornamentation in the prayer hall especially the Qibla wall of both Umayyad Great Mosques. Syrian architectural features in Cordoba Mosque were apparent at the beginning but then through renovations and time, they were absorbed by local traditions and new innovations; for example the horse-shoe arch framing the Mihrab chamber (Figure 3.3), is said to be borrowed from the 6th century *Visigoth* Church of Santa Maria de Melque in Spain.

3.1.2 The Abbasids and Their Mosques

During Abbasids era, standard type of *Jami*' or Friday or congregational mosques were found. Abbasids' art and architecture were influenced by Sassanian, Seljuk and Central Asian as what could be seen in the Mosque of Samarra (Jamila et. al., 2001; 18-20).

According to Fairchild (1990), Abbasid architecture built its own characteristics such as the famous Abbasid spiral *minaret* as seen in front of the Mosque of Abu Dulaf, 848-852 (Yalman, 2000).

Like the other historical buildings in Samarra, Abu Dulaf Mosque is in ruins. An excavation work was conducted by Iraqi Department of Antiquities in 1940 and it was found that its outer main structure consisted of 40 semicircular towers including the main four at the corners of the rectangular mosque.



Figure 3.5: Floor Plan of Abu Dulaf Mosque (Arieda, 2003)

The interior is organized by two sets of arcades running perpendicularly in the form of arches. One is the 16 arcades running north to south and the other set is the 17 arcades running east to west, intersecting right in front of the Mihrab. At both sides of the Mihrab, there are doors connecting the mosque to the governor's palace.

• Mihrab Visibility

If a line were to be constructed from the *minaret* point, the entrance point and the centre of the Mihrab niche, an axis will be drawn. Mihrab can be seen directly from the entrance point.

• Mihrab Shape

The Mihrab is in semi circular concave taken after Umayyad mosques.



Figure 3.6: Mihrab Niche of Abu Dulaf Mosque. Retrieved from: www.dur.ac.uk/derek.kennet/abudulaf.htm

Mihrab ornamentation

The Mihrab is celebrated like a great doorway right at the centre of Qibla wall. The semicircular shaped niche takes up to the ceiling level flanked by two sets of columns left and right. The niche is then framed by rectangular shaped stucco which is at the same level as the wall face. All construction of Abu Dulaf Mosque is from baked mud bricks and stucco.
3.1.3 The Tulunids and Their Mosques

The Mosque of Ibnu Tulun was completed in 879 AD. The baked brick structure became an important landmark of Tulunid capital for 26 years, reflecting most of the characteristics feature of Abbasid art and architecture. These include the famous Samarian spiral *minaret*, rectangular piers in the prayer hall, semicircular columns on the external structure and stucco decorations. This mosque is the oldest best preserved mosque in Egypt and contains the oldest and richest stucco decorations, resembling the mosque of Samarra (Fikri, 1961).

Similar to the Abu Dulaf Mosque and other mosques of Samarra, there are two doors located on each side of the Mihrab on the Qibla wall. The doors lead to the *Dar-al-Imara* (governor's palace) which has three rooms. Altogether there are six Mihrabs along the Qibla wall. The only concaved Mihrab is the main Mihrab its niche reaches the height of the ceiling.

Mihrab Visibility

As the other medieval mosques, the visibility of Mihrab from entrance point is good.



Figure 3.7: Mosque of Ibnu Tulun (Fikri, 1961)

• Mihrab Shape

The Mihrab is in semi circular concave, similar to the one in Samarra. The pointed arch in front of Mihrab niche is flanked by two pairs of marble columns.



Figure 3.8: Mihrab Niche of Ibnu Tulun Mosque. Retrieved from: www. Qibla_of_the_Ibn_Tulun_mosque.jpg

Mihrab Ornamentation

There is a band of calligraphy on top of the Mihrab arch, inscribing the 'Syahadah' in Kufic script.

3.1.4 The Fatimids and Their Mosques

Similar to the mosque of Ibn Tulun, the interior structure of Al-Hakim Mosque in Fatimid dynasty is formed by series of arcades carried on rectangular shaped brick piers. Two distinguished differences between the Mosque of Ibn Tulun and Al-Hakim Mosque are the newly existed *minarets* and monumental entrance in Al-Hakim Mosque. The portal with ornamental recesses gives the characteristics to Fatimid architecture (Meinecke-berg, 1978; 222).

The Mihrab of Al-Hakim Mosque is emphasized with a wide and long aisle perpendicular to the Qibla wall. The aisle is then terminated right in front of the Mihrab and marked by a dome on top. Two other domes are used to mark both ends of the Qibla wall.

• Mihrab Visibility

 The Mihrab can clearly be seen from the entrance point. The position of the Mihrab is also visible from the mosque roof marked by semi circular dome and the central nave in front of the Mihrab is raised higher above the roof.



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Mihrab Shape

The Mihrab is shaped semi circular in concaved form. The ceiling of the Mihrab is defined by semi circular dome.



Figure 3.10: Mihrab Niche of Al-Hakim Mosque. Retrieved from: www.reviews-Al_Hakim_Mosque-Cairo.html

3.1.5 The Almoravids and Their Mosques

The Great Mosque of Tlemchen is in irregular pentagon shape measures about 60 meters by 50 meters. The prayer hall is rectangle made up of thirteen parallel aisles that run perpendicular to the Qibla wall. Similar to other medieval mosques, the central aisle is given special treatment and it leads to the Mihrab. A dome appeared in front of its Mihrab. According to Jairazbhoy (1972), Cordoban influence in Tlemcen mosque is much being expected because artisans and architects from Cordoba were brought in during the construction of the mosque.



Figure 3.11: Floor Plan of the Great Mosque of Tlemchen, Arieda 2003



Figure 3.12: Mihrab Niche of the Great Mosque of Tlemchen. Retrieved from: www.touristspots.org/tourist-spots-in-algeria/tlemchen

3.1.6 The Ottomans and Their Mosques

The oblong prayer hall of Üç Serefeli Mosque is preceded by an open court. There are three portals to reach the open court located on the northwest, the northeast and the southwest. An ablution fountain occupies the center of the court. On top of the prayer hall appears to be a huge dome measuring 24 meters in diameter.



Figure 3.13: Floor Plan Üç Serefeli Mosque, Arieda 2003

The upper wall of the Mihrab is decorated with painted patterns of interlocking wheels and stars. The window panes on its left and right sides reflect the wood carving motifs of the period. The niche shape is semi decagonal and finished with plain white marble.



Figure 3.14: Mihrab Niche of Üç Serefeli Mosque. Retrieved from: www.archnet.org/library/images/thumbnails.jsp?location

3.1.7 The Safavids and Their Mosques

The Safavids Dynasty (1501-1732 AD) was formed in Iran and Iraq and its center was in Tabriz, Qazbar and Isfahan. Shah Abbas who ruled from 1587-1629 is said to be the initiator of Persian architecture (Pope 1965 p 207). This Persian architecture achieved a high level of visual art through coloured mosaic and glazed tiles that were brought to a peak of perfection during that time. In Isfahan, the *Maidan* (publics square) is the most impressive sight to behold and it is still in operation today. The most prevalent type of mosque design during the Safavid era is the *Iwan* style. Four Iwans Masjid-i Shah is a typical mosque

built during Safavid period. The *Iwans* are all open to a central courtyard and the largest is of course the main entrance which is directly connected to the mosque's prayer hall.



Figure 3.15: Orientation of I-Shah Mosque. Retrieved from: www.flickr.com/photos/peteshep/4280496673/

• Mihrab Visibility

Entrance portal to the Shah Mosque is aligned with the roadside on the *maidan* square but the rest of the building is rotated about 45 degrees to face Mecca (Blair and Bloom, 2004;512-513). From the portal an axis is seen through the courtyard and the middle of prayer hall. The visual peak of this axis is at the centre Mihrab.

Mihrab Ornamentation

The Mihrab is in semi hexagonal shallow niche. The Mihrab and the Qibla wall are fully decorated with mosaic of ceramic tiles forming various geometric and floral patterns. During the Safavids Dynasty, every surface and element of the mosques are covered with colours and patterns. A simple *muqarnas* topped the Mihrab and fronted by pointed arch.



Figure 3.16: Mihrab Niche of I-Shah Mosque. Retrieved from: www.flickr.com/photos/peteshep/4280496673/

3.1.8 The Mughals and Their Mosques

During the Mughal Dynasty most of the mosques were built in the city centre. Muslims lived within the vicinity of the mosques. Urban expansion continued with the opening of more cities, therefore more mosques were built (Blake, 1991: 26-30). In the fort of Agra, a unique mosque was built in white marble and so called the Pearl Mosque or Moti Mosque. This mosque is an evidence of the great craftsmanship of the Mughals. It is crowned by 3 domes, all of which are on top of the Qibla wall; one at the centre and the other two at the extreme ends.



Figure 3.17: Floor Plan of Moti Mosque. Retrieved from: thesplitlabs.com/research/bohra-mosques-in-gujarat/

Moti Mosque employs multiple niches on its Qibla wall and the Mihrab is in direct axis from the entrance point. There are six more niches on the left and right of the Mihrab emphasised by the outline of multi foil arch in white marble similar to the second layer of the Mihrab arch.



Figure 3.18: Mihrab Niche of Moti Mosque. Retrieved from: thesplitlabs.com/research/bohra-mosques-in-gujarat/

Mihrab Shape and Design

The niche of Mihrab is shaped in semi hexagonal. The Mihrab wall is concaved and merged as a half domed ceiling on top. Mihrab is finished with white marble.

3.1.9 The Han's Muslim in the Ming Dynasty and their Mosques

During the days of the Prophet Muhammad ²⁶⁵, Islam was informally brought to China by the Arab traders. Islam formally began to spread in China during the time of the Caliph Uthman bin Affan r.a. (650 AD). The Emperor of China was called Yung Wei.

Yung Wei loved Islam so much that he ordered a 'memorial mosque' to be built. The Great Xi'an Mosque is said to be the largest and best preserved mosque among the available historical mosques in China and it still stands proudly today.

Culture and tradition have deeply influenced the overall floor plan of the Great Mosque of Xi'an as it resembles a Chinese temple (Figure 3.19) which normally has courtyards with pavilions and pagodas. There is an axis collecting all the courtyards in line and the main focus is at the prayer hall court. The axis starts from the entrance court of the mosque and stops directly at the Mihrab end which lay at the centre of the Qibla wall.



Figure 3.19: Floor Plan of the Great Mosque of Xi'an. Retrieved from: www./la-moschea-di-xian.html

This axis runs through the prayer hall entrance and the Mihrab. The Qibla wall is situated at the western end of the mosque court. During the day, the Qibla wall seems dimly lit due to the existence of two skylights.



Figure 3.20: Mihrab Niche in the Great Mosque of Xi'an Retrieved from: www./la-moschea-di-xian.html

The Mihrab is shaped in rectangular niche with flat ceiling. The arch on the façade of niche is about two meters high and is ornamented with carved arabesque and calligraphy.

3.2 MEDIEVAL MOSQUES AND THEIR MIHRABS

Bloom (2002; xi), stated that the development of mosque's spatial organization, calligraphy and arabesque took off during the Medieval period. Hence, worldwide Islamic architecture got their forms, techniques and themes in erecting their mosques during the Medieval period starting from the Umayyad Dynasty.

During the reign of the Umayyads, Christian Byzantine architecture had great influences on Islamic design with capital columns structuring hypostyle mosques. In the middle of 8th Century, Abbasid architecture started to appear with its spiral *minaret* and semi circular columns. Later, 'Four *Iwan*' mosque plans came into picture sometime during the 11th century under Seljuks Dynasty of Iran, especially in Isfahan. In the middle of 13th century i.e. during the reign of Ottoman Empire, huge internal space was created by employing a single central dome (Grabar, 2007; 44).

3.2.1 Mosque Floor Plan

Designers and builders of Medieval mosques put great emphasis on the axis and visibility of Qibla direction. In the Abbasid mosque, the axis is much stronger with the existence of a spiral *minaret* before the entrance point.



Figure 3.21: Floor Plans of the 10 Selected Medieval Mosques

In all the 10 selected medieval mosques, shape of their floor plans is rectangle, with the longer sides lay parallel to the Qibla wall providing a longer *saf* (praying line) formation.

Most of the prayer halls are filled with series of columns forming aisle sanctuaries. The biggest aisle collects the entrance point of the prayer hall to the Mihrab thus enhances the Mihrab visibility.

Most of these Medieval floor plans are divided into three spaces, namely the entrance portal, courtyard and prayer hall. The entrance portal is signified by a dome on top or by *Iwan* (Safavid mosque) whilst the courtyard is mostly centered by an ablution fountain where it is most conveniently situated.

3.2.2 Mihrab Shape and Form

Most of the mosques under study owned semi circular niche concave Mihrabs. This type of Mihrab is also called *Mihrab Mudjawwaf*. However, in the Tlemcen and Moti mosques, semi octagonal shaped niche are employed for the Mihrabs. This octagonal shaped niche found in the Tlemcen Mosque (1136) and the Moti Mosque (1662) during the Almoravid and the Mughal period respectively, is not something new as it had already been used earlier in the Great Mosque of Cordoba during the Umayyad Spain period. However, instead of having a niche, the Great Mosque of Cordoba employs a full octagonal shaped room positioned in the middle of the Qibla wall as a Mihrab chamber. The Great Mosque of Xi'an is the only Mosque under study that owns a rectangular shaped niche with a flat ceiling. Rectangular shaped niche was first introduced by the Persian and reached China through the traders during the 7th century (Dillon, 1999; 11-15).

• Mihrab Mudjawwaf

Mihrab Mudjawwaf is a semi-circular concaved Mihrab. It was first introduced by Umar b. Al-Aziz, the governor of Medina, when rebuilding Prophet Muhammad s mosque (706-707) on the very site of the

Prophet Muhammad ³⁶⁵'s house (Whelan, 1986; 205-223). According to Whelan, the first *Mihrab Mudjawwaf* was built to commemorate the point where the Prophet Muhammad ³⁶⁵ faced when leading the congregation. Therefore the Mihrab was not initially introduced as part of architectural elements but rather as a commemorative and historical value. Whelan (1986) then goes on concluding,

"Yet, from its inception, the *mihrab mudjawwaf* was the focus for the *imam* as he led the Friday prayers; it thus served to indicate the *sutrah* (praying space) for him and for the entire congregation. Surely it was this very precise function in the Islamic worship service that caused the *mihrab mudjawwaf* to be adopted almost immediately for every mosque in Islam, large or small." Whelan, 1986; 215

The existence of semi circular concaved Mihrab is then studied by Khaiyat (1996) who agrees on its use as an indicator towards the Qibla direction and a praying space for the *imam* whilst leading the congregational prayers. Khaiyat (1996) also found that semi circular concaved Mihrab has a certain acoustical implications. Sound wave reflected on concaved form provides better vibration in projecting the imam's voice when reciting verses during prayers hence could be heard by larger congregations.

In the architectural vocabulary of Mihrab by El-Gohary (1984; 123), Mihrab consists of two elements i.e. walls and columns. The *imam* will face a solid wall which is normally built in a concaved form and the columns are erected on both his sides.

• Other Mihrab Niche

Iraqi and Persian introduced the rectangular Mihrab as a rule to their territory. This could be influenced by *Persian Iwan* or the rectangular recesses of Nestorian churches in Iraq. Later, sizes of Mihrab began to vary according to the size of mosque. However, Mihrab does not need to

be enlarged because its usage is still for a single person (*imam*). Sauvaget, (1947; 149) commented on Umayyad's Mihrabs which are fairly uniform in size regardless of the mosque scale. He viewed the Mihrab to be just big enough for one person. Whelan's (1986; 221-222) study of 12 Umayyad Mihrabs showed that most Umayyad's Mihrabs have a maximum width of 2m and thus suits a single user regardless of the mosques size' but his table is incomplete without the Mihrabs' height and hence no concrete conclusion could be made.

3.2.3 The Visibility of Mihrab

Directional guidance on 'where the believers' focus should be turned to is an important aspect to be considered in designing mosques. One way to achieve focal point is by celebrating the Mihrab and Qibla wall¹.

Hillenbrand's (2001) study on medieval mosques clearly shows that decoration is concentrated at places where it has the most effect such as the Portals (entrances), Mihrabs and Royal Throne rooms. The Mihrab which is considered to be a late comer in mosque components accorded the most visual prominence and status compared to other mosque components (Hillenbrand 1994).

Babur's mosque which was built in 1527 (under Mughal dynasty), it is seen that the Qibla wall is finished with stone-faced while the other walls are finished with plastered stucco over brick work. There is a bay leading to the centre of Qibla wall (Mihrab) in most of medieval mosques that suggests the focal point of the entire prayer hall. The Mihrab is also visible from the outside through the wide opened entrance. The Mihrab draws the visitors' attention with verses

¹ The wall facing the Ka'aba. Islamic architecture has always converges on a focal point; in mosque the point of emphasis is the Mihrab, if it is in a garden pavilion the points meet at the center of a cross axis and the tomb of saint will be the point of emphasis in any mausoleum (Ardalan *et al* 1973 pp70-75).

from Al-Quran written in artistic calligraphy (Geraldine et al, 1992). Ardalan (1980) confidently mentioned that Mihrab is the 'object' of Islamic architecture. This object is the main physical component of mosque architecture. Allah the Almighty is the centre of the universe and this is carried by the central focus of Ka'aba where all the mosques throughout the earth align their Mihrabs and Qibla walls (Wijdan Ali 2001).

Ardalan (1980) believes that art historian scholars should not take examples of figurative art in examining and explaining Islamic art and architecture. On the other hand, tangible elements of sacred architecture such as Mihrab on the Qibla wall ought to be given similar consideration as it carries the entire architecture comprising of geometry, arabesque and calligraphy.

3.2.4 Mihrab Ornamentation

Mihrab should be comprehended, honoured and treasured as one of the important elements of Islamic art and architecture. When mosques were built during the Umayyad Dynasty (661-750), Mihrab and Qibla wall started to receive a facelift, where they were heavily decorated with meaningful motifs and ornamentation defining its distinctive features of *Al-Jannah* (paradise) in Islamic art and architecture. In contemporary mosques, the meaning and significance of Mihrab is taken literally and superficially, resulting in most raw motifs and ornamentation being copied bluntly, leaving doubts and queries. Some of the mosques only give full attention on the Mihrab alone, leaving the rest of the Qibla wall, which is impregnating the former, less ornamented or sometimes even blanked.

The scope of beauty covers the desire to create with motifs and ornamentations which goes as far as virtually every aspect of daily life i.e. clothing, utensils, cars, lighting fixtures, electric appliances and of course architecture (Kerlogue

2004). Modern art and architecture stressed on design principles, spatial organizations, the structural and physical strength of buildings without paying much attention to the motifs and ornamentation.





Mosque of Cordoba

Mosque of Damascus



Shah Isfahan



Al-Hakim Mosque



Xi'an Mosque





UC Serefeli Mosque



Ibnu Tulun Mosque



Moti Mosque

Figure 3.22: Mihrab Shapes and Designs of 10 Selected Medieval Mosques

Motifs and ornamentation help beautify the ambiance of mosques internally. Pleasant and comfortable environment encourage believers to pray and meditate towards Allah the Almighty in the mosques. However, ornamenting Mihrab and Qibla Wall is not as simple as choosing wall papers for the bedrooms. There are a lot of aspects that need to be considered because ornamentation in mosques and mosque architecture is not merely decoration. Since there are no guidelines to be followed, historians such as Nasr (1985) pays much attention to the aesthetical aspect in his works and they are fruitful for the upcoming generations. As quoted from his book,

"The calligraphy related directly to the Divine Word, may be said to symbolize the Principle of creation, the geometric elements symbolizing the immutable patterns or masculine aspect while the arabesques, related to life and growth, represent the living, changing and maternal aspect of creation. Seen in this light, the calligraphy can be contemplated as the principle from which the two other elements of Islamic patterns, namely the geometric and arabesques, originate and into which they become integrated as all the cosmic dualities become integrated in the unity of the Principle."

Nasr (1985; 29)

From Nasr's explanation, it is clear that all the elements in Islamic ornamentation are mostly captured together and seldom leave any thing behind. According to Nasr, appropriate elements of Islamic ornamentation will be highlighted through evidences from the medieval mosques and studies made by scholars. The result will be taken as comparisons to the Malaysian mosques under study in the following chapters.

Calligraphy

Some Mihrabs in medieval mosques contain one of two verses from the Al-Quran which mentioned the word 'Mihrab' i.e. verse 3:37 or verse 3:39 shown below.

"Right graciously did her Lord accept her: He made her grow in purity and beauty: To the care of Zakariya was she assigned. Every time that he entered (Her) chamber (Mihrab) to see her, He found her supplied with sustenance. He said: "O Mary! Whence (comes) this to you?" She said: "From Allah: for Allah Provides sustenance to whom He pleases without measure.""

Al-Quran, sura 3: verse 37

"While he was standing in prayer in the chamber (Mihrab), the angels called unto him: "Allah doth give thee glad tidings of Yahaya, witnessing the truth of a Word from Allah, and (be besides) noble, chaste, and a prophet, - of the (goodly) company of the righteous.""

Al-Quran, sura 3: verse 39

Hamzah 2007 reported another popular inscription for Mihrab below.

"Allah is the Light of the heavens and the earth. The similitude of His Light is as a niche where in is a lamp. The lamp is in a chandelier (of glass). The chandelier is as it were a star glittering like a pearl; it is lighted from the blessed olive tree which is neither of east nor of west, it is near that its oil may flare up even though the fire touches it not. The Light is upon the Light. Allah guides to His Light whomsoever He will and Allah narrates examples for the people. And Allah knows all things."

Al-Quran, Sura An-Nur (24): verses 35-38

Another frequently used verse for ornamenting Mihrab and Qibla wall is:

"It is not righteousness that ye turn your faces towards East or West; but it is righteousness to believe in Allah and the Last Day, and the Angels, and the Book, and the Messengers; to spend of your substance, out of love for Him, for your kin, for orphans, for the needy, for the wayfarer, for those who ask, and for the ransom of slaves; to be steadfast in prayer, and give Zakat, to fulfill the contracts which ye have made; and through all periods of panic, such are the people of truth, the God –fearing."

Al-Quran, Sura Al- Baqarah (2): verse 177

The verse has been elaborated that Allah the Almighty wants Muslims to believe in what they are doing. It is not only a matter of facing the Ka'aba but most of all joining the two aspects of believing and doing at the same time (Ayatullah and Fadlullah, 2002). The verses mentioned above are among the most appropriate ones taken from the Al-Quran to be commemorated in mosques especially at the Mihrabs.

Geometrical Patterns

Craftsmen in the world of Islamic art and architecture have adorned buildings with ornamentation in term of geometrical designs. These geometrical expressions are still among the most recognizable expressions of Islamic art, architecture and culture among Muslims and non-Muslims in a similar way (Broug, 2008). The word culture is included in Broug's (2008) explanation because culture is the main influence that differ one 79 design to another even though the basic theme is geometrical. Different dynasties have different aesthetic sensibilities and this is elaborated and shown in this study that looks into selected medieval mosques. Apart from that, identity of Islamic art is still remained by the existence of 'originality'. According to Ardalan *et al* (1973), 'originality' comes with permanence and changes. Permanence is derived from the archetypes that follow the geometrical rules of art forms. Changes happened when creative imagination of certain community or culture proposed for new techniques, functions and materials according to their needs.

Most of the time art in Islamic worlds would make anybody fix his eyes on with great admiration (Broug 2008). This is one of the qualities of Islamic art and architecture that is needed in mosques; to be admired by anybody, thus giving the welcoming effect not only to the Muslims but also to the rest of the world. Like the verses chosen for the inscription on Mihrab and Qibla wall, the themes for geometrical patterns are also judged in high deliberation by the medieval craftsmen. Remembering Allah the Almighty is the foremost thing to do in Muslim everyday activities. This is supported by Al-Quran and *Hadiths*.

"Then do ye remember Me I will remember you." Al-Quran, Sura Al- Baqarah (2): Verse 152

"The Prophet (Peace be upon him) said that Allah Ta'ala has angels roaming the roads to find the people of *dhikr*, i.e. those who say La Ilaha Illallah and similar expressions, and when they find a group of people (*qawm*) reciting *dhikr*, they call each other and encompass them in layers until the first heaven -- the location of which is in Allah's knowledge. (This is to say, an unlimited number of angels are going to be over that group)."

Hadith from Al-Bukhary and Muslim

This is the basic guideline of ornamenting Mihrab and Qibla wall. For example, the decoration of the prayer hall in the Great Mosque of Damascus is derived from the imagination of *Al-Firdaus* (the highest level of paradise).

"Al-Firdaus is the vineyard and the grapes on a high mountain from which the rivers of Paradise are born: it is the centre of Paradise, the highest part of Paradise..."

Flood (2001) on Kitab Wasf Al-Firdaus by Ibn Habib

Those images of paradise were then transformed into geometrical expression in the later mosques and this job is called "*art duty*" by Wijdan (2001); transforming the physical environment into a reflection of the spiritual world to enhance the awareness of God through the creation and contemplation of aesthetic creation.

3.3 CONCLUSION

By pointing towards Mecca, the direction in which all Muslims pray, the Mihrab symbolizes unity in the diverse world. Apart from this strongly agreeable notion the Mihrab, for all the believers of Islam, must act as a welcoming element despite the physically simple look of the mosque. Typological study of the floor plans, (Figure 3.21), shows that in the medieval mosques, the Mihrab appears in all Qibla walls. The aisle leading to the Mihrab is most of the time the biggest among the other aisles in the prayer hall. The builders of medieval mosques were concerned on the Mihrab visibility from the entrance point. Upon standing at the portal of mosque, visitors will readily face the Qibla direction. The visibility of Mihrab is made clearer with the appearance of aisled sanctuary. In the case of Shah Mosque or Imam Mosque in Isfahan, the floor plan is rotated at about a forty five degree angle from the road line to get the entrance and prayer hall parallel to the Qibla wall.

Study of ten selected medieval mosques concludes that in designing the mosque interior, attention must be given to the four aspects as listed:

- Prayer Hall floor plan with rectangle shape, the longer sides parallel to the Qibla Wall.
- Increasing the Mihrab visibility from the entrance point/points by having liturgical axis that leads believers to the Qibla direction upon entering the mosque.
- 3. Designing the appropriate shape and form of Mihrab
- 4. Ornamenting the Mihrab and Qibla wall with appropriate verses of Al-Quran, calligraphy and motifs.

The Mihrab and Qibla wall started to receive changes and improvement from time to time when Muslim builders realized the importance of Mihrab and started to express it in terms of ornamentation and variety of designs. There are times that they combined the shape of the niche plan as in the Great Mosque of Mawsil, which appears to hold a combination of flat and rectangular type Mihrab. During the reign of Al-Walid, Mihrab had become an important architectural element as the most significant feature of the entire mosque.

Ardalan (1980), made a research on 130 major mosques across the Muslim world and each mosque (100%) showed the existence of Mihrab. Therefore, it is confirmed that Mihrab is accepted by all cultures and diversities. It is also important to recognize the true meaning behind the existence of the Mihrab on the Qibla wall. This heart of mosque also acts as a symbol of Islamic faith that needs to survive with some preservation of its unique identity and dignity for Islam globally.

CHAPTER 4: RESEARCH METHODOLOGY

This thesis employs a historical research by using typological analysis of mosques during the Medieval period. These mosques were built during the period of Islamic dynasties from the Umayyad, Abassid, Fatimid, Safavids until Ottoman and during the spread of Islam in China. This study also looks at the evolution of Mihrab and Qibla wall forms and ornamentation in selected mosques of Malaysia. According to Lewcock (1998), studying the precedence from history provides strong basis for future undertakings. This supports the statement made by Rafique (1982) who earlier states his believe in historical values that could keep the secrets of glory in the past especially when dealing with mosque architecture where people keep on re-evaluating their tradition to find adaptations in order to meet with current needs. Therefore, in relation to history, this study outlines the suitability and appropriateness of form and ornamentation with regards to Mihrab by looking at the precedents from the earliest period to the contemporary and modern mosques in Malaysia.

In the 15th century, the prosperous Malacca Sultanates welcomed traders from the Middle-East and the Far-East. Then they were invaded by the Portugese, the Dutch and the British colony until Malaysia gained her independence in 1957. Chinese and Indian traders and immigrants (brought in by the British colony) add some variations to Malaysia's rich architectural style, culture and tradition which should be preserved and conserved for generations to come.

This analysis looks into contemporary Malaysian mosque design that has been the most influential built form in showing wealth and power among ruling political parties. This approach will show the qualities of new styles whilst regaining the missing values of the past. The documentations preparation process includes collecting information which can further be used to assist with conservation works. In any conservation activity on historical buildings and site proper research, systematic inventory, detailed plan analysis and structured documentation are mandatory (Yahaya, 2004). In this context, it covers shape, form, position, visibility and proportion of the Mihrab and Qibla wall.

According to Tajuddin (1998), the architecture of mosques today, especially in Malaysia, encounters identity confusions by introducing majestic monumental looks. The added designs get too carried away with glorious external look of hypostyle mosques while builders aim their building success on the external features or looks of the mosques. Additional external components such as huge domes, tall minarets and luxurious physical appearance have always been given extra attention in order to be captured on post cards and tourists guide books. Hence, the genuine intention of building a mosque as a place for congregational prayers and religious activities is made secondary.

Primary attention should be given on the mosque's internal components instead of its external features as most religious activities are held inside the building. This research outlines the existence of variations to these components due to the variety of influences from different periods of time. Literature review on the design and ornamentation of Mihrab in mosques of the past should be done to show their contributions to the origin, culture and belief of the congregation and population during certain period of time.

Mihrab on the Qibla wall has always been queried by both western scholars (Sauveget, 1946) and Muslim scholars (Tajuddin 1998; 271) on its existence and origin. This topic needs to be clarified in order to avoid any wrong assumptions been made. For instance, some studies show that Mihrab is irrelevant to some quarters; and the ornamentation is presumed to be expensive. Therefore this study is timely to identify the balance so that the intention of Islamic beauty and perfection could be one of the agreed guidelines towards Islamic art and architecture of mosque design.

4.1 RESEARCH METHODOLOGY

Research gaps are first established through a thorough literature study done in the library i.e. from historical books, journals and collected data. This research also examined published and unpublished completed PhD thesis concerning mosque art and architecture, space analysis, psychological effects of spaces and Muslim religious thoughts. With the intention of answering research questions and achieving research objectives, this study is done by following the steps and explanations below; and as shown in Figure 4.4 page 95.

4.1.1 Identification of Mosques

- (a) All historical mosques are taken into account and they are divided into two:
 - (i) Traditional/vernacular and (ii) Colonials built between 1728 up to 1956.

(b) Post Independence and Contemporary Mosques built from 1956 to 2005. Before venturing into historical research, it is imperative to note that all the information and knowledge concerning past events and circumstances must be extracted from trusted source as evidence (Robinson 1904 pp 1-13). In order to get the originality of evidence, historical research is carried out with primary sources, which is said to be its lifeblood. Secondary sources should complement or act as a supplement to the primary data in hand (Cohen *et al* 2001). These two scholars seemed to agree with each other even though their studies are almost 100 years apart.

Nowadays, being in the modern world, primary and secondary data as are easily accessible as there are systematic and up-to-date libraries and internet facilities where all the manuscript, aged thesis and books have been carefully digitized and republished in terms of hard or soft copies for the modern and high technology scholars. Qualitative method has been adopted to obtain first hand information or primary data through actual visits. Before visiting, identification of these mosques needs to be done thoroughly. This is a tedious process as all the Islamic Religious Departments in Malaysia do not maintain a complete up to date record of mosques built in Malaysia. Even though Malaysia received Islam more than 500 years ago and had achieved her independence from the British in 1957, there is still no central body appointed to record the characteristics of mosques or even the built dates (Ghafar, 1997).

Mosques in Malaysia were not properly updated and documented. In achieving a good historical research, obtaining the dates, is very crucial. Therefore, three courses of action were taken at the "office-table" to overcome this problem.

- 1. Firstly, website visits were made to all the states' Islamic authorities, e.g. Wilayah Persekutuan Muslim Religious Department, Selangor Muslim Religious Department, Kelantan Muslim Religious Department etc. These websites provide a list of 179 mosques (Appendix A) managed separately by each state government in Peninsular Malaysia. However, these are very raw data as they are without photographs and built dates. Thus, more information was needed to proceed with the research. In cases where built dates cannot be obtained, verbal information via telephone conversations was gathered from *Imams*, mosque office bearers and the users.
- 2. Secondly, further information on the 179 mosques stated above were retrieved from other websites, books, journals, conservation bodies, local universities' research centres, Islamic Museum and Ministry of Tourism, Cultural and Heritage of Malaysia. As a result, a new shorter list of 126 mosques (Appendix A: shortlisted column) is created because some of the information on built dates and photographs were not available on the other

53 mosques. This shorter list carries more information on its 126 mosques such as physical appearances from photographs and built dates; a small number with historical backgrounds and architectural drawings; and some with measured drawings.

- 3. Thirdly, the shortlisted 126 mosques are then prioritized with respect to historical mosques (based on a list produced by the National Heritage Authority), state mosques and national mosque. These mosques are then tabulated and mapped into four zones according to their states and built dates following the information from second hand data.
 - Northern Zone : Perlis, Kedah, Pulau Pinang and Perak
 - Central Zone : Selangor and Federal Territory
 - Southern Zone : Negeri Sembilan, Melaka and Johor
 - East Coast Zone : Pahang, Trengganu and Kelantan

These mosques are then located on a map to ensure they (apart from the national, states and historical mosques) are spread out fairly across all states and zones; and are well distributed across the peninsular.

4.1.2 Site Visits and Field Work

On sites, observational survey and interview sessions were carried out. First hand data was recorded and analysed which result in Typological analysis.

After all the three courses of action were done, the research has come to the stage of onsite building surveys and analysis. Visits were made from zone to zone between October 2008 and June 2009 to all the 126 mosques listed.

At every visited mosque, apart from taking the photographs, a prepared checklist was filled in on site (Figure 4.1, p: 8). The checklist was created in order to record on site findings of the visited mosque. The items recorded are

regarding mosque components especially the Mihrab and Qibla wall. This observational checklist is essential because photographs do not show the entire picture of the condition within the mosque. The information obtained is recorded in the observation column of written explanation and sketches of the mosque floor plans together with significant factors such as ornamentation.

During this first site visit, focus was put on the form, overall design of Mihrab and mosque floor plan. Some old/historical mosques have already been renovated and clues to the original look/built had been totally erased. Gathering information on the dates and sequence of renovations (especially on the Qibla wall section) is almost impossible since the activities were not recorded. Thus, informal interviews and discussions were conducted with the *Imams*, mosque office bearers and the users. Even though they are verbal and without evidence, the information gathered were taken into consideration as data collection.

Upon completing the field survey to the 126 mosques, classification of mosques types are made by looking at the influences gained by the Mihrabs. The 126 mosques consist of 37 historical vernacular/traditional mosques, 14 historical colonial mosques, and 75 after independence mosques; where a lot of repetitions are seen to the mosque overall layouts. The list is then screened again and this time, mosques with similar floor plan shape and design are reduced to avoid too many repetitions in the shape of mosques floor plans. Another screening is done to the mosques that come with the same influences. Moreover, there are cases whereby historical mosques are replaced by new mosques and the historical mosques are no longer active. Those historical mosques are also screened out.

The list then screened down to 75 out of the 126.

The sampling procedure that had been taken into account is purposeful sampling which gives the flexibility in choosing the samples out of the whole population. This research had opted for a large number of population sampling in the first stage to avoid sampling errors and distortions that could possibly arise in qualitative research. There are three common errors explained by Patton (1990): firstly distortions resulted by insufficient breadth in sampling; secondly distortions resulted by changes over time; and thirdly distortions caused by superficial data collection at each site.

All the data gathered from the visits were then classified in a table format to see the evolution of Mihrab design of the 75 mosques. The shapes of Mihrab niche are arranged to be analysed as typological research and using typological study classification of Mihrab formations throughout the years can be seen clearly. Report made by Gulgonen (1982) states that "typology" is termed as the classification of objects; therefore "type" is an *abstract that* could only be identified by the person carrying the classifying activity, which is mostly determined by material and cultural production of the designers, builders, users and societies.

Built by Villagers/Government/State Government/	Sultan Abu Bakar				
Part of Mosque	Observation				
Portal/Entrance Celebration	Observation The main entrances are located at the sides of the mosque. It is arched with semi-circular arches influenced by the British style. The entrances are holding the two tallest minarets.				
Prayer Hall	Rectangular shape with eighteen pillars lifting Greece style arches.				
Mihrab	At the centre of the qibla wall and has rectangular shape. The dimensions of the mihrab are about 8m by 5m (maximum) and its high is about 5.6m. It has ten ornamentations columns lifting semi circular arches. There are three large windows at the walls of the mihrab and top small windows allow light to let the mihrab and the arches. There is one row of columns in front of the qibla has good influence in strengthen the mihrab.				
Qibla Wall	The qibla wall it self has quite simple façade, except some motif above the walls and at the top windows. There are six big window at the wall, four of it can allow the penetration of light and air while the other two are closed because it opened to Bilal room and Imam room. There are also six smaller windows on top of each big window.				
Minbar	At the centre of mihrab. It is made copper. It has been enriched with Islamic motif of plants and geometric shapes. Perfect works on minhar gives it a precise appears.				
Minaret	Three minarets are located above the entrances and the mihrab. The minaret above the minbar i the shorter then the other two. The minaret design is affected by the British style.				
Dome					
Courtyard					
Ablution Fountain					
Position of Mihrab	At the centre of qibla wall but perpendicular to the main entrances.				
Proportion of Mihrab	5m length by 8m width and 5.6m high.				

Shape of niche plan	Square/rectangle/semi circle/newly invented		
Overhead of mihrab	Semi circular ornamented arches above the (entrance of mihrab). On top of the mihrab it self there's quite small minaret lifted by Gothic dome. There are small windows on top of the entrance of the mihrab allows to entre of small portion of natural lighting.		
Motif and Ornamentation	Patterns and Geometry 2D Arabesque 3D Muqarnas Calligraphy styles —— Calligraphy Verses —— Lighting Effects		
	Materials: Plaster cement, and copper. Repeated on the Qibla wall/any parts of mosque Repeated at the interior and exterior walls of the mosque, at the entrances, at the windows from and at the minaret.		





Figure 4.2: Flowchart of Mosque Selection Activity

4.2 Typological analysis

As a result of the typological analysis, variation of designs in Mihrab on the Qibla walls of Malaysian mosques could be seen through a matrix of built years. This analysis gives the conclusion on the influences of Mihrab design in Malaysian mosques. At the same time it gives a general idea whether the three categories i.e. Vernacular/Traditional Mosques, Colonial Mosques and after Independence Mosques; have their own architectural styles on forming and designing the Mihrab.

There is a possibility that each period have different ways of designing the Mihrab as the mosques have different physical looks and styles of external features. The next step is the selection of mosques. A more thorough and detailed analysis is focused the most towards Mihrab and Qibla wall sections. Typological analysis derived from the purposeful sampling showed different as well as repeating designs and forms of Mihrab and Qibla wall. Further selection is then made by screening out the repeated Mihrab designs to avoid duplication of Mihrab types.

The amount of ornamentations on the Qibla wall side is another factor to be considered in this screening. Mosques with little or insignificant or no ornamentation at all are screened out. After this screening process, the list is reduced to 23 mosques. This number is final and is considerably significant when they are read across time and states as shown in Table 4.1, page 90. Case study of the 23 mosques is then carried out in great detail.

In order to get the thorough investigation of the ornamentation on Mihrab and Qibla wall, visits for the second time were made in September 2009 to the 23 mosques. It can be summarized that the 23 mosques have been selected because of 4 factors;

- 1. The mosques show varieties of Mihrab shapes.
- 2. The mosques show varieties of Prayer Hall/overall mosque layouts.
- The mosques have traditional vernacular ornamentation on the Mihrabs and Qibla walls.
- 4. The mosques have interesting design and ornamentation on the Mihrabs and Qibla walls.

The tabulation of the 23 chosen mosques is answering objective three where the types of mosque designs in Malaysia are classified according to their Mihrab designs. Final tabulation and classification of the 23 mosques is giving 6 Historical Traditional/Vernacular mosques, 10 Historical Colonials mosques and 7 after

Independence and Contemporary mosques. The mosques are tabulated across the Peninsular Malaysia in Figure 4.3 (page 94).

No	Mosque	State	Built Year
1	Tengkerah	Melaka	1728
2	Kampung Laut	Kelantan	1730s
3	Batu Uban	Penang	1734
4	Kampung Keling	Melaka	1748
5	Sultan Zainal Abidin	Trengganu	1793
6	Kapitan Keling	Penang	1801
7	Melayu Leboh Acheh	Penang	1808
8	Kampung Tuan	Trengganu	1830
9	Muhammadiah	Kelantan	1867
10	Sultan Abu Bakar	Johor	1892
11	Alaeddin Jugra	Selangor	1898
12	Jamek Kuala Lumpur	Wilayah Persekutuan	1908
13	Zahir	Kedah	1912
14	Ubudiyah	Perak	1917
15	Sultan Sulaiman	Selangor	1932
16	Sultan Ibrahim	Johor	1939
17	National Mosque	Wilayah Persekutuan	1965
18	Negeri Sembilan State	Negeri Sembilan	1967
19	Perak State	Perak	1978
20	Ismail Petra	Kelantan	1990
21	Pahang State	Pahang	1994
22	Wilayah	Wilayah Persekutuan	2000
23	Putra Jamallullail	Perlis	2005

Table 4.1:	List of	the 23	Chosen	Mosques
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Figure 4.3: Location of the 23 Chosen Mosques on 4 Zones



Figure 4.4: Thesis Chapters in Relation to the Research Objectives



Figure 4.5: Overall Representation of Research Structure

CHAPTER 5: MIHRAB IN MALAYSIAN MOSQUE

In addressing public buildings such as mosques, the aspects of 'style' and 'origin' are not the only categories that should be taken into account. This thesis will show that other elements in contribution to mosque components are vital in giving the mosque its identity as part of Islamic art and architecture.

This chapter shows the differences and similarities between Malaysian Historical Mosques (listed under Malaysian Heritage Buildings) and mosques built after Independence (1957) in terms of their external façade and internal elements. This chapter is a concentrated and summarized version of Chapter 6 and Chapter 7 where detailed analysis of findings is recorded for both categories respectively. Hence further explanation on this chapter is referred to Chapter 8 where thorough elaborations on the 23 case studies of selected mosques are found.

5.1 CATEGORY OF SELECTED MOSQUES

The Research Methodology (Chapter 4) explains that the 23 mosques chosen are among the best possible samples to be studied and they are well dispersed all over Peninsular Malaysia. The 23 mosques are classified with respect to their built dates namely Historical Traditional/Vernacular, Historical Colonials and Post Independence/ Contemporary.

5.1.1 Historical Mosques

Historical Mosques are classified as those built between the 1700's and 1956 i.e. prior to the Malaysian Independence. These mosques are then branched into two sub-categories according to (1) Traditional and/or Vernacular and (2) Colonials.
(1) Traditional and Vernacular Mosques

Traditional mosques are normally built using local materials. They are modestly small as they portray the vernacular Malay house image. Vernacular mosques are built with influences from *Nusantara* vernacular architecture. Their significant feature is the employment of layered pyramidal roof. There are 6 mosques listed under this category as shown in Table 5.1 below.

Table 5.1: List of Historical Mosques - Traditional and Vernacular Category

No	Mosque Name	Location	Built Year
1	Masjid Tengkerah	Melaka	1728
2	Masjid Kampung Laut	Kelantan	1730s
3	Masjid Batu Uban	Penang	1734
4	Masjid Kampung Keling	Melaka	1748
5	Masjid Melayu Leboh Acheh	Penang	1808
6	Masjid Kampung Tuan	Terengganu	1830

(2) Colonial Mosques

British Colonial era marks the existence of significant British influence on the political, economical and social status of Malaysia. Colonization effects can be seen on mosque design especially in the design and ornamentation of Mihrab and Qibla wall. 10 selected mosques are listed under this category as shown in Table 5.2 below.

Table 5.2: List o	f Historical	Mosque -	British	Colonial	Category
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No	Mosque Name	Location	Built Year
1	Masjid Sultan Zainal Abidin	Trengganu	1793
2	Masjid Kapitan Keling	Penang	1801
3	Masjid Muhammadiah	Kelantan	1867
4	Masjid Sultan Abu Bakar	Johor	1892
5	Masjid Sultan Alaeddin	Selangor	1898
6	Masjid Jamek Kuala Lumpur	Wilayah Persekutuan	1908
7	Masjid Zahir	Kedah	1912
8	Masjid Ubudiyah	Perak	1917
9	Masjid Sultan Ibrahim	Johor	1927
10	Masjid Sultan Sulaiman	Selangor	1932

5.1.2 Post Independence Mosques

Post Independence Mosques in the study are the ones built between 1957 and 2005. These mosques are mostly designed by local architects without direct foreign influences. There are 7 mosques listed under this category as shown in Table 5.3 below.

No	Mosque Name	Location	Built Year
1	National Mosque	Wilayah Persekutuan	1965
2	Negeri Sembilan State Mosque	Negeri Sembilan	1967
3	Perak State Mosque	Perak	1978
4	Masjid Ismail Petra	Kelantan	1990
5	Pahang State Mosque	Pahang	1994
6	Wilayah Persekutuan Mosque	Wilayah Persekutuan	2000
7	Masjid Putra Jamallullail	Perlis	2005

5.2 FINDINGS ON TRADITIONAL AND VERNACULAR MOSQUES

There are 6 mosques listed under this category as shown in Table 5.1 (p: 98). Masjid Tengkerah (Melaka), Masjid Kampung Laut (Kelantan), Masjid Batu Uban (Penang), Masjid Kampung Keling (Melaka), Masjid Melayu Leboh Acheh (Penang) and Masjid Kampung Tuan (Terengganu) were selected primarily because of the years they were built (i.e. between 1728 and 1830). Their physical appearance and interior spaces organizations make them fall under the Traditional/Vernacular category.

Masjid Tengkerah is recorded as the oldest mosque in Malaysia. It is built with designs taken from Nusantara architecture. This design is vernacular to most of the mosques in Melaka. The square shaped mosque consists of a main prayer hall, terraces and covered with three layers of pyramidal roof. The *pagoda* like *minaret* is situated on the opposite of the Mihrab, similar to mosques built during the Abbasid Dynasty.

Masjid Kampung Laut was built in the 1730s. This mosque is believed to be built by the Javanese. This notion is agreeable because of its design and construction which is similar to Demak Mosque in Java. It was built without using a single nail to connect the joints.

Masjid Batu Uban is said to be built in 1734 by the Malay people from Buadi Village, Paya Kumbu, Sumatera. Started small as musolla, it was then enlarged as a mosque when Muslims formed a bigger settlement. It was built on tiers with pyramidal roof.

Masjid Kampung Keling is situated in middle of Melaka Heritage trail. It was built in 1748 and renovated in 1908, with the original structure and design well kept. The roof shape and structure of the mosque give it the vernacular look that is pyramidal. Still, some of the interior design and detailing carry influences from British and Dutch architecture, impact of the Colonization.

Masjid Leboh Acheh was built in 1808 by a member of a royal family from Acheh, Sumatera. Its surrounding area expanded with the growing number of merchants and traders from all over Malaysia (Malaya then), Arabian Peninsular and India. The mosque is said to be influenced by Colonial style (Ghafar 1999) since there was already a British resident in Penang in 1786. However, looking at the roof and interior design, it actually falls under vernacular category with the existence of a pyramidal roof and the *minaret* is built detached from the mosque building similar to the mosques in Melaka, for example Masjid Kampung Keling (1748).

Masjid Kampung Tuan was built in 1830 by Sheikh Abdul Rahman, a religious teacher from Palembang, Sumatera. It was once a main prayer centre for Fridays and ceremonial prayers in Chukai, Trengganu. However, the mosque lost its glory since the erection of a new mosque in uptown Chukai in 1920, and was made a *musolla* (not being used for Friday prayers). The mosque is well maintained by the villagers and used for the five daily prayers throughout the year.



Masjid Tengkerah, 1728





Masjid Kampung Laut, 1730s





Masjid Batu Uban, 1734



Masjid Kampung Keling, 1748 Masjid Leboh Acheh, 1808 Masjid Kampung Tuan, 1830 Figure 5.1: Historical Mosques: Vernacular and Traditional Category

5.2.1 Mihrab Visibility

All selected Traditional and Vernacular mosques employ simple and direct floor plans which are almost square with clear *saf* lines. The existence of four columns inside the prayer hall supports the pyramidal roof with the exception of Masjid Kampong Tuan which does not employ any columns to support its roof because it is built with 'timber space frame system joint' that eliminates the use of nails.

In most cases, the prayer halls are surrounded with verandah. The verandah is treated as a transitional point between the out door and the prayer hall. Mosques with verandah on their three sides are Masjid Tengkerah, Masjid Kampung Keling and Masjid Leboh Acheh. In these three mosques, the verandah functions as a path for late comers to move around the prayer hall from one entrance to another without disturbing the congregational which had already taken place. Mihrab visibility is highly achievable as the Mihrab could easily be seen right from the entrance point as shown in Figure 5.2 below.



Figure 5.2: Traditional and Vernacular Mosques: Analysis of Floor Plans

5.2.2 Mihrab Form

There are four types of Mihrab forms found on these six mosques (Figure 5.3, page 104);

(1) Semi Circular Concaved;

Masjid Batu Uban (1734); The Mihrab takes up one fifth of the whole Qibla Wall. The material used for the concaved Mihrab is painted concrete similar to the rest of Qibla wall. There is no opening found on the Qibla wall. The niche size is just enough for a single user.

Masjid Leboh Acheh (1808); The Mihrab takes up about one fifth of the Qibla wall's width. The material used for the concaved Mihrab is painted concrete similar to the rest of Qibla wall. The niche size is just enough for a single user.

Masjid Kampung Tuan (1830); The semi circular concaved Mihrab is made from a single tree trunk which has been hollowed out similar to the ancient ways of making canoes. The Mihrab is fronted with pointed arch made of wood just like the rest of the Qibla wall.

(2) Semi Circular Niche with Flat Ceiling;

Masjid Tengkerah (1728); Even though the Mihrab niche is fronted with semi circular arch on semi circular floor plan, the Mihrab wall is straight and not concaved with flat ceiling. The niche size is enough for a single user. The Mihrab is finished painted and made of concrete similar to the rest of the Qibla wall.

(3) Rectangular Niche Shape;

Masjid Kampung Keling (1748); The Mihrab niche is arched front and the ceiling is also arched in shape. The three walls of the Mihrab are straight walls. The niche size is enough for a single user. The Mihrab is finished painted and made of concrete similar to the rest of the Qibla wall.

(4) Recessed Room on the Qibla Wall.

Masjid Kampung Laut (1730s); There is no trace of the existence of Mihrab niche here except for the recessed section which takes about two fourth (half) section in the middle of Qibla wall (Figure 5.3: p104, Masjid Kampung Laut). This style of Qibla wall design was not found in the selected medieval mosques¹.

¹ Refer Chapter 3 on medieval mosque analysis.

Mos que	Floor Plan	Section	Elevation
Masjid Tengkerah 1728			
Masjid Kampung Laut 1730s	M_		
Masjid Batu Uban 1734			
Masjid Kampung Keling 1748			
Masjid Leboh Acheh 1808			
Masjid Kampung 1830			

Figure 5.3: Traditional and Vernacular Mosques: Mihrab Floor Plans, Sections and Elevations.

5.2.3 Mihrab Ornamentation

(a) Motifs

Ornamentation of the Traditional and Vernacular mosques is mostly concentrated on the Mihrab and Qibla wall. During this built period 'lotus' motif (Figure 5.4, p:106) is frequently used and can be found in Masjid Tengkera , Masjid Batu Uban, Masjid Kampung Keling and Masjid Kampung Tuan. In Masjid Leboh Acheh, motifs of jasmine flowers in scallops are found on top of the Mihrab arch. Ornamentation does not appear on the Qibla wall of Masjid Kampung Laut.

Other motifs are also found in Masjid Tengkera and Masjid Kampung Keling of Melaka. Masjid Tengkera employs continuous bands of vegetal scrolls around the prayer hall including the Mihrab wall. Local motif of *'bayam peraksi'* (refer Chapter 8) appears on both legs of the Mihrab arch in Masjid Kampung Keling.

(b) Materials

In the earliest mosque of Masjid Tengkera, ornamentation was mostly designed with ceramic tiles. Then builders in Penang started to use simple hand made concrete moldings placed directly on the Mihrab as in Masjid Batu Uban. 14 years later, motifs and ornamentation styles had evolved to wood carving as found in Masjid Kampong Keling. In 1808, builders of Masjid Leboh Acheh used concrete moldings directly on the Mihrab and Qibla wall that is similar to its neighbouring mosque, Masjid Batu Uban. However, in Masjid Leboh Acheh the ornamentation is more advanced with smaller and detailed motifs including a band of calligraphy in Thuluth. Subsequently, builders started to use a combination of high quality wood carvings and calligraphy as motifs and ornamentation. This design could be classified as arabesque and it appeared in the most recent of the six mosques, Masjid Kampung Tuan (1830).



Figure 5.4: Traditional and Vernacular Mosques: Mihrab Ornamentation

5.3 FINDINGS ON THE HISTORICAL MOSQUES: COLONIAL MOSQUES

Ten mosques were chosen to be under this category (refer Table 5.2). Masjid Sultan Zainal Abidin (Terengganu), Masjid Kapitan Keling (Penang), Masjid Muhammadiah (Kelantan), Masjid Sultan Abu Bakar (Johor), Masjid Sultan Alaeddin (Selangor), Masjid Jamek Kuala Lumpur (Wilayah Persekutuan), Masjid Zahir (Kedah), Masjid Ubudiyah (Perak), Masjid Sultan Ibrahim (Johor) and Masjid Sultan Sulaiman (Selangor) were selected to be historical mosques, primarily because of the years they were built (i.e. between 1793 and 1932). However, their designs seemed to have been influenced by British Colonization and thus the author classifies them to be Colonial Mosques (refer to Figure 5.5 on pages 108 and 109).

Masjid Sultan Zainal Abidin, Terengganu was originally built with timber in 1793 and then uplifted to a brick building in 1852. The mosque interior obtained its colonial influences during this renovation. The mosque was then renovated and uplifted again in 1972. It was made bigger to accommodate the increasing number of users.

Cauder Mydin Merican led the Muslims' request for a larger and permanent mosque from the East India Company in Penang to accommodate the increasing number of worshipers. Their proposal was granted and they were given an 18 acre plot of land where they built a single storey mosque structure made of brick in 1801. Since then, Masjid Kapitan Keling has gone through multiple renovations.

Masjid Muhammadiah is the state mosque of Kelantan and it was built in 1867. It used to be the centre of Islamic teaching in South East Asia.

In Johor, Masjid Sultan Abu Bakar was built in 1892 on a prime location at the top of a hill overlooking the Straits of Johor and a silhouette of neighbouring Singapore. The mosque is seen to be purely in British architecture resembling a church design.

Masjid Sultan Alaeddin was built in 1898 and it is situated in Jugra, a historical town in Selangor. This royal mosque had gone through a few renovations and additions to cater for the expanding number of the believers and their needs. The biggest extension done was on the expansion of praying area to the sides of the main mosque.

Masjid Jamek Kuala Lumpur is the oldest existing mosque in the capital city of Malaysia. This mosque is situated at the point where the Kelang River and the Gombak River converge. It was built in 1908 by AB Hubback, a British architect who was inspired by Mughal architecture from India.

Masjid Zahir is the state mosque of Kedah. Built in 1912, it is also known as Masjid Zahrah, for it is situated within the compound of Kedah Sultanate's palace. Design of

the mosque was inspired from Azizi Mosque in Langkat, Acheh. From the external view, five domes can be seen clearly. These domes symbolize the five pillars of Islam.

Masjid Ubudiyah is another royal mosque built during the British Colonial era, 1917 to be exact. The golden onion domes of Masjid Ubudiyah provide a taste of Mughal architecture whilst the arches and marble arrangements are of Moorish influences.

Built in 1927, Masjid Sultan Ibrahim stands proudly on the southern bank of the Muar River. Muar is a small town located at the north of Johor bordering Melaka. The mosque is said to be designed with influences mostly from European architecture. This is obvious by looking at the four storey *minaret* at the back of Sultan Ibrahim mosque. The construction of the mosque was aspired by local Muslims of Muar in replacement of the old Masjid Jamek Muar.

Masjid Sultan Sulaiman is situated in the royal city of Selangor, Klang,. The mosque was officially opened in 1932 and designed by a British architect named L. Keste Ven with influences from Western Art Deco architecture.



Masjid Sultan Zainal Abidin, 1793



Masjid Kapitan Keling, 1801



Masjid Muhammadiah, 1867



Masjid Sultan Abu Bakar, 1892







Masjid Jamek KL, 1908

Figure 5.5: Historical Mosques: Colonial Category



Figure 5.5: Historical Mosques: Colonial Category- continuation

5.3.1 Mihrab Visibility

Masjid Sultan Zainal Abidin has one main entrance on the side. There are series of doors leading to the main prayer hall and upon standing at one of these doors, view to the Qibla direction is blocked by another series of huge circular columns.

The prayer hall of Masjid Kapitan Keling is quite confusing with the existence of eight piers arranged in hexagonal manner situated directly in front of the Mihrab and Qibla wall. These hexagonal columns are assigned to hold the onion shaped dome on top and in between them and the Qibla wall, there appears to be another row of columns. The visibility of Mihrab and Qibla direction is quite poor. Similar column arrangement is also employed by Masjid Jamek Kuala Lumpur and Masjid Zahir. In Masjid Zahir, the Mihrab is successfully the focus of vision but the prayer hall seems less unified and distracted because the columns are attached to each other forming series of arches. These arches are like replicas of the main Mihrab but they are positioned in a hexagonal manner.

Masjid Muhammadiah, Masjid Sultan Abu Bakar and Masjid Sultan Ibrahim employ rectangular main prayer halls with the shorter sides parallel to the Qibla wall. There are two sets of columns in Corinthian capitals lined up on the left and right side of all the three prayer halls. Locating the Qibla direction is easy once inside the mosques. Entrances to Masjid Sultan Alaeddin are from the opposite of Qibla wall and both sides of the extended prayer hall. Columns are only positioned on the far left and right side and non in the middle of the prayer hall, o visibility of Mihrab is at the maximum. The *minaret* of the mosque is positioned opposite the Mihrab by the entrance. This makes the imaginary axis of the mosque focal point from the entrance to the Mihrab stronger. This is the second mosque under study which has this orientation of *minaret* after Masjid Tengkerah in Melaka.

The eight pointed star patterned floor plan of Masjid Ubudiyah puts the prayer area in an octagonal shape. The Qibla wall is in an odd triangular shape. The mosque's main axis is weak and there is no main entrance to the prayer hall.

The prayer hall of Masjid Sultan Sulaiman is in an odd octagonal shape which could not offer maximum length to the first praying line (*saf*). The Mihrab however is in high visibility because the entrance is in a straight axis with the Mihrab niche.



Figure 5.6: Colonial Mosques: Mihrab Visibility

5.3.2 Mihrab Form

There are four types of Mihrab forms found on these ten mosques (Figure 5.7, p: 113);

(1) Semi Circular Concaved;

Masjid Kapitan Keling's Mihrab employs multi foils arch that resembles Mughal architecture and is quite similar to that of Masjid Leboh Acheh. The Mihrab façade is expressive with the addition of two low columns flanking the Mihrab arch.

Masjid Zahir has quite a shallow plan with scallop top façade depicting the Mihrab from Bagha Mosque (16th Century) of Mughal architecture. It is then framed with pointed arch and flanked by two columns, one on each side.

Semi circular niche of Masjid Sultan Sulaiman has a deep plan because the Mihrab occupies one of the eight sides of an octagonal floor plan. The semi circular niche is fronted with a 'U' shaped arch and flanked by two columns, one on each side.

(2) Semi Circular Niche with Flat Ceiling;

Masjid Sultan Alaeddin's Qibla wall owns a multiple Mihrabs design with the main Mihrab being in the middle. The main Mihrab is in semi circular concaved form fronted with double arches. The outer arch is flanked by a couple of columns. The other two Mihrabs are of straight walls with a low arch shaped opening allowing natural light to penetrate the mosque interior. In the case of Masjid Jamek Kuala Lumpur, façade of the Mihrab is a horse shoe arch shape which is similar to the surrounding windows on its Qibla Wall. The size of its niche is comfortable for a single occupant.

(3) Recessed Room on the Qibla Wall;

Masjid Sultan Zainal Abidin has a square shaped Mihrab chamber area of about 3m by 3m. Inside the square chamber there exists another niche. The niche inside the chamber is rectangular in shape and comfortable for a single user. There is a rectangle recessed area of about 3m by 5m in Masjid Muhammadiah's Qibla wall but no Mihrab exists. Similarly, there is no Mihrab niche on the Qibla wall of Masjid Sultan Abu Bakar except for a small room recessed from the central arch of the Qibla wall area. However, access to this room is blocked by a *Mimbar* structure.

Qibla wall of Masjid Ubudiyah occupies one corner of the eight pointed star shaped floor plan. The square room leads to a semicircular Mihrab niche which looks deeply recessed from the Qibla wall. The Mihrab niche has taken up the tip of the wing from one of the eight pointed star shaped prayer hall.

(4) Freestanding Structure Carrying both Mihrab and Mimbar.

The recessed octagonal chamber of Masjid Sultan Ibrahim is similar to the one owns by the Cordoba Mosque during Ummayad Dynasty (Chapter 3), especially when it is topped with a half dome ceiling. A lavishly decorated stainless brass structure stands at the centre of the Qibla wall of Masjid Sultan Ibrahim. This double storey structure is designed to place the *Mimbar* and has a space on its lower section reserved for the Mihrab. The structure stands on its own and movable. This is a unique way of treating the Mihrab and *Mimbar* in this region. It is space saving since they are not be used simultaneously.

Mosque	Floor Plan	Section	Elevation
Masjid Sultan Zainal Abidin Terengganu 1793	• • • •		
Masjid Kapitan Keling Penang 1801			
Masjid Muhammadiah Kelantan 1867			
Masjid Sultan Abu Bakar Johor 1892	[] 		
Masjid Sultan Alaeddin Selangor 1898			
Masjid Jamek Kuala Lumpur Wilayah Persekutuan 1908			
Masjid Zahir Kedah 1912			
Masjid Ubudiyah Perak 1917		\Box	
Masjid Sultan Ibrahim Johor 1927			
Masjid Sultan Sulaiman Selangor 1932	ŢĤŢ		

Figure 5.7: Colonial Mosques: Mihrab Floor Plans, Sections and Elevations

5.3.3 Mihrab Ornamentation

Masjid Sultan Zainal Abidin, Masjid Muhammadiah, and Masjid Sultan Abu Bakar do not employ ornamentation on their Mihrabs and Qibla walls (Figure 5.8).



Figure 5.8: Colonial Mosques: Mihrab Ornamentation

All of the other seven Colonial Mosques have motif and ornamentation such as:

(a) Geometrical Star pattern

Basically the geometrical pattern originated from basic geometrical layout of interlocking squares and octagons. It is a pattern derived from a series of eight circles overlapping each other and thus forming components of polygons² (Figure 5.9).



Figure 5.9: Colonial Mosques: Geometrical Star Pattern on the Mihrabs

² The geometrical shapes of the Masjid Kapitan Keling's Mihrab are explained in detail in Chapter 6.

(b) Lotus and Vegetal Motifs

Ornamentation found in Masjid Sultan Zainal Abidin is located on the capitals of columns supporting the double arched Mihrab, carved in cement mortar. This carving looked rather simplified and it probably because of the material used.

The ornamentation in Masjid Kapitan Keling is heavily done on the Mihrab. Motifs of lotus flower and the intertwining of vegetal stems are chosen as the Mihrab ornamentation. Both motifs of Geometrical pattern and Vegetal are combined to give the hybrid look of the ornamentation.

Most of the motifs used in Masjid Sultan Alaeddin are adapted from the old Langkasukan motif³. The main characteristic seen is the intertwining of the stems carrying lotus flowers at the corners of the Mihrab arch (Figure 5.10: Alaeddin).

Inside the niche of Masjid Ubudiyah, Mihrab wall is divided into two parts: lower and upper. The lower part is finished with dark marble whilst the upper part is filled with ornamentation of carved white stucco. The carved stucco carries both geometrical pattern (Islamic eight pointed star pattern) and traditional Malay motifs.



Zainal Abidin: Motifs on Column Capitals



Kapitan Keling: Lotus garland on Qibla wall.



Kapitan Keling: Lotus bud on top of the Mihrab



Alaeddin: Vegetal patterns on the Mihrab arch



Ubudiyah: Carved stucco of vegetal patterns

Figure 5.10: Colonial Mosques: Vegetal Motifs on the Mihrabs

³ Statement is made after comparison with the research paper written by Rosnawati Othman, (2005: 103). It is elaborated further in Chapter 6.

(c) Calligraphy

Most of the calligraphy verses are taken from Al-Quran and written in Thuluth script. Detail findings of the calligraphy designs are explained in Chapter 8 of this thesis.

5.4 FINDINGS ON THE POST INDEPENDENCE MOSQUES

Post Independence Mosques refer to mosques built after Malaysia achieved her Independence from the British in 1957. Seven mosques were chosen to be under this category (refer Table 5.3; p: 99). The National Mosque (Wilayah Persekutuan), Negeri Sembilan State Mosque, Perak State Mosque, Masjid Ismail Petra (Kelantan), Pahang State Mosque, Wilayah Persekutuan Mosque and Masjid Putra Jamallullail (Perlis) were selected to be Post Independence Mosques because they were built after 1957 (refer to Figure 5.11; p: 117).

The National Mosque of Malaysia or Masjid Negara is uniquely designed by mixmatching contemporary architecture with the Islamic traditional arts. One unique feature on this mosque is the employment of multi folded 'umbrella' roof, terminating the varieties of domes introduced by the British Colonials.

The state mosque of Negeri Sembilan is of modern structure. The white concrete roof is carried by nine pillars symbolising the nine districts in Negeri Sembilan. It stands adjacent to the Seremban Lake Gardens and becomes a landmark of Negeri Sembilan.

Perak State Mosque is a rectangular mosque stands proudly in the middle of Ipoh city. Its most prominent feature is the minaret that stands at 38m. The mosque has multiple domes of ceramic tiles covering its roof thoroughly. Masjid Sultan Ismail Petra was built in Kubang Krian, Kota Bharu the capital city of Kelantan. It was opened in 1992 and officiated by the Sultan of Kelantan himself.

Pahang State Mosque was built in 1994, after 37 years of independence. The architectural style of the mosque is still in great influence of Ottoman and Moorish architecture. It owns four *minarets* and stands magnificently in the heart of Kuantan, the capital city of Pahang.

Wilayah Persekutuan Mosque is situated near Jalan Duta, Kuala Lumpur. The mosque was built on a 33-acres site and wholly managed by the Wilayah Persekutuan Religious Department since 2000. The built up area of the mosque is about 47,000 sq meters and it could accommodate up to 17,000 people at one time.

Masjid Putra Jamallullail was named after Tuanku Syed Putra Jamalullail, the Sultan of Perlis who was made the third Yang Di Pertuan Agong (King) of Malaysia. The mosque is set in a modest single storey and finished with facing bricks. It was built in 2005 in Kangar, the capital city of Perlis.



Masjid Negara 1965



Masjid Negeri Pahang 1994



Masjid Negeri Sembilan 1967







1978





Masjid Putra Jamalullail 2005

Figure 5.11: Post Independence Mosques

Masjid Wilayah Persekutuan

2000

5.4.1 Mihrab Visibility

The visitors have to walk alongside the huge prayer hall area of Masjid Negara in order to get to the main entrance of prayer hall. Eighteen piers are arranged in a big circle to be the footprint of the umbrella structure roof. The eighteen piers do not seem to disturb the prayer lines (*safs*) because the diameter span of the piers is huge.

The prayer hall's main entrance is on the opposite of the Mihrab.

In contrast, the floor plan of Masjid Negeri Sembilan is circular in shape but the Qibla wall is still made in straight line to ensure everyone's shoulder is parallel to the Qibla wall during prayers. The main entrance of the mosque is from the opposite end of the Qibla wall though there are a few other secondary entrances located around the circular plan including from the Qibla direction. The Mihrab can be figured out easily as it is the only wooden wall in the hall, whilst the rest are made of steel and glass.

Masjid Perak has a very simple yet practical internal spatial organization. The prayer hall is easily reached via a welcoming staircase that leads to the entrance of prayer hall. The entrance is wide open for the visitors at the wall opposite to the Qibla. With minimum distraction by columns in the prayer hall, Mihrab could clearly be seen from the entrance point.

Masjid Ismail Petra has a very interesting and unique floor plan. The entrance is from the side walls and the area on the left and right sides of the prayer hall is used as a hall way. Columns in the prayer hall are set on the sides and thus do not interfere with the praying area and the Mihrab visibility.

The prayer hall of Masjid Pahang holds an open floor plan where visitors can enter from all direction including from the back of Qibla wall. This arrangement distracts the concentration of ongoing prayers. However, visibility of the Mihrab and Qibla wall is poor with distractions coming from a series of columns inside the main prayer hall. These columns are the three footprints of three semi spherical domes on top. *Safs* formation is weak due to break ups in between the lines caused by the columns.

In order to achieve its concept of a mosque within a gardened pond, Masjid Wilayah Persekutuan ended up with a complex floor plan. From the mosque's main entrance, visitors have to climb up the stairs and pass through or go around a huge courtyard to reach the prayer hall.

Axis and focus of Masjid Putra Jamalullail's internal lay out is already defined by the paved walk way which starts from the mosque yard. This walk way leads a straight path to the main entrance of prayer hall and goes further to the Mihrab. This mosque is selected among the other newly built mosques because of its unique way of spatial arrangements. The prayer hall is shaped in a simple square with four columns erected in the middle similar to the Vernacular and Traditional mosque. These four columns are structures to the dome that is visible from the interior.



Figure 5.12: Post Independence Mosques: Mihrab Visibility

5.4.2 Mihrab Form

There are four types of Mihrab forms found on these seven mosques (refer to Figure: 5.13, p: 121);

(1) Semi Circular Concaved;

Masjid Negara's Mihrab is concaved with stucco *muqarnas*. The Mihrab is fronted with a horse shoe arch, resembling the Cordoba Mosque's Mihrab. The arch is flanked with a pair of brass columns in rich golden.

Wilayah Persekutuan Mosque has prominent Mihrab influenced by the Safavids' architecture of Iran. The Mihrab catches the eyes with its neatly carved vegetal motifs on white marble. The Mihrab is shaped in polygonal, almost semi circular and concaved with *muqarnas*.

(2) Semi Circular Niche with Flat Ceiling;

Masjid Negeri Sembilan has a wooden Mihrab. In the middle part of this wooden structure there is a Mihrab niche which appeared to be in semi circular shape up to 4m tall and it is not concaved.

Masjid Putra Jamalullail has a tall, semi circular, non concaved niche finished in dark coloured marble. On its left side, there is apparently a fixed spiral staircase encircling the niche wall leading to the Mimbar at about 3m in height.

(3) Polygonal Niche

Masjid Negeri Perak's Mihrab niche is in semi octagonal shape and not concaved. The shape of the arch takes after the ones found in Zahir Mosque but it is rather simplified and widened. Its size is huge for a single user. The Mihrab of Masjid Negeri Pahang is too big to be called a Mihrab niche, with a measurement of 4m in width, about 2.5m in depth and 8m in height. This Mihrab is finished with ceramic tiles and arched with a pointed arch.

(4) Freestanding Structure Carrying Both Mihrab and Mimbar

The freestanding structure serving as both the Mihrab and the Mimbar in Masjid Ismail Petra is made of solid white marble. The white marble structure is similar to the one in Masjid Sultan Ibrahim in Johor, with different material.

Mosque	Floor Plan	Section	Elevation
Masjid Negara Wilayah Persekutuan 1965			
Masjid Negeri Sembilan Negeri Sembilan 1967			
Masjid Negeri Perak Perak 1978			
Masjid Ismail Petra Kelantan 1990			
Masjid Negeri Pahang Pahang 1994			
Masjid Wilayah Wilayah Persekutuan 2000			
Masjid Putra Jamalullail Perlis 2005			

Figure 5.13: Post Independence Mosques: Mihrab Forms

5.4.3 Mihrab Ornamentation

The modern era has witnessed a lot of mosques employing varieties of motifs and calligraphy ornamenting the Mihrabs and Qibla walls. The materials used have also evolved throughout the years (refer to Figure 5.14).



Figure 5.14: Post Independence Mosques: Mihrab Ornamentation

(a) Geometrical Patterns

Geometrical Patterns of these mosques are taken from the basic Islamic eight pointed star pattern. The Mihrab employs Iranian *muqarnas* with basic conversion of from seven stars, five stars and three stars. The material used is Indian marble.











Masjid Negeri Pahang

Masjid Wilayah

Figure 5.15: Post Independence Mosques: Geometrical Patterns on the Mihrabs

(b) Vegetal Patterns

Modern era captures the employment of local vegetation motifs in mosque's Mihrabs and Qibla Walls. Traditional vegetal motifs are arranged in geometrical composition (further explanation in Chapter 8).









Masjid Negara

Masjid Negeri Sembilan

Masjid Negeri Perak

Masjid Wilayah

Figure 5.16: Post Independence Mosques: Vegetal Patterns on the Mihrabs

(c) Calligraphy

Most of the calligraphy verses are taken from the Al-Quran and written in Thuluth, Naskh and Kufic scripts. Detailed findings of the calligraphy designs are explained and elaborated further in Chapter 6 and Chapter 7 of this thesis.

5.5 CONCLUSION

The selected mosques suggested that the orientation of Traditional and Vernacular mosques built in Malaysia mostly have strong level of visibility towards the Mihrab from the entrance point. The formation of prayer lines (*safs*) is uninterrupted due to the width and clarity of the prayer hall.

On the other hand, floor plans of mosques built during the Colonials era are very much influenced by church design and renowned Islamic buildings from the Medieval Islamic Dynasties. It is apparent that the colonization era changed the whole physical and architectural values of Malaysian mosques. Mosques erected during this era were designed by British architects such as A.B. Hubback (Kuala Lumpur Jamek Mosque 1909, Wilayah Persekutuan) and H.A. Neubronner (Kapitan Keling Mosque 1916, Penang).

Most of the Mihrab and Qibla wall of the selected mosques built during this period are of plain white or with very minimal ornamentation. Only in the later years that ornamentation such as carved stucco and timber were added to the Mihrab and Qibla walls as in the Sultan Sulaiman Mosque (1932, Selangor) and the Sultan Alaeddin Mosque (1898, Selangor). The typological studies done on mosques built from 1700s-1850 also showed the evolution of materials used in building the mosques as well as in ornamenting the Mihrab and Qibla wall. After independence, Malaysia started to have mosques that are designed and built by local designers and builders. Even though these designers have produced gigantic mosques with varieties of physical appearances to 'show off' the mosques' majestic identity, somehow the interior arrangement of the important mosque components have been placed secondary. Focus of mosque design is more towards the external look rather than the practicality of the internal layout especially around the prayer halls.

Consequently, the Mihrab design and form have also experienced changes in its shape, size and ornamentation. However, these changes should be made to follow a certain guideline administered by relevant authorities and thus allowing the entire mosque building to project itself as a true identity representing Islamic art and architecture. Classification of mosque components and presenting the mosque elements appropriately are important for the future of mosque art and architecture.

CHAPTER 6: CASE STUDIES OF 16 HISTORICAL MOSQUES

In Chapter 6 (this chapter) and Chapter 7, detail analysis of findings is recorded. Both of these Chapters may be taken as a reference and elaboration of the previous Chapter 5. All the selected 23 mosques are listed in Table 6.1 below and they are referred here as Case Studies where detailed analysis has been recorded. Each Case Study was researched with respect to three main criteria:

- 1) Mosque Overall Design in relation to Mihrab Visibility
- 2) Mihrab and Qibla Wall
- 3) Mosque Mihrab Design and Ornamentation

Case	Mosqua	State	Built	Section
Study	Mosque	State	Year	Section
1	Masjid Tengkerah	Melaka	1728	Historical Vernacular
2	Masjid Kampung Laut	Kelantan	1730s	Historical Traditional
3	Masjid Batu Uban	Penang	1734	Historical Vernacular
4	Masjid Kampung Keling	Melaka	1748	Historical Vernacular
5	Masjid Sultan Zainal Abidin	Trengganu	1793	Historical Colonial
6	Masjid Kapitan Keling	Penang	1801	Historical Colonial
7	Masjid Melayu Leboh Acheh	Penang	1808	Historical Vernacular
8	Masjid Kampung Tuan	Trengganu	1830	Historical Traditional
9	Masjid Muhammadiah	Kelantan	1867	Historical Colonial
10	Masjid Sultan Abu Bakar	Johor	1892	Historical Colonial
11	Masjid Sultan Alaeddin	Selangor	1898	Historical Colonial
12	Masjid Jamek Kuala Lumpur	Wilayah Persekutuan	1908	Historical Colonial
13	Masjid Zahir	Kedah	1912	Historical Colonial
14	Masjid Ubudiyah	Perak	1917	Historical Colonial
15	Masjid Sultan Ibrahim	Johor	1927	Historical Colonial
16	Masjid Sultan Sulaiman	Selangor	1932	Historical Colonial
17	National Mosque	Wilayah Persekutuan	1965	Post Independence
18	Negeri Sembilan State	Negeri Sembilan	1967	Post Independence
19	Perak State	Perak	1978	Post Independence
20	Masjid Ismail Petra	Kelantan	1990	Post Independence
21	Pahang State	Pahang	1994	Post Independence
22	Masjid Wilayah	Wilayah Persekutuan	2000	Post Independence
23	Masjid Putra Jamallullail	Perlis	2005	Post Independence

Table 6.1: List of the Case Studies

This Chapter analyses in detail the findings of all Historical Mosques (i.e. Case Studies 1 to 16) while the findings of all Post Independence Mosques (i.e. Case Studies 17 to 23) are analysed in detail in the preceding Chapter 7.

6.1 Case Study 1: Masjid Tengkerah or Tranquerah Mosque, Melaka - 1728

This mosque is recorded as the oldest mosque in Malaysia, built with a hybrid design of *Nusantara* and Chinese architecture. The square shaped mosque consists of main prayer hall and terrace with three layers of pyramidal roof. The *pagoda* like *minaret* is situated on the opposite of Mihrab, similar to the positioning of mosques built during Abbasid Dynasty. Even though upgrading and renovation works had been done to the original mosque, the design and structure was kept as close as possible to the original¹.



Figure 6.1: Masjid Tengkerah, Melaka 1728

6.1.1 Mosque Overall Design

Basically Masjid Tengkerah can be entered from two main doors. One is opposite the Mihrab, i.e. in front of its *pagoda minaret*, and the other from the ablution area. If the congregational has already taken place, late comers should not be using the entrance near the ablution because it will disturb the congregation. The main entrance to the prayer hall is through the doors situated on the opposite of the Qibla wall, where the *minaret* is positioned. When standing at this door, visitors will be directed to the Mihrab in a straight axis (refer to Figure 6.2 on page 127).

¹ As stated on the information board which is placed in front of the mosque entrance



Figure 6.2: Masjid Tengkerah: Analysis of Floor Plan

6.1.2 Qibla Wall Design

The Qibla wall is finished with diamond-shaped ceramic tiles at about 600 mm in height from the floor of the prayer hall. There is also a band of geometrical design ceramic tiles that runs around the prayer hall including the Qibla wall.





Lattice Window





Diamond Shaped Ceramic Tiles

Ceramic Tiles Band

Figure 6.3: Masjid Tengkerah: Ornamentation on Qibla Wall

The most prominent ornamentation on the Qibla wall is the existence of a pair of specially designed windows on both sides of the Mihrab (Figure 6.3). These windows are only found on the Qibla wall and not on the other walls around the mosque.

Ornamentation on Qibla wall

i) Lattice Window

Window screens such as the ones found in Masjid Tengkerah are widely used in China during the 18th and 19th Century. They serve as both decorative pieces and functional window screens. The dimension of these vernacular Chinese lattice windows is normally made 2:3 in width and length or vice versa (Lung and Chan, 1998: 125). Dimensions of these lattice windows in Masjid Tengkerah are 1600:2500 mm, which is almost equivalent to 2:3.



Figure 6.4: Masjid Tengkerah: Lattice Window

ii) Diamond shaped tiles featuring lotus flowers

This ornamentation of lotus flowers on ceramic tiles is placed symmetrically on both the left and right side of the Mihrab at about eye level. Lotus flower is frequently related to the Buddhist as they believe it to be sacred and full with meaning. It is believed to be connecting the three spheres of earthly existence; grows up from muddy soil, through the water and blossoming into the air (Ward, 1952: 135). The plant also symbolized rebirth because it closes at night and opens again at early dawn. This motif of lotus flower probably means that the believers who built and came to the mosque during early days were of Hindu-Buddhist converts similar to those mentioned by Zakaria (1994: 407) in explaining the existence of turtle motif in Demak Mosque Mihrab, Java, Indonesia.



Figure 6.5: Masjid Tengkerah: Lotus Flower on Tile

iii) Band of Ceramic tiles

The band of ceramic tiles that goes around the interior of the mosque walls at 600mm in height actually composed of three layers. The upper most and the lowest band are quite similar whilst the middle layer is totally different in both its colour and pattern (Figure 6.6). It is learnt from this observation that part of the top and bottom layer has a simplified version of the motif from Damascus' Mihrab.



Figure 6.6: Masjid Tengkerah: Ceramic Tiles



Figure 6.7: Top; Vine Frieze from Umayyad Mosque Bottom; Vegetal Scrolls of Masjid Tengkerah

The figures above show the similarity between the two vegetal friezes; the ornamentations of Masjid Tengkerah and Umayyad mosques.

6.1.3 Mosque Mihrab

The Mihrab niche is semi circular and formed in concaved wall. On the façade, the Mihrab is seen as an arch with gold plated band giving a rich look to the Mihrab. The concave wall is decorated with geometrical designed ceramic tiles up to 900 mm in height. Measuring 1200mm in width, 1575mm in depth and at 2000 mm in height, this form is sufficient for a single person (prayer leader) to occupy comfortably. Even though the size and form of the Mihrab niche is made special for the prayer leader, this niche is not being used. The *Imam* (prayer leader) chose to lead the prayer in front of the Mihrab in line with the *Mimbar*. A wall and standing fan were seen occupying the Mihrab. No other ornamentation can be seen on the Mihrab wall. A clock is hung on top of the Mihrab arch, much higher than the eye level, so the clock does not seem to interfere with the concentration of the believers.



Figure 6.8: Masjid Tengkerah: Mihrab Drawings

6.2 Case Study 2: Masjid Kampung Laut, Kelantan - 1730s

Masjid Kampung Laut is a mosque found on the river bank of Sungai Kelantan. Its exact built date is still under research but it is said to be built in the 1730s. From the design and structure which is similar to the Demak Mosque in Java, Indonesia this mosque is believed to be built by the Javanese. In 1969, Masjid Kampung Laut was moved to the vicinity of an Islamic Higher Learning Institute in Nilam Puri, Kelantan to save it from damages caused by flood. Shifting the mosque from Kampung Laut to Nilam Puri was done with extreme care as not to deviate from the original and this was done by both the Historical Department of Malaysia and Historical Department of Kelantan.



Figure 6.9: Masjid Kampung Laut, Kelantan 1730s

6.2.1 Mosque Overall Design

The overall floor plan is almost square in shape. Spaces in the mosque are arranged similarly to the spatial arrangement of traditional Malay house. The first entrance steps lead the visitors to the verandah (serambi). The second entrance door will lead the believers into the prayer hall. Standing at this second entrance door, the visitor is directly opposite of the Qibla wall. Thus circulation of *safs* inside the prayer hall is good as late comers can easily join the congregation without interrupting. Long and low windows surrounding the prayer hall allow ample circulation of fresh air, natural ventilation and natural lighting into the prayer hall. This provides comfort to the users. There are four columns inside the prayer hall to support the tiered pyramidal roof also known as '*bumbung tumpang*'.



Figure 6.10: Masjid Kampung Laut: Analysis of Floor Plan

6.2.2 Qibla Wall Design

The Qibla wall of Masjid Kampung Laut is basically divided into four sections. Two sections in the middle are recessed out by 1200mm. The left side is used for the *imam* while leading the congregation and the right side is for the *Mimbar*. At the time pictures were taken during the research trip, the *Mimbar* was positioned in front of the recessed area and the *imam's* praying mat was next to it. There were book racks holding Al-Qurans and other religious books on the Qibla wall. The other two sections, on the far left and right were given double leaf long and low windows allowing bright sunlight into the prayer hall.



Figure 6.11: Masjid Kampung Laut: Qibla Wall

Ornamentation on Qibla Wall

The wall was built in "*Janda Berhias*", a traditional timber laying workmanship which is similar to most of the traditional Malay house especially on the East Coast of Malaysia.

6.2.3 Mosque Mihrab

Even though Masjid Kampung Laut's overall design is said to be similar with the Great Mosque of Demak, treatments of its Qibla wall and Mihrab were different. There is no trace of Mihrab niche except for the recessed section on the Qibla wall. This style of Qibla wall design was never found in any of the other selected medieval mosques² of this study.

² Refer Chapter 3 on Medieval Mosque Analysis.


Table 6.12: Masjid Kampung Laut: View of Mihrab and Drawings

6.3 Case Study 3: Masjid Batu Uban, Penang - 1734

This mosque is said to be built in 1734 by the Malays from Buadi Village, Paya Kumbu, Sumatera. It started as a *surau* (musolla) but later became a mosque when the Muslims formed a settlement. It was also used as a transit point for Muslim traders from India, Pakistan and Middle-east. The overall look of Batu Uban mosque is quite

similar to Sumateran design mosque such as Kampung Laut in Kelantan. It was originaly built on tiers with pyramidal roof.



Figure 6.13: Batu Uban Mosque, Penang 1734

6.3.1 Mosque Overall Design

Similar to other vernacular mosques, the floor plan of Masjid Batu Uban is almost square in shape. There are four columns in the middle of prayer hall to support the pyramidal roof structure. Before renovation and expansion works were done, the original mosque (which still stands on its original site), had a clear entrance and Mihrab axis. During congregational prayers, praying lines are distracted only by the four small columns and nothing else.



Figure 6.14: Masjid Batu Uban: Analysis of Floor Plan

6.3.2 Qibla wall Design

Masjid Batu Uban employs quite a simple Qibla wall with minimal ornamentation. On the Qibla wall, as can be seen in Figure 6.16, p:138, a three step *Mimbar* is placed on the right side of the Mihrab. On the left side of the Mihrab is a nicely decorated table and chair for the *Imam* or Religious teacher (*Ustaz*) to sit while teaching. On top of this furniture, there is an electrical announcement board that keeps changing its words providing relevant, up to date information on the praying times, dates, activities of the mosque's community and so on. The board is hung quite low and within the cone of vision of the congregation performing *solat* (prayer). This might cause some sort of disturbance to the concentration to be used on the Qibla wall.

Outline of Lotus Motif

This lotus motif appears on top of both the Mihrab and the *Mimbar*. In the motif on top of the Mihrab, the lotus impregnates the word Allah. The asymmetrical look gives an indication that both ornamentations were handmade as shown in Figure 6.15 below.





Figure 6.15: The Outline of Lotus Motif on top of Mihrab and Mimbar on the Qibla Wall

6.3.3 Mosque Mihrab

The Mihrab is filled with a wall fan meant for the *Imam* only and a stand for Al-Quran at 1000mm in height. According to the mosque's Committee Member, the Al-Quran will be used by the *Imam* after he had finished leading the congregation in *solat* or whilst waiting for the next prayer time. It can be noted that the Mihrab of Masjid Batu Uban is also used for *Dikka*³.

However, from observation, there is a prayer mat laid in front of the niche to show that the Mihrab is not being used by the *Imam* to position himself while leading the congregation,. It has been clarified by the mosque's Committee Member that the *Imam* does not want to be too far from the first congregational row (*saf*). The first *saf* only takes position in front of the *Mimbar*, next to the Mihrab to avoid any distraction of prayer line. Therefore, if the *Imam* is inside the niche, he will be quite far from the first *saf*.

Mihrab Form and Ornamentation

Masjid Batu Uban owns a semi circular concaved Mihrab. The Mihrab and the whole Qibla wall is painted in white with little ornamentation. The arched Mihrab is decorated with multi foil arch which is similar to the mosques built during the Mughal period.

³ A platform for the Imam or mosque special committee to recite the Al-Quran. Refer Chapter Two.



Figure 6.16: Masjid Batu Uban: View of Mihrab and Drawings.

6.4 Case Study 4: Masjid Kampung Keling, Melaka - 1748

Masjid Kampung Keling is situated in the middle of Melaka Heritage trail. "Keling" refers to the Southern Indian folks who married the local Malays. Built in 1748, this mosque was renovated in 1908, with the original structure and design well kept. The roof shape and structure of the mosque gives it the vernacular look that is pyramidal. Still, some of the interior design and detailing carry influences from British and Dutch architecture. Another impact of the Colonization.



Figure 6.17a: Masjid Kampung Keling, Melaka 1748

6.4.1 Mosque Overall Design

Similar to Tengkerah and other mosques with pyramidal roof structure, the shape of the floor plan is almost square with four columns in the middle of the prayer hall. There are two main entrances to the prayer hall, one is directly opposite of the Qibla wall and the other is adjacent to the ablution pool. Most visitors prefer the latter rather than the former. The prayer hall is surrounded by verandahs on each side except on the Qibla wall side. This verandah provides the visitors with a transitional point before entering the prayer hall. It can also be used to reach to the other entrance if *solat* had already taken place. The verandahs are also used as additional praying spaces during big congregations.



Figure 6.17b: Masjid Kampung Keling: Analysis of Floor Plan

6.4.2 Qibla Wall Design

Parallel to the Qibla wall, there is a series of six pillars with Ionic Roman capital in gold paint forming five similar arches. The middle arch is in line with the Mihrab and the arch on the right of the Mihrab is owned by the *Mimbar*. On the left and right side of the Qibla wall, there is a pair of specially designed windows. They seem to be copies of the ones found in Masjid Tengkerah.



View of Qibla Wall







Lattice WindowIonic ColumnTimber Carving as Ventilation PanelFigure 6.18: Masjid Kampung Keling: View of Qibla Wall and the Components of Study

Ornamentation on Qibla wall

i) Lattice Window

Pair of lattice windows that are similar to the ones found in Masjid Tengkerah are positioned on both sides of the Qibla wall. Even though the size is slightly bigger than those in Masjid Tengkerah, the traditional Chinese proportion of 2:3 ratio is still being applied to its dimension of 1800:2700 mm. ii) Ionic Columns

Columns from the Greek order are broadly used in mosques. The Great Mosque of Damascus is the first to employ columns from Corinthian order (Kinney, 2001). Ionic columns painted in silver and gold are planted in a single line in front of the Qibla wall, and thus differentiating it from the other common walls.

iii) Wood Carving on Ventilation panels

The wood carving could easily be missed as it is stationed at the upper most part of the Qibla wall. These carved ventilation panels are almost ruined as only three of them are still intact. Each panel represents the motif of *'bayam peraksi'*, a type of weed grown in local backyards⁴. This motif signifies the identity of Malay Archipelago and definitely vernacular to Malaysia.



Figure 6.19: Masjid Kampung Keling: Ventilation Panel

6.4.3 Mosque Mihrab

Masjid Kampung Keling employed a square shaped Mihrab niche which is different from the semi circular shape of Masjid Tengkerah's Mihrab. The form of this niche is also different as it is a flat niche wall with an arched ceiling. On the façade, the Mihrab is arched with gold plated band. The Mihrab niche is

⁴ The motif is determined after a comparison study on woodcarving motifs with reference from Nik Rashidin, "Spirit of Wood" exhibition 2000.

finished with white luster ceramic tiles. Even though the Mihrab is sized comfortably for a single occupant to perform prayer, it is not being utilized. In the niche a larger scaled Al-Quran is placed on a stand at about 700mm in height.

(a) Mihrab Form and Ornamentation

Its Mihrab is lightly ornamented. Only two significant motifs were found from the observation. Again, lotus motif is utilized in ornamenting the mosque, but here the lotus is shown in its flower bud form.



Figure 6.20: Motif on the Ceramic Tiles Band

(b) Motif on the Mihrab Arch

The same 'bayam peraksi' motif as the ventilation panel, but with a different design is used for the Mihrab arch on both legs. Here the motif is designed in a vertical composition. The beginning and ending of the carved motifs are clearly defined unlike the ones on the ventilation panels mentioned above. The wood carving is painted in gold to get the similar attention as the arches in front of the Qibla wall.



Figure 6.21: Masjid Kampung Keling: View of Mihrab, Drawings and Component of Study

6.5 Case Study 5: Masjid Sultan Zainal Abidin, Terengganu - 1793

Masjid Sultan Zainal Abidin was originally built with timber in 1793 and then uplifted to a brick building back in 1852. The interior of the mosque received its colonial influences during this renovation. The mosque was then renovated and uplifted again in 1972. It was made bigger for the increasing number of users. A tall *minaret* was also added to the existing structure during the same renovation of 1972.



Figure 6.22: Masjid Sultan Zainal Abidin, Terengganu 1793

6.5.1 Mosque Overall Design

This mosque has one main entrance and that is from its side. Upon entering, series of doors leading to the main prayer hall will be seen. Standing at one of these doors, the visitors' view is blocked by a series of big round columns. The prayer hall is in a longitudinal rectangular shape with the shorter sides lie parallel to the Qibla wall. The floor plan is confusing with the existence of another set of columns forming arches that leads to another praying area. The small prayer section is enjoys natural light and it is the best naturally lit area as compared to the rest of the mosque.



Figure 6.23: Masjid Sultan Zainal Abidin: Analysis of Floor Plan

6.5.2 Qibla Wall Design

There seems to be two sets of Qibla wall. The first (the one in front) is divided into four sections and the two middle sections are arched. The double arch leads to a chamber like prayer hall which is about 3000mm by 3000mm square in shape. Inside this square chamber lies a second Qibla wall with a Mihrab niche. During the research visit, there was a congregation taking place and this chamber was not used during that prayer. The chamber is actually surrounded by a graveyard compound situated outside the mosque on the Qibla wall side.







Figure 6.24: Masjid Sultan Zainal Abidin: Qibla Wall



Figure 6.25: Masjid Sultan Zainal Abidin: View of Mihrab and Drawings

6.5.3 Mosque Mihrab

The arch situated on the right side of the Qibla wall is crowning the *Mimbar* and the area underneath the left arch is supposedly used by the *Imam* when leading the congregation. The *Imam*'s prayer mat is positioned right in front of the *Mimbar* and thus the first *saf* is formed quite far from the Qibla wall. If the *Imam* uses the chamber Mihrab niche, he will not be seen clearly by the congregation praying far behind him on the longitudinal floor plan. Hence longitudinal floor plan is not suitable for a prayer hall design.

(a) Mihrab Ornamentation

The ornamentation that could be seen inside this mosque either in terms of calligraphy, geometrical patterns or woodcarvings is minimal. There is a little ornamentation found on the column capitals supporting the double arched Mihrab. Motif of the carving depicts 'saga kenering'⁵, another motif formed from weeds that grow in local backyards (Ismail, 2001: 51). This motif is carved in cement mortar instead of the usual timber methods used in Traditional Malay houses especially in Kelantan and Terengganu. The material used is probably the reason that makes the mortar carvings looked rather simplified.



Figure 6.26: Masjid Sultan Zainal Abidin: Mihrab Ornamentation

⁵ The motif is determined after a comparison study on woodcarving motifs with reference from Nik Rashidin, "Spirit of Wood" exhibition 2000.

(b) Mihrab Design

The Mihrab niche inside the chamber is rectangular in shape and it is comfortable for a single user. From the front, it is a plainly arched.

6.6 Case Study 6: Masjid Kapitan Keling, Penang - 1801

In the late 18th Century, Cauder Mydin Merican led the Muslims' request for a larger and permanent mosque from the East India Company in Penang to accommodate the increasing number of worshipers. Their proposal was granted and they were given an 18 acre plot of land where they built a single storey mosque structure made of brick in 1801. Since then, Masjid Kapitan Keling has gone through multiple renovations.



Figure 6.27: Masjid Kapitan Keling, Penang 1801

6.6.1 Mosque Overall Design

The entrance to the mosque is very clearly defined by a walkway from the mosque compound to the mosque terrace area. The grand and welcoming floor plan makes it easier for the visitors to get comfortable being inside the mosque. However, looking for a space to pray inside the mosque is quite confusing. The praying lines look scattered with the existence of eight columns arranged in hexagonal manner directly in front of the Mihrab and the Qibla wall. These columns are assigned to hold the onion shaped dome on top. In between these

columns and the Qibla wall, there appears to be another row of columns. Hence the visibility of the Qibla wall and the Mihrab is quite poor unless one is standing in the middle of the entrance.



Figure 6.28: Masjid Kapitan Keling: Analysis of Floor Plan

6.6.2 Qibla Wall Design

The Qibla wall is richly ornamented with stucco plaster. Its upper section of is ornamented with a band of calligraphy in Thuluth script and finished with gold paint stating verses from the Al-Quran as translated below:

'Only those are worthy of being the guardians and servants of Allah's houses of worship, who believe in Allah and the Last Day, and establish Solah and pay Zakat dues, and fear none but Allah: for these alone are expected to follow the Right Way'. From the Al-Quran, Surah At-Taubah 9: verse 18.

The Qibla wall is also ornamented with vertical bands of geometrical patterns resembling vegetal pattern. These vertical strips measure 2100mm in height and 600mm in width right below the inscription band. The ornamentation on these ten vertical bands carries motifs of lotus flower and the intertwining of stems is from '*sulur kacang*' motif. Both motifs are combined to give the hybrid look of ornamentation to this mosque.

The geometrical pattern on the Qibla wall stretches through its entire length. It shows a pattern of eight overlapping circles forming components of polygons⁶.

⁶ Explained in detail for the geometrical shapes of the Kapitan Keling Mihrab

The Qibla wall is kept free from other decorations except for the *Mimbar* and a grandfather's clock which produces annoying sound every hour on the hour.



Masjid Kapitan Keling: Qibla Wall



Vertical Band on Qibla WallGeometrical Pattern on Qibla WallFigure 6.29: Masjid Kapitan Keling: View of Qibla Wall and Components of Study

6.6.3 Mosque Mihrab

The Mihrab shape is quite similar to Masjid Leboh Acheh's on the employment of multi foils arch resembling Mughal architecture and then framed with rectangular plane. But here the ornamentation is done more expressive with two additional low columns flanking the Mihrab arch. One peculiar thing is that the Mihrab is orientated off perpendicular by about 5° to the right from the praying lines.



Figure 6.30: Masjid Kapitan Keling: Rotated Mihrab Shown by Dotted Line



Figure 6.31: Masjid Kapitan Keling: Rotated Mihrab in Photograph

Obviously when the Mihrab is wrongly orientated, it cannot be used effectively. The *Imam* normally leads the prayer by positioning the prayer rug next to the *Mimbar*. This is a classic example of a mosque built during the colonial era and the direction of the Qibla is not taken seriously.



Figure 6.32: Masjid Kapitan Keling: View of Mihrab and Drawings

Mihrab Ornamentation

The following ornamentations (as shown in Figure 6.33, page 152) were found on the Mihrab wall.

i) Lotus Bud

Lotus flower motif acts as the keystone to the multi foil arch. This arrangement is almost similar to Masjid Leboh Acheh's Mihrab, with the only difference found is the levels of quality. ii) Lotus Leaves

This motif was used to ornament the column capitals on both sides of the Mihrab.

iii) Geometrical Patterns

The pattern used is actually an enhancement of the Qibla wall pattern. This geometrical pattern originated from the same basic geometrical lay out of interlocking octagons (as shown in Figure 6.34 below). Critchlow (1976: 121) confirmed this pattern as an Islamic pattern.



Lotus Bud





Lotus Leaves

Geometrical Patterns

Figure 6.33: Masjid Kapitan Keling: View of Ornamentation



Figure 6.34: Masjid Kapitan Keling: Islamic Pattern Study of Mihrab; Author's Own

6.7 Case Study 7: Masjid Melayu Leboh Acheh, Penang - 1808

Masjid Melayu Leboh Acheh was built in 1808 by a member of a Royal family from Acheh, Sumatera. When Muslim settlements sprawled in Leboh Acheh, Penang they invited more Malays from around the peninsular. Indirectly they created a center of Islamic Religious study within the vicinity of Leboh Acheh Mosque. Consequently, the surrounding area began to develop in line with the growing number of merchants and traders coming from all over Malaysia (or Malaya then), the Arabian Peninsular (Middle-East) and India. The mosque is said to be influenced by Colonial style (Ghafar 1999) since there was already a British resident in Penang in 1786. However, looking at the roof design, it actually falls under the Vernacular Category with the existence of a pyramidal roof. The *minaret* is built detached from the mosque building similar to the ones found in Melaka, for example Masjid Kampung Keling (1748).



Figure 6.35: Masjid Melayu Leboh Acheh, Penang 1808

6.7.1 Mosque Overall Design

Leboh Acheh mosque floor plan is almost square in shape. There is series of six columns, three in a row to support the pitch roof structure. The main entrance to the prayer hall is situated opposite the Mihrab. This makes the Mihrab visibility highly achievable as it could easily be seen directly at the entrance point.



Figure 6.36: Masjid Melayu Lebuh Acheh: Analysis of Floor Plan

6.7.2 Qibla Wall Design

The Qibla wall design is fairly simple without any geometrical ornamentation. *Mimbar* of the mosque is at the right side of the Mihrab where it is normally found. There are windows at the left and right side of the Mihrab and the same type of windows were repeated on the rest of the walls covering all sides.





Figure 6.37: Masjid Melayu Leboh Acheh: Qibla Wall

6.7.3 Mosque Mihrab

The niche shape is in semi circular and formed in concaved. The Mihrab indicates the appearance of influences from India or Mughal Dynasty. The influences are shown by the multi foil arch fronting the Mihrab niche. The multi foiled arch is framed in a rectangular shape with minimal ornamentation of stucco.



Figure 6.38: Masjid Melayu Leboh Acheh: View of Mihrab and Drawings

Mihrab Ornamentation

The motif illustrates scallops of jasmine flowers in white painted stucco. The flowers spread out from a vase like source that also acts as the keystone to the multi foil arch. The only inscription seen is placed on top of the Mihrab façade, which states the *Kalimah 'Syahadah'* in Thuluth script. Tr: "There is no god except Allah and Muhammad is His messenger". The Mihrab is the only ornamented elements and no other ornamentations were found elsewhere in the mosque.





Figure 6.39: Masjid Melayu Leboh Acheh: Ornamentation on Mihrab

6.8 Case Study 8: Masjid Kampung Tuan, Terengganu - 1830

Masjid Kampung Tuan was built in 1830 by Sheikh Abdul Rahman, a religious teacher from Palembang, Sumatera and it was made glorified by his son, Sheikh Abdul Samad who was also a religious teacher and leader. It was once a main prayer centre during Fridays and Eid prayers in Chukai, Terengganu. However, since the erection of a new mosque in uptown Chukai in 1920, the mosque lost its glory and was made a *musolla* (not being used for Friday prayers).



Figure 6.40: Masjid Kampung Tuan, Terengganu 1830

6.8.1 Mosque Overall Design

Masjid Kampung Tuan owns a simple floor plan with a single space for prayer measuring 9000mm by 9000mm in perfect square. Entrance is placed directly opposite the Mihrab. Another entrance is secretly made on the left side of the hall (through the movable floor boards) leads to a section closed by curtains which is meant for the *muslimahs* (ladies). Different from other pyramidal 156

layered roof mosques built in Malaysia, Masjid Kampung Tuan has not employed any columns in the prayer area to support its roof structure. This mosque was built with timber space frame system joint with the traditional tongue and groove system eliminating the use of nails.



Figure 6.41: Masjid Kampung Tuan: Analysis of Floor Plan

6.8.2 Qibla Wall Design

Masjid Kampung Tuan has a plain Qibla wall without any prominent ornamentation, except for the calligraphy band on top of the Mihrab. On the right side of Mihrab is the *Mimbar* where all the prayer rugs are kept as it is not used by the *Imam* to give sermon anymore (since the mosque is not being used for Friday prayers). Adjacent to the right of *Mimbar* is a fixed rack at 1000mm in height from the floor where all the Al-Qurans and other religious books were kept. Two clocks were hung on the columns at each sides of the Mihrab.



Figure 6.42: Masjid Kampung Tuan: Qibla Wall

6.8.3 Mosque Mihrab

Its Mihrab is the most interesting part of Masjid Kampung Tuan. The semi circular concaved Mihrab is made of a single tree trunk. It was hollowed out similar to the ancient ways of making canoes. The pointed arched Mihrab is ornamented with arabesque design combining the calligraphy and vegetal patterns carved from timber.



Figure 6.43: Masjid Kampong Tuan: View of Mihrab and Drawings

Mihrab Ornamentation

Fine carving in '*pokok ketumbit*' motif is used to ornament the Mihrab. Vegetal motif is composed with calligraphy in Naskh script without the diacritical signs. The arabesque plate seemed asymmetrical with different verses of calligraphy on both sides. Again, lotus flower motif impregnating calligraphy with the word Allah is employed to be the pointed arch key stone of the Mihrab.



Figure 6.44: Masjid Kampung Tuan: Close Up of Asymmetrical Arabesque in Mihrab

6.9 Case Study 9: Masjid Muhammadiah, Kelantan - 1867

Masjid Muhammadiah is the state mosque of Kelantan and it used to be the centre of Islamic teaching in South East Asia. This mosque was built in 1867 during the British colonial period.



Figure 6.45: Masjid Muhammadiah, Kelantan 1867

6.9.1 Mosque Overall Design

Masjid Muhammadiah's floor plan basically consists of a main prayer hall and external prayer terraces which is quite huge. The floor plan of main prayer hall is longitudinal rectangle with the shorter sides parallel to the Qibla wall. There are two sets of columns in Corinthian capitals lining up on the left and right side of the prayer hall. A number of entrances could be taken to reach the prayer hall from all sides of the mosque, except via the Qibla wall. It is quite easy to determine the Qibla direction once inside the mosque.



Figure 6.46: Masjid Muhammadiah: Analysis of Floor Plan

6.9.2 Qibla Wall Design

The Qibla wall is divided into three sections; an arched middle section which is occupied by the *Mimbar* and two other sections on both its sides. These two sections are decorated with big and long windows which allow natural light into the prayer hall.

The ornamentation in this mosque is more like emblems that are not vernacular to this part of the world.



Qibla Wall





Scallops of Roses Emblem Carrying Sunflower Motif Figure 6.47: Masjid Muhammadiah: Components of Study

6.9.3 Mosque Mihrab

There is no trace of Mihrab niche in the mosque Qibla wall. A rectangle recessed area of about 3000mm by 5000mm is made available for the *Imam* to lead the congregation. The *Mimbar* is placed directly in the middle, fronting the recessed area and thus making it seems like a church altar. This is most probably the influence brought in by the British Colony. The *Imam*'s prayer rug is seen to be placed in front of this Mihrab.



Figure 6.48: Masjid Muhammadiah: View of Mihrab and Drawings

6.10 Case Study 10: Masjid Sultan Abu Bakar, Johor - 1892

Masjid Sultan Abu Bakar is situated on a prime location at the top of a hill overlooking the Straits of Johor and a silhouette of neighbouring Singapore. Its construction in 1892 was commissioned by Sultan Abu Bakar and the building is said to be the starting point of modernization in Johor. This mosque is seen to be purely in British architecture which resembles a church design.



Figure 6.49: Masjid Sultan Abu Bakar, Johor 1892

6.10.1 Mosque Overall Design

There is a great similarity between the floor plan of Masjid Muhammadiah and Masjid Sultan Abu Bakar. The longitudinal rectangle floor plan is longer to the sides that are perpendicular to the Qibla wall. Similarly on the left and right sides of the Qibla wall, a series of columns in Corinthian capitals were erected but here the columns seemed to be attached to each other, forming arches. There is another series of column perpendicular to those arched columns, also formed in arches, defining the Qibla wall. Entrance doors are ample and can be found all around the prayer hall except on the Qibla wall.



Figure 6.50: Masjid Sultan Abu Bakar: Analysis of Floor Plan

6.10.2 Qibla Wall Design

The Qibla wall is divided into five sections and these sections are celebrated by arches sitting on top of a series of columns. The middle section is recessed and meant for the *Mimbar*. The other four sections, two on each side are filled with windows. These windows make the interior of Masjid Abu Bakar to be naturally lit during the day. There is no other ornamentation found on the Qibla wall either in calligraphy or geometrical pattern.



Figure 6.51: Masjid Sultan Abu Bakar: Qibla Wall

6.10.3 Mosque Mihrab

Mihrab niche does not exist on the Qibla wall except for a small chamber behind the central arch of the Qibla wall area. Access to this chamber is blocked by the *Mimbar* structure. *Imam* is seen to be leading the congregation from in front of this structure.



Figure 6.52: Masjid Sultan Abu Bakar: View of Mihrab and Drawings

6.11 Case Study 11: Masjid Sultan Alaeddin, Selangor - 1898

Masjid Sultan Alaeddin is located in Jugra, a small historical town in Selangor. This royal mosque had gone through a few renovations and additions to cater for the expanding number of congregation and their needs. The biggest extension done is the expansion of the praying area to sides of the main mosque.



Figure 6.53: Masjid Sultan Alaeddin, Selangor 1898

6.11.1 Mosque Overall Design

Masjid Sultan Alaeddin's floor plan is of rectangular in shape with the longer sides parallel to the Qibla wall. Entrances are found on the opposite of the Qibla wall and on both sides of the extended prayer hall. Here, the columns were not erected in the middle of prayer hall but positioned on the far left and right side of the prayer hall instead. This makes the visibility of the Mihrab to be at a maximum level. The *minaret* of this mosque is positioned opposite the Mihrab by the entrance and hence makes the imaginary axis of the mosque's focal point from the entrance to the Mihrab even stronger. This is the second mosque under study that has this type of *minaret* orientation after Masjid Tengkerah (1728) in Melaka.



Figure 6.54: Masjid Sultan Alaeddin: Analysis of Floor Plan

6.11.2 Qibla Wall Design

Masjid Sultan Alaeddin has a unique finish to the prayer hall. All the walls are covered with varnish washed timber strips giving them a classic shine. The Qibla wall owns a multiple Mihrab design with the main Mihrab being in the middle. The main Mihrab is in semi circular concaved form with double arched and the outer arch is flanked by a couple of columns. The other two Mihrabs are of straight walls with a low opening in arched shape allowing natural light to penetrate the mosque's interior. Its *Mimbar* is located on the right side of the main Mihrab.



Figure 6.55: Masjid Sultan Alaeddin: Qibla Wall

6.11.3 Mosque Mihrab

The Mihrab shape is comfortable for the *Imam* whilst leading the congregations. On the niche wall there is a wall fan meant for the *Imam*. In between the first and second arch, an awesome crystal chandelier is hung from the ceiling.



Figure 6.56: Masjid Sultan Alaeddin: View of Mihrab and Drawings

Ornamentation on Qibla Wall

(i) Motif of Wood Carving

It was adapted from the old *Langkasukan* motif¹. The main characteristic seen here is the intertwining of the stems carrying lotus flowers at the corners. Motif and ornamentation of the Mihrab has some resemblances to Aur Menat Jong Mosque in Pattani. This type of motif is traditionally used for ornamenting palaces and royal

¹ Statement is made after comparison with the research paper written by Rosnawati Othman,(2005: 103) 168

residences and thus, being a royal mosque, Masjid Sultan Alaeddin rightly deserves this highly crafted Mihrab.



Figure 6.57: Masjid Sultan Alaeddin: Wood Carvings in Mosque

(ii) Calligraphy

Calligraphy band that frames the Mihrab arch was also carved in

recessed and relief. It is difficult to read as it is inscribed in floriated

Kufic script. The following verse was chosen. The translation goes:

'We see the turning of thy face (for guidance) to the heavens: "now shall We turn thee to a Qibla that shall please thee. Turn then thy face in the direction of the Sacred Mosque: wherever ye are, turn your faces in that direction." The people of the Book know well that that is the truth from their Lord, nor is Allah unmindful of what they do'.

From Al-Quran, Surah Al-Baqarah 2: verse 144.



Figure 6.58: Masjid Sultan Alaeddin: Calligraphy on the Mihrab
6.12 Case Study 12: Masjid Jamek Kuala Lumpur, Wilayah Persekutuan - 1909

Masjid Jamek Kuala Lumpur or Jamek Mosque KL, is the oldest existing mosque in the capital city of Malaysia. This mosque is situated at the point where the Kelang and the Gombak rivers meet. It was built by a British architect AB Hubback, who was inspired by Mughal Dynasty architecture from India.



Figure 6.59: Masjid Jamek Kuala Lumpur 1909

6.12.1 Mosque Overall Design



Figure 6.60: Masjid Jamek Kuala Lumpur: Analysis of Floor Plan

Masjid Jamek Kuala Lumpur has an inviting open terrace (courtyard) upon reaching the main prayer hall. This terrace leads to two main entrances to the prayer hall from opposite the Qibla wall. Upon standing at the door, series of eight white columns arranged in a hexagonal manner will capture the visitors' attention. These columns are meant to hold the onion Mughal dome on top. The mosque's Mihrab can be seen directly as one enters through the door.

6.12.2 Qibla Wall Design

Masjid Jamek Kuala Lumpur's Qibla wall is painted all white similar to the other walls in the prayer hall. There are eight windows aligned on the Qibla wall, four on each sides of the Mihrab. The windows are of Moorish taste and shaped resulting from intersection of circle and rectangle. All the openings inside the mosque employed the same shape. On the Qibla wall, there appeared to be some decorations such as a wall clock, a pair of table and chair for religious classes, book racks and a *Mimbar*.



Figure 6.61: Masjid Jamek Kuala Lumpur: Qibla Wall

6.12.3 Mosque Mihrab

Even though the Mihrab of this mosque is semi circular in shape, its ceiling is flat. Inside the Mihrab there is a small chandelier hung from the ceiling. Façade of the Mihrab is shaped similar to the windows which can also be found in most of Moorish influenced buildings. A wooden low stool is used to place the Al-Quran which is normally read by the *Imam* whilst waiting for prayer times. The size of its niche is comfortable for a single occupant. Apart from using it as a praying space for the *Imam*, the Mihrab also acts as a *Dikka* for the *Imam* to recite the Al-Quran.



Figure 6.62: Masjid Jamek Kuala Lumpur: View of Mihrab and Drawings

Mihrab Ornamentation

The Mihrab is painted in white and not much ornamentation could be traced except for a band of ceramic tiles framing the top part of the Mihrab niche.

(i) Motif on the Mihrab Frame

Overlapping of two squares (one being straight flat and the other in diagonal) to form an 'eight pointed star' has always been one of the

basic motifs in Islamic art. Here, this motif is used in ceramic tiles and arranged to be the frame of Mihrab.



Figure 6.63: Masjid Jamek Kuala Lumpur: Eight Pointed Star Motif Tile

6.13 Case Study 13: Masjid Zahir, Kedah - 1912

Masjid Zahir is the state mosque of Kedah. It is also known as Zahrah Mosque or Royal Mosque because it is situated within the compounds of Kedah palace. Design of this mosque is inspired from Azizi Mosque in Langkat, Acheh. From the external view, five domes can clearly be seen symbolizing the five pillars of Islam.



Figure 6.64: Masjid Zahir, Kedah 1912

6.13.1 Mosque Overall Design

The floor plan of this mosque's prayer hall is basically divided into three sections. The main entrance leads directly to the middle prayer hall. Upon standing at its gigantic doorway, a series of eight columns forming a hexagon captures one's sight. These columns holds the biggest dome on top. Even though its Mihrab successfully becomes the focus of vision, the prayer hall seems less unified and distracted because those columns are attached to each other forming series of arches. These arches are like replicas of the main Mihrab but they are positioned in a hexagonal manner.



Figure 6.65: Masjid Zahir: Analysis of Floor Plan

6.13.2 Qibla Wall Design

Qibla wall of Masjid Zahir is very confusing. At first glance it provides the indication that the wall is polygonal and not straight. Spatial organization of the interior is not as good as it looks from the outside. Behind the Qibla wall there appeared to be another Qibla wall as shown in Figure 6.66, page 175. The furthest Qibla wall was built later in 1976 together with a new 'Qibla praying area' to be used during Friday and special prayers such as *Eidul Fitri* and *Eidul Adha*. It also functions as a *maqsura* during visits by the DYMM Sultan.





The Original Qibla Wall

Another Qibla Wall Behind the Original Qibla Wall





Geometrical Motifs on the Mihrab

Figure 6.66: Masjid Zahir: Components of Study

(a) Ventilation Screen

The screen is ornamented with the eight pointed star motif. This timber screen was originally made for ventilation purposes but now the mosque is fully air conditioned so the screen is then attached with glass panels.

(b) Wall Ornamentation

Again the eight pointed star motif is utilized for the lower wall section. The pattern is made with carefully cut mosaics in blue and yellow.

6.13.3 Mosque Mihrab

The Mihrab is semi circular in shaped and concaved with a scallop top depicting the Mihrabs of Mughal architecture. It is then framed with pointed arch and flanked by two columns one on each side. The pointed multi foil arch resembles the one in Bagha Mosque, India (16th century). This arch is then framed by another taller arch with another set of columns, similar to the other arches of the hexagonal area. The size of this Mihrab is comfortable for the *Imam* to lead the congregations.



Figure 6.67: Masjid Zahir: View of Mihrab and Drawings

Mihrab Ornamentation

(i) Calligraphy

The verse on top of the Mihrab is written in Thuluth script. Tr:

'We have certainly seen the turning of your face, [O Muhammad], toward the heaven, and We will surely turn you to a qiblah with which you will be pleased. So turn your face toward al-Masjid al-Haram'.

From Al-Quran, Surah Al-Baqarah 2: verse 144.

The verse on the pointed arch band is also written in Thuluth script.

Tr:

'O you who have believed, when [the adhan] is called for the prayer on the day of Jumu'ah [Friday], then proceed to the remembrance of Allah and leave trade. That is better for you, if you only knew'.

From Al-Quran, Surah Al-Jumu'ah 62: verse 9.



Figure 6.68: Masjid Zahir: View of Ornamentation in Mosque

(ii) Ornamentation on Column Capital

The motif used to decorate the column capital is quite close to *"bunga cempaka"* motif which is normally used in Malay wood carving (Spirit of Wood Exhibition, 2000).

(iii) Frame Infill

Simple "*awan larat*" motif is used to infill the areas between arch and frame.

6.14 Case Study 14: Masjid Ubudiyah, Perak - 1917

Masjid Ubudiyah is another 'Royal Mosque' built during the British Colonial era. The golden onion domes of Masjid Ubudiyah give the taste of Mughal architecture whilst the arches and marble arrangements are of Moorish influences. The architect, A.B. Hubback made his trademark to mosques that he had designed namely this and Masjid Jamek Kuala Lumpur.



Figure 6.69: Masjid Ubudiyah, Perak 1917

6.14.1 Mosque Overall Design

Islamic eight point star pattern is taken into the arrangement of the floor plan for Masjid Ubudiyah. This mosque looks breathtakingly beautiful from outside. However, the spatial analysis of floor plan results a different perception. The eight pointed star patterned floor plan for instance, leaves the prayer area in an octagonal shape. This leaves the Qibla wall to be in an odd triangular shape. Upon entering the prayer hall, as one looks inside the prayer hall, it is quite difficult to search for praying lines as the mosque's main axis is weak. There is no main entrance to the prayer hall and there is no definite guidance to the Mihrab and Qibla direction.



Figure 6.70: Masjid Ubudiyah: Analysis of Floor Plan

6.14.2 Qibla Wall Design

Qibla wall of Masjid Ubudiyah occupies one of the eight point star shaped floor plan and is shorter than the prayer lines behind it. The octagonal walls of the prayer hall make it difficult to find the Qibla wall.

Nothing much can be seen on the Qibla wall except for the *Mimbar* and a grandfather's clock. Behind the wall is a recessed room leading to the Mihrab niche taking the nip of the eight point star.



Figure 6.71: Masjid Ubudiyah: Qibla Wall

6.14.3 Mosque Mihrab

The Mihrab niche is like a reflection of the Mihrab façade. The niche plan is semi circular and concaved. It does not seemed practical to use the Mihrab niche to lead the congregation as the position of this niche is too far inside the room. The *Imam* is more comfortable praying outside this niche, next to the *Mimbar*.



Figure 6.72: Masjid Ubudiyah: View of Mihrab and Drawings

University

Calligraphy

Inscription on top of the Mihrab arch is framed and printed in simple

Thuluth that carries Surah Al-Baqarah 2; verse 255 (Ayat Al-Kursi). Tr:

'Allah-there is no deity except Him, the Ever-Living, the Sustainer of (all) existence. Neither drowsiness overtakes Him nor sleep. To Him belongs whatever is in the heavens and whatever is on the earth. Who is it that can intercede with Him except by His permission? He knows what is [presently] before them and what will be after them, and they encompass not a thing of His knowledge except for what He wills. His Kursi extends over the heavens and the earth, and their preservation tires Him not. And He is the Most High, Most Great'. From Al-Quran, Surah Al-Baqarah 2: verse 255



Figure 6.73: Masjid Ubudiyah: View of Mihrab and Close Up of Mihrab

Inside the niche, the Mihrab is divided into two parts. The lower part is finished with dark marble while the upper part is filled with ornamentation on white stucco. The carved stucco carries both geometrical pattern (Islamic eight pointed star pattern) and traditional Malay carving of "*bunga matahari*" combined with intertwining stems of "*daun sesayap*".

6.15 Case Study 15: Masjid Sultan Ibrahim, Johor - 1927

Built in 1927, this mosque stands proudly on the southern bank of the Muar River. It is said to be designed with influences from mostly European architecture. This is obvious from the four storey *minaret* at the back of Masjid Sultan Ibrahim. Construction of the mosque was aspired by the local Muslims of Muar, a small town situated on the north of Johor state, to be a replacement for the old Jamek Mosque.



Figure 6.74: Masjid Sultan Ibrahim, Johor 1927

6.15.1 Mosque Overall Design

There is a strong resemblance between Masjid Sultan Abu Bakar and Masjid Sultan Ibrahim floor plans, even though their external looks are different. For example, the rectangle orientation of the floor plan providing the longer sides parallel to the Qibla wall. There are three main entrances to be used by the visitors. Two entrances are from the sides and one from the opposite of the Qibla wall. These entrances lead to a hallway like a *riwaq* that brings visitors to the prayer hall through twelve similar doors, from all four sides of the mosque. Two of these doors are at the far ends of the Qibla wall. The overall interior is well lit naturally from these doors, big windows and small openings on the dome drum. The existence of these two doors, although not main entrances (as shown in Figure 6.75, page 183), makes the left and right areas of the prayer hall function as serving areas or hallways.



Figure 6.75: Masjid Sultan Ibrahim: Analysis of Floor Plan

6.15.2 Qibla Wall Design

Similar to Masjid Sultan Abu Bakar, the Qibla wall is divided into five sections and these sections are celebrated by arches formed by a series of columns. But here, the columns are doubled and in Ionic Roman style. The middle section is recessed and meant to position the *Mimbar*. The left and right side of this recessed area are ornamented with extra sized windows. The other two sections are further to the right and left of the *Mimbar* area and filled with doors. It is quite unusual to have entrances from the Qibla direction. The only inscription seen is the *Kalimahs* "Allah" and "Muhammad" in square frames on top of the windows on the Qibla wall.



Figure 6.76: Masjid Sultan Ibrahim: Qibla Wall

6.15.3 Mosque Mihrab

There is a structure made of richly decorated stainless brass placed underneath the centre arch. This double storey structure is designed to be a *Mimbar* which has a space reserved for the Mihrab on its lower section. It stands on its own and thus could be easily be moved from one place to another. This is a new and space saving way of treating the Mihrab and *Mimbar* since both of them can never be used simultaneously.



Figure 6.77: Masjid Sultan Ibrahim: View of Mihrab and Drawings

6.16 Case Study 16: Masjid Sultan Sulaiman, Selangor - 1932

Masjid Sultan Sulaiman is situated in Klang, the royal city of Selangor. This mosque was officially opened in 1932. It is designed with Art Deco by a British architect named L. Keste Ven.



Figure 6.78: Masjid Sultan Sulaiman, 1932

6.16.1 Mosque Overall Design



Figure 6.79: Masjid Sultan Sulaiman: Analysis of Floor Plan

Similar to other designs of mosque built during the Colonial era, Masjid Sultan Sulaiman has the same problem of looking huge and grand on the outside but very poor in interior spatial arrangement. The prayer hall is oddly shaped in octagonal and thus could not offer maximum length to the first *saf*. However, Mihrab visibility is excellent because the entrance is in a straight axis with the Mihrab niche. The interior reminds us of being inside a theatre hall where there are a lot of balconies on the upper floor. The interior is not well lit naturally and thus cannot be used comfortably without the assistance of 'artificial' lightings.

6.16.2 Qibla Wall Design



Qibla Wall



The Geometrical Pattern is Based on the 'Eight Pointed Star Motif'. Figure 6.80: Masjid Sultan Sulaiman: Components of Study

The Qibla wall of Masjid Sultan Sulaiman occupies one of the eight sides of its octagonal floor plan. The Mihrab occupies almost the whole side of the Qibla wall. The Qibla wall is finished with white stucco and is fully ornamented with Islamic geometrical pattern (eight pointed star design).

6.16.3 Mosque Mihrab

Being a focal point or focus in a mosque, Mihrab is taken into action by the mosque's authority. This Mihrab is specially lit, and thus it is clearly visible direct from the entrance door. Lighting makes the *muqarnas* inside the Mihrab 187

seems like an endless stairway. Its semi circular niche is fronted with a 'U' shaped arch and flanked by a column on each side. The niche wall is fully carved with ornamentation carrying vernacular motifs and Quranic inscription in beautiful calligraphy.





Mihrab Ornamentation

(i) Calligraphy

The inscription is carved on stucco in Thuluth script and painted all white. The verse chosen is seldom used in mosque ornamentation especially in Malaysia i.e. Surah Al-Isra' 17: verse 1 to 3; translated as such: "Exalted is He who took His Servant by night from al-Masjid al-Haram to al-Masjid al- Aqsa, whose surroundings. We have blessed, to show him of Our signs. Indeed, He is the Hearing, the Seeing. And We gave Moses the Scripture and made it a guidance for the Children of Israel that you not take other than Me as Disposer of affairs, O descendants of those We carried [in the ship] with Noah. Indeed, he was a grateful servant".

From Al-Quran, Surah Al-Isra' 17: verses 1-3



Figure 6.82: Masjid Sultan Sulaiman: Calligraphy Carved onto Stucco and Painted White

(ii) The Motifs

The Mihrab's middle wall is divided into thirteen panels and each panel carry the same ornamentation. After careful examination and comparison, the carvings are deemed to carry the motif of "*bunga ketumbit*" which is normally used to portray the symbol of high society (Nik Rashidin, 2001) and in this case it suits the occasion because Masjid Sultan Sulaiman is indeed a Royal Mosque. "*Bunga Ketumbit*" motif is combined with "*daun sesayap*" and "*sulur kacang*" to harmonize the composition of each panel.



Figure 6.83: Masjid Sultan Sulaiman: Wood Carving Panel

CHAPTER 7: CASE STUDIES OF 7 POST INDEPENDENCE MOSQUES

7.1 Case Study 17: National Mosque of Malaysia, Wilayah Persekutuan - 1965

The National Mosque of Malaysia is uniquely designed by mix-matching contemporary architecture with the Islamic traditional arts. It is enriched with Islamic ornamentations in terms of calligraphy and geometrical patterns in both two and three dimensional forms. One unique feature on this mosque is the employment of multi folded 'umbrella' roof, terminating the varieties of domes introduced by British Colonization. This roof is said to symbolize Malaysia as a free country. The sleek minaret of 73000mm in height is definitely not used by the mosque's *Muezzin* to call for prayer (*adhan*). Instead it is just an ornament to complement the mosque building.



Figure 7.1: National Mosque of Malaysia, 1965

7.1.1 Mosque Overall Design

The overall floor plan of the mosque makes it complicated to look for the prayer hall. There are a number of staircases that lead to the prayer hall but it is very difficult to ascertain the particular staircase that goes to the main entrance of the prayer hall. Most visitors will reach the hall through one of many staircases that leads to an unnecessary courtyard area, which in turn leads to the left or right side of the Qibla wall. The main entrance of the prayer hall is situated opposite to the Qibla direction and in order to get to the main entrance, visitors have to walk alongside the prayer hall area. This phenomenon will distract the visitors praying in the hall whether alone or in congregation. Even though the perimeter of the prayer hall is full of glazed walls, the scenario inside is totally different. The hall is rather huge but somehow provides the feeling of tranquility. Even though there are a lot of columns erected in a circular formation to be the footprint of the 'umbrella' roof, they do not seem to disturb the prayer lines (*safs*) because the diameter span is quite far apart.



Figure 7.2: National Mosque of Malaysia: Analysis of Floor Plan

7.1.2 Qibla Wall Design

The whole Qibla wall is finished with ceramic tiles and stucco plastering ornamented with calligraphy and geometrical patterns. It is easy to locate the Qibla wall upon entering the prayer hall because the other walls are mostly glazed and it is a beautiful sight to witness. The top part of the Qibla wall is filled with inscription from Al-Quran.



Figure 7.3: National Mosque of Malaysia: Qibla Wall

(a) Calligraphy

The prayer hall is inscribed with Quranic verses from different *surahs* all around. Along the Qibla wall alone, there are eight verses framed separately and arranged next to each other. The Al-Quran verses starts from the left side of Mihrab, with Surah Al-Jinn 72:18, tr: "And the mosques are for Allah (Alone) and invoke not anyone along with Allah". Then comes a verse from Surah Al-Baqarah 2:148, tr: "For every nation there is a direction to where they face (in their prayers). So hasten towards all that is good". Next to it is a verse from Surah Al-Taubah 9:105, tr: "And say 'Do deeds! Allah will see your deeds, and (so will) his Messenger and the believers". To the extreme left is a verse from Surah Al-Hijr 15:9, tr: "Verily, We, it is We who have sent down the Dhikr (Quran) and surely We will guard it".

On the right side of Mihrab is inscribed with four other verses from the Al-Quran. The first is from Surah Al-A'raf 7:199, tr: "Show forgiveness, enjoin what is good and turn away of the foolish". The second verse is from Surah Al-Zumr 39:53, tr: "Say: O my slaves who have transgressed against themselves! Despair not of the mercy of Allah". The third verse is from Surah Al-Rum 30:37, tr: "Do they not see that Allah expands the provision for whom He wills and straitens". The fourth and furthest to the right is a verse from Surah Al-Hajj 22:78, tr: "And strive hard in Allah's cause as you ought to strive".

All the eight inscriptions are written in Thuluth script and each one is individually framed and identified with the *surah*'s name and verses' number inserted. According to Abdul Rahman (2008: 221), all the calligraphy in the National Mosque of Malaysia was done by local calligraphers Muhammad Yusuf Bakar and Sayyid Mahdar al-Shahab.

(b) Geometrical Patterns

The Qibla wall is divided vertically into three parts. The lower part which is about 2000mm from floor level is ornamented with green and blue mosaics arranged in accordance with Islamic geometrical star patterns. The middle stretch is finished with marble panels. The upper part is placed above the calligraphy frames and finished with massive carved stucco ornamentation that carries the *Kalimah* 'Allah' in the eight star pattern motif.



Figure 7.4: National Mosque of Malaysia: Ornamentations on Mihrab

7.1.3 Mosque Mihrab

The Mihrab is in semi circular shape and concaved with stucco *muqarnas*. The Mihrab is arched with 'horse shoe' arch, resembling the Cordoba Mosque's Mihrab. The arch is flanked by a pair of brass columns in rich golden finish.

The Mihrab is fully ornamented with stucco and mosaics. The 'horse shoe' arch is then framed with Calligraphy and geometrical patterns.



Figure 7.5: National Mosque of Malaysia: View of Mihrab Drawings

Mihrab Ornamentation

(i) Calligraphy

There are two sets of calligraphy on top of the Mihrab: The first is frames the upper part of the 'horse shoe' arch, and the other is on top of this framing calligraphy. The top calligraphy writes Surah Ali-Imran 3:51. Tr: "*Truly! Allah is my Lord and your Lord, so worship Him (Alone)*". This Quranic verse is written in Thuluth script. Whilst the framing inscription is a repetition of the profession of faith (*Kalimah 'Syahadah'*): "*There is no God except Allah, and Muhammad is Allah's messenger*" and it is written in floriated Kufic script similar to the one found in the Cordoba Mosque.

(ii) Geometrical Design

Geometrical patterns on the Qibla wall and the Mihrab are quite similar to the Cordoban style ornamentations. The carved stucco was used extensively on both the interior and exterior. The style of carvings and motifs found are not local to Malaysia.



Floral Motif From Mihrab Arch (National Mosque of Malaysia)



Geometrical Pattern With Vegetal Motif From Arch Frame (National Mosque of Malaysia)



7.2 Case Study 18: Negeri Sembilan State Mosque, Negeri Sembilan - 1967

The state mosque of Negeri Sembilan is of a modern structure sited adjacent to the Seremban Lake Garden. The white structure is mainly carried on nine pillars that symbolize the nine districts of Negeri Sembilan. The mosque was built in 1967 and has becomes one of the landmark of both Seremban city and Negeri Sembilan state.



Figure 7.7: Negeri Sembilan State Mosque, 1967

7.2.1 Mosque Overall Design

Even though the floor plan of Negeri Sembilan State Mosque is circular in shape, the Qibla wall is made straight to ensure that the front *saf* of congregations is formed in a straight line with everyone's shoulder lie parallel to the Qibla wall. The main entrance of the mosque is from the opposite end of the Qibla wall. However there are a few other secondary entrances from around the circular plan including from the Qibla direction. The prayer hall is kept out of columns and this will assist the formation of uninterrupted *safs*. The Mihrab can be figured out easily as it is the only wooden wall in the prayer hall, whereas the rest of the walls were made of steel and glass.



Figure 7.8: Negeri Sembilan State Mosque: Analysis of Floor Plan

7.2.2 Qibla Wall Design

The Qibla wall is made solid with concrete whilst the rest of the wall is made transparent by using glass walls. In order to avoid glare from the sunlight, timber lattices were used as a shading device. The first floor of the pray hall is filled with glass curtain wall and timber shading device.



Figure 7.9: Negeri Sembilan State Mosque: Qibla Wall

Qibla Wall Ornamentation

The framed calligraphy on the left side of the Mihrab plank is made of carved timber. All these calligraphy are written in Naskh script, which is easily read and understood. It carries the last four *surahs* from the Al-Quran at once; tr:

"Say, 'O disbelievers, I do not worship what you worship. Nor are you worshippers of what I worship. Nor will I be a worshipper of what you worship. Nor will you be worshippers of what I worship. For you is your religion, and for me is my religion".

From Al-Quran, Surah Al-Kafirun.

"Say, 'He is Allah, [who is] One,Allah, the Eternal Refuge. He neither be gets nor is born, nor is there to Him any equivalent".

From Al-Quran, Surah Al-Ikhlas.

"Say, 'I seek refuge in the Lord of daybreak. From the evil of that which He created. And from the evil of darkness when it settles. And from the evil of the blowers in knots. And from the evil of an envier when he envies".

From Al-Quran, Surah Al-Falaq.

"Say, 'I seek refuge in the Lord of mankind. The Sovereign of mankind. The God of mankind. From the evil of the retreating whisperer. Who whispers [evil] into the breasts of mankind From among the jinn and mankind".

From Al-Quran, Surah Al-Nas.

7.2.3 Mosque Mihrab

There are inscriptions and some vegetal patterns carved on the wooden Mihrab but they could hardly be seen, just like the one in Masjid Sultan Alaeddin (1898) in Selangor. The only inscription that can be seen clearly is the *Kalimah* "Allah" at the upper most section of the Mihrab. In the middle part of the wood structure, a Mihrab niche appeared in a semi circular shape measuring up to 4000mm high and not concaved. It is not easy to have a concaved Mihrab with wood unless it is carved (from a single tree) like the one found in Masjid Kampung Tuan (1830), Terengganu. Even though efforts have been made to fix this beautiful Mihrab, the niche it is not being utilize by the *Imam* during congregation.



Figure 7.10: Negeri Sembilan State Mosque: View of Mihrab and Drawings

Mihrab Ornamentation

(i) Calligraphy

Inscription is carved on the timber panel on the Mihrab arch (top part of Figure 7.11: page 199). The calligraphy is in simple Thuluth and carries the Quranic verse, tr:

"O you who have believed, when [the adhan] is called for the prayer on the day of Jumu'ah [Friday], then proceed to the remembrance of Allah and leave trade. That is better for you, if you only knew".

From Al-Quran, Surah Al-Jumu'ah 62: verse 9.

On top of the Mihrab arch, there are three circles impregnating three of the ninety nine names of Allah (bottom part of Figure 7.11, page 199). The middle circle carries the name "Allah". On its right is inscribed with "Al-Rahman" (the most beneficent) and on its left is

written "Al-Rahim" (the most merciful).



Figure 7.11: Negeri Sembilan State Mosque: Inscription Carved on Timber Panel

(ii) Geometrical Design



Figure 7.12: Bunga Ketumbit

The wood carving is done in high quality and standard. The whole freestanding timber panel on the Qibla wall that also acts as the Mihrab is actually full with vernacular carvings. The motif used is very clearly shown as "*bunga ketumbit*" that is normally crafted to be owned by high ranking members of society and royalties. For a mosque that looks gigantic and owns the state mosque title, it does deserve such a high rank ornamentation.

7.3 Case Study 19: Perak State Mosque, Perak -1978

This rectangular mosque stands proudly in the middle of Ipoh, the capital city of Perak. The most prominent feature of Perak State Mosque is its *minaret* that stands at 38000mm high. It has multiple domes of ceramic tiles covering the roof thoroughly.



Figure 7.13: Perak State Mosque, 1978

7.3.1 Mosque Overall Design

This mosque has a very simple yet practical internal spatial organization. The prayer hall is easily reached through a welcoming staircase that leads to its entrance. This entrance, situated at the opposite end of the Qibla wall is wide open for the visitors. With minimal distraction from the columns, the prayer hall can be said to be a symbol of a free nation, i.e. free from anymore external influences especially the Europeans.



Figure 7.14: Perak State Mosque: Analysis of Floor Plan

7.3.2 Qibla Wall Design

The Qibla wall is well defined and different from the other three walls in terms of treatment to the finishing. The Qibla wall is the only wall finished in fully white concrete, plastered with stucco and fully carved with geometrical patterns and vegetal motifs. The calligraphy on top of the Mihrab is of Thuluth style and stands out in gold.



Figure 7.15: Perak State Mosque: Qibla Wall

Qibla Wall Ornamentation

(i) Stained glass

On the upper portion of the Qibla wall there is a series of stained glass circling the prayer hall. On top of the Mihrab, there are two 'stained glass' that carry the *Kalimah* 'Allah' and His messenger 'Muhammad' in Thuluth script.



Figure 7.16: Perak State Mosque: Stained Glass on top of Qibla Wall

(ii) Vegetal motif

The Qibla wall is ornamented with vertical panels similar to the vertical panels found in Masjid Kapitan Keling, Penang. Carved white stucco infilling the vertical panels portray the motif of "*bunga cempaka*" which symbolizes purity and sacredness.



Figure 7.17: Perak State Mosque: Ornamentations on Qibla Wall

7.3.3 Mosque Mihrab

The Mihrab niche is in polynomial semi octagonal shape but not concaved. The shape of the arch takes after the ones found in Masjid Zahir but it is rather simplified and widened. The size is quite huge for a single user.



Figure 7.18: Perak State Mosque: View of Mihrab and Drawings

Mihrab Ornamentation

(i) Calligraphy

The Thuluth script appears quite rich in gold colour with pure white

background. The Quranic verse from Surah Al-Baqarah 2:149 was

chosen to ornament the top part of the Mihrab. Translation of verse:

"So from wherever you go out (for prayer, O Muhammad) turn your face toward al- Masjid al-Haram, and indeed, it is the truth from your Lord. And Allah is not unaware of what you do".

From Al-Quran, Surah Al-Baqarah 2: verse 149.

(ii) Mihrab Frame

Geometrical pattern of Islamic eight point star pattern is seen framing the Mihrab façade. This pattern is quite similar to the ones found in Masjid Jamek Kuala Lumpur (1908), except in the Perak State Mosque, a different material was used. Here the pattern is made of stucco.



Figure 7.19: Perak State Mosque: Eight pointed star motif

7.4 Case Study 20: Masjid Sultan Ismail Petra, Kelantan - 1990

Masjid Sultan Ismail Petra was built in Kubang Krian, Kota Bharu, the capital city of Kelantan. It was opened for usage in 1992. The opening ceremony was officiated by the DYMM Sultan of Kelantan himself.



Figure 7.20: Masjid Sultan Ismail Petra, Kelantan 1992
7.4.1 Mosque Overall Design

Masjid Sultan Ismail Petra has a very interesting and unique floor plan lay out. The main shape of the floor plan comes from an intersection of a circle and a rectangle. The circular shape is taken all the way up to the roof as the main dome whereas the rectangular portion is used up for the praying area. The entrances are from the side walls and normally the area on the left and right sides of the prayer hall is used as a hall way. Columns in the prayer hall are erected on the sides and do not to interfere with the praying area. The area between the *Mimbar* structure and the curved wall is used as the mosque's administration office and storage rooms' circulation.



Figure 7.21: Masjid Sultan Ismail Petra: Analysis of Floor Plan

7.4.2 Mosque Mihrab and Qibla Wall Design

The Mihrab and Qibla wall design will be discussed together as this mosque does not employ any significant Qibla wall. The only thing that appears on the Qibla direction is a white marble structure that serves as both a *Mimbar* and a Mihrab together. Most probably the idea came from the ancient structure owns by Masjid Sultan Ibrahim (1927) in Johor. The *safs* are formed by following the lines set on the carpet throughout the prayer hall and not by referring to any Qibla Wall; for this concept to function at an optimum, the Qibla wall must be made straight and situated as close as possible to the first *saf*.

There is also a set of table and chair permanently placed in front of the marble structure to be used during religious classes.



Figure 7.22: Masjid Sultan Ismail Petra: Qibla Wall



Figure 7.23: Masjid Sultan Ismail Petra: Drawings of Mihrab

7.5 Case Study 21: Pahang State Mosque, Pahang - 1993

The official name given to the Pahang State Mosque is Masjid Sultan Ahmad Shah which takes after the first DYMM Sultan of Pahang. Even though this mosque was built in 1994, its architectural style was greatly influenced by Ottoman and Moorish design; with its four *minarets*, the mosque stands magnificently in the heart of Kuantan, the capital city of Pahang.



Figure 7.24: Pahang State Mosque, 1993

7.5.1 Mosque Overall Design

The prayer hall holds an open concept where visitors can enter from all directions including the back of the Qibla wall. This is probably it is a good idea in terms of getting fresh air into the mosque's interior and additional space for huge congregation to perform prayers. The main praying area is given a boundary line marked by different floor level, but still its entrance is not controlled from the three sides. As one enters from any of the side entrance, visibility of the Mihrab and the Qibla wall is poor with distraction coming from series of columns inside the main prayer hall. These columns are of three footprints from the three semi spherical domes on top. *Safs* formation is weak due to break ups in between the lines caused by the three columns.

7.5.2 Qibla Wall Design

The Qibla wall of Masjid Sultan Ahmad Shah is richly ornamented with soothing coloured geometrical patterns. The *Mimbar* is attached to the wall structure and can be reached by taking the steps next to the Mihrab. Series of geometrical patterns arranged in arch shape give the verticality effect to the wide prayer hall.



Figure 7.25: Pahang State Mosque: Qibla Wall

Geometrical Pattern

Although the Qibla wall looks fully ornamented, it is just mere repetition of the eight point star Islamic patterns.

7.5.3 Mosque Mihrab

The Mihrab can be seen as a chamber because its size is much bigger than a Mihrab niche. With measurements of 4000mm in width, about 2500mm in depth and 8000mm in height, it is finished in ceramic tiles and arched with pointed 'horse shoe' arch. This gigantic Mihrab is being used by the *Imam* whence leading the congregations.



Figure 7.26: Pahang State Mosque: View of Mihrab and Drawings

Calligraphy

Calligraphy is in simple Thuluth and it writes Al-Quran verses from

Surah Al-Kahf 18:24, tr:

"And remember your Lord when you forget [it] and say, "Perhaps my Lord will guide me to what is nearer than this to right conduct".

From Al-Quran, Surah Al-Kahf 18: verse 24.

7.6 Case Study 22: Wilayah Persekutuan Mosque, Wilayah Persekutuan - 2000

Wilayah Persekutuan Mosque is situated near Jalan Duta, Kuala Lumpur. This mosque is built in 2000 on a 33-acre site and since then it has been managed wholly by the Wilayah Persekutuan Religious Department (Jabatan Agama Wilayah Persekutuan). The built up area of this mosque is about 47,000 sq meters and it could accommodate up to 17,000 users at once.



Figure 7.27: Wilayah Persekutuan Mosque, 2000

7.6.1 Mosque Overall Design

In order to achieve its concept of a mosque within a pooled garden, this mosque ended up with having a complex floor plan. The main function of building a mosque (as a place to perform prayer) has some how been regard as a secondary factor. The prayer hall is situated on the first floor which means that visitors has to climb up a staircase to reach it. Prior to this, they must pass through or go around a courtyard to reach the prayer hall via the main entrance.

7.6.2 Mosque Qibla Wall

Once inside the prayer hall, it is easy to find the Qibla wall. This is due to the treatment of the Qibla wall being designed differently from the other walls. It has a white marble finished. Existence of a grand and ornamented Mihrab strengthens the Qibla wall to be important and immediately draws the attention

of visitors. There are fourteen other smaller and simpler Mihrabs on the Qibla wall. They are arranged in various series on both sides of the main Mihrab.



Figure 7.28: Wilayah Persekutuan Mosque: Qibla Wall

7.6.3 Mosque Mihrab

Wilayah Persekutuan Mosque has a prominent Mihrab that is influenced by the Safavids mosque of Iran. The Mihrab instantly catches our eyes with its neatly carved vegetal motifs on white marble. The Mihrab niche is polygonal in shape and concaved. From the front, the Mihrab owns a pointed arch topped with muqarnas.

Mihrab Ornamentation

i) Calligraphy

There are five sets of inscriptions on the Mihrab itself, two of which are in circles and all these calligraphy panels are written in Thuluth script.



Figure 7.29: Wilayah Persekutuan Mosque: View of Mihrab and Drawings



Al-Baqarah

Al-Insyirah

Figure 7.30: Wilayah Persekutuan Mosque: View of Calligraphy

The two calligraphy circles are on both upper sides of the Mihrab

and written in round Thuluth scripts. The right circle writes Surah

Al-Fatihah 1:1-7, tr:

"In the name of Allah, the Entirely Merciful, the Especially Merciful.(All) praise is [due] to Allah, Lord of the worlds. The Entirely Merciful, the Especially Merciful, Sovereign of the Day of Recompense. It is You we worship and You we ask for help. Guide us to the straight path. The path of those upon whom You have bestowed favor, not of those who have evoked (Your) anger or of those who are astray".

From Al-Quran, Surah Al-Fatihah 1: verses 1-7.

The left circle takes the whole of Surah Al-Insyirah (94), tr:

"Did We not expand for you, (O Muhammad), your breast?And We removed from you your burden. Which had weighed upon your back. And raised high for you your repute. For indeed, with hardship (will be) ease. Indeed, with hardship [will be] ease. So when you have finished (your duties), then stand up (for worship).And to your Lord direct (your) longing".

From Al-Quran, Surah Al-Insyirah 94

Between these two circles are verses taken from Surah Al-Baqarah

(2), tr:

"And from wherever you go out [for prayer], turn your face toward al-Masjid al-Haram. And wherever you [believers] may be, turn your faces toward it in order that the people will not have any argument against you, except for those of them who commit wrong; so fear them not but fear Me. And [it is] so I may complete My favor upon you and that you may be guided".

Al-Quran, Surah Al-Baqarah 2: verse 150.

Beneath the right circle is a verse from Surah Al-Muzammil 73:20,

tr:

"And whatever good you put forward for yourselves - you will find it with Allah. It is better and greater in reward. And seek forgiveness of Allah. Indeed, Allah is Forgiving and Merciful".

Al-Quran, Surah Al- Muzammil 73: verse 20.



Al-Muzammil

Al-A'raf

Figure 7.31: Wilayah Persekutuan Mosque: View of Calligraphy

Underneath the left circle is a verse from Surah Al-A'raf 7:206, tr:

"Indeed, those who are near your Lord are not prevented by arrogance from His worship, and they exalt Him, and to Him they prostrate".

Surah Al-A'raf 7: verse 206.

ii) Vegetal Patterns

The vegetal patterns are designed and carved on marbles by specialists from India. Different colours of the motifs comes from various types of semi precious stone.



Motifs on Mihrab of Wilayah Persekutuan Mosque

Motifs on Mihrab of Shah mosque

Figure 7.32: Wilayah Persekutuan Mosque: View of Vegetal Patterns

A glance at the motifs might give us the indication that there are influences from Safavids' pattern. However, a closer observation showed us a different perception. The flower motif seen is actually from *"bunga cempaka"* in a composition with *"daun sesayap"* and *"sulur kacang"*, all of which are from vernacular Malaysian motifs. iii) The Muqarnas

The Mihrab employs Iranian *muqarnas* with basic conversion of pattern from seven stars, five stars and three stars. The material used is Indian marble.



Figure 7.33: Wilayah Persekutuan Mosque: Muqarnas in the Mihrab

7.7 Case Study 23: Masjid Sultan Putra Jamalullail, Perlis - 2005

Masjid Sultan Putra Jamalullail was named after DYMM Tuanku Syed Putra Jamalullail who was the third Yang Di Pertuan Agong (King) of Malaysia. The mosque is set in a modest single storey finished mostly in facing bricks. This mosque was built in 2005 and it is located in Kangar, the capital city of Perlis.



Figure 7.34: Masjid Sultan Putra Jamalullail, Perlis 2005

7.7.1 Mosque Overall Design

The axis and focus of the mosque internal is already defined by the paved walkway from the mosque's yard that leads a straight path to the main entrance of the mosque. Upon standing at the main door, the Mihrab instantly catches our attention. This mosque is selected among the other newly built mosques because of its unique way of spatial arrangement. The prayer hall is shaped in a simple square and four columns are erected in the middle of it. This type of floor plan is similar to the Vernacular and Traditional Historical Mosque of Masjid Kampung Laut. These four columns are structures to the dome above which is visible from the interior.



Figure 7.35: Masjid Sultan Putra Jamalullail: Analysis of Floor Plan

7.7.2 Qibla Wall Design

With the exception of the Qibla wall, all the walls inside the prayer hall are of facing brick work. The whole stretch of Qibla wall is differentiated by the luster effect of dark marble finish. The Qibla wall is actually divided into five sections. The middle part belongs to the Mihrab while the far left and right sections are fully windowed allowing natural light to penetrate into the hall. The *Mimbar* is stationed in the section to the right of the Mihrab. The rest of the sections are left solid to place calligraphic inscription of the *Kalimah* "Allah" and "Muhammad Rasulullah", written in simple Thuluth script on the wall.



Figure 7.36: Masjid Sultan Putra Jamalullail: Qibla Wall

7.7.3 Mosque Mihrab

Masjid Sultan Putra Jamalullail's Mihrab area has something peculiarly interesting that needs a closer look. The Mihrab is a tall semi circular niche and finished in dark coloured marble. Apparently, on its left side there is a fixed spiral staircase that encircles the niche wall leading to the *Mimbar* at about 3000mm in height.



Figure 7.37: Masjid Sultan Putra Jamalullail: View of Mihrab and Drawings

7.8 Conclusions for Chapter 6 and Chapter 7

Mosque style in Malaysia started with its traditional and vernacular design having limited components similar to the Prophet Muhammad ²⁶,'s mosque. The appearance of this type of mosque looks similar to traditional Malay house where an intermediate area or verandah (*serambi*) is used to entertain guests. In the traditional mosques, the verandah (*serambi*) is mainly used for informal religious classes and as additional prayer spaces.

The selected mosques in this study suggested that the orientation of earlier mosques built in Malaysia mostly have strong level of visibility towards the Mihrab from the entrance point. The formation of prayer lines (*safs*) is also uninterrupted due to the width and clarity of the prayer hall. The qualities owned by these studied mosques are mainly due to the simple lay out plan and smaller in size as compared to the other contemporary mosques.

The typological studies done on mosques built from 1700s to 1799 showed the evolution of materials used in building these mosques as well as ornamenting the Mihrab and Qibla wall. The employment of motifs on these mosque elements also faced changes over time.

Obviously, there are a lot of differences between the previous analysis on Chapter Five (mosques built from 1700-1799). First of all the lay out of mosque design built in this era (1800-1957) is substantially influenced by renowned Islamic buildings of the Medieval age, as seen by the existence of concrete domes. There are also a few mosques that received influences from the Christian's church longitudinal lay out such as Masjid Muhammadiah (1867, Kelantan), Masjid Sultan Abu Bakar (1892, Johor) and Masjid Sultan Ibrahim (1927, Johor) mosques.

It is apparent that the colonization era changed the whole physical and architectural values of Malaysian mosques. Mosques erected during this era were designed by non-Muslim British architects such as A.B. Hubback (Masjid Jamek 1909, Kuala Lumpur) and H.A. Neubronner (Masjid Kapitan Keling 1916, Penang). Those architects and engineers thought that mosque designed in Moorish and Moghul architecture is top of the range. There were only a few wooden structures with pyramidal roof built during that period. Those traditional structures were mostly replaced by '*onion*' shaped and '*spherical*' domes that emerged to become the pinnacles of Islamic imagery. Monumental and grandeur design took over the humility and modesty of traditional and vernacular mosques.

Most of the Mihrab and Qibla wall of the selected mosques built during this period are of plain white or with very minimal ornamentation. Only in later years that ornamentation such as carved stucco and wood are added to the walls of the Mihrab and the Qibla as found in Masjid Sultan Sulaiman (1932, Selangor) and Masjid Sultan Alaeddin (1898, Selangor).

CHAPTER 8: ANALYSIS OF FINDINGS

8.1 INTRODUCTION

Islamic art and architecture emphasize on the meaning of creations where every creation should carry certain function and not merely decoration. Islamic arts and architecture is also vulnerable to the social and environmental factors. Due to these conditions, it is important for this study to take position in examining the ever growing creations of Islamic arts and architecture whether those creations are answerable to the factors mentioned above. Data that have been collected were analysed in detail and spread out in terms of tables and time line so they can easily be comprehended.

The thesis does not only reveal the findings for design, shape and ornamentation of the Mihrab niche but also other relevant factors. These factors include the arrangement of entrance point towards the visibility of the Mihrab, the clarity of floor plan in order to have maximum *saf* arrangement in line with the Qibla wall and the way the Mihrab is being used in the mosques. All these factors are taken into research study because they are vital in achieving the three things that have been revealed in Islam: (1) developing the measures for directionality, (2) having appropriate spatial arrangements and (3) to heighten one's attention in prayer (El Gohary 1984;54).

Having liturgical axis in mosques has been a tradition for mosques built during medieval Islamic era including the Mosque of the Prophet Muhammad ²⁶/₂₆ from the early days. The said liturgical axis collects the entrance, the center line of courtyard, the center line of indoor prayer hall and ends at the center of Qibla wall (which should be the Mihrab). This phenomenon is explained by Ardalan et al (1973; 11-13) as an orientation in space where strong directional characteristics with reference to the

heaven (Allah the Almighty). This is also a purposeful direction (Ardalan et al, 1973; 15) because the Mihrab marks the center of the universe to the believers that is Mecca.

In order to enhance the measure of directionality, Qibla wall needs to be 'treated' differently from the other walls of the mosque. Treatment per say can be in terms of materials used, Islamic ornamentation (calligraphy and geometrical patterns) or the existence of Mihrab niche and a *Mimbar*.

In maintaining the consistency of mosque architecture, it is best to be knowledgeable in the traditional architectural vocabularies learnt from the past and then taken into consideration in designing contemporary mosques (El Gohary 1984; 364). Mosque is a public building that is certain in its usages. This means that mosque design must be responsive to the culture of the users in order for it to be functioning at an optimum level. Different sites will provide different cultural phenomenon and as a result the mosques are designed in different ways, particularly on the interior part where familiarity and comfort of the users is a priority. Scholars should also be looking for the 'architectural realization in the making of mosque' that is familiar and acceptable to the users who are normally locals to the area.

One of the things that can be done in the pursuit of achieving architectural realization is bridging the gap between the heritage and the impact of new technology (contemporary). In merging the heritage and the contemporary, designs should adapt modernization whilst including some features from the past to make them worthy to be a nation's heritage and simultaneously become the aspirations for the future generations (Chardiji, 1984; 45)¹.

¹ This is the principle set as criteria in the course of formulating strategy for Baghdad State Mosque design competition 1984.

8.2 ANALYSIS OF FINDINGS

In bridging the gap between the old and new, this thesis finds the architectural realization through Mihrab analysis. The research analysis is simplified and concluded by tabulating the findings into three separate sections:

8.2.1 Section 1

This section looks at the relationship between mosques built dates and mosque floor plan analysis. This shows how the Mihrab visibility and *safs* formation are taken into consideration by the builders throughout the years.

8.2.2 Section 2

This section looks at the evolution of Mihrab niche form throughout the typologies. This will provide a general idea on the types of Mihrab in Malaysia.

8.2.3 Section 3

This section looks at the designs and forms including the functions of Mihrab and Qibla wall. It is then further separated into two parts of calligraphy and motif.

(a) Calligraphy

This part studies are done on the verses and styles of calligraphy inscriptions used on the Qibla wall and Mihrab. In the earlier chapters, *surahs* and verses that are normally and suitably used are listed. This exercise will determine whether mosques of Malaysia are utilizing these common verses.

(b) Motif

In this part, studies on the motifs used for ornamentation on the Qibla wall and Mihrab are done. Common motifs of geometrical patterns were found. These motifs and geometrical patterns may be vernacular or adapted from other countries and/or other Islamic dynasties.

8.3 MIHRAB VISIBILITY AND SAF FORMATION

The floor plan concludes that the Mihrab visibility and *saf* formation in the prayer hall are closely linked. In this analysis the selected mosques are then categorized with criteria as listed below²;

8.3.1 Type A Model Floor Plan

Direct focal point contact with the entrance point and best visibility from the entrance point to the centre of Qibla wall. A strong axis is clearly indicated when the two points (entrance and Mihrab) are joined.



Figure 8.1: Type A Model Floor Plan

8.3.2 Type B Model Floor Plan

There is no direct contact from the entrance point to the Qibla wall axis. The main entrance to the building is from its side. Thus upon entering, the attention

² Criterias are adopted from Rosniza et.al. A Typological Study of Mosque Internal Spatial Arrangement A Case Study on Malaysian Mosques (1700-2007), Journal for the Built Environment Vol 5, 2008

of visitors are focused to the wall on the opposite side. Hence the axis line is perpendicular to the Qibla wall axis. However, it still has a well defined *safs* (praying lines).



Figure 8.2: Type B Model Floor Plan

8.3.3 Type C Model Floor Plan

The entrance in relation to the *Qibla* direction is weak as there is no clear axis and hence it is quite confusing to the visitors. The visibility is quite appalling as they are obstructed by columns and awkward shapes. *Safs* are mostly obstructed lessening the number of devotees performing prayer in one congregation.



*The shapes of mosque remain square and symmetrical.

Figure 8.3: Type C Model Floor Plan

8.3.4 Classification of Mosques With Respect to Floor Plan Analysis

Analysis of the 23 selected sample mosques in Malaysia can be classified according to the above as listed in Table 8.1 below:

Category A				Category B			Category C		
No	Mosque	Year	No	No Mosque Year		Category C1			
1	Tengkerah	1728	1	Sultan Zainal Abidin	1793	No	Mosque	Year	
2	Kampung Laut	1730s	2	Kapitan Keling	1801	1	Sultan Ibrahim	1927	
3	Batu Uban	1734	3	Muhammadiah	1867	2	Sultan Sulaiman	1932	
4	Kampung Keling	1748	4	Sultan Abu Bakar	1892	3	S. Ismail Petra	1990	
5	Leboh Acheh	1808	5	Jamek Kuala Lumpur	1908	Category C2			
6	Kampung Tuan	1830	6	National Mosque	1965	No	Mosque	Year	
7	Sultan Alaeddin	1898	7	Negeri Sembilan State	1967	4	Zahir	1912	
8	Perak State	1978	8	Wilayah Persekutuan	2000	5	Ubudiyah	1917	
9	Putra Jamallullail	2005				6	Pahang State	1994	

Table 8.1: Mihrab Visibility and Saf Formation

Table 8.2: Frequency of Floor Plan Types

CATEG	ORY	FREQUENCY	Sub-Total	TOTAL		
Α		1728, 1730, 1734, 1748, 1808, 1830, 1898, 1978, 2005				
В		1793, 1801, 1867, 1892, 1908, 1965, 1967, 2000				
С	C1	1927, 1932, 1990	3	6		
	C2	1912, 1917, 1994	3			

Most of Type 'A' category mosques were built between the early 18th century and the late 19^h century. Most of these mosques are categorized under traditional and vernacular such as Tengkera Mosque, Kampung Laut Mosque and Batu Uban Mosque. *Saf* formation in Type 'A' is usually clear and the main entrance is always positioned opposite the Mihrab and Qibla wall. This type of mosque has seen a reduction during the colonization period when mosques were built by non-Muslims and non-Malaysian. *Saf* formation is no longer a priority in designing the prayer hall. Type 'B' category mosques were mostly built from the mid 19th century towards the end of the century, and its design is constantly repeated in some of the contemporary mosques. As a result of British colonization, many of the mosques during this era were designed by British architects who thought that influences such as Moors and Moghul architecture were top of the range. Simpler wooden structures with pyramidal roof were no longer built and instead they were replaced by *onion* shape and *spherical* domes that became the pinnacles of Islamic imagery.

In Type 'B' mosques, the continuation of *saf* is weak and Qibla wall is sometimes blocked by columns. Builders during the colonial period were too enthusiastic with the physical image of Middle-East mosques and were still influenced with the interior environment of the church design. These are the reason behind the mosques' longitudinal rather than wide Qibla wall sides and the emergence of onion domes on their roofs.

Type 'C' category mosques started to appear in the 20th century until the contemporary period. Type 'C' is defined with variety of focal points. The colonization effect is expressed further with great obsession on the monumental look of the external mosque features, for example the *minarets* that punctuated the skyward plane. The spatial organization of the floor plan is no longer set as the starting point of design element. The adoption and adaptation of Moghul architecture was taken too far without taking into consideration the culture and climate of Malaysia.

When Malaysia achieved her independence in 1957, varieties of mosque shapes and designs mushroomed in all over Malaysia. Independence provides the opportunity for local designers to show their credibility. However, designers did not take full advantage of such an opportunity when some of the images from the colonial era were still employed without thorough considerations on the pros and cons.

The Perlis State Mosque is a good example. Even though it was built in 1973, it still carried the 'mistake' bears by the former Alwi State Mosque which was built in 1910. This 'mistake' refers to the distraction of prayer hall caused by circular columns holding the dome on top which was repeated in the new state mosque. The same 'mistake' is then done in Pahang State Mosque with three sets of circular columns standing in the middle of prayer hall as footprints of the three domes on top.

8.4 TYPES OF MIHRAB IN SELECTED MALAYSIAN MOSQUES

Analysis of Mihrab and Qibla wall provides another scope of looking at mosque architectural styles in Malaysia. Under this study, the main focus is looking at the studied components design and form. A typology of 23 selected Mihrab forms over the years is shown in Figure 8.4, p: 228.

The analysis of the Mihrab done on the selected 23 mosques discovers that the Mihrabs in Malaysia can be categorized in five general forms and shapes.

- (i) Semi Circular Concaved Mihrab or Mihrab Mudjawwaf
- (ii) Recessed Area/Room on Qibla Wall without Mihrab Niche
- (iii) Rectangular Niche with Arched Ceiling
- (iv) Polygonal Niche Shape
- (v) Freestanding Structure carrying both Mihrab niche and Mimbar



Figure 8.4: Typology of Mihrab Forms Through the Years

8.4.1 Type 1: Semi circular Concaved Mihrab or Mihrab Mudjawwaf

This style is a favourite in the earlier mosques which are mostly vernacular regional mosques. When they are seen through the internal feature especially the Mihrab, they seem to gain their influences from countries outside Nusantara. This form of Mihrab is frequently found in mosques on the western states of Peninsular Malaysia with the exception of Terengganu.

The treatment on the Mihrab appearances varies from plain arch, Mughal's multi foil arch from and scallop niche. These various looks are probably influenced by the traders who mostly came from India and the Middle East during the glorious era of Melaka and Pulau Pinang. This style also appears in most of the colonial built mosques which confirmed the preference of the British Colonials towards Mughal architecture as seen from the dome style.



Tengkerah, Melaka



Kampung Tuan, Terengganu



Batu Uban, Penang



Sultan Alaeddin, Selangor

Figure 8.5: Concaved Mihrab



Kapitan Keling, Penang





Jamek, Kuala Lumpur



Leboh Acheh, Penang



Zahir, Kedah









Sultan Sulaiman, Selangor

National Mosque

Negeri Sembilan State

Figure 8.5: Concaved Mihrab: Continuation

8.4.2 Type 2: Recessed Area/Room on Qibla Wall Without Mihrab Niche

This style of Qibla wall treatment is mostly found in the states of Kelantan and Johor. Mosques that employ this style of Qibla wall treatment are mostly designed and built by local builders and engineers. These mosques usually have a freestanding *Mimbar* positioned at either on the right side or at the centre in front of the Mihrab area. There is no special niche for Mihrab, therefore its position is only determined by the location of the *Mimbar*. The Imam's prayer rug is laid either next to or in front of the *Mimbar*.

This treatment is unique to Malaysian mosques and has never been found in any of the Medieval mosques under study. Masjid Kampung Laut is said to have its look influenced by the Demak Mosque, Indonesia (Bougas, 1992) but the treatment of Qibla wall of Masjid Kampung Laut is totally different from the Demak mosque. It can be concluded that this type of Qibla wall treatment originated and owned by Malaysian mosque.



Kampung Laut, Kelantan



Sultan Abu Bakar, Johor



Sultan Zainal Abidin, Terengganu



Ubudiyah, Perak



Muhammadiah, Kelantan



Sultan Putra Jamalullail, Perlis

Figure 8.6: Recessed Area on Qibla Wall Without Mihrab Niche

8.4.3 Type 3: Rectangular Niche With Arched Ceiling

This type of Mihrab is arched similar to the semi circular concave Mihrab (in 8.4.1), but when it is observed, this type of Mihrab is actually either square or rectangle in shape with straight Mihrab wall, and the ceiling is arched. This style of Mihrab started to appear in Masjid Kampung Keling and proceeded to other vernacular mosques in Melaka, such as Masjid Kampung Duyung, Masjid Tanjung Keling and Masjid Kampung Hulu. This Mihrab shape is also be found in the traditional Chinese mosques, such as the Great Mosque of Xian, but it is decorated and fronted in a different look.



Kampung Keling, 1748

S. Zainal Abidin, 1793

Figure 8.7: Rectangular Niche

8.4.4 Type 4: Polygonal Niche Shape

Polygonal shaped Mihrab or recessed area on the Qibla wall has long been used in the Medieval Umayyad mosques such as the Great Mosque of Cordoba. This shape is not unusual to Malaysian traditional architecture because it has been adapted in the historical Istana Jahar of Kelantan which was built in 1887, which has a polygonal shaped front verandah.



Perak State Mosque



Pahang State Mosque

8.4.5 Type 5: Freestanding Structure Carrying Both Mihrab Niche and Mimbar

Another style of Mihrab found in the Malaysian mosques under study is a double deck, free standing structure carrying both Mihrab and *Mimbar* (Figure 8.9). There are two significant evidences discovered from the list of 23 selected mosques. The first evidence is the Historical and Royal Sultan Ibrahim Mosque in Johor (1927) and the second is the Modern and Royal Sultan Ismail Petra

Figure 8.8: Polygonal Niche Shape

Mosque in Kelantan (1990). In both cases the structure is made double decked with the *Mimbar* on top and the Mihrab underneath. This treatment of mosque components is excellent for space saving.



Sultan Ibrahim, Johor - 1927



Sultan Ismail Petra, Kelantan - 1990

Figure 8.9: Freestanding Structure

NO	NO MOSQUE		MIHRAB AND QIBLA WALL	STATE	
1	Tengkerah	1728	Semicircular concaved niche on Qibla wall	Melaka	
2	Kapitan Keling	1801	Semicircular concaved niche on Qibla wall	Penang	
3	Melayu Leboh Acheh	1808	Semicircular concaved niche on Qibla wall	Penang	
4	Kampung Tuan	1830	Semicircular concaved niche on Qibla wall	Trengganu	
5	Batu Uban	1734	Semicircular concaved niche on Qibla wall	Penang	
6	Sultan Alaeddin	1898	Semicircular concaved niche on Qibla wall	Selangor	
7	Jamek Kuala Lumpur	1908	Semicircular concaved niche on Qibla wall	Wilayah Persekutuan	
8	Zahir	1912	Semicircular concaved niche on Qibla wall	Kedah	
9	Sultan Sulaiman	1932	Semicircular concaved niche on Qibla wall	Selangor	
10	National Mosque	1965	Semicircular concaved niche on Qibla wall	Wilayah Persekutuan	
11	Negeri Sembilan State	1967	Semicircular concaved niche on Qibla wall	Negeri Sembilan	
12	Sultan Putra Jamallullail	2005	Semicircular concaved niche on Qibla wall	Perlis	
13	Sultan Zainal Abidin	1793	Recessed part on Qibla wall	Trengganu	
14	Kampung Laut	1730s	Recessed part on Qibla wall	Kelantan	
15	Muhammadiah	1867	Recessed part on Qibla wall	Kelantan	
16	Sultan Abu Bakar	1892	Recessed part on Qibla wall	Johor	
17	Ubudiyah	1917	Recessed part on Qibla wall	Perak	
18	Kampung Keling	1748	Rectangular niche with arched top on Qibla wall	Melaka	
19	Pahang State	1994	Rectangular niche with arched top on Qibla wall	Pahang	
20	Perak State	1978	Polygonal niche shape	Perak	
21	Wilayah Persekutuan	2000	Polygonal niche shape	Wilayah Persekutuan	
22	Sultan Ibrahim	1927	Freestanding structure for Mimbar and Niche	Johor	
23	Sultan Ismail Petra	1990	Freestanding structure for Mimbar and Niche	Kelantan	

Table 8.3: Relationship Between Mihrab Types and Built Years

8.5 DESIGN AND FORM OF MIHRAB

Mihrab on the Qibla wall carries a double functions. Firstly, it acts as an indication of Qibla direction and secondly, as a prostration place for the *Imam* whence leading the congregations. The existence of Mihrab is found in all the mosques around the globe. The function of Mihrab is unarguably liturgical and as supported by Whelan (1986; 216), the Mihrab still exists even in the most humble and most rural mosques.

In this section of analysis, the functions and usages of Malaysian Mihrab are disclosed. If the Mihrab in Malaysia is actually used for the *Imam* to lead the congregation, the size of the Mihrab need not be too wide or too huge for a single occupant. The Mihrab should more or less be sized sufficiently to fit a single prayer rug in the niche. Regardless to the size of mosque, the size of Mihrab should always remain the same size.



Figure 8.10: After Utami (2005; 22)

According to Utami (2005; 22), the area covered by a single man performing prayer is 800mm by 1200mm. Taking this dimension as the yard stick, size of Mihrabs for the chosen mosques are measured and analysed. Figure 8.12, p: 236, shows the proportion of all the Mihrabs with respect to their Qibla walls and arranged in line for comparison purpose.

Examining the typology of Mihrabs and Qibla Walls (Qibla walls without niche are excluded), it can be concluded that the function of Mihrab in Malaysian mosques is not restricted to an area for *Imam* to lead congregational prayers. In all the cases studied, it also acts as the indication of Qibla direction and in some, it has a decorative role. The most obvious finding is that the Mihrabs are in proportion to the size of Qibla walls which means the Mihrabs are also sized in proportion to the mosques' sizes. Hence, in a gigantic mosque, the large Mihrab is easily seen from any points in the huge prayer hall.

On the other hand, instead of having a large Mihrab, these gigantic mosques can actually recognize the function of multiple Mihrabs with a main Mihrab positioned in the middle, as stated by Sauveget (1947; 27). Sauveget's (1947; 27) arguments that the entire Qibla wall should mark the direction of prayer is quite constructive in making the Qibla wall more dominant than the other walls in the prayer hall for liturgical purposes.. Pahang State Mosque is an example on the existence of multiple Mihrabs in Malaysian mosques (Figure 8.11).



Figure 8.11: Pahang State Mosque's Main and Multiple Mihrabs



Figure 8.12: Size and Proportion of Analyzed Mihrab

8.6 ORNAMENTATION ON MIHRAB: CALLIGRAPHY STYLE/SCRIPT

Table 8.4 shows the calligraphy ornamentation seen on the Qibla walls and Mihrabs of all the mosques under study. It is quite obvious that Thuluth script is indeed the most frequently used style in ornamenting the Qibla wall and Mihrab, probably because of its artistic beauty. Having said that, beauty has a setback as this type of calligraphy is quite difficult to be read by non Arabic speaking community such as Malaysian. Some times it gets more difficult when the script is done without the diacritical symbols.

Floriated Kufic is the second widely used script in the mosques under study. Floriated Kufic is employed in the National Mosque of Malaysia and Masjid Sultan Alaeddin in Selangor. In both case, floriated Kufic are used to ornament the Mihrab arches. Kufic script is written without any strict rules and this normally makes the calligraphers feel virtually free in getting new designs of ornamental forms (Abdul Rahman, 2007; 43).

Naskh script, which is easy to be read, understood and written should be the most frequently used calligraphy style in non-Arabic speaking nations such as Malaysia. The Al-Quran is mostly written in Naskh script which has diacritical symbols. From the observation, Naskh script is only used twice; once in Masjid Batu Uban Mihrab and the other in Negeri Sembilan State Mosque Qibla wall.

8.6.1 Verses of Calligraphy³

According to Abdul Rahman (2007; 262) the most popular used verse from the Al-Quran in ornamenting the Qibla wall are verses 139-150 from Surah Al-Baqarah (2). These verses are appropriate to be on Mihrab and Qibla wall because it is related to the direction of prayer which is towards the one and only Qibla direction, which is the Ka'aba in Mecca. It was received by the Prophet

³ The verses mentioned can be referred to Chapter 6 of this thesis for more explanation and information

Muhammad ﷺ after his *hijrah* (migration) from Mecca to Medina, changing the direction of Qibla from Jerusalem to Mecca.

Another popular verse often found on the Mihrab is verse 177, also from Surah Al-Baqarah (2) of the Al-Quran. This verse not only stresses on turning our faces towards Mecca literally, but also with true faith and full of devoutness.

Table 8.4, p: 239, shows that throughout the years, Mihrab and Qibla wall in Malaysia's mosque are not really keen on the popular verses listed. From the 23 selected mosques under study, only one mosque's Qibla wall owns the verse 2:148, which is the National Mosque. Two Mihrabs employ the verse 2:144, one uses 2:149 and one with 2:150. The rest of the mosques utilize a variety of other verses from different *surahs* of the Al-Quran. Surah Al-Taubah and Surah Al-Jumu'ah are among the favourites for ornamenting Mihrabs and Qibla walls. The verse known as "Mosque Foundation verse", (Dodd and Khairallah, 1981) from Surau Al-Taubah is mostly found at mosque portals. The Prophet Muhammad ²⁰⁶/₂₀₇'s mosque, Ibnu Tulun Mosque, Al-Aqsa Mosque and many others employ this verse on their doorways where such a verse is most suitable and appropriate to be. This verse mentions about the duties of Muslims and presents a vision of paradise for the believers who visit, celebrate and maintain the well being of mosques (Zafeeruddin, 1996).

During the early years (1728-1849), not much calligraphy ornamentation is found in mosques. They often employ simple inscription such as the *Kalimah* 'Allah' and the Prophet Muhammad ''s''''s name. In most cases, this calligraphy is actually framed and hung as decorations and not as part of the indoor ornamentation. Calligraphy started to be used lavishly in ornamenting mosque walls in the middle of the 19th century.

No	Mosque	Vear	Calligraphy on Oibla Wall		Calligraphy on Mihrab		
110	mosque	1 cui	Verse Scrir		Verse	Script	
1	Tengkerah	1728		I ·			
2	Kampung Laut	1730s			Allah, Muhammad	Thuluth	
3	Batu Uban	1734	Allah, Muhammad	Thuluth	Allah	Naskh	
4	Kampung Keling	1748					
5	Sultan Zainal Abidin	1793					
6	Kapitan Keling	1801	At-Taubah 9:18	Thuluth			
7	Melayu Leboh Acheh	1808					
8	Kampung Tuan	1830			Allah		
9	Muhammadiah	1867					
10	Sultan Abu Bakar	1892					
11	Sultan Alaeddin	1898			Al-Baqarah 2:144	Floriated Kufic	
12	Jamek Kuala Lumpur	1908	Al-Mukminun 23: 1-9	Thuluth			
13	Zahir	1912		N	Al-Baqarah 2:144 Al-Jumu'ah 62:9	Thuluth Thuluth	
14	Ubudiyah	1917			Al-Baqarah 2:255	Thuluth	
15	Sultan Ibrahim	1927	Allah, Muhammad	Thuluth			
16	Sultan Sulaiman	1932			Al-Isra' 17:-3	Thuluth	
17	National Mosque	1965	Al-Jinn 72:18 Al-Baqarah 2:148 Al-Taubah 9:105 Al-Hijr 15:9 Al-A'raf 7:199 Al-Zumr 39:53 Al-Rum 30:37 Al-Hajj 22:78	All in Thuluth	Ali-Imran 3:51 <i>Kalimah</i> Syahadah	Thuluth Floriated Kufic	
18	Negeri Sembilan State	1967	Al-Ikhlas Al-Kafirun Al-Falaq Al-Nas	All in Naskh	Al-Jumuah 62:9 Allah Al-Rahman Al Rahim	All in Thuluth	
19	Perak State	1978			Al-Baqarah 2:149	Thuluth	
20	Sultan Ismail Petra	1990					
21	Pahang State	1994			Al-Kahf 18:24	Thuluth	
22	Wilayah Persekutuan	2000			Al-Fatihah 1:1-7 Al-Insyirah Al-Baqarah 2:150 Al-Muzammil 73:20 Al-A'raf 7:206	Round Thuluth Round Thuluth Thuluth Thuluth Thuluth	
23	Sultan Putra Jamallullail	2005	Allah Muhammad Rasulullah	Thuluth Thuluth			

Table 8.4: Calligraphy on Qibla Wall and Mihrab

8.7 GEOMETRICAL PATTERNS AND MOTIFS ON MIHRAB

The Qibla wall and Mihrab ornamentation table (Figure 8.17, pp: 244-247) shows that the selected mosques under study received their influences from various places and communities. It is apparent that not all mosques are ornamented by motifs and geometrical patterns. According to Baer (1998; 90), motifs that portray the organic form of vegetables (leaves, flowers and scrolls) and fruits are the types requiring blessings which is related to the ancient civilization's believe in the "tree of life".

Ornamenting the Qibla wall with flowers and vegetation has long been employed in Medieval Islamic art and architecture. As been studied by Denny (1991:38), arch panels with flower motifs (including the Mihrab panels) can be seen as a symbolic gesture of Gateway to the Garden of Paradise.

Figure 8.17(pages 244-247), shows that almost all the Qibla wall and Mihrab under study are ornamented with vegetation and floral motifs. Even in the early mosques, (1728-1850s) ornamentation on Qibla wall and Mihrab has already been applied with certain design and style. Being the earliest, Masjid Tengkerah and Masjid Batu Uban, were ornamented with lotus motif, which is believed to be brought in by the Buddhist converts commuting the areas i.e. Melaka and Penang respectively. Looking at the material used (ceramic tiles), it can be said that the influence is from Chinese Buddhist. Apart from that, it is quite interesting to find that there is a band of vegetation scrolls that resemble the Ummayad Dynasty's Great Mosque of Damascus' Mihrab that employs wine leaves scroll.

However, mosques built at the end of 18th century, started to get their Malaysian vernacular motifs carved on the Qibla wall and Mihrab. Masjid Kampung Keling is the most prominent example which provides two parts as evidence of vernacular motif
existence. One is at the ventilation screen and the other at both footings of Mihrab niche arch. The motif employed is the same in both parts that is "*bayam peraksi*".





Bayam Peraksi Motif

Bayam Peraksi in Reality

Figure 8.13: Vernacular Motif: Bayam Peraksi

According to Rosnawati (2005:101), there are six principles of vernacular (Malay Nusantaran and Langkasukan) motifs which are:

- 1. Radiating from a source
- 2. Natural rhythmic growth of lines
- 3. Decoration follows nature
- 4. Balanced distribution of surface decoration
- 5. Harmony in contrast
- 6. Decoration as integral part of construction

In comparison with geometrical composition of Islamic arts, the principles are quite acceptable by taking Baer's statement (1998; 3) saying that among all the elements, geometry and symmetry hold a major position even though the ornaments underwent the impact of local tradition and foreign influences. From the list above, only item number one needs further analysis as it says that Malay vernacular motif always radiate from one source. Taking El-Gohary's result of study regarding the effects of ornamentation and images on the Qibla wall and Mihrab, it is understood that only repetitive patterns (Islamic geometrical patterns) will give the same effects of a blank white wall and thus provides concentration to the prayer. In contradiction, if the motif is radiating from a source, it is definitely unrepeated.

In the middle of the 19th century, Qibla wall and Mihrab of Malaysian mosques started to adapt geometrical patterns in its ornamentation. The most common and probably the only pattern used is the eight point star pattern, arranged in a variety of manners. Later, geometry started to be applied in ornamentation design, by the end of the 19th century towards the early 20th century, changes for adaptation started to take place in the traditional motifs. The traditional motifs are put into certain grids that sometimes appear in diagonal lines. Taking the National Mosque of Malaysia as an example, it can be seen that efforts have been made to have the traditional motifs put into geometrically divided sections and the motifs are carved inside these sections.



Figure 8.14: Traditional Motifs are Adapted into Geometrical Patterns

This style is then improved in ornamenting Negeri Sembilan State Mosque, where timber is used as the carving medium instead of stucco as in National Mosque. Traditional motif used is *'bunga ketumbit'* (Figure 8.15, below) which is normally reserved for high level societies.



Bunga Ketumbit Motif



Bunga Ketumbit in Reality

Figure 8.15: Vegetal Motifs: Bunga Ketumbit

Middle of 20th century seizes major influences in Malaysian mosques external looks from the gigantic Middle Eastern mosques. However, Qibla wall and Mihrab ornamentation is affected in a different way. To examine the effect, Wilayah Persekutuan Mosque is taken as a case study. The Mihrab panel is quite similar but not exactly the same as Iranian Safavids style. Thorough investigation showed that the motif of vegetation inside geometrical pattern is somewhat different. The design of ornamentation might be copied from the Iranians but the motif used is actually "*bunga cempaka*". This purely vernacular motif is intertwined with "*daun sesayap*" and "*sulur kacang*".



Figure 8.16: Vegetal Motifs: Bunga Cempaka

It is apparent that motifs and ornamentation of the Mihrab has undergone a significant transformations and evolutions that have to be recognized and studied. Traditional motifs have been used by Malaysian mosques since the early years until contemporary.

No	Mosque	Year	Geometrical Pa Qibla	tterns/Motifs on Wall	Geometrical Patterns/Motifs on Mihrab	
1	Tengkerah	1728			Similar Pattern with Qibla Wall	
		Influence	Lotus-Buddhist	Vegetal scroll- Damascus (Ummayad)		
		Material	Ceramic Tiles	Ceramic Tiles		
2	Kampung Laut	1730s	No Patterns/Mot	ifs on Qibla Wall	No Patterns/Motifs on Mihrab	
	2	1734		*	F	
3	Batu Uban	Influence	Lotus-Buddhist	Lotus-Buddhist	Multi Foil Arch-Mughal Indi	
		Material	Hand Made Mortar and Painted	Hand Crafted Mortar and Painted	Hand Crafted Pair	l Mortar and nted
4	Kampung Keling	1748			m 20 m	
		Influence	Ionic Column With Lotus Motif- Roman and Buddhist	Vernacular Motif- Bayam Peraksi Vegetal Motif	Lotus Bud Motif-Buddhist	Vernacular Motif- Bayam Peraksi Vegeta Motif
		Material	Painted Mortar	Wood	Ceramic Tiles	Painted Wood Carving
5	Sultan Zainal Abidin	1793			No Patterns/Mo	otifs on Mihrab
		Influence	Vernacular Motif- Saga Kenering	Vernacular Motif		
		Material	Mortar Painted	Mortar Painted		[
6	Kapitan Keling	1801			R	
		Influence	Vernacular Motif- Lotus and Fern	Geometrical Pattern	Lotus Bud- Buddhist	Geometrical Pattern
		Material	Stucco Carving	Stucco Painted	Mortar Painted	Stucco Painted

No	Mosque	Year	Geometrical Patterns/Motifs on Qibla Wall		Geometrical Patterns/Mot on Mihrab		
7	Melayu	1808					
	Acheh	Influence	Lotus with Jasmine Scallop- Indian		Jasmine Scallop- Indian	Multi Foi Arch-Mugł	
		Material	Stucco Painted		Stucco Painted	Hand Craft Mortar	
8	Kampung Tuan	1830	No Motif/Patterns on Qibla Wall				
		Influence			Vernacular Motif- Bunga Ketumbit	Lotus Mot Impregnati Verse	
		Material			Wood Carving	Wood Carvi	
9	Muhammadiah	1867	Rep 1		No Motif/Patterns on Mi		
		Influence	Rose Scallop	Emblem with Sunflower Motif			
		Material	Formed Mortar and Painted	Formed Mortar and Painted			
10	Sultan Abu Bakar	1892	No Motif/Patterns on Qibla Wall		No Motif/Patterns on Mihra		
11	Sultan Alaeddin	1898	No Motif/Pattern	ns on Qibla Wall			
		Influence			Langkasukar Lotus Motif a	n Motif with at the Corners	
		Material			Wood Carving	and Varnishe	
12	Jamek Kuala	1908	No Motif/Patterns on Qibla Wall				
	Lumpur	Influence			Eight Point With Lotus i	Star Pattern n the Middle	
		Material			Cerami	c Tiles	

Ne	Mosque	Veen	Geometrical Patterns/Motifs on Qibla Wall		Geometrical Patterns/Motifs		
NO		rear			on Mihrab		
13	7.1.	1912					アンビ
15	Zam	Influence	The same pattern of basic eight point star pattern at Qibla wall and ventilation screen.		Vernacular Mot of Bunga Cempaka	if Vernacular Motif of Awan Larat	t
		Material	Timber Lattice Painted	Ceramic Mosaics Lustered	Carved Mortan and Painted	Stucco Carving	
14	Ubudiyah	1917	No Motif/Patter	ns on Qibla Wall			
		Influence			Eight Point Star Pattern and Vernacular Motif of Bunga Matahari and Daun Sesayap		
		Material			White St	ucco Carving	
15	Sultan Sulaiman	1932					
		Influence	Eight Point Star Pattern		Vernacular Motif of Bunga Ketumbit		
		Material	White Stucco		White Stucco Carving		
16	Sultan Ibrahim	1939	No Motif/Patter	ns on Qibla Wall	No Motif/Patterns on Mihrab		
17	National Mosque	1965					
		Influence	Eight Point Star Pattern		Mamluk Dynasty(Qaitbay)		
		Material	Lustred ce	eramic tiles	Stucco carvings		
18	Negeri Sembilan State	1967	No Motif/Patterns on Qibla Wall				
		Influence			Vernacular Motif –Bunga Ketumbit		
		Material			Wood Carvin	g and Varnished	I
	Figure 8.1	17: Motifs a	and Ornamentation	on Mihrab and Qi	bla Wall - conti	nuation	

No	Mosque	Year	Geometrical Patterns/Motifs on Qibla Wall		Geometrical Patterns/Moti on Mihrab		
19	Perak State	1978					
		Influence	Vernacular Mo Bunga Cempa	otif- Ika	Eight Point Star Pattern	Eight Point St	tar Pattern
20	Ismail Petra	1990	No Motif/Patter	ng ns on Oib	a Wall	No Motif/Patter	on Mihrah
20	Pahang State	1994					
		Influence	Simple Geometrical Pattern Eight Point Star Pattern		Eight Point Star Pattern		
		Material	Concrete Formed Ceramic Tiles		Ceramic Tiles		
	Wilayah Persekutuan	2000	No Motif/Patter	ns on Qib	la Wall		
22		Influence				Vernacular Motif of Bunga Cempaka	Iranian Muqarnas- Safavids
		Material	5			Marble Carving and Precious Stone Infill	Stucco Formed
23	Sultan Putra Jamallullail	2005				No Motif/Patterr	ns on Mihrab
		Influence	Eight Point Star Pattern		No Motif/Patterns on Mihrab		
		Material	Black Marble Engraving		ing	No Motif/Patterns on Mihrab	
	Figure 8.1	17: Motifs a	and Ornamentation	on Mihr	ab and Qi	bla Wall - continua	tion

8.7.1 Conclusion on Figure 8.17

Both types of Historical mosques: Traditional/Vernacular and Colonials mostly do not employ heavy ornamentations on their Mihrabs. Ornamentation that is being used is mostly on single motifs and not in repetition or geometrical grid layering. For example single lotus motif on Masjid Batu Uban (1734) and Masjid Kapitan Keling (1801) Mihrabs.

Repetition of motifs that are found in Masjid Tengkerah (1728), are mostly on ceramic tiles, unlike Masjid Batu Uban and Kapitan Keling, the motifs of lotus flower are hand molded with cement mortar to the Mihrab walls. Most of the historical mosques of Melaka; Kampung Keling and Tengkerah employ motifs which are printed on ceramic tiles, and this gives the idea of those ornamentations are highly influenced by the Chinese.

Traces of traditional Malay wood carving started to be seen in Masjid Kampung Keling (1748). The wood carving is patterned in a very traditional style which is radiating from a source and end up at another corner. There is no geometrical layering behind the carved art work. It can be said that Masjid Kampung Keling is quite rich in ornamentation.

Apart from Chinese (Buddhist) influence in the ornamentation of Malaysian vernacular mosques, there is influence from India too. The influence is seen strongly in the ornamentation of Masjid Leboh Acheh (1808). Jasmine scallop or garland has always been a ceremonial flower to the Hindu people in Malaysia especially during weddings and festivals.

The materials used for ornamentation in traditional/vernacular mosques are hand molded mortar pasted directly to the mosque walls, traditional Malay wood carving and ceramic tiles. There is not much calligraphy ornamentation on the walls of traditional/vernacular mosques. These materials came into major use because of the limited source of foreign materials during that period.

Mosques design and ornamentation during the Colonial occupation in Malaysia started to vary the ornamentation design of Malaysian mosques. Adaptations of eight pointed star pattern started to emerge in the ornamentations of mosques. The eight pointed star pattern is designed with great flexibility in Masjid Jamek Kuala Lumpur, Masjid Zahir, Masjid Ubudiyah and Masjid Sultan Sulaiman. The material used also varies from imported ceramic tiles to stucco. Like in Masjid Ubudiyah for example the marble slabs are said to be imported from Italy (stated on the information board of the mosque).

Most of the mosques built during Colonial occupation are of Royal mosques, for example; Masjid Zahir, Sultan Sulaiman and Muhammadiah. Therefore, the traditional wood carvings done to those mosques are highly crafted and the motifs used are mostly *"bunga ketumbit"*, which is well known for its use in ornamenting Malay palaces. The motifs and ornamentation is still composed in very traditional Malay wood carving design that is most of the time seen intertwining and at the same time has its starting and ending points.

After independence, the motifs and ornamentation on Malaysian mosque Mihrab still have influences from the medieval mosques. The most significant one is the usage of stucco carvings on the Mihrab of Malaysian National Mosque (1965) for example; the heavy stucco carvings are very close to Cordoban mosque way of stucco carvings. There is no trace of traditional motifs in the Mihrab of National Mosque.

In 1967, Mihrab in Malaysian mosque started to take a face lift. The employment of traditional wood carving to the Mihrab panel of Masjid Negeri Sembilan gives a strong statement of identity to Malaysian Mihrab. In this ornamentation, the motifs used are

purely Malay motif of "*bunga ketumbit*" and most interestingly, they are not composed as traditionally wood carvings but they are arranged repeatedly in grid layering. This style of design is then seen in a few more mosques such as Masjid Wilayah Persekutuan (2000) and Masjid Negeri Perak (1978).

Materials of ornamentations are also evolved in the after independence and modern mosques in Malaysia. Timber carvings, stucco carvings and marble carvings are now being used greatly. In the case of Masjid Wilayah Persekutuan, skilled workers from India were brought over in order to help with the marble carvings.

Figure 8.17(pages 244-247), concludes that Malaysian way of ornamenting the Mihrabs and Qibla walls evolves in the material used and motifs employed. Malaysian way of ornamenting the Mihrabs is a product of local cultural values with some adoption and adaptation from the Medieval Islamic arts, together with the influences from colonial occupation, Chinese and Indian traders.

CHAPTER 9: CONCLUSIONS

9.1 OVERALL CONCLUSION

The study has thoroughly been done and successfully found the answers to all the research questions put forward in the introduction chapter. The existence of the Mihrab on Qibla wall is now clarified to be one of the liturgical elements of mosques all over the world. Its stature is placed parallel to the existence of the *Minaret* and the Dome. The origin of the Mihrab is researched and explained in thorough discussion.

The notion that suggests ornamentation in mosques is prohibited has been proven to be a baseless argument when this thesis shows that appropriate ornamentation is needed to enhance the internal ambiance of mosques portraying the greatness of Allah the Almighty as well as reflecting the glory of Islam. The importance of interior aesthetic in Islamic architecture is seen from the history of Islam itself. The literature review encompasses Quranic verse explaining the greatness of the Prophet King Sulaiman's (a.s.) court, where the high quality of interior ornamentation had deceived and astonished Balqis, the Queen of Sheba at that time, and made her submit to the greatness of Allah and the glory of Islam. This story from the Al-Quran gives an indication that it is permissible to show wealth and power in certain situations, for example to portray the greatness of Allah the Almighty.

The argument that creates uncertainty about the effects of motif and ornamentation on the concentration of the congregation whilst performing *solat* (prayers) seems to be vague. Ornamentation on the Mihrab and Qibla wall that strictly follows the repetitive geometrical design of Islamic arts will not disrupt the concentration of the worshipers.

This thesis reveals the influences adopted by mosques in Malaysia which is reflected through the form and design of their interior lay out and elements. These interior motifs and ornamentations provide a different perception towards the quality of contemporary mosques' architecture in Malaysia. This study shows that most of the selected mosques employed local or vernacular motif and ornamentation on the Mihrab and Qibla walls even though their external physical appearance may seemed to be of foreign influence. The famous eight pointed star pattern of Islamic geometrical design is extensively used in designing modern mosques' interior.

Typological study on the form and design of selected mosques' Mihrabs came to the conclusion that there are forms and designs of the Mihrabs which are owned exclusively by Malaysian mosques. They are not found anywhere else because neither the Middle-Eastern nor the Western Muslim mosques employ them. Therefore, it supports and strengthens the statement that Islamic architecture evolves through regions to suit the cultural and social values of the locals.

Future scholars might query as to why should the Mihrab and Qibla wall be the most emphasized and highlighted components in mosques' architecture and how could it be done. This thesis suggests some guidelines to enable the Mihrab and Qibla wall act as the focal point for the entire mosque building. It strongly believes that the first thing to be strenuously considered when building a mosque structure is the visibility of its Mihrab and Qibla wall from the entrance(s). Then, the formation of *safs* (prayer lines) parallel to the Qibla wall is studied in order to proof that the optimum Qibla wall offers long and straight *safs*. As a result, this part of the research found that quite a number of mosques under study owned an unacceptable form of prayer halls.

In order to be an important element in a mosque, the Mihrab must be given special attention or at least equivalent to the treatment of the Dome and the *minaret* in Islamic architecture. Study on the evolution of form and design of the Mihrab is essential for both contemporary and future mosques. Learning from the past will immensely assist

the development of a better future. Apart from that it can also be kept as a track record for historical and heritage studies.

Subsequently, research on the orientations of selected traditional and vernacular mosques built in Malaysia showed that most of them have strong level of visibility towards the Mihrab from the entrance point. The study also revealed that in most cases the formation of *safs* is uninterrupted due to the width and clarity of the prayer hall.

In contrast, floor plans of mosques built during the Colonial era were very much influenced by church designs and renowned Islamic buildings from the Medieval Islamic Dynasties. It is apparent that the colonization era transformed the whole physical and architectural values of Malaysian mosques. Mosques erected during this era were designed by non-Muslim British architects such as A.B. Hubback (Jamek Mosque 1909, Kuala Lumpur) and H.A. Neubronner (Kapitan Keling Mosque 1916, Penang).

Most of the Mihrab and Qibla wall of the selected mosques in this period are of plain white or with very minimal ornamentation. Only in later years that ornamentation such as carved stucco and wood were added to the Mihrabs and Qibla walls as found in Masjid Sultan Sulaiman (1932, Selangor) and Masjid Sultan Alaeddin (1898, Selangor). The typological studies of mosques built from 1700s to 1850 also showed the evolution of materials used in building them as well as ornamenting their Mihrabs and Qibla walls.

After independence, Malaysia started to own mosques that are designed and built by local designers and builders. Even though varieties of physical appearances on gigantic mosques came into existence, these mosques' interior arrangement of important components were made secondary. Primary focus of mosques' design was towards the external facade rather than the practicality of the prayer hall. Consequently, Mihrab design and form adapted changes in its shape, size and ornamentation.

This research concludes with the morphology of Mihrabs in Malaysian mosques, which had evolved in shapes and forms, over time. In the beginning, mosques were built with basic traditional and vernacular design, reflecting Malay traditional houses providing comfort and familiarity to the users. In the late 18th, 19th and early 20th century, new forms and niche shapes were introduced. These changes were due to the discovery of new materials and the effect of colonization. This study concluded that there are five major types of Mihrab:

- (1) Without niche on the Qibla wall. It has a wide recessed area/room/chamber on the Qibla wall which is clearly seen to position the prayer leader or *Imam* during congregational prayer and Friday sermon. This type of Qibla wall treatment is never been found in the medieval mosques under study.
- (2) Semi circular concaved.
- (3) Rectangular niche shape with arched ceiling.
- (4) Polygonal niche shape.
- (5) A two-level freestanding structure that is positioned in the middle of the Qibla wall to be used as both the Mihrab and the *Mimbar* simultaneously. The former sits on the lower section whilst the latter stands on top of it. This style is also unique to Malaysian mosques and it is found in Masjid Sultan Ibrahim and Masjid Sultan Ismail Petra.

Malaysian traditional mosques built in the 18th century mostly provide clear and easy circulation to ease the users seeking directions. These positive qualities in spatial

arrangement of Malaysian traditional mosque could still be adopted in the modern era to provide comfort and familiarity in the form and spatial arrangements to the users.

The Declaration of Independence in 1957 marks the freedom of design to Malaysian architects. New shapes and 'styles' of mosques architecture which includes the shape and form of the Mihrabs were introduced. Consequently, more forms and shapes from polygonal arrangement were designed. There are also modern mosque designs that tried to maximize interior space by positioning the Mihrab underneath the *Mimbar* for example Masjid Sultan Ismail Petra, built in 1990 which coincidently emulated Masjid Sultan Ibrahim, built in 1927.

The study concludes that the Mihrab is an essential element of mosques. The Mihrab is also an architectural form that brings out various cultural traditions and architectural expressions. The classification of architectural styles of mosques in Malaysia should not only be done by referring to the external features but also to the interior elements, especially to the symbol of honoured space such as the Mihrab.

9.1.1 Contribution to Knowledge

(1) The identification of the Mihrab as one of the important elements in mosque architecture. The importance of the Mihrab had been laid in Chapter Two with evidences that portrayed the Mihrab as the symbol of Islamic unity towards one focal point that is the Ka'aba in Mecca. In realizing this understanding, the Mihrab that exists in almost all important mosques throughout the world is often the focus for architectural decoration. The Mihrab usage is not only to position the *Imam* as the congregation's leader but more importantly to indicate the middle point of the Qibla wall which is always parallel to the Qibla direction.

- (2) It has been discovered that out of the 23 (twenty three) selected mosques in Malaysia, there are 5 (five) different designs of the Mihrab:
 - Semi circular concaved
 - Recessed area/room on Qibla wall without Mihrab niche
 - Rectangular shape Mihrab niche
 - Polygonal Mihrab niche
 - Freestanding movable structure carrying both Mihrab and Mimbar
- (3) The findings of motif and ornamentation on the Mihrab and Qibla wall of Malaysian mosques show that they actually originated from traditional Malay wood carvings motifs. There are evidences that those traditional and vernacular motifs are interlaced with Islamic geometrical patterns, especially the eight pointed star pattern. This study further proves that cultural and social values of Malaysia are still significant despite the influences brought in by the traders and the effect of colonization. Timber carvings with traditional motifs started to emerge richly and in high quality craftsmanship in a few mosques built after independence such as the Negeri Sembilan State Mosque.
- (4) The study of the Mihrab and Qibla wall visibility proves that there are times when physically beautiful mosques are not as practical when studied through their internal layouts. For example Masjid Ubudiyah which was built during the colonial era, is one of the beautiful mosques in the world but spatial analysis of its internal layout provides an opposite response.
- (5) It has been learnt that the most important usage of the Mihrab in Malaysian mosques is to indicate the Qibla direction. This had been proven by the study that shows the size of the Mihrabs are in proportion to the size of the Mosques. In a gigantic mosque, a large and tall Mihrab is easily captured from any points in the prayer hall.

9.2 RECOMMENDATIONS FOR FURTHER RESEARCH

More research on the same subject matter can be done to establish an elaborated body of knowledge in supporting the success of mosque functions. This research can be expanded through the following suggested researches:

- (1) The same study can be conducted on other Islamic countries particularly in the South-East Asia region such as Indonesia and Brunei Darussalam. By doing this, more styles of the Mihrab and Qibla wall could be discovered. Hopefully, certain styles of the Mihrab and Qibla wall that originated from and unique to this region could be found from such a discovery.
- (2) Study of mosque architecture on Muslim minority countries is seldom done, especially on important interior elements of the Mihrab and Qibla wall. Countries such as Thailand and Vietnam had embraced Islam during the same period as Malaysia. It is highly probable that they have their own styles of ornamenting their mosques. Thus, it could rather interesting to study and understand the motifs that they used and owned throughout the years.
- (3) Other elements of mosque architecture such as *Minaret*, *Dikka* and *Kursi* are not being centered by researches. Detailed studies on their history and usage will carry the importance of these elements in Mosque art and architecture. *Minaret* for example, its purpose and usage will determine its positioning in the mosque lay out plan. In contemporary mosques especially in Malaysia, the *Minaret* is always positioned without any guidelines on its real usage, proportion or may be the level of visibility from the street.
- (4) The study on elements and meanings of arches is quite interesting in carrying the cultural and heritage aspect of certain communities. Arch of the Mihrab alone can be defined further with proper observation, examination and

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documentation to study its influences and evolution, and kept as records for the future generation.

This study has identified that the Mihrab on the Qibla wall is the most important element in mosque architecture. This research further concluded that the existence of a liturgical axis is mostly found in vernacular and traditional mosques. The efficiency of a mosque prayer hall does not depend on its size but rather on the clarity of its Mihrab and Qibla wall.

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