

# GEOMETRIC ORNAMENTS SYNTHESIS IN CHINESE MOSQUE

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**Abstract:** The mosque is a building of worship for Muslims who generally have to accommodate many pilgrims. Islamic architecture has characteristics and particular ornaments that are often found in the mosque, which are: calligraphy, geometry and arabesque. While the Chinese architecture also has characteristics and peculiarities featuring ethnic ornaments, which are: geometry, figural shapes and colors. The development of Islamic adherents of ethnic Chinese in Indonesia, led to speculation whether the characteristics of Chinese architectural ornament is also applied in the mosques which they built in an attempt to melt prior belief. The research methods used in this research is qualitative methods and visual observation. Then do a comparative study, to look for the characteristics of ornament as a form of acculturation of Chinese culture that developed in Indonesia. Historically, several mosques in Java contain formations and ornaments of Hindu philosophy. The aim of the study indicate that synthesis between two cultures geometry ornaments enrich the mosque style in Indonesia.

**Keywords:** *Mosque, Ornaments, Chinese, Geometry*

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## 1. INTRODUCTION

Islamic architecture can not be separated from the role of Islamic culture since it was first known to the present day. The buildings as well as objects of art produced in addition to the concepts, also revealed the way of Muslims' life. Islamic architecture was originally represented on the architecture of the mosque, which according to the word of the Prophet SAW did not need to be pretentious. Building materials from organic materials such as poles and a roof of palm tree leaves palm frond showing functional thinking. After Abu Bakr (632-661) as the caliph successor to the Prophet Muhammad, spread his influence around the Arab lands, development of the architecture of the mosque began to be affected by local architectural and cultural acculturation. The order has been developed in accordance with the rapid increase of Muslims. Many new forms and more permanent and developments are created according to the needs. The basic pattern of rectangles as the basic form of the mosque started to be made of stone. Umayyad is the first Islamic dynasty (661-750), with its capital Damascus. The name itself comes from one of the Prophet Muhammad's (PBUH) family named Muawiyah. Since the first Hijrah century in Arabia, Syria and Iraq, its influence is increasingly widespread and growing under the Umayyad dynasty, which in every ruled territory erected many religious and secular buildings. The buildings built are including the design of the building, structures, and their construction. Abbasid dynasty is the second largest Islamic dynasty (750 - 1258), derived from the name of the Prophet's (PBUH) uncle, Al - Abbas. The style or genre of Islamic art in the world can be divided into: (a) Arabic style, development areas include Saudi Arabia, Kuwait, Egypt, Yemen, Jordan, Palestine, Libya and Syria. (b) Persian style, development areas include Iraq and Iran. (c) Moorish style, development areas include Morocco, Tunisia, Algeria and Spain. (d) Turkish style, the area of development covers Turkey, the Balkan Peninsula, most of Eastern Europe - the southern part of Russia - Balutistan - Kyrgyzstan - Turkistan etc. (e) Indian style, development areas include India, Pakistan, Afghanistan, Bangladesh. (f) Chinese style, the development areas cover China, Korea and Japan. (g) Malayan style, development areas include Indonesia, Malaysia, Southern Thailand, Brunei, southern Philippines region or island of Mindanao. The phenomenon of Islamic architecture, Believed to represent a singular religion and divided into a number of building styles related to the Arab, Persian, Moorish and Turkish culture areas, was Widely regarded as completed. Further said that

the design characteristics of a mosque in the West is to return to the regional Islamic tradition, in which the architectural form is generally influenced by the dominant style of the particular country or region, meaning that the design of the mosque reflects the identity and aspirations of a group of people or certain groups. (Roose, 2009)

The main assumption is that different mosque appearances are meant to show certain ethnicity. On the other hand, the display and application of certain ornaments in the mosque are meant to attract people towards the greatness of Islam. The research objective is to identify the mosques, in which the management and the majority of users are Chinese ethnic group. In addition, this study also aimed to explore the common thread of acculturation that is shown in the mosque's design.

## **2. THEORITICAL BACKGROUND**

### **2.1. Islamic Architectural Element**

Typical interpretation of Islamic architecture contain things like these: The concept of God almighty interpreted as infinite, and the result of the design is a repetitive theme which means infinite. Human beings and animals are rarely depicted as decorative elements, because they are all forms of God's creation. And no one can match God's creation. Motif-shaped leaves are often used and adapted or simplified. Arabic calligraphy is used to enrich the artistic interior of the building. Generally, calligraphy is a part of the verses of the holy Al - Quran. (Grube, 1987)

Islamic architecture is often dubbed as the "architecture of the veil" because of its beauty lies in the spaces inside (the inner courtyard and its chambers) which are certainly not visible from the outside of the building (from the road). Furthermore, the use of large forms such as large domes, tall towers and large inner courtyard aim to convey the message of the powers. Islamic architecture may be identified from the design elements that inherited from the first mosque built by Prophet Muhammad in Madina. Other influences came from pre-Islamic adaptation of the characteristics found in churches, temples and synagogues. For example, Byzantine architecture provides other colors in the early Islamic architecture, namely through a curved arc shape, sharp arc forming three-dimensional (vault) and a large dome (dome).

Large yard often integrated with the main prayer hall (these traits came from Masjid Al-Nabawi in Madina). Minarets or towers, initially functioned as a tower torch /lighting, like the one in the Great Mosque in Damascus. Therefore, the origin of the word "nur" in Arabic means "light". Their Mihrab in the inner wall indicating the direction of the Kaaba in Mecca. Also the addition of a large dome (dome) and a small dome (cupola). The use of Islamic calligraphy decoration replaces pictures. In exterior section or yard, there is an addition of a fountain, which is now replaced by an ablution area. Bright colors and focus on both sides - interior and exterior spaces are used.

### **2.2. Islamic Architectural Ornament**

Architectural ornament or decoration on Islam does not have a specific type for a particular building. But in general the shape and design of the ornament are virtually recurring in all types and building elements. The use of ornaments can be applied as a column wrapping, coating on the walls, ceiling and floor, even on windows and doors. The concept of ornament in Islamic architecture, among others, is flexible, forms and scale-free material, which is applied on the basis of ornaments, which are calligraphy and geometric.

#### **1. Calligraphy**

Arabic calligraphy can be said as a representation of the group geometric ornamentation in Islamic art. Because the forms curved (arabesque) just like in the pages of the book, they are also applied on the walls or ceiling of the mosque. Only artists today create strokes of calligraphy in a more abstract form. For Muslims, the calligraphy is an art that deals with spiritual world that can not be equated with other arts. Apart from considered to be more noble, calligraphy is also a bridge between visual language of Muslims and Islam. Holy Koran plays an important role in the

development of Arabic alphabet and language as part of the calligraphy. Proverb and sentence verses of the Qur'an still become an important reference in Islamic calligraphy.

## 2. Islamic Geometric Ornament

Geometry ornaments which are under the influence of Islam, have been tried various possibilities to develop the design by the artists. By using a combination of simple dots, stripes, serrations, polygons and circles, forms of the pattern are born, which are very varied and endless. Designs are enriched by mosaic arrangement of ceramic material or wood carvings that produce new combinations. There are basic geometric shapes that are often used, namely: Forms Braided Circles and Circles, with the radius of a circle that serves as the basic unit that determines the proportions. From the base unit, the radius of the circle before, can be processed into Form of Four Triangle, Triangle and Polygon. Rectangle, pentagon, hexagon and octagon, often in a form of star, eventually containing elements of the circle as well. These forms were born as a result of the elaboration of repetition - the division, and the elaboration of the composition of the play - the composition of its symmetry. The ornament design can be a part of the overall design, and the parts are may be more important than the main design. Other geometric pattern that often can be found in Islamic architecture is a star shape. Star shape could come in countless variations, from the angle of six (6) to an angle of sixteen (16) and is applied from the start shutters - wood carving - slabs tiles to needlepoint. The composition of geometric patterns are repeated, color combination and selection of the material create a beautiful optical effect. Thus generate positive and negative feelings. (Grube, 1987)

## 3. Arabesque

Forms of vegetation / plants on its own or combined with other ornaments, such as calligraphy and geometry even a live being form, adorn most of the buildings, manuscripts, objects and textiles. The art of ornamental forms of vegetation continues to be used consistently as a whole in all areas that the majority are followers of Islam. Although artisans depict plants and flowers are realistic, but what special about them is transforming the original form into a form of arabesque. The term "arabesque" blazed in the early 19th century after Napoleon's expedition returned from Egypt. Arabesque element in Islamic art is usually an elaborate use of geometric shapes repeated (polygonal), also forms herbs or form of animals (especially birds). Generally used as a decoration on the walls of mosques, houses and buildings other Muslims. Selection of geometric shapes based on the Islamic viewpoint on the world. Arabesk is a wonderful way to decorate, decorate with repetitive art of Islam, replacing the use of images of humans and animals (which is forbidden in Islam).

### 2.3. Chinese Architectural Ornament

#### a. Bagua

Bagua / Pa Kua (meaning : the symbol of eight) is the basic concept of ancient Chinese philosophy. Usually represents an octagonal diagram (octagonal) with trigrams pattern on each side. The concept of bagua is applied also in the Chinese culture such as feng shui, martial arts, navigation, etc. One of knowledgeable sources about Bagua comes from the traditional philosophy of Yin and Yang. There are two possible sources of bagua, ie from the traditional philosophy of Yin and Yang, and a description of the philosophy that comes from Emperor Wen of the Zhou Dynasty, which is: "When the world was created, there is a heaven and earth. Heaven paired with earth and spawned everything into this world. Heaven is Qian-gua and Earth is Kun-cave ". (Skinner, 1985)

Score is an important part of Chinese culture. Its presence in buildings appeared among others on the basis of an octagonal shape. Because the figure eight (bagua /pa kua) in ancient Chinese numerology has a philosophy of luck or success. Bagua also describes the four winds and the four corners of the secondary.

#### b. Colors

Red, green and yellow are the dominant colors in the Chinese architectural style buildings. The red color means good luck and happiness, while yellow means splendor, where this color should not be

used carelessly by ordinary people because it is usually worn by the emperor or the family of the emperor / royal. Blue and green mean a long life, the symbol of survival and harmony.

A theoretical discussion shows that there were presumptions that mosques built by certain ethnic bring unique ornaments characteristics combined with Islamic ornaments.

### 3. THE RESEARCH METHODS




This study uses qualitative research methods that are descriptive and visual observations and comparative studies. Observations were made on the building of Chinese mosques in Indonesia which are considered to be representing the object, namely Cheng Hoo Mosque in Surabaya, Masjid Al Imtizaj and Lau Tze II mosque in Bandung. Direct observations which were done are observing the shape of the building, from the roof to the body of the building. Building elements such as shape of the roof, doors, windows, stairs, ornament and color of the building. The data collected in the form of field survey results in the form of photos and similar studies that have been done. The elements are analyzed based on elements of existing ornaments on the building of mosques and Chinese architecture, and then deduced.

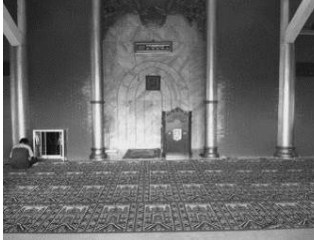





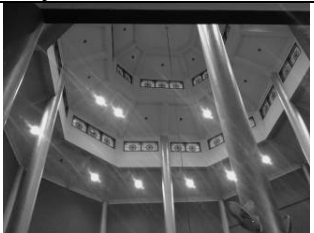






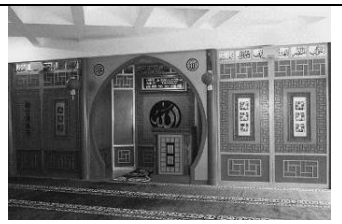

### 4. RESULT AND DISCUSSION

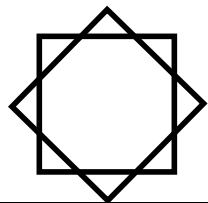
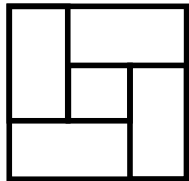
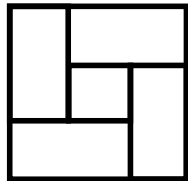



#### 4.1. General Character Analysis

The character of Chinese architecture is marked by several characteristics such as spatial organization that presents Jian and the dominant axis system. The basic concept is a unit of Jian standards developed or repeated to form a space or other individual buildings. Jian smallest unit is a square space or spaces bounded by walls or rows of columns. Jian can be raised to a Hall by developing a standard unit through the longitudinal axis and the horizontal axis. The orientation of the building using the approach of Feng Shui and are usually built with wooden structures or brick wall red or gray. Wooden structure is strong against earthquakes but not fireproof. The characteristics of Chinese building roof is a cupola, which is different from the typical buildings in Europe. Feng Shui is not only used for the building, but also applies in urban planning and design of tombs. The concept of Feng Shui is an effort to maintain the natural balance of the three states of heaven, earth and men. In the application of Feng Shui, it is applied to the Area (determine a good direction), Program Space (determining the location of a good space for the wearer) and Color Building (determining the levels of the building occupants degrees).

*Table 1 The Analysis of the Mosque*

Element	Cheng Hoo Mosque	Al Imtizaj Mosque	Lau Tze II Mosque
Dome			
	Stacking and octagonal pagoda like roof shape	Little dome was added to the gate	A dome shape ornaments on the exterior wall

<p><b>Mihrab</b></p>			
	<p>Carved at the top of mihrab</p>	<p>Yellow circle mihrab wall with a red line</p>	<p>Red mihrab wall</p>
<p><b>Makmum</b></p>			
	<p>Prayer area</p>	<p>Prayer area</p>	<p>Prayer area</p>
<p><b>Ceiling</b></p>			
	<p>Dome-shaped ceiling tiered according to the shape of the roof. Rectangular ornamented glass windows between the roofs</p>	<p>Ceiling modern arrangement of concrete beams equipped with lights</p>	<p>Simple ceiling with red armature</p>
<p><b>Signage</b></p>			
	<p>Mosque signage in chinese and latin alphabet. "Allah" as building signage for mosque</p>	<p>Mosque signage in chinese, arabic, and latin alphabet</p>	<p>Mosque signage in latin alphabet</p>
<p><b>Calligraphy</b></p>			
	<p>Calligraphy are "Allah"</p>	<p>Calligraphy in the form</p>	<p>Calligraphy is only in the</p>

	and “Muhammad” words in the window framed in red and green rectangles lines	“Asmaul Husna” along the red wall with a yellow and red frame	pulpit table with the words of “Allah” and “Muhammad”
<b>Geometri</b>			
	Geometry on the glass window is a composition of two rotated squares	Geometry on the wall is an arrangement of rotating clockwise rectangular	Geometry on stair railing is an arrangement of rotating clockwise rectangular
<b>Baqua</b>			
	There is no bagua ornamen	There is no bagua ornamen	There is no bagua ornamen
<b>Colors</b>	Red Green	Red Golden yellow	Red Yellowish
<b>Synthesis</b>	Synthesis results show that the geometry ornament is a combined form of squares and rectangles. While signage displays in three languages, Arabic, Chinese and Indonesia. Baqua ornament is not found in the three mosques. While red color still applied to all of three mosques.		

#### 4.2. The Meaning of Geometric Form

The meaning of Islamic ornament geometric shapes when viewed from mysticism, indirectly contains a double meaning, which can be described as a form of static and dynamic. Static geometry is the arrangement of geometric lines, while the dynamic geometry is an expression of geometry points or corners. Both are a unitary properties of active and passive of the essence of divine majesty which created the third form. Unity of things active and passive, masculine and feminine principles within an object, repeated in every aspect.

Cheng Hoo Mosque inspired by Niu Jei Mosque building in Beijing, China. Jei Niu mosque was built in 996 AD, but the construction of a new Cheng Hoo Mosque was held on March 10, 2002 and was inaugurated on October 13, 2003. Overall, the mosque can accommodate 200 pilgrims, measuring 21 x 11 meters with the main building of 11 x 9 meters. This building has eight sides at the top of the building. The size or numbers have their own meaning. The number 11 symbolizes the size of a newly built Kaaba. Wali Songo nine digits describe as a propagator of Islam in Java. While the number eight symbolizes bagua (pa kua) which means luck or the glory based on the Chinese philosophy. Muhammad Cheng Hoo Mosque is small in size, but its beauty is not inferior to other mosques. Ornaments Laa Ilaahailallaah Muhammadur Rasulullah Messenger in circular are on both sides of the front of the mosque. As well as models of stairs on either side that resembled the Chinese models. Red and gold colors are very dominant, because in Chinese culture, the two colors are united. From the direction of the field, on the right side of the mosque, there is a kind of mock ship carrying Admiral Cheng Hoo to explore the world. Simple mihrab and the imam preached also carved really Javanese. Calligraphic ornaments and engraving at the entrance not just

limiting or transitional space that main is a boundary between sacred and profane, as well as ornaments on the interior space visually reinforce the sacred space.

The architecture of the mosque Al Imtizaj or referred to as a mosque Ronghe, we can see a phenomenon of acculturation that occurs when multiple cultures interact intensively in a considerable period of time, then each of these cultures changed and adjust themselves into one culture. The results of the process of acculturation cultural manifestation can be seen from the shape of the second building of this mosque. Ronghe Masjid is a mosque with Chinese culture architect made to resemble a pagoda. However, to assert that this building was a mosque, then a dome was made, which is a symbol or icon of buildings mosques in Indonesia in general. The exterior and interior design of the mosque is also dominated by the red and yellow colors which are often used in a temple architecture. The objective of establishing the mosque Ronghe is to enrich the art of the mosque with Chinese culture. Moreover, the existence of the mosque Ronghe is expected to improve assimilation of Chinese ethnic Muslims by other Muslims and also bring together the Chinese ethnic and indigenous in one religion.

Lau Tze II Mosque (Bandung) is part of a two-storey shop building rented by several tenants, while the shop is used as a mosque located on the ground floor. The only marker that part of the building is a mosque can be seen from the second floor of a secondary skin in the form of the formation of the mosque's dome. Also from the writing on the door, the emphasis on form entry and little installation space ornament. It turns out that the inner room is different from previous research, which is almost without ornamentation. Ornaments that we can see is only God written on the pulpit at the front. The difference that distinguishes it from other mosques is a selection of red to the inner room, lining the front wall, mihrab and mezzanine.

The combination of the ornaments on the mosque had been applied at the time of commencement of the symbols of Islam in Indonesia. At that time most of the religions are Hinduism and Buddhism. In order for this new religion can be accepted by the public, the tolerance imposed by implementing shape of the building and the use of Hindu philosophy by Hindu ornaments in the mosque.

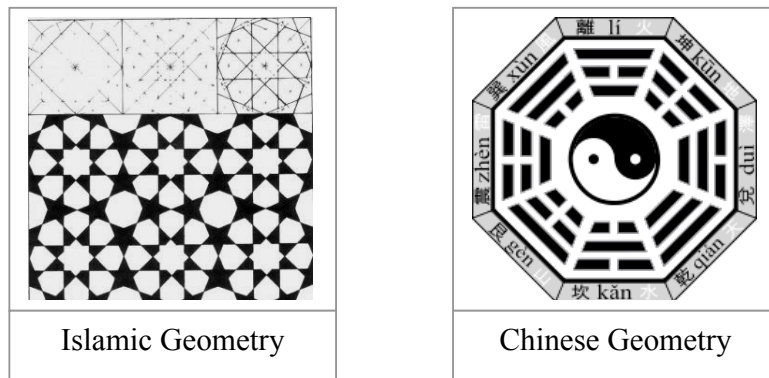


Figure 1 Islamic geometry and Chinese geometry

Now in the 21st century, Islamic geometric shapes and Chinese geometric shapes can be combined in the the same building even though has a different meaning. Because both have a good sense. Islam means infinite geometry symbolizes the Creator, while the Chinese geometric means triumph. Therefore, alloy ornaments Islamic geometry, geometry combined with Chinese calligraphy and Arabesk, plus the use of the color red and gold / yellow, make Chinese mosque richer and beautiful. The adjustment remains which is eliminate figural forms in Chinese architecture, which are: the shape of a dragon, kilin or lion. This is a limitation that has been set according to tradition.

## 5. CONCLUSION

Although Chinese mosques expression as if to show a different shape than the mosques in general, they did not intend to be different. The essence of Islam is togetherness. Any Muslims, is not limited to certain ethnic groups and certain regions, should be able to take advantage of a mosque anywhere. Moreover, according to history, Islam spread in Indonesia with a cultural approach. Influence of various culture produced a variety of colors in the culture in the archipelago, including the diversity of its architecture. Characteristics of Islamic approach never change the local culture but merely add "color" and in line with increasing understanding, that everything that deviates will disappear by itself. Ornaments, in the science of aesthetic meaning trimmer elements. As a garnish, the function is to beautify and enrich the appearance, expression and an atmosphere somewhere. That according to the rules of Islamic art, ornaments have obvious signs, they do not limit the creativity in art, particularly art and architecture. It can be concluded that the design characteristics of the mosque is a way back to the regional Islamic tradition, in which the architectural form is generally influenced by the dominant style of the particular country or region, meaning that the design of the mosque reflects the identity and aspirations of a group of people or certain groups. Moreover, Indonesia is the region where the meeting of various cultures and ethnic groups is possible to develop the function of the mosque as a place to cultivate friendship, brotherhood, peace and cooperation among communities. Acculturation that happens embodied by featuring a mix of ornaments representing various ethnicities, so that might eventually form an ornament with traits that differ from the original form.

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