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Reflecting the symbolic meanings of Islamic mysticism in design of Mosque in Hermeneutic and Semiotic as research methodology

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Abstract

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 art and architecture is normally portrayed by the highest degree of motifs and ornamentation. Contemporary mosque designers normally focused on the majestic looks of the exterior part of the mosques and leave the manipulation of the interior space to the users. This research method is descriptive - analytic gathering tool: library studies and documents referring to the theories of thinkers has benefited the field. So, this paper explain Reflecting the symbolic meanings of Islamic mysticism in design of Mosque in Hermeneutic and Semiotic as research methodology. At the end of some of the concepts related to reread the configuration mystical concepts discussed in the relevant analysis is presented.

Key Words: *mysticism, Utopia, narrative structure, architecture and urban fabric of the city.*

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Introduction

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. Islamic art should be written to fit their perception of unopened knew that anyone who uses it (through, 1376, p. 534). Based on the prayer hall functions inside the mosque, acoustics should be the greatest determinant of the architectural design strategy (Hammad, 1990). The acoustical environment in the mosque is expressed in terms of its reverberation time (RT) value. Most contemporary mosque designers do not pay attention to such requirements during the conceptual design stage. Based on the prayer function, wherein the worshippers are ordered in subsequent rows, most of the mosques are generally rectangular with high length-to-width ratios and relatively elevated ceilings. A previous work (Abdou, 2003) examining different mosque shapes showed that the rectangular mosques exhibited better spatial distribution for acoustical quality indicators than other shapes. In addition, all mosque designs include a Mihrab (prayer niche) and Minbar (preacher platform). Most of the mosques also have a hemispherical dome constructed on the roof level as part of the basic design topology. Such geometrical characteristics were examined using computer modeling to study the various impacts of mosque size and form on the acoustic spatial distribution. And

among the arts that have shaped the human environment and make it ready for blessings for its architecture original position (Burckhardt, 1373, p. 31). In addition to the various fields of art and architecture Iran architecture, through the representation of concepts and providing multi-dimensional experience them, the military is inclusive. And aims to show the semantic structure based on the experiences of space - time and audience participation to understand the symbolic meaning of architecture because of Iranian architecture, is a conceptual architecture (Mirmiran, 1375, p. 33). Iranian traditional architectural design process, including complex procedures and rules for the design and realization of spatial forms. That although modern methods vary, but follow the same ultimate goal, which is the ability to transform ideas into spatial forms. The traditional architects' creative abilities in design, construction and implementation of the work have often exceeded the scope of some traditions. But apart from this process of naturalizing a spiritual approach to architectural design of some buildings that are Iran, has exceeded the scope of traditional architectural creativity. And the unique patterns found that its analysis could open the way for the recognition of transcendent ideas of Iranian architecture. Frank LD & Pivo G (1994) had investigated the idea of whether there is relationship between urban form and modal choice. Based on his study it was indicated that the relationship between urban form and modal choice is relatively weak if it were measured at a census tract scale. Therefore Frank LD & Pivo G (1994) suggested that a smaller scale geographic analysis may be able to detect the relationship with mode choice. This had lead to other studies to find a suitable approach to study on the relationship between urban form and modal choice. Several studies had been carried out in recent years by researchers to determine mode choice of people in different type of built environment. Some of the studies had identified that cer-

tain type of built environment may influence people to walk more within a neighbourhood. Frank LD & Pivo G (1994) in his study showed that increased level of land use mix are associated with a reduction in trip length and travel time for work and shopping trips. A detailed synthesis on recent empirical research by Frank, L.D.(2000) showed that positive relationships were found between density, land use mix and connectivity and non-motorized travel and transit usage.

Material and method

1. Hermeneutic as research methodology:

Hermeneutic is the theory of text interpretation that includes written, verbal, and non-

verbal communication. It is a way of understanding text that was initiated by scholars like Scheleimacher, Dilthey, Heidegger and Gadamer. For this study, Philosophical hermeneutics phenomenology which refers primarily to the theory of knowledge initiated by Paul Ricoeur is adapted. This is because Ricoeur's theory proposed that to understand the meaning of the text; the researcher must involve and see for oneself. In this sense, interpretation of knowledge from written text must be in a cyclic manner which involves a series of phases. Firstly, from basic naïve understanding on the subject matter from textual reading is done. Then move on to the second phase

Data collection method	Building indicator	Theory to analyse	Process
Observation -Direct understanding during field work (Mulhall Anne, 2002). -using five indicators established from the literature review on communal mosque. -indicators are justified based on their appropriateness in defining the mosque as community centre	FORM		
	-Façade	Shatha (2004) layering theory analyse the meaning and composition of architectural elements	-Use layering system: -Clarify the basic structure, focusing on architectural morphological elements, identify additional elements juxtaposed and within the façade -Identify the facade organisation.
	-Detailing, structural and ornamentation	Wright(1939) organic theory	-Observe and identify architectural elements-portray the usage of natural materials
	-Setting	Wright(1939) organic theory	-Use layering system: -Clarify the basic structure, focusing on architectural morphological elements, identify additional elements juxtaposed and within the façade -Identify the facade organisation.
	-Scale	Ching & Conway and Roesnisch (1994) proportion theory Scale within building element -Identify the overall scale of the building interior-height, width and length referring 2 aspects -Closure within interior space, Structural organization within the space interior also building element Scale within context -Comparative analysis with existing building in context in	-Compare-size and scale of mosque with surrounding building -Analysis-building section and elevation to determine the size of element within the building elements by comparing to human scale referring to drawing and on site observation
	SPACE	Theory to analyse	Process
	Spatial organization	(Hillier & Hanson, 1984) ; Dovey spatial syntax theory Branching system to determine the arrangement of spaces within the built form and identify the movement within the interior space as well as an entry point and access to the cells.	Analyse the floor plan by identify the entry point and movement pattern within the interior spaces on direct observation

▲ Table 1.Theory for analyzing each indicator base on literature review

Type of Worship Places for Muslim	Level	Settlement Hierarchy
National Mosque	National	Main Centre/National Capital
State Mosque	State	State Regional Centre
District Mosque	District	State-Sub Regional Centre
Mukim Mosque / Town / Village / Residential Area	Mukim/Town/Village/Residential Area	Main Settlement Centre / Neighbourhood Area /Village / Residential Area
Surau/Musalla	Neighbourhood Area / Village / Residential Area	Country Settlement Centre / Neighbourhood Area / Village / Residential Area
Prayer room	To be provided in buildings that is visited by the public	

▲ Table 2.Type and level of worship paces for Muslim and the placement according to the settlement hierarchy

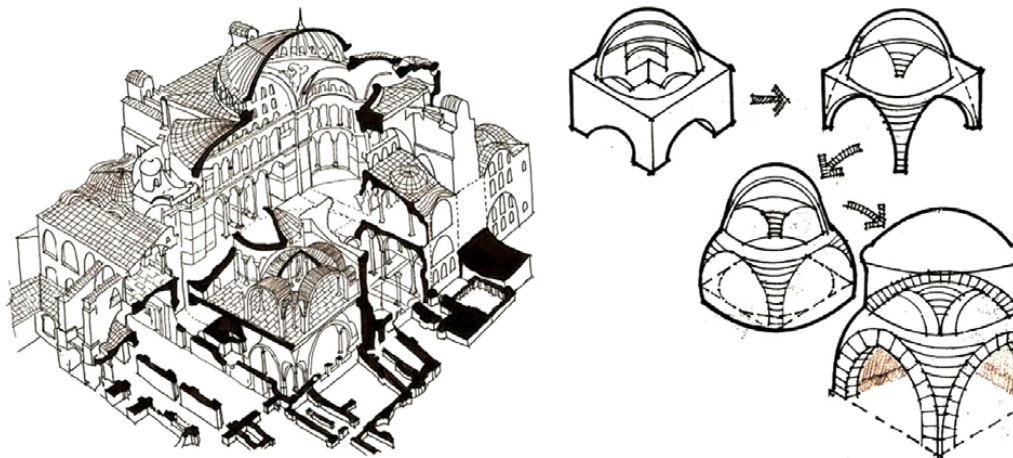
of understanding which is coding the process and finally subdivide the subject matter into themes also sub-themes before re-summarizing it in a holistic manner. This theory is beneficial for this study because it will help the researcher to understand the ideology and the intention of the architect during the design process of the mosque as documented in design reports.

2. Semiotic as research methodology: Semiotic or semiology stresses on the study of sign and symbol (Fiske, 1990). This theory is used as it helps to describe how human reflects their thought and applies it to understand the meaning of 'sign'. According to Hawkes (2003) 'sign' may be an act, symbol or gesture used to convey an idea, a desire, information, or a command (Saussure). This is because Saussure's theory proposed a dualistic notion of signs, relating the signifier as the form of the word or phrase uttered, to the signified as the mental concept. In other words, the signifier is sound and the signified is the thought. Saussure's model of signs is of value for this study as there is a need to understand how the two communal mosques operate as a meaningful sign. Although Saussure's work is best suited for the present research as his model of signs forms the basis of understanding how signs work, there are limitations to his study. He did not describe in detail the social, cultural experience, expression and conventions when dealing with the understanding of signs. This is because Saussure's model of the sign focused on denotation at the expense of

connotation (Fiske 1990). Due to this limitation, Gottdiener's work is referred to next as he elaborates on Saussure's model of signs in a more extensive way. Gottdiener stated that the bond between the signifier and signified (mental concept) is also dependent on social and cultural conventions. Gottdiener (1995) who is a scholar in socio-semiotics suggested that to understand the meaning of the built environment, one should define 'sign' as a symbol and much relates to building form. In this case, one should study how the built form as a 'sign' is shaped by social interests and ideologies, and how they are adapted as society changes. In this case, Gottdiener proposed that a sign can be read as a value system that correlated to the content and expression of a sign (Gottdiener 1995:27).

Mosque

The importance of the Islamic 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. The concept of decoration in Islamic art is flexible in nature, independent of form, material and scale, transforming the whole space ambience. Masjid (Mosque) has



▲ Fig 1. Pendentive dome construction: Hagia Sophia (left); types of pendentive dome construction (right).

a great status in Islam, it is viewed as house of Allah: a place where worshipers perform prayers, Mirror of Islam, and its first institution. Furthermore, it is usually referred to as parliament of Muslims, their university, their renaissance castle, and the crucible of their civilization. It is, also, considered the hub of social and political life, the base of Islam and one of its great pillars (AbulQaraya, 1994; Hillenbrand, 2012). The thing that explains the special place Masjid has in the hearts of Muslims. Allah ordered Muslims to frequent Mosque. A Quranic verse reads: "... set your faces (toward him) at every place of worship" (Holy Quran, 7:29). The mosque is a place where Muslim people can perform their Solat and doing other activities of badah such as learning Quran, religious talk, perform Friday prayer and etc. relating to religious activities. Praying hall is the most important space in mosque also known as sacred space. Decoration on a mosque being disputed by some Islamic scholars, especially to those highly decorated mosques.

Many of Islamic scholars protesting the decoration in mosque especially highly decorated is a symbol of luxury and wastefulness. As stated by Othman, R. (2011) in his paper, proper positioning of motifs and ornamentation, more believers will be called to come

enlighten the mosques. She also mentioned, if without the small niche as mihrab on the kiblrah wall and dome on top, praying hall could be misinterpreted by people as a multipurpose or library without furniture. Therefore, she declared that the place pray is important to be studied in great detail, as this will lead to the concentration and sincerity of the prayers by the mosque users. Ornamentation should be taken as part of mosque components and not as mere decorations done after thought or filling in the gap (Othman, Z. J. Zainal-Abidin, 2011). Almighty called for all human to regularly go to mosque in a verse that reads: "oh Children of Adam! Look to your adornment at every place of worship" (Holy Quran, 7:30). Metaphorically, He, also, made piety the foundation upon which mosque should be laid: "There is a mosque whose foundation was set from the first day on piety, it is more worthy of the standing forth (for prayer therein)" (Holy Quran, 9:108) another verse reads that: "which then best? - He that layeth his foundation on piety to Allah and his good pleasure?" (Holy Quran, 9:18) Key verses praised the mosque goes in the Holy Quran. One of these verses reads: "In it are men who love to be purified; and Allah loveth those who make themselves pure" (Holy Quran, 9:108).

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). Preserving Islamic faith and enhancing the application of Syari'ah in mosques should be the major point. With the mosques 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. The first characteristic of Islamic ornamentation puts strength in the infinity of patterns. This includes intricate geometric patterns which clearly portray the infinity of Allah the Almighty. Geometry in Islamic art and architecture creates basic patterns in design. Unique interlacing lines weaved carrying various patterns showing the most amazing imagination and inventiveness. 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. Mihrab was initially designed to point towards the direction of Mecca and to give the Imam space to lead all worshippers who stand in rows behind him during prayers (Khateeb and Ismail, 2007). The circular shape and quarter spherical top of the Mihrab was geometrically developed to improve the reflected sound component towards the worshipper's direction. However, in some contemporary architectural designs, the Mihrab was altered in size and shape without any attention to its acoustical implications. The mosque plan, the conventional rectangular shape, and the large prayer halls are similar and have a common design topology that is still tied to the past. The rectangular prayer halls have better acoustical quality and performance than other shapes (Abdou, 2003). The advance in public address system technology



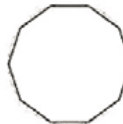




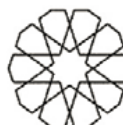
and the use of loudspeakers offers the architect flexibility to shape up the prayer space according to his conceptual criteria. However, the rectangular shape is still applied in the modern design of mosques because of its historical significance. In old designs, the high ceiling, domes, and large windows allowed natural ventilation, acted as a passive environmental control, and provided day lighting. Furthermore, arches and domes were used as main structural elements to cover larger spans. With the advance in artificial air-conditioning and ventilation, natural ventilation is less of a determining factor in modern mosque designs. Moreover, daylight became less important after the development of artificial lighting technologies.

Islamic geometrical patterns (IGPs)

For centuries, Islamic geometrical patterns (IGPs) have been used as decorative elements on walls, ceilings, doors, domes, and minarets. However, the absence of guidelines and codes on the application of these ornaments often leads to inappropriate use in terms of time scale accuracy and architectural style matching.

Mosque as a communal Muslim catalyst

"The civic Mosque" played a key role in the Arab-Islamic civilization: being a hub of the intellectual, scientific, doctrinal and literary movements. This is why it is considered Mecca for Muslim students to acquire knowledge of different disciplines and branches. Therefore, the vision was so clear to the late Sheikh Zayed when he gave order to build the Grand Mosque in order to be a welcoming Islamic space at which science and religion can co-exist. Sheikh Zayed stated somewhere that: "science and Knowledge are much like light that brightens the life and future of human race. For science is an ongoing process, and we must adhere to its benefits, a fool person is he who thinks he gained the whole body of knowledge, and a wise one is the life-long learner, for we spend our entire life learning" (Al-Sheikh, 2011). The word commu-

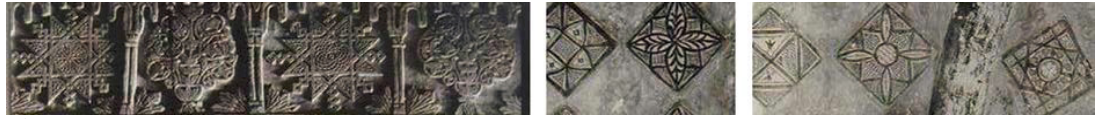
6-point Geometrical pattern	8-point Geometrical pattern	10-point Geometrical pattern
 Hexagon	 Octagon	 Decagon
 6-point Star	 8-point Star	 10-point Star
—	 8-fold Rosette	 10-fold Rosette

▲ Fig 2. First level of IGP classification

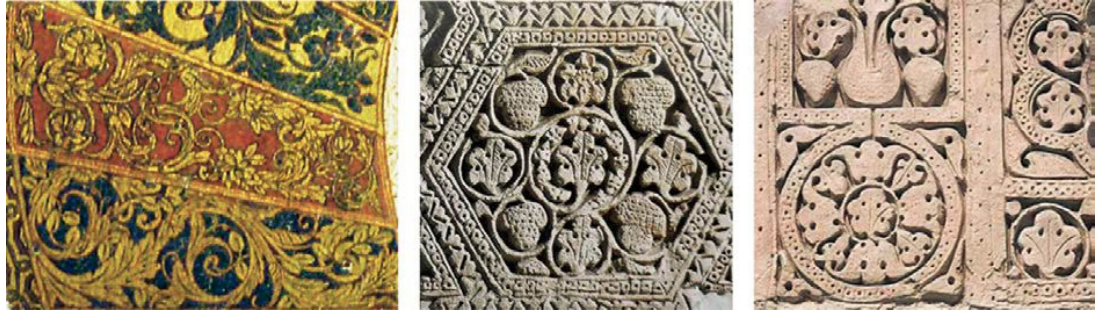
nity can refer to a small social unit of any size that shares common values also a group of interacting people living in a common location that utilize the same available facilities within the same locality. In addition they share same goals, skills and resources. To fulfill the community needs and desire, community spaces with multipurpose function are required to ensure a harmonious communal-living environment (Peck, 1998). Wates, Neck (1987) considered these communal facilities as 'community architecture' and this term is commonly used to describe the architectural space for conducting communal activities. By the, this paper will focus on mosque as the main catalyst of Muslim community architecture. Mosque can be defined as 'sajada' which means "prostrate" where mosque is categorized as the place for sujud (Gazalba, 1975; Rasdi, 1998, 2000). Besides, mosque is referred as a place for worship regardless of any religions (Bosworth, D. & P. 1991; M. Tajuddin R, 2008). In describing the mosque typology, Muslim scholars had categorized that there are four types of mosques (Alice, 2008); Communal mosque or 'djami' type is closest to the

idea of 'community mosque'.

The idea of community mosque is actually evolved since the early era of Islamic development, and the 'Prophet mosque' is the most prominent example of communal mosque in terms of functionality and usage (Rosniza O, 2007). Not only serving as a holy-place for worship solely, but also meant for communal purposes with multiple functions (Spahic Omer, 2010). It becomes as a catalyst to the development of the surrounding area within the aspects of physical needs (Hamid, 2012). This was proven based on how the Prophet's mosque became the dominant reason for the rapid development in Mecca and Medina in which through mosque as Islamic symbols transforms and attracts the surrounding community (Hamid, 2012). In designing communal mosque, there are past scholars who had outlined the criteria for sustainable mosque. The paper will discuss on both sustainable criteria's involving sustainable form and space design in mosque as follows. For example countries in the Middle East would apply motifs such as vine scrolls and other vegetal appeared



▲ Fig3.The Great Mosque of Kairouan; basic geometrical shapes of interior decoration



▲ Fig 4.Mihrab of Great Mosque of Cordoba (left) and 9thcentury carved stucco from Samarra in Iraq.



▲ Fig 5.Ibn-Tulun Mosque in Egypt (first two panels from left); Abbasid Palace in Baghdad (last two panels)



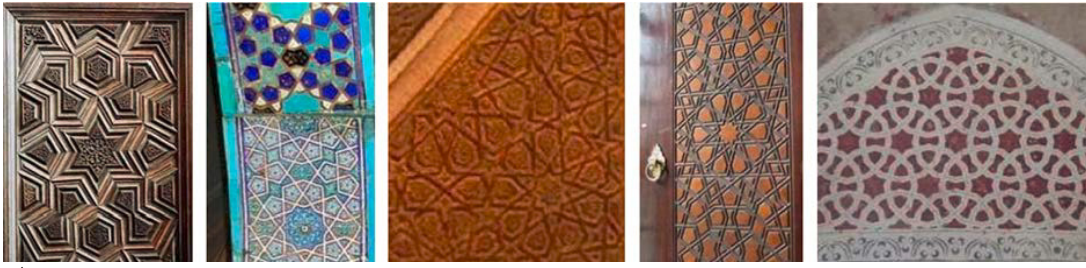
▲ Fig 6.Tower of Kharaganin Qazvin, 12-point, 6-point, abstract 6-point, and 8-point geometrical patterns



▲ Fig7.Great Mosque of Isfahanin Iran (left); Barsian Friday Mosque, 9- and 13-point patterns (center-left).



▲ Fig 8.From left: hood of Mihrab in the Mosque of Al-Nasir Mohammad; Sultan Hassan Complexin Cairo; 16-point geometrical patterns on the entrance doors; carved wooden Minbar and dome of Qaybtay Mosque.



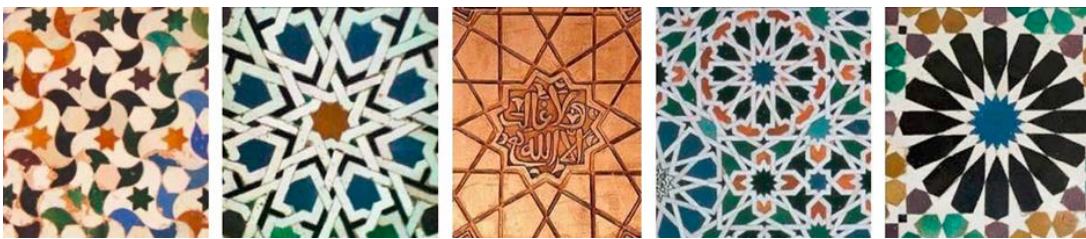
▲ Fig 9. From left: Yesil Mosque in Bursa (first two images); Minbar of Bayezid Complex; wood door of Shezade Complex; window crown of Selimiye Complex.



▲ Fig 10. From left: Ali-Qapu Palace; Chehel-Sutun Palace; Hakim Mosque of Isfahan; Friday Mosque of Isfahan.



▲ Fig 11. From left: Humayun Tomb in Delhi; Red Fort in Agra; Friday Mosque of Fatehpur-Sikri; Etimad-ud-Daulah tomb; Lahore Fort in Pakistan.



▲ Fig 12. Alhambra Palace in Spain, showing details of 6-, 8-, 12-, and 16-point geometrical patterns.

in the Al-Janna as mentioned in the Al-Quran. Countries in the Malaysia would use traditional motifs taken from local vegetal such as rice plant and lotus. But nowadays there are some adaptation of Middle East motifs and geometrical patterns in the contemporary mosques of the Malaysia. Both geometrical background and the motifs mostly produced as two dimensional patterns on mosque components or in three dimensional non-structural arabesques. One thing for sure in any of

the cases is that these geometrical patterns are always subordinated throughout the composition and never emphasized to certain point. According to Madden (1975;423-430), this is done to express the fact that Islam is independent of any historical happening or occasion around the universe and exhibits the universal character of Allah the Almighty.

Decoration in mosque

Decoration as described Mitrache. A (2012) is highlighted and enhanced the spatial attri-

butes of any architectural composition. The early construction of the mosque, the form was very simple as long as it can serve the function to the Muslim people at that time. Under the reign of the prophet, peace be upon him, the decoration is not allowed. The first mosque was built by our Prophet in Medina. This mosque built with a simple form, without any declaration within it. It was extremely simple in its form. It consisted of an enclosure with a wall made of mud bricks and orchard on his Qiblah side made of palm trunks used as columns to support a roof of palm-leaves mud. There was no ornamentation either within or without it. The most important is the congregation can perform their prayers and take protection from rain and heat. They are not thinking about decorating as long they can pray together with the prophet.

Function of decoration in mosque

1. Tawhid: Since the praying hall is a sacred space for Muslim, the space should be a space that can create the feeling of remembering the Creator. In other words having ornamentation, especially in mosques is to feel the existence of Allah the Almighty. The feelings are derived in striving to be closer to Allah. (Norzalifa, 2003). From a theological standpoint masjid decoration seeks to create a sense of divine omnipresence and simplicity by focusing on harmony and balance without regard for excess or grandeur. (C. Longhurst 2012).

2. Aesthetic: One of the functions of the application of ornamentation motif in the interior of the mosque is aesthetic. As mentioned by R. Othman, (2011), the interior of mosque should portray the quality of something very sacred and serene. Aesthetical quality gives the welcoming ambience that invites the believers of Islam into its space. The aesthetical values of ornamentation help in attracting people to the mosque. Aesthetical quality gives the welcoming ambience that invites the believers of Islam into its space (R. Othman, 2011, Omer, S., 2002). Majestic physical look of buildings is without denial an attraction for people to

come and enjoy the beauty (Othman & Zainal-Abidin, 2011).

3. Structural: Islamic ornamentation is the very element that sews architecture and religion resulting serene, intelligible, structured and highly spiritual of Islamic art and architecture. (Norzalifa, 2003). Not only are structural elements such as the arch and column transformed on one plane as motifs for surface decoration or design exchanged with the minor arts, but certain techniques and materials used to simulate others are applied, confusing the eye. (Jones, 1995). Ismail R. al Faruqi (1986) stated that function of ornamentation is transfiguration of structures by hiding the basic form or minimizing their impact on the viewer. It also to disguise the construction details with overlays of transfigurations materials. Whether the ornament is architectural or applied, its purpose is the same; to dissolve the matter, to deny substantial masses and substitute for them a less palpable reality, whose forms change even as they are examined. This is done by repeating individual units indefinitely—columns, arches, the cells of honeycomb vault (muqarnas) and especially the various forms of applied decoration: floral, geometric and epigraphic (Hillenbrand, 1994).

Façade

Façade treatment like the arrangement of element such as doors and windows as opening may show the idea of sustainability in mosque design (Holod R & Khan, 1997). This is because the usage of ample openings arranged in vertical or horizontal manner will allow maximum entry of natural lighting and ventilation to the mosque interior. Hence, minimizes energy usage in mosques and decreases the cost of mechanical maintenance.

Ornamentation, detailing, structural elements and material usage

The usage of local materials not only portrays building with naturalistic image but also may represent the building with local identity that responds to the existing culture, climate and

landscape (M. Tajuddin R, 1998; Rosniza, 2007; Hamid 2012). Adaptation of ornamentation, detailing and structural element may also represent the idea of sustainability if it portrays a sense of functionality instead of merely for decorative purposes (Alice 2009).

Setting

Sustainable design often relates to the idea of no wastage. Hence, building placement need to be carefully considered by the designer. The chosen location need to be within walking distance range. In this sense, the mosques need to be placed in the heart of the communal facilities. Hamid (2012) stated that the mosque must have accessible access route to and from the mosque, equipped with multiple entrances and without or less gated. The right setting will provide a sense of welcoming to the user, easy access and fully utilized mosque at all times.

Scale

Building scale within context will provide a friendly environment to the user. If the building is built too large or monumental, it maximizes the use of energy and building materials. For instance, more energy is needed to cool and lit up spaces in a larger building (Imamuddin, 1985 and Hamid, 2012). Therefore, to avoid energy and material wastage, building must always be built in proportion to the human scale and help to give comfort level to the user (Nadzirah et.al, 2011).

Conclusion

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. 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 there compensation! How beautiful a couch to recline on?" 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. From the comparative study, it clearly shows that communal mosque should be designed according to sustainable design characteristics in terms of architectural form and space. To portray sustainable communal mosque design, the built form should have facade that allow natural lighting and ventilation into the building interior. This is important to minimize the usage of energy thus reduce cost for mechanical maintenance. The positioning of the communal mosque should also blend in harmoniously with the existing landscape within reachable walking distance and the mosque should have multifunctional space that can be fully utilized at all times to avoid wastage and lost space. For instance corridor and passageway also can be a functional space instead serving as circulation area. Hence the mosque design should reflect the true teaching of Islam as stated in the Quran and hadith either in Muslim or non-Muslim country. Sustainable mosque design gives big impact in enhancing the quality of life. By portraying the aspect that relates to the environment it not only improves the quality of space usage but also improves the quality of the Muslim community and their daily life. This is because religious building is closely related to the life of a Muslim believer and in Islamic religion, nature is the important factor that can bring mankind close to god. Hence a place of worship must have the elements of nature for improving better quality of life.



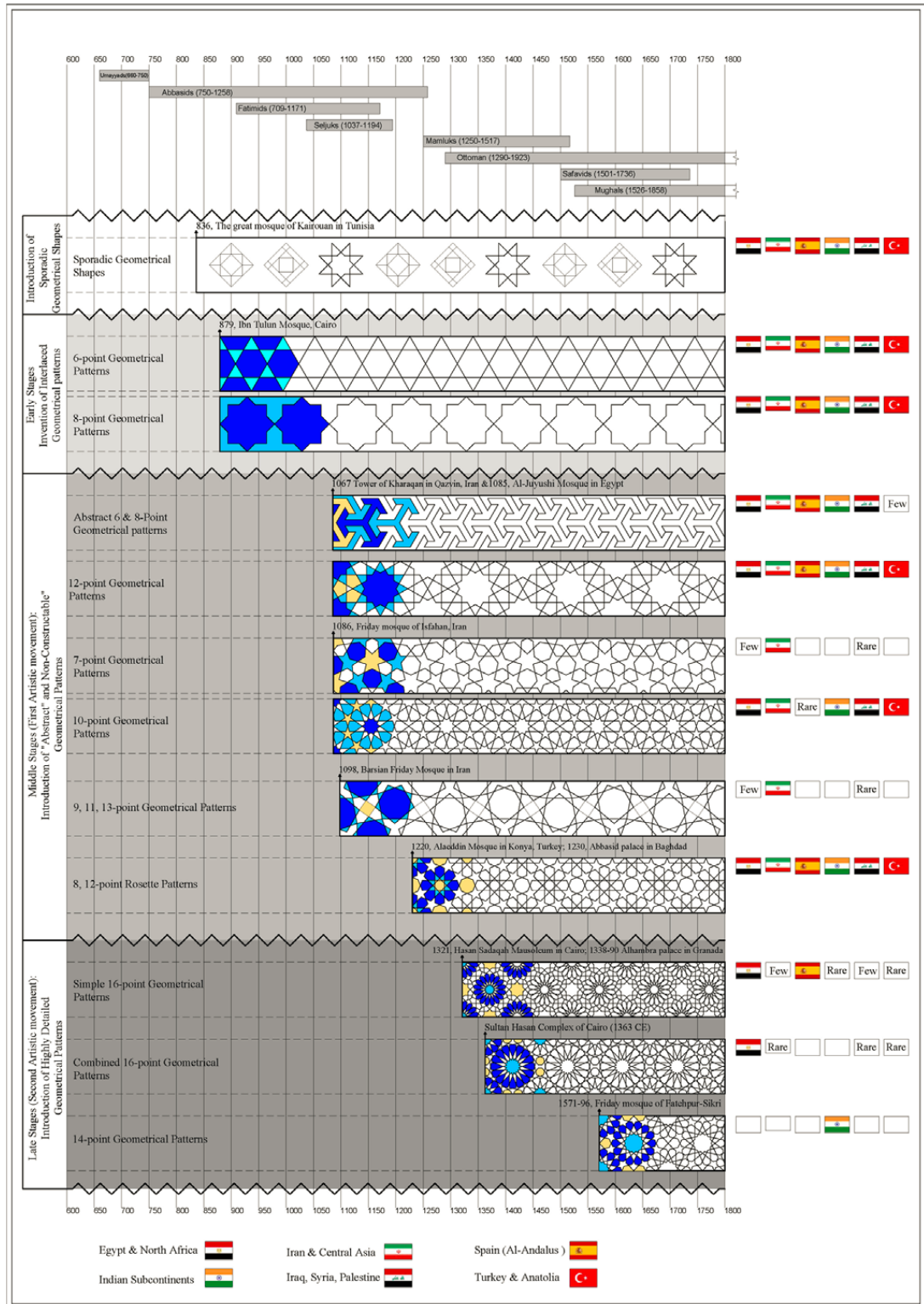


Table 3. Time chart of the evolution of IGPs through out history.

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