



HEE SOOK LEE-NIINIOJA

**THE CONTINUITY OF PRE-ISLAMIC MOTIFS IN
JAVANESE MOSQUE ORNAMENTATION
INDONESIA**



**NOVEL[&]NOBLE COMMUNICATIONS
HELSINKI 2018**





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Helsinki 2018

To my God who endowed the meaning of life; Parents who inspired it; Family who supported it.

A B S T R A C T

The main aim of this research is to assess the continuity and significance of Hindu-Buddhist design motifs in Islamic mosques in Java. It carries out by investigating four pre-Islamic motifs in Javanese mosque ornamentation from the 15th century to the present day. The research starts with the belief that typical Javanese ornaments were consistently used both in pre-Islamic Hindu-Buddhist temples and Islamic mosques in Indonesia. This phenomenon was a result of syncretic Javanese Islam, composed of mystical animism, Hindu-Buddhism, and Islam, which differed from orthodox Islam in the Near East and the Arab world.

Among many ornaments, the most frequent four motifs are prehistoric tumpals, Hindu-Buddhist kala-makaras, lotus buds, and scrolls, all of which have symbolic connotations and are used to decorate sanctuaries. Tumpals signify the Cosmos Mountain where gods abode; kala-makaras protect temples where gods are believed to reside; lotus buds denote life and creation; scrolls imply the start of life. For a comparison between the temple and mosque ornamentation, 10 Hindu-Buddhist temples and 30 mosques were purposively selected, and a representative sample of each motif was taken during the researcher's fieldwork. Besides, 20 Indonesian scholars were interviewed to identify the origins of motifs in Javanese mosques.

To answer the research questions, the background, basic type of indicator and its subdivisions, five further characteristics, other elements and principles of design of each motif were investigated. Four indicators were chosen to test each of the four motifs. Tumpals were examined by line, kala-makaras by shape, lotus buds by form, scrolls by rhythm. A few examples of each motif explained how they were analysed in two stages, by the presence of each characteristic, and by its modal value and total number. This assessment was based on an amalgamation of (1) the researcher's informed judgment, trained in art and design, (2) observations during the fieldwork, (3) elements and principles of design, according to literary sources, and (4) the respect to the Indonesian cultural heritage.

The findings revealed continuity in the four motifs across the pre-Islamic and Islamic periods. The continuities appeared in lines, shapes, forms, and rhythms. Lotus buds and tumpals showed significant continuities, while kala-makaras and scrolls changed in the transfer from temples to mosques. Kala-makaras needed to conform to the *hadith* (Sayings of Prophet Muhammad) which forbids depicting living figures in Islamic ornamentation; thus living images were instead abandoned and replaced by geometric shapes. Javanese scrolls in temples and mosques displayed the same characteristics of repetitive and continuous rhythms as the Islamic arabesque.

Consequently, there arose a rich syncretism in the four motifs in ideas and forms. Hindu-Buddhist symbolism was mingled with Islamic aesthetics while keeping local Javanese characteristics. The symbolic connotations of the four motifs allowed them to continue, and their influence was dependent upon the creativity of local genius in each epoch.

A C K N O W L E D G E M E N T

My Soul, My Mind, My Heart

Until yesterday, I was making a wandering odyssey on an Indonesian boat, bound for Oxford Brookes: U.K. Today, I am returning to my original harbour to lay an eternal anchor. My unutterable gratitude and indebtedness towards many individuals whirl into three waves: they go through my soul, my mind, and my heart. None of the three differed, as each presents priceless, immeasurable, and precious humbleness.

My first soul owes to my God who has provided me with his 'justice and safety' during my wandering journey. My second soul turns to my departed parents who imparted 'pride' and 'wisdom' to their daughter amid the doubttable challenges. My third soul calls to my countries, South Korea, Norway, and Finland, where my lost 'identity' rescued and my 'cultural crisis' was solved. Simultaneously, my mind yearns to thank those people who have created this work with me. My first mind owes to my excellent supervisors; Professor Mike Jenks for his calm whisperings on my restlessness and his brilliant voices on my work; Dr. Nicholas Walliman for his detective eyes in finding routes out of the impasse and his sketches for my straying red thread of argument; and Dr. Aylin Orhasli for her passionate engagement with my chapters and her disciplined, positive attitude towards my endless changes. But, please wait! All these fragmental treasures could not be seen in splendour if there were no Mrs Margaret Ackrill's intelligent and diligent reading in perfection. When she touches a word, the whole Pandora box set in metamorphosis; thus all the ingredients twirl into a gourmet dish. Crossover oceans, my second mind flies to the 20 Indonesians scholars whom I interviewed. Notably, my immense thanks call Professor Uka Tjandrasmita and Mr Achmad Fanani for their profound knowledge, enthusiasm, and hospitality. They saved me from being lost in the labyrinth of syncretic Java. Across the waves once more, my third mind expresses thanks to the Research Coordinator, the Research Centre, the Department of Architecture, the Graduate Office, Oxford Brookes University, and Indonesian authorities, institutes, temples, and mosques, and many other countries where I imprinted my footsteps. Again simultaneously, my first heart longs to expose my thanks to my closest person. He took over my official duties, acting a double role in Indonesia marvellously. He encouraged me, understood me, and had confidence in me. His presence was visible and invisible, laying many tranquil carpets over my turmoil. My second heart runs to my family who eternally holds me in our inseparable destiny as a family of blood. My third heart shared with my friends who were with me in solidarity on my voyage. It was MY UTMOST PRIVILEGE to have cooperated with so many fabulous people through this research, embroidered by human communication with the common thread of making others happy. This research has rejuvenated my life. On my reincarnation, my last golden moment will prosper in contributing to society. It is calling upon my knowledge urgently. Let me hurry up!

..... After some time, I had an excellent opportunity to have my thesis examined by two distinguished scholars: Dr Doris Behrens-Abouseif and Dr Susan Roaf. Through them, my knowledge on this subject became extended, deepened, and upgraded.

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NOTE

This book is re-edited by the researcher's original thesis, hoping, not only to enhance knowledge of syncretic ornaments in Indonesia but also to show a new methodology through elements of design and its principles. In this book, non-English words are in italics, if necessary. Foreign words are followed by the English translation and Indonesian words are depicted as correctly as possible. All years given for cited works in the main texts are either those of the copy used by the researcher or cited in the texts through other authors. The year when the book or article was first published is given in the references/bibliography. Author(s) bearing Indonesian name is printed in alphabetical order since some authors have only one name. More information on the analysis is given at the end of this book.

PART I

Part I deals with theories on Hindu-Buddhist and Islamic Java, four syncretic Hindu-Buddhist ornaments transferred to mosques, and identification of the origin of scrolls.

P R E F A C E

WHY THIS RESEARCH?

In 1859, Charles Darwin suggested a theory of evolution in his famous book, *On the Origins of Species*. Johann Wolfgang von Goethe (1749-1832), the German poet, sacrificed his Werther to death in *The Sorrows of Young Werther* to continue his life in eternity. Whether a thing has died out by nature, or a human has disappeared by an act of will, the messages left behind tell us of continuity. Evolution implies creation, and death proposes life. Exceptionally, these metamorphoses do not seem to apply to Javanese temple and mosque ornamentation.

RESEARCH QUESTIONS

Principle of Research

This research starts from the fact that in Java, every earlier tradition was inclined to be adapted into new incoming systems, resulting in various syncretic forms. One of these forms shows in mosque ornamentation. Javanese mosques are believed to have taken over pre-Islamic traditions, proved in Sendang Duwur (1561). Accordingly, ornaments in mosques should inspect whether or not their ideas and forms inherited from Hindu-Buddhist tradition. A broad view of mystical ideas in animism, Hindu-Buddhism, and Islam should be obtained to find similarities and to examine how these concepts have been formulated both in the temple and mosque ornamentation by analysing syncretic ornaments across pre-Islamic and Islamic periods. The development of these ornaments within the Islamic era needs to be observed too, in parallel with verifying their integration into orthodox Islamic arabesque, geometry, and calligraphy.

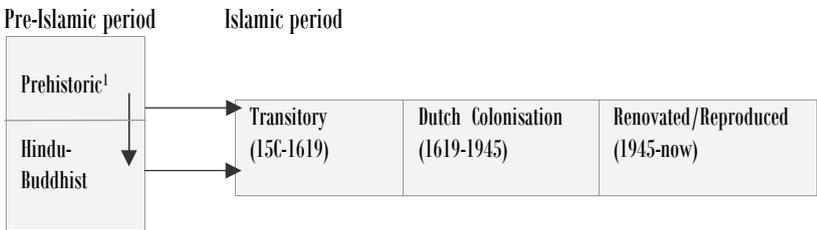
Purpose of the Study

Javanese mosque ornamentation will not be understood without detailed studies of representative motifs, chosen from different periods and geographical areas in Java. In recording details of ornaments by using various disciplines - anthropology, archaeology, history, architecture, art, and design - a unique and profoundly developed ornamental tradition might be achieved. This

research could place Javanese Islam with its wealthy conglomerate of religious and cultural expression in a rightful place of the wider Islamic Arab world.

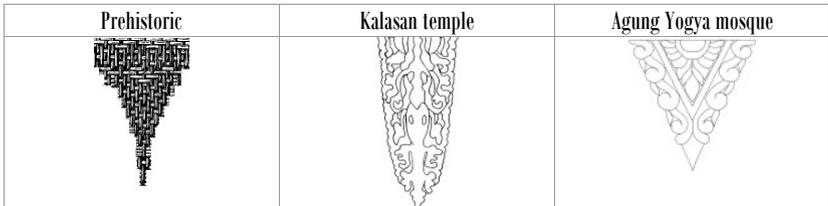
- (1) This study examines the degree of continuity and influence of pre-Islamic ornament on Javanese mosque ornamentation through the study of four motifs (tumpal, kala-makara, lotus bud, scroll) from the 15th century to the present day in Java, Indonesia.
- (2) It investigates the chronological development of four motifs within sub-sections of the Islamic period (transitory, Dutch colonisation, contemporary). In particular, the motifs on mihrabs, the most ornamented place in a mosque building, are compared with those in other locations to see the commonality in their ornamentation.
- (3) It identifies the origins of Islamic scrolls in Javanese mosques, in terms of idea and form. Were they derived from Hindu-Buddhist scrolls? Or were they taken from orthodox Islamic arabesques? Or were they a combination of both?

Research Questions



(Main question): What has been the degree of continuity of pre-Islamic ornaments in Javanese mosque ornamentation from the 15th century to the present day?

(Sub-question 1): How has the tumpal, the popular prehistoric motif in Indonesia, become part of Javanese mosque ornamentation, and how has it been developed and used within the Islamic period?



¹ The term, ‘prehistoric’ means Neolithic/megalithic times when tumpals appeared.

(Sub-question 2): The *hadith*, Sayings of the Prophet, prohibits living figures being depicted in art. Why therefore has the kala-makara, a favourite animal motif in Hindu-Buddhist temples, been adapted into Javanese mosque ornamentation, and how has it been used in Javanese mosques over time?

Borobudur temple	Central Javanese temple	Agung Kasepuhan Mosque
		

(Sub-question 3): How frequent was the use of Hindu-Buddhist lotus buds in Javanese mosque ornamentation, and how important has the lotus bud been in mosques within the Islamic period?

East Javanese temple	Agung Kasepuhan mosque
	

(Sub-question 4): What if any was the influence of Hindu-Buddhist scrolls on Javanese mosque scroll designs?

Kalasan temple	Agung Yogya mosque
	

GAPS IN KNOWLEDGE

The study of Islamic art and architecture in Southeast Asia seems to be much marginalised. Until the late 20th century, scholarly discourse on Southeast Asian art generally neglected the significance of Islam’s presence in the region. As an example of the marginalisation of Islamic art, Raffles’ *The History of Java* (1817) provides a few pages on the dominant religion in the region. None of the illustrations on Islamic art and culture found. European scholars working from the viewpoint of culture often have difficulty in comprehending the subtle dialogue between art and spirituality in this Islamic world. The chronological relationship of Islam to Hindu-Buddhist traditions has reinforced the dichotomy between the demands of religion (agama) and indigenous

traditions (*adat*). For example, the foremost scholars such as Hurgronje and Windstedt underlined that Islam in Southeast Asian societies was somehow less authentic than that of the Middle East. For Geertz, Islam is more a social category than a belief system. Discussion on Islamic art would be constrained by the idea that Islam was another wave of influence in this region. It can be misleading that Islam followed the indigenous animist societies and Hindu-Buddhist kingdoms chronologically, as part of an oscillating cultural dynamic; thus Islamic art never attained an identity in terms of its own unique aesthetic perimeters.

Moreover, among several types of research so far, very few have discussed on ornaments. Krom (1923/1931), Bosch (1921/1946/1961), Vogler (1949), Stutterheim (1956), Kempers (1959), Geertz (1964), Holt (1967), Fontein and Soekmono (1971), de Graaf and Th. Pigeaud (1976), Dumarçay (1986), and Prijotomo (1988) dealt with different subjects in Indonesia. Sedyawati and Santiko published many articles. Almost all literary sources seemed to concentrate on archaeology, architecture, anthropology, history, culture, and art. If any topic of ornamentation was mentioned in their bibliography, it was a concise description. Practical analyses of pre-Islamic and Islamic motifs in the context of art and design were hardly acquirable.

Tjandrasasmita (1960/1975/2004) explains the earliest example of prehistoric, Hindu-Buddhist and Islamic syncretic architecture and ornaments, and Subarna (1982/2004) talks continuity of prehistoric ornaments into Javanese art. Anbary (1998) explores Hindu-Buddhist and Islamic archaeology too. Sudradjat (1991) illustrates Indonesian architecture, while Isnaeni (1996) shares Hindu-Buddhist with Islamic architectural elements, in terms of mystical concepts. Of two theses on archaeological ornaments, one is epigraphic research (Habib 2001), and another referring to ornaments on the northern coast of Java (Marwoto 2003).

In Indonesia, the study of art history is still at an early stage. An effort to divide ancient Javanese art made by Krom (1926). He showed the development from Central Java to East Java. Bernet-Kempers (1959), in his study of *Ancient Indonesian Art*, created a kind of order, beginning with divisions into prehistoric, Hindu and early Islamic eras. Vogler (1949) carried further, examining Hindu-Javanese constructional art through the form of *kala-makara*. He made a distinction in Central Java, and East Javanese art (Sedyawati 1987). No thorough of Javanese mosque ornamentation occurred, neither of the whole of Java, nor across a given period, nor of specific motifs by using elements and principles of design as indicators. Identifying origins of scrolls in Javanese mosque either as Hindu-Buddhist or Islamic or both was not done. These examples indicate significant gaps in knowledge about continuity and influence of pre-Islamic ornaments on Javanese mosques.

REGIONALISM OF ISLAMIC ART AND ARCHITECTURE IN SOUTHEAST ASIA AND JAVA, INDONESIA

Regionalism looks for sustaining spiritual forces and refuses to accept that a tradition is a fixed set of devices and images... It...deals with climate, local materials and geography in epochs before the arrival of Islam. The aim is to unravel the layers, to see how indigenous archetypes have been transformed by invading forms, and in turn to see how foreign imports have been adapted to the cultural soil... Beyond the particular, the regionalist tries to see the type, the general law, the originating principle. (Curtis 1988)

Islamic culture and art have been influenced and remodelled by local traditions with countries which they came into contact to comply with its religious and philosophical ideas. This interaction has enriched both the material culture of the Muslim world and those pre-existing ones. Despite keeping the Islamic principles in unity, gradual stylistic changes occurred; thus the regional, social, and temporal variations in Islamic art and architecture should study in detail.

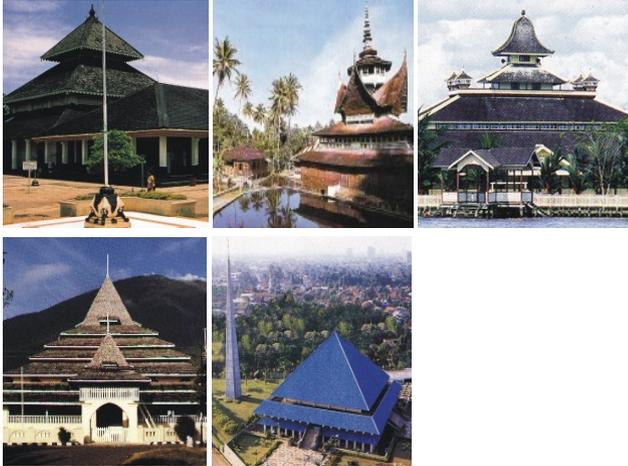
Today, Southeast Asia (the Malay)² including Java represents almost one-quarter of Islam's global community. Islamic civilisation inextricably linked to the message of the Prophet since its arrival to Java in the early 15th century. Islam not only altered local cultural landscapes but also created a unique regional heritage. It can ask why a characteristic regionalism had to take place substantially in this archipelago. Was it due to the awareness of continuing Javanese cultural heritage? It can claim that the long geographical distance between the Arab world and Southeast Asia prevented the direct influence of the Islamic centre into this region at the beginning. At any rate, the expression of faith in art and architecture articulated the creed of Islam and produced the complexity of regional variations. Two factors can be argued to create regionalism. Firstly, living in a spirit of tolerance, flexibility, and openness, the Malay people were able to accept changes through careful selection, reflection, and modification without discarding their rich cultural traditions. They witnessed the Hindu-Buddhist, Chinese, Islamic, and Western cultures, which had a high impact on the lifestyle.

Secondly, the arrival of Islam to the archipelago coincided with an era of zealous spiritualism in the Islamic world. Sufi mysticism had first appeared in Persia, and following the Mongol seizure of Baghdad in 1258, it rapidly spread through international trade routes. As the Sufi precept of 'universal toleration' could negotiate with pre-Islamic culture, a new Malay identity was quickly

² The term 'Malay' was first appeared in the Buddhist Sriwijaya but has altered to historical situations. Although the Malay world is sometimes synonymous with Islam, the local circumstance makes it difficult to sustain. Here, 'Malay' corresponds to 'Southeast Asia' to which Indonesia belongs.

expressed in Malay art to affirm 'oneness of God'. Artists drew inspiration from diverse heritage and chose to transform existing symbolism in keeping with Islam.

Regional mosques with multi-tiered roofs: Agung Demak Java (1479), Lubuk Bauk Sumatra, Sultan Abdurahman Kalimantan, Tua Pulau Ternate the Moluccas, Pondok Indah Java (1997)



Moreover, the close relationship between rulers and Islam was spatially symbolised by placing Javanese palaces adjacent to the grand mosques and the town centres. The common heritage in many mosques reflects the close political relationship between Muslim rulers in different regions. Shared features are tripartite division (base, main body, superstructure), centralised plan, multi-tiered roof, soko guru (four master columns), mustaka (crown), outer colonnade, serambi (veranda), walled courtyard with two gateways, drum, and graveyard.

Until the late 19th century, mosques were constructed in a vernacular style with Hindu-Buddhist multi-tiered roof, using mostly wood to accommodate local conditions. The persistence of indigenous buildings had to take into account the local profusion of natural resources and variable climates, resulting in exuberant and diverse architectural styles. Elements associated with Islamic architecture elsewhere, such as dome and geometric ornament, do not feature in these traditions. Multi-tiered roofs are the most suitable for tropical weather against heavy rain and humidity. And soko guru supports the uppermost roof, separating it from the double-layered outer roof to admit light and to allow ventilation of the prayer hall.

As pre-Islamic traditions underline the form and setting of sacred places, mystical Sufis borrowed them, based on their belief of mosques to be holy, creating a combination of indigenous and Islamic ideas and forms in mosque architecture. Three-tiered roof symbolises the mystical

paths to God. Soko guru signifies the spiritual context of the vertical unity between God and his believers, continued from the Hindu belief in the identity of self and the universal soul.

According to a Malay perspective, art is likely to function as delight and purity. The main difference between Islamic art and Malay art is the level of religious values inherent in the artefacts. Despite the influence of pre-Islamic beliefs and art forms on the pattern of life in Southeast Asia, a bond between Islam and local culture has been steadfast, because existing authorities encouraged Malay people to accept Islamic ideologies to develop a distinctive regional art. The concept of 'Godliness' of their ancestors and the primary aesthetics of cosmological belief in Malay penetrated into Islamic cosmology in the form of syncretic culture.

It is known that the avoidance of figurative representation separates Islamic art from Hindu-Buddhist aesthetic style. Nevertheless, in this region, Islamic art needed reconciliation of the ambivalent relationship between the two religions, caused by the ruler's indigenous belief in the magic in art. Accordingly, the depiction of non-Islamic images, such as Hindu deity Ganesha or zoomorphic and anthropomorphic symbols combined by Koranic calligraphy was to understand in the context of the earlier animism. This method was intended to represent non-Islamic images fitting into an aesthetic attitude tolerable to Islamic orthodoxy. In the syncretic process, armed Ganesha resembled Ali's sword, discarding his Hindu iconography simultaneously. This change suggests a transformative possibility.

Another device was the metamorphosis of foliage into a figurative form, seen in a stone panel of Mantingan (1559), where leaves and tendrils became a shape of a monkey. Makaras, disguised as foliate scrolls at Central Javanese temples, continued for the decoration of ceremonial boat prow in Islam, signifying protection and richness. However, the preference of emblematic depiction brought a potentiality in ornamentation. Narrative realism replaced by vegetal patterns of 'meandering clouds' whose endless spiralling floral and foliate scrolls form visual dynamism. The shift from figural representation to the frame decoration achieved its most beautiful expression in the illuminated manuscripts, batik, and carved wood.

In Islamic ornament, calligraphy awarded a status higher than arabesque or geometry³. As the medium for transmitting the words of the Koran, Arabic script played a spiritually unifying role and was placed in a unique position among Muslims regardless of their ethnic or social backgrounds. In Southeast Asia, calligraphy was more often used in decorating the illuminated manuscripts, rather than the exploration of sophisticated calligraphic styles. The blessed Islamic phrases are to read for their association with the grace of the Koran, and inscriptions are perceived as the potent image of blessing and protection. The image of talismanic textiles suggests the influences of Sufi metaphysics.

³ Megalithic geometry and Hindu-Buddhist scrolls in Java could be assimilated with Islamic geometry and arabesque, being popular in the contemporary Islamic period.

Among many types of pre-Islamic motifs including a winged gate which appeared in early Javanese mosques, kala-makaras and floral seemed to continue the most, particularly lotus flower. Islamic poets describe flower as a book, where one can study the knowledge about God. And its combination of birds can be considered as the characteristic of Islamic Javanese decorative art, despite a ban by the *hadith*. Interestingly, the winged gate neither found in Hindu-Buddhist nor Islamic culture, but as a bird of the vehicle of Vishnu in Hindu myth, the motif could be the Javanese invention at the beginning of Islamisation. The Chinese settlements and their role in the creation of an Islamic aesthetic in the archipelago are apparent in works of art. In Sumatra where many Chinese settled and adopted Islam, the art of lacquer-making highly developed. In the timber-rich coastal Java, they influenced existing traditions of woodcarving and distinct batik styles.

Van Leur in his book *Indonesian Trade and Society* (1960) argues that Indonesian history must be understood in its terms, not in those borrowed from other cultures. This view seems to be shared by others, such as Prijotomo (2004^{interview}) who stresses: 'We are Javanese, then, our religion is Islam'. Islamic art became an extension, rather than a radical change from earlier aesthetic traditions. These comments raise a question on unique Javanese attitude to Islamic culture. The answer can be found in Kusno's article (2003)⁴, arguing that Java was the centre of the universe before the arrival of Islam, but on facing Islam, Java was aware of its limitations. To keep a spiritual balance, the Javanese Muslims had to localise smoothly orthodox Islamic culture to continuing traditional symbolism; thus they could feel that the centre would not have to shift so radically.

Consequently, constructing a syncretic mosque of Agung Demak (1479) is likely to represent the power of the new faith in Java from the viewpoint of Islam. Islam has localised and incorporated into an element within the broader cultural framework of Java from the Javanese perspective. Java was not merely part of Islam, but Islam was part of Java or Javanese life. This philosophy has continued until five centuries later. Mintobudoyo, the Javanese architect, designed Soko Tunggal (1973) at Taman Sari in Central Java. The mosque has a single column, supporting four corner beams of the upper roof. The architect intended to construct a focus, a vertical centre, which represents 'unity' of the Javanese and Islamic world. The vertical column pays tribute to global Islam, while the horizontal spread of four master pillars confirms the existence of local power. Surprisingly, the mosque orients itself to the east, away from Qibla, and any deviation from this direction for a mosque would violate the Javanese rule. Indicated by a

⁴ Kusno, Abidin (2003), "the Reality of One-Which-is-Two: Mosque Battles and Other Stories, Notes on Architecture, Religion and Politics in the Javanese World", *Journal of Architectural Education*, ACSA, inc. pp. 57-67; Saliya, Hariadi and Tjahjono (1990), "Contemporary Expressions of Islam in Buildings: Indonesian Experience"

group of architectural historians in Indonesia, the architect clarified that it is Java which is at the centre of the whole negotiation, and his idea was accepted. This story shows how the transformation of Javanese Islam and its architectural form is inseparable from the social and economic contexts.

A return to the rich traditions of local culture relative to pan-Islamic world starts visibly after 1945. International solidarity of Islam and a unifying act of pilgrimage in the Arab world are in tension with the Javanese capacity to absorb and syncretise external elements. These factors can confuse attempts to distinguish and assess continuities and consistencies. In 2004, Agung Semarang in Central Java inaugurated. Fanani, the architect, explains that it represents a modern Javanese mosque how the design principle can combine locality and Islam, nationalism and internationalism, and strictness and smoothness. Pre-Islamic soko guru in the prayer hall extends through a roof, becoming minarets. And local floral motifs are designed according to the style of Islamic arabesque.

As a whole, Islamic cultural heritages reflect unity in diversity in Southeast Asia, to where Java belongs. In appreciating its development, one should be mindful of the context of multicultural societies which created an extraordinarily rich practice through the integration of tradition, ethnicity, geographical space, and belief. It was due to the inspiration of the Malay people which has played the most significant force in creating a regional Islamic culture and Malay identity in this archipelago.

Regionalism in architecture is a concept of architectural design based on such determinants as the culture, the climate, and the resources... The history of civilisation shows...region and culture-specific architecture...in different parts of the world. (Muktadir 1998)

♣ References in alphabetical order: Baer 1998; Bennett 2005/2006(interview); Curtis 1988; Fanani 2004(interview); Fontein 1990; Grabar 1987; Isnaeni 1960; Kusno 2003; Marwoto 2003; Muktadir 1988; Noe'man and Fanani 2005(interview); O'Neill 1993/1994; Prijotomo 2004(interview); Rogers 2005; Tjahjono 1998; Yatin 2005

APPRECIATING ISLAMIC ORNAMENT

Islamic ornament seems to be conceptual and intellectual rather than emotional, expressing contemporary ideas of beauty and aesthetic concepts to communicate Muslim thoughts and to reflect the spirit of their times. In the context of a belief that ‘God alone is the Creator’, a new way of expression in ornament was created, using floral, geometric, and epigraphic motifs, bringing ambiguity to their function as purely decorative, but also as possessing significant meaning. Islamic ornament was inherited from Byzantine and Sasanian culture and changed over time, stretching from Spain to India and Indonesia. Thus, they cannot understand without detailed studies of the regional, social, and temporal variations of the techniques and use of individual motifs.

Islamic ornament consists of three genres: arabesque, geometry, and calligraphy. Arabesque is a stylised form of the vegetal scrolls, signifying a concept of Paradise. Kühnel in *Die Arabesque* (1949) argues that arabesque is the most powerful artistic manifestation. Many debates on the term ‘arabesque’ took place over a long period, ranging from the sole vegetal scrolls to the whole range of Islamic ornamentation. However, this research limits the arabesque to Islamic vegetal scrolls which appeared in Javanese mosques from the 15th century to the present day. Moreover, Islamic ornament is best shown in geometric patterns whose basic devices of repetition, rotation, and reflection can evoke mystical thoughts. As the only novelty, calligraphy became the chief means of expressing symbolic connotation and aesthetic beauty. Muslims understand it as a visible form of the revealed Word of God, the Holy Koran. It is no wonder why a fine script had to be developed both as a Muslim’s religious duty and the most appropriate ornamentation for mosques.

ORNAMENT AS BEAUTIFICATION AND SYMBOLISM

A proper understanding of their meaning can only be reached by detailed studies not only of the formal and technical aspects of these decorations but also by considering the regional, social and religious variations of people who created and beheld them. (Baer 1998)

It has generally accepted that the primary function of Islamic ornament is beautification to endow visual pleasure, although many efforts have been attempted to explain that it also has a symbolic role. In this discussion, Brend (1991) argues that Islamic ornament rarely demands to be read as a symbol; instead it stands as an affirming background with a latent symbolism. Hillenbrand (2001a) goes further saying that Islamic ornament serves mainly to beautify the structure, but can also evoke a mystical idea. As no consistent association between particular

buildings and symbolic connotations exists, ornament as visual pleasure is often the first aspect of the buildings to consider.

The dual nature of ornament earlier observed. For Grabar (1987), ornament could possess both a symbol and an illustrative meaning. For instance, the inscriptions in the Dome of the Rock can consider aesthetic, while landscapes in the Grand Mosque of Damascus can present a symbol of Paradise, based on an Islamic concept. Clévenot (2000) shares his view, suggesting the omnipresence of plants as conveying an idea of 'the Garden of Felicity', nourished by the Koranic description. Nonetheless, it was Burckhardt (1976) who stressed notions of the divine through ornament. They are not expressed through devotional images but through the totality of form that unites and characterises all the visual arts of Islam. Ardalen and Bakhtiar (1973) underline that anyone who is overwhelmed by the amplitude of nature tries to convey the same multiplicity in both symbolic and abstract ways to pay tribute to the Creator.

This type of debate about combining beauty with symbolic meaning took place among Islamic scholars even within the first few centuries of Islam. Tha'libi and Muqaddasi said that the multiplicity of forms and colours in Islamic ornament leads the beholder to identify new features which arouse his curiosity and invite contemplation. In contradiction, Al-Ghazzali (d.1111) claimed that ornaments are entirely related to religious beliefs and the notion of God.

Whether aesthetic or symbolic in intention, it has contended that Islamic ornament aims at concealing the structure of a building rather than revealing it. Or it can make the ornament more attractive, bring out the essential nature of architecture, accentuate a plastic shape, and change it into something lively. Behrens-Abouseif (1998) seems to share with this: 'Ornament did not conceal the frame; rather it emphasised connections between vertical and horizontal elements, articulated links and joints and framed access and openings'. From different views, ornament highlights architectural elements and structural compositions, interacting with them either by disguising, or by revealing them, or by being its subordination to architecture. The main function of Islamic ornament can be summarised as an adornment of the surface, expressing contemporary ideas of beauty and aesthetic concepts through forms, materials, and techniques. Some ornaments design for the communication of symbolic connotation. The complex definitions of Islamic ornament proclaim that 'Islamic art is not a mere concept, an abstraction, but is recognisably an entity, even if that entity defies easy definition' (Hillenbrand 2001a).

THREE GENRES: ARABESQUE, GEOMETRY, CALLIGRAPHY

Islamic art is essentially a way of ennobling matter by means of geometric and floral patterns, united by calligraphic forms which embody the word of God as revealed in the sacred book, the Holy Koran. (Foreword by Nasr in Critchlow 1989)

In a broadly speaking, Islamic ornament consists of three genres of arabesque, geometry, and calligraphy. The reluctance to depict living figures in the Islamic religious context probably directed attention towards the creation of arabesque. However, Hillenbrand (2001a) argues that it would be a mistake to regard them as fixed because Islamic artists reinterpret nature through their production. Arabesque characterises as ‘a form that is a plant and yet not a plant. Imagination, not observation, was the key; nature, it is true, but nature methodised’. The geometric mode appears in relatively necessary forms, such as in repetitive angular grids, stellar patterns, or curvilinear networks on the windows of mosques and palaces. For appreciating the interlacement of the stonework, it needs to be read by allowing the eye to follow the flow of intertwining forces. Moreover, epigraphic decoration intends to evoke mystery. In many of the most beautiful Islamic monumental inscriptions, their meanings are not precise, due to the rhythmic exuberance of the lettering and the pattern.

All three genres are inter-related. Epigraphic letters are cramped into angular geometric forms, while vegetal arabesque unfolds concentrically or spirally. Geometric networks have the edge, taken off their angularity by the use of buds of leaves. The distinctiveness of Islamic ornament seems to lie in the fact that three elements infiltrate each other, creating ambiguity about their function.

Arabesque

Arabesque was identified during the 19th century as the primary characteristic of Islamic ornament by Orientalists who focused on the material culture of the Arabs in Syria, Egypt, North Africa, and Spain. The name was derived from the Italian word *rabesco* and applied during the Renaissance (1555) to refer to the Islamic style of decorative pattern. In *Stilfragen (Problems of Style, 1893)*, Riegl limited the term ‘arabesque’ to a stylised form of the vegetal and regarded it as the original creation of the Arab spirit. The fundamental feature of arabesque was geometrisation of the stems of the particular vegetal elements. These can grow from one another infinitely in any direction, rather than branching off from a single continuous stem.

In the first edition of *The Encyclopaedia of Islam* (1938), Herzfeld noted that ‘the term arabesque in its wider sense, as denoting the ornament of Muslim art in general, also comprises several figurative elements’. However, the ornament can hardly be described and analysed as all the same, owing to the considerable differences in the display according to time and place. It was Kühnel who claimed arabesque as the most powerful artistic manifestation in Islamic ornamentation, emphasising its purely ornamental character. In *Die Arabeske* (1949), he does not accept Herzfeld’s definition of arabesque but has adopted Riegl’s theory of it as a vegetal type of ornament, which could intertwine with geometric, calligraphic, and stylised figural elements. Kühnel further identified two aesthetic principles of arabesque: (1) rhythmical and harmonious movement, and (2) filling the entire surface:

...whatever their origin and form may be, so it is also here that no symbolic meaning can be constructed. Decisive is a decorative intent which is devoid of a meaningful purpose.

The function of arabesque was further analysed by Burckhardt (1976) that arabesque includes both stylised plant forms and geometrical interlacing work. The former expresses a perfect transcription of the law of rhythm into visual terms, the sense of rhythm, while the latter represents 'the spirit of geometry'. The idea of arabesque as solely decorative met opposition from Sufi scholars. Ardalan and Bakhtiar (1973) argued that arabesque recreates the cosmic processes of the Creator through nature. They held that a rhythmic component in arabesque reflects movement, manifests time, and symbolises the infinity, glorifying the concept of 'Garden of Paradise'. With a combination of geometry and calligraphy, it exhibits a harmony of unity and multiplicity.

Mihrab frieze, Great Mosque of Cordoba (9C)



Despite debates about its categorisation, arabesque in its vegetal form has been given the most attention. It is a distant relation of acanthus and vine scroll ornamentation from the eastern Mediterranean area before the advance of Islam. Curving vine scrolls first appeared in the Dome of Rock and Mshatta in the eighth century, and established in stucco and mosaic decoration of the Great Mosque of Cordoba two centuries later in the form of half-palmette. By the 11th century, arabesque fully developed, as shown in the Great Mosque of Al-Hakim in Cairo, and later introduced to the Quwwat Al-Islam Mosque in Delhi in India in a combination of acanthus and Hindu lotus.

So far, a few characteristics of arabesque discussed. As its most explicit concepts and components are needed to identify the origins of scroll motifs in Javanese mosques, 20 literary sources of arabesque were traced in depth. The result shows that, first and foremost, the description of arabesque includes geometrical, but expressions of abstract and repetitive can be alternatives. Infinite, continuous, rhythmic, stylised and undulating also favoured. Regardless of its function is whether beautification or symbolism, the creation of arabesque is to be the great achievement of Islamic ornament. Here are expressions by the 20 scholars.

Jones (1856/1982): continuous, geometrical, infinite, simple
 Bourgoïn (1873a): abstract, geometric
 Riegl (1893/1992): abstract, anti-naturalistic, bifurcated, circular, continuous, curvilinear, eccentric curves, geometric, in any direction, infinite, linear, oval, pointed, polygonal, spirals, stylised, symmetrical, two-dimensional, undulating
 Kühnel (1949/1960/1977): abstract, bifurcated, ever-continuing, geometric, infinite repetition, interlacing, linear, movement, regular, rhythmic, spiral, unnatural
 Herzfeld (1953/1987): abstract, anti-naturalistic, countless repetition, dematerialization, geometric, infinite
 Dimand (1958): abstract, circular, geometrical
 Grube (1966): geometrical, repeated, stylised, abstracted
 Burckhardt (1967/1976): continuous, linear, logical, mathematical, melodious, repeated, rhythmical, stylised, undulating
 Ardalan and Bakhtiar (1973): rhythmic, movement, regular, continuity, endless circular, repeated, infinite, geometric, spiral
 Grabar (1973/1987): abstract, circles, concentric, geometric, repetition, undulating
 D. Jones (1978): continuous, curved, denaturalisation, geometric, limitless, mathematical, movement, regular, repetition, rhythmical
 Davies (1982): circular, continuous rhythm, infinite, mathematical, repeated, stylised
 Allen (1988): geometric, non-vegetal
 Naddaff (1991): denaturalised, repeated, repetitive, spatial movement, symmetrical rhythm, unnatural,
 Irwin (1997): abstract, bifurcated, denaturalised, repeated
 Baer (1998): abstract, curved, flat, rhythmic, soft, spiral, stylised
 Yeomans (1999): dynamic, geometric, rarely terminated, stylised, two-dimensional
 Clévenot (2000): abstract, invade any unoccupied spaces, linear, stylistic
 Hillenbrand (2001a): abstract, geometric, logical, mathematical, organised, strict, surreal
 Trilling (2001): delicate, little remains of the vine, repetitive, simplified

Geometry

The Islamic art of geometric form, then, can be considered the crystallisation stage, both of the intelligence inherent in manifest form and as a moment of suspended animation of the effusion of content through a form. (Critchlow 1976)

Grabar in his *The Mediation of Ornament* (1992) argues of three functions in geometry: framing, filling, and linking motifs. The word 'geometric' applied to three different kinds of form

in Islamic ornament. The first form is a geometric pattern that presented in mosaic tiles and stuccoes of the Alhambra in the 14th century. Despite changes in the composition and reconstruction and different social and contextual meanings, geometry denotes a 'regular' element which creates a 'regular' pattern. The second is less rigid and more difficult to define than the first. In the Mshatta palace of the Umayyad (8C), the majority of vegetal motifs are enclosed as a circular unit, making a regular outline and classed as geometric. The third is 'loose' geometry and includes all repetitive and rhythmic motifs which appeared in border patterns on mosaic floors and in overall designs.

Referring to the first form, its stricter linear and geometric shapes have displayed in a variety of combinations in all periods. Geometric patterns were common to classical Greek and Roman designs, but Islam elaborated them in complexity and sophistication, transforming decorative geometry into the main art form. It demonstrates the fascination of Islamic artists with the visual principles of repetition, symmetry, and continuous generations of pattern, clearly related to the study of mathematical calculations.

All patterns were built up from a circle as a basic linear unit and a determining factor of the system of the proposition. The circle can be developed into a square, a triangle or a polygon, and elaborated further by multiplication, sub-divisions by rotation, and by symmetrical arrangements, giving prominence to decorated borders or other surfaces. Moreover, Islamic culture has proved itself best in the use of geometric patterns for artistic effect. Anyone contemplating its abstract patterns could associate them with mystical thought because geometric patterns reveal an aspect of the multiplicity of the Creator. For example, roofs tend to be circular as a symbol of the cosmos, and a square floor implies the earth itself. Both in harmony signify infinity.

Geometric designs, Alhambra Palace, Granada, Spain, 14C



The symbolic circle is elaborated by Critchlow (1989). The lower half of the circle represents 'the world of sense', while the upper half expresses 'the world of being'. A circle corresponds to the Islamic view of creation. The circle as a metaphor for Divine Unity is again stressed by Nasr (1987) that the Muslim love of geometry and number directly connects to the doctrine of Unity (al-tawhid). The sacred character of mathematics is evident in ornamentation which presents the One

and the many. Conversely, Grabar (1992) views geometry as an intermediary for displaying aesthetic beauty:

Geometry...forces one to look and to decide what to think, what to feel, and see how to act... The penalty of freedom in the arts is the loss of meaning... It is meant only to be beautiful.

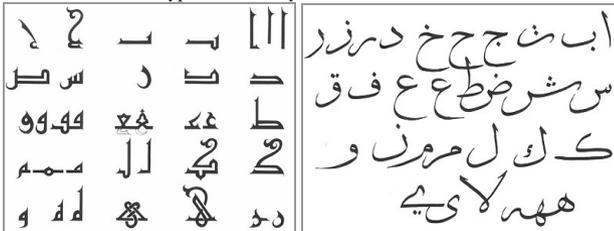
Calligraphy

Recite in the name of thy lord who created
 Created man from a clot;
 Recite in the name of thy lord,
 Who taught by the pen,
 Taught man what he knew not
 (The Holy Koran, Surah 96:1-5)

The only real novelty in Islamic ornament is calligraphy. It became a significant vehicle for aesthetic energies and symbolic meanings because the word of God recorded in the Holy Koran. Muslims understand that the use of a fine script (*kalle*, beautiful; *graphe*, writing) is not only their religious duty, but it also is the most appropriate ornamentation for a mosque building. Forms and styles of calligraphy should be learned to underline epigraphy as a dominant factor in Islamic ornamentation. Its advantage lies in the variety of styles, depending on the nature and context of texts in different periods. Holy inscriptions are usually placed where any Muslim viewer can see them and learn them by heart, while an amalgam of lettering, texture, colour, and inscription embellishes the building. Calligraphy can also identify a building or its builder or patron.

Two main styles of calligraphy developed: (1) the script is known as *Kufic* from the name of the city Kufa in Iraq in the seventh century, and (2) *Naskhi*, a word derived from signifying ‘to copy’ and its meaning is almost equivalent to ‘cursive’. *Kufic* is a rectilinear and angular form which fits for a specific aesthetic intention and scope. It customarily used in the Holy Koran, because of the vertical strokes as its character and its more geometric configuration than *Naskhi*.

Kufic and Thuluth, a type of Naskhi style



Up to the 12th century, *Kufic* was the only script utilised in the decoration of mosaics and carved stones, due to its monumental character, its easy transposition into different materials, and its straight lines and empathic uprightness. The first use of epigraphic decoration was in the Dome of the Rock in Jerusalem in 685-691. The purest angular *Kufic* scripts seemed to be used more in minarets and mosques, while ornamental *Kufic* favoured on any surface.

Naskhi, a cursive form of writing, was invented by Ibn Muqla and acquired its status as a major script at the hands of successive master calligraphers, such as Ibn al Bawwab and Yaqut al Musta'simi. The script was inherited from pre-Islamic and early Islamic scripts and appeared in a more systematised form at the end of the ninth century. Less monumental than *Kufic*, it was mostly applied to inscriptions, rather than in decoration. To architecture, its curves and oblique slants brought a flexible and living element.

Islamic calligraphy can consider 'the geometry of line'. The proportion of the letters and the curved strokes execute according to mathematical calculations. The term 'spiritual geometry' describes both the structure of calligraphy and the whole essence and spirit of Islamic art. Mystical values are also manifest in calligraphy as well as in arabesque and geometry. A Sufi belief in awareness of God's presence and purpose in His creation exemplifies in the iconic form in the art of calligraphy. Calligraphy is likely to be the most powerful means of expressing God's message.

The very structure of calligraphy, composed of horizontal and vertical strokes woven into a fabric of profound richness, is potent with cosmological symbolism. The verticals...provide an ontological relationship as well as a structure for the design, while the horizontals ...correspond to the creation that develops the balance and flow of the basic conception. It is through the harmonious weaving of the horizontal and the vertical that unity is achieved. (Ardalan and Bakhtiar 1973)

The Commonality of Three Genres

Many similar expressions on three genres found in different texts, such as geometric(al), linear, and mathematical, demonstrating the interactive quality of Islamic ornament.

(Arabesque): abstract, anti-natural, circular, continuous, curved, geometrical, infinite, linear, mathematical, mystical, regular, repetitive, rhythmic, symmetric

(Geometry): abstract, circular, continuous, geometric, linear, mathematical, mystical, regular, repetitive, rhythmic, symmetric

(Calligraphy): curved, geometric, rectilinear, mathematical, mystical

It can conclude that the three genres of arabesque, geometry, and calligraphy are inter-related in mosque ornamentation to maximise their beauty and symbolism.

♣ References in alphabetical order: Ardalan and Bakhtiar 1973; Baer 1998; Behrens-Abouseif 1998; Brend 1991; Burckhardt 1976/1980; Clévenot 2000; Critchlow 1976/1989; D. Jones 1978; Davies 1982; Grabar 1987/1992; Hillenbrand 1994/2001/2001a; Irwin 1997; Khazaie 1999; Kühnel 1949; Lee 2000; Mitchell 1978; Naddaff 1991; Necipoğlu 1995a; Papadopoulo 1980; Riegl 1893; Yeomans 1999

HINDU-BUDDHIST JAVA (8-15C)

Bahasa Indonesia is the official Indonesian language adopted to unify diversity among its geography, people, and culture after independence in 1945. In parallel, a Javanese term, 'Bhinneka Tunggal Ika' (unity in diversity), was created by the Javanese people to emphasise their own identity and culture. Java has been a centre where mystical animism, Hindu-Buddhism, and Islam coexisted together, moving toward a syncretic religion. Java became a peaceful melting pot. It is a charm and a treasure. Although this research focuses on the continuity of pre-Islamic motifs in Javanese mosques, it is essential to give an account of ornamentation prevalent in the pre-Islamic period. The process of Hinduisation, starting with its geography and history, is explained through contradictory and compromising theories. A fusion of mystic animism⁵, Hinduism, and Buddhism shows how a syncretic Javanese religion came to practise in temple ornaments, such as prehistoric⁶ tumpals, Hindu-Buddhist kala-makaras, lotus buds, and scrolls with a different flavour. Santiko (2004^{interview}), Indonesian scholar specialising in Buddhist archaeology recommends focusing on motifs in Java, due to local creativity, instead of comparing with those of India or China. However, some information about India can help to trace the origin of the Hindu-Buddhist Javanese culture.

JAVA, INDONESIA

The huge Indonesian territory demonstrates a variety of cultural expression, yet throughout history... The country has taken elements from each civilisation through their contacts abroad, but never adopted other cultures completely. Instead, Indonesians blended imported elements into existing circumstances, in order to create their own characteristic culture, with notable geographic variations. (Pepin Press 1998)

Indonesia, known as the Republic of Indonesia after gaining independence from colonial powers on the 17th of August in 1945, is situated in Southeast Asia in the Malay Archipelago. The fourth most populated country in the world, Indonesia comprises more than 13,000 islands extending 4,800 km along the equator from the Malaysian mainland and stretching towards

⁵ During the prehistoric period, both animism and dynamism prevailed. Animism is based on a mystic belief in a cult of worshipping ancestors, while dynamism stands for mystic beliefs in specific objects, such as sun, rock, river, etc. As Sufi Islam has mystic beliefs, the term 'animism' represents an ancient belief in this research.

⁶ Tumpals appeared both in Neolithic and megalithic times, naming as 'prehistoric'.

Australia. The population estimates at 237 million on an area of about 1,900,000 sq km. Indonesia's main island groups are the Greater Sunda Islands (Java, Sumatra, Kalimantan, Sulawesi), the Lesser Sunda Islands (Bali, Flores, Sumba, Lombok, West Timor), the Moluccas, and the Riau Archipelago. Papua, part of the island of New Guinea, was integrated into Indonesia in 1969. Its ethnic structure falls broadly into two groups, the Malayan and the Papuan, with many subdivisions, owing to various immigrations many centuries ago, mainly from Asia. Chinese constitute the majority of the non-indigenous population, and minorities of Arabs and Indians exist. Among more than 300 languages, Bahasa Indonesia has adopted as the official language. Today almost 90% of the population is Muslim, making Indonesia the largest Islamic nation in the world. Around 7% of the population are Christian, and about 2% Hindu and 1% Buddhist. The most important islands, culturally and economically, are Java, Bali, and Sumatra. Java is 1,200 km long and 500 km wide, situated about 7° south of the equator on the southern border of the Indonesian Archipelago with uninterrupted sequences of extinct and active volcanoes. The tropical climate, plentiful rainfall, and fertile soils provide for abundant agriculture.

Indonesia has a long history, starting from the third millennium B.C. of Neolithic times, characterised by the advent of village settlements, domesticated animals, polished stone tools, pottery and food cultivation. Seafaring demonstrated as a significant occupation by stylised boat motifs, depicted on pottery, houses, sacred textiles of primitive tribes, and in bronze reliefs. At the end of the Neolithic period, megaliths were constructed, leaving many places of worship or tombs. No definite date can be given, but are known to be less than 2,000 years old. The Chinese-influenced Dong Son Bronze-Iron culture of northern Vietnam started in the first millennium B.C. in Southeast Asia. All early Indonesian bronzes known to date are clearly of the Dong Son type, probably dated from between 500 B.C. and 500 A.D. Dong Son culture created excellent ceremonial bronze drums and axes which decorated with engraved geometric, animal, and human motifs. It was highly influential in Indonesian art and culture.

Indonesia came under the influence of Indian civilisation mainly through trade and Buddhist missionaries already in the fifth century, but it was in the eighth century that the Sanjaya and Sailendra kingdoms were founded in Central Java, erecting Hindu and Buddhist temples such as Prambanan and Borobudur respectively, while Sumatra ruled by Sriwijaya kingdom. Around 930, political power shifted to East Java, and the Hindu kingdoms of Singasari and Majapahit arose, covering vast areas of the Malay Peninsula. Especially under Majapahit in the middle of the 14th century, the country experienced the most golden period of the whole Indonesian history, and the temple complex of Panataran testifies to its magnificence.

Despite the earlier arrival of Muslim traders in the 11th century (1082), a gradual penetration of Islam began, and by the end of the 16th century, Islam replaced Hinduism and Buddhism as the dominant religion. The first Islamic kingdom of Demak was established on the coastline (*pasisir*) in northern Java after the conquest over Majapahit, and many foreign Muslim traders settled down

in harbour cities. During the second half of the 16th century, the political power shifted to Central Java where the Mataram kingdom founded. Mataram was Islamic, but patterned itself after the great Hindu Majapahit and practised mystic animism, Hindu-Buddhism, European pomp, and Islamic circumstance.

European influences in the Malay Peninsula came with the arrival of the Portuguese, who captured Malacca in 1511 in pursuit of spice and established trading posts. The Dutch (1596) expelled the Portuguese and opened the United Dutch East Indies Company (VOC) in 1602. Becoming the leading power in Indonesia by the 17th century, the Dutch built Batavia (now Jakarta) as the capital of the colony and two centuries later, controlled the whole area, although a break (1811-8) took place when the islands were ruled by the British as a result of a victory over Napoleon in a war (1811-4). The independence movement began early in the 20th century, and the formation in 1908 of Budi Utomo (High Endeavour) is often considered the start of organised nationalism. The Indonesian Nationalist Party (PNI) was set up under the leadership of Sukarno in 1927 and after a short occupation by the Japanese during the Second World War, Sukarno, as President, proclaimed an independent republic in 1945.

THE PROCESS OF HINDUISATION

The island of Java received the same form of religio-culture as that which developed in India, by means of progressive movements which infiltrated into it during the course of the first millennium. (Brown 1956)

The term 'Hinduisation' implies the absorption of both Hinduism and Buddhism. The main introduction of Indian culture into Indonesia already in the fifth century has been a subject of contention. Did South Indians take the initiative or native Javanese or both? It seems that Indian culture penetrated peacefully through diplomatic missions, immigration, trade, Buddhist missionaries, Indonesian pilgrimages, and inter-marriages.

According to Stutterheim (1931), Indonesia came into contact with Indian culture in several ways, such as Indian immigration, which could inspire creative Indonesians to adopt India's cultural heritage. The fundamental problem is, however, to assess how these foreign elements were assimilated into Indonesian culture when ancient Javanese culture ruled by the megalithic philosophy of life: ancestor-cult and animist rituals. Sedyawati (2004^{interview}) disagrees with Stutterheim on the basis that there is no concrete evidence of Indian immigration to Indonesia.

Sudradjat in his PhD thesis, 'A Study of Indonesian Architectural History' (1991), introduces different options held by different scholars. Krom (1931) maintains that Hindu culture and civilisation were imposed by Indians on indigenous Indonesians, testified to by the Javanese Hindu kingdoms between the ninth and 13th centuries. He regards Hindu-Javanese temples as a

result of Hinduisation, but characterises them as ‘an art originating from India executed by Hindu-Javanese’. Javanese artists who converted to Hinduism adopted Indian art traditions and added ‘reluctantly and accidentally’ to their Indonesian character.

On the contrary, Bosch (1946) claims that Indian influence was not the result of Indian efforts to expand their culture; instead it was a consequence of the high number of Indonesians who visited Indian sacred places and studied with Indian masters. Accordingly, Hindu-Javanese temples were built by native Javanese. Instead of expressing ‘influence’ or ‘mixing’, he described Hindu-Javanese culture as the creative product of Hindu-Javanese society, guided by the Indian spirit: ‘predestined to develop into an independent organism in which foreign and native elements were to merge into a dissolvable entity’. Prijotomo (2004^{interview}) agrees with this that ‘Temples in Central Java were originally in a Javanese style. They are a Javanese creation, a modified Hinduism. It is Hindu-Javanese’.

Bosch’s ‘indigenous theory’ was reinforced by Wales’ (1948) concept of local genius. The term ‘local genius’ designates the ability of certain Southeast Asians who can shape a foreign culture to make it suitable to local conditions, and thereby to create a new culture. After that, Wales attempts to link local genius with monumental art, as ‘it is in monuments that local genius can most manifest itself’. Tjandrasmita (2004^{interview}) highlights the idea with Wales that ‘the proportion of ornament in temples depends upon artistic concepts and creativity. It is a result of local genius’.

These continuous but different theories seem to be compromised by Kempers (1937). For him, the Indian and Indonesian cultures were components of equal value in ‘one indivisible whole’. In the relationship between two cultures, he rejects the term of ‘influence’, and prefers a dynamic concept of ‘a stream of culture’, because Hindu-Javanese culture gradually came into being as an amalgamation of Indian and indigenous elements. His theory has been extensively accepted by Western scholars, while contemporary Indonesian archaeologists tend to continue with the ‘indigenous theory’.

Regarding the source of influences on Java, Wagner (1959) asserts that the South Indian culture of the Gupta kingdom introduced into Indonesia between the third and sixth centuries. Fontein (1971) and Suleiman (1976) suggest that evidence identifies various influences from different regions with their own distinctive cultures, such as the Pallava and Chola kingdoms in the South, Gujarat in the West, and even Ceylon (Sri Lanka). Of the four - (1) Krom’s Indonesia’s indebtedness to civilised Indian culture, (2) Bosch’s indigenous theory, (3) Wales’ local genius, and (4) Kempers’ equal value of cultures, Bosch and Wales’ theories seem to appeal mostly to Indonesians. A term ‘Hindu-Javanese’ is an expression combining Indian artistic tradition with the indigenous Javanese spirit.

A FUSION OF ANIMISM, HINDUISM, AND BUDDHISM

The Javanese finds it easy to fuse various religious conceptions. Mysticism was a necessity of life for him, whilst he rarely attached decisive importance to theological problems. This accounts for the characteristic feature of religious life in Java: an open-minded tolerance The second characteristic...is ancestor worship, originating in the Neolithic age. (Wagner 1959)

During the establishment of peasant culture, the indigenous Javanese had much in common with mystic animism, believing in spirits which inhabit the worldly environment. Into this culture, new and dynamic Indian Hinduism, particularly in its Sivaite (god of the destroyer) aspect, and Mahayanist (Great Vehicle) Buddhist elements, penetrated in *kraton* (palace) noble art from the fifth century. In a short time, there occurred a distinctive fusion of beliefs and cultural factors, and Hindu-Buddhist dogma interpreted according to their liking and the convenience of mystical meditation, rather than dogmatic principles.

In the process of the Indian infiltrations, two main elements were Hindu-Buddhism and the Hindu social concept of kingship. Other related cultural characteristics, including ideas and techniques in architecture and sculpture, were selected and modified. For example, in Central Java, Hinduism and Buddhism were tolerated alongside each other, sharing the Sanskrit language, a view of the world, and the nature of spiritual power and religious life in common. Reliefs on the temple of Borobudur in the eighth century depict Hindu Brahmans worshipping a Buddhist *stupa* (monument), and Buddhist Prince Sudhana receiving instruction from Siva, the Hindu god.

During the reunification of Central Java, the Hindu Sanjaya acquired a new cultural and technical impetus from the Buddhist monuments of India. On the ruins of an old temple, Rakai Pikatan, the Hindu Sanjaya ruler, erected the Buddhist temple of Plaosan as a step towards syncretism. Moreover, King Kertanegara of Singasari constructed Jawi, a combined Siva-Buddha shrine. In Majapahit of the 14th century, both religious leaders had equal status. But, the expression 'syncretism' has caused a few disputes among scholars.

Syncretism in the Hindu-Buddhist religion has challenged. Now we use the term 'coalition' or 'parallelism' because syncretism in the Encyclopaedia of Religion is defined as the combination of two or more cultural traits so that a new cultural element emerges containing both traits. In reality, they practised each in parallel. So, I favour the term 'parallelism' (Santiko 1995, 2004^{interview}). I only agree with this when parallelism happens in simple things, but when things start to develop, it is called diffusion (Tjandrasasmita, 2004^{interview}).

Whatever it is, Javanese religion is an outcome of blending mystic animism, Sivaite Hinduism, and Mahayanist Buddhism. The cultural history in Java proves how syncretism has peacefully occurred in temple architecture and ornamentation across Central and East Java.

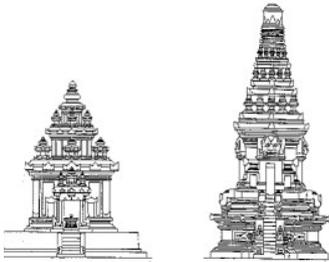
TEMPLES: A REPLICA OF THE COSMOS MOUNTAIN, MERU

Temple (*candi*)

Architecture is a way of expressing people's desires, giving the form that is desired to space. The temple is its most perfect expression. For all religions, space is the essential manifestation of divine creative powers. The temple raises a minute portion of the earth to superior importance, and is, by this fact alone, apart from any other symbolism, a proof of divine presence. (Dumarçay 1936)

In the early 19th century, Raffle's (1830) interpretation of a *candi* as a royal tomb enshrining the ashes of the burnt corpses of kings widely accepted. A century later, Krom (1923) says that the *candi* is a monument erected over the ashes of a deceased person. His idea culminated further Stutterheim (1931) until Soekmono (1974) challenged with a new theory. To begin with Stutterheim, he saw old Javanese *candis* as fundamentally different from Indian temples, because they are not places for the worship of the Hindu deities, but are funeral temples to worship dead kings who identified with Hindu gods after their deification. Moreover, he thought that *candis* are a continuation of ancient Indonesian animism in a new form.

Two styles of the temple in Central Java 760-930; East Java 930-1500 (Soekmono 1971)



On this view, Soekmono insists that the *candi* is a shrine and dedicated to deified kings who were famed for virtue during their lifetime, demonstrating evidence of a *pura* (Balinese temple) where the animistic concept of ancestor worship with cosmological significance can imply. The installation of Hindu statues is similar to the consecration of monuments in megalithic culture. In 1990, he developed his theory that a tendency of returning to ancient concepts influenced the architecture of East Java, shown in the temple complex of Panataran in Majapahit, regarded as a direct forerunner of the Balinese temple of today.

From a cosmological viewpoint, a *candi* is a place where gods were considered to have their actual presence, representing a replica of the Cosmos Mountain, Meru. And the central object of worship is the image of God; the king treated as a living God, and on his death, he merges directly

with God. If we accept the latest theory, a *candi* in Java appears to be a temple dedicated to deified kings.

Borobudur (8C) of Central Java and Panataran (1197-1454) of East Java

Candi Borobudur occupies the foremost position in the study of form, function, and meaning in Javanese temple architecture and ornamentation. Interpreted as a ‘hill monastery’, it was built in the second half of the eighth century by the Buddhist Sailendra kingdom. Stutterheim (1956) held that Borobudur, like all other *candis*, symbolises the Cosmos Mountain, Meru, the mythical abode of the gods. The temple has a tripartite of the base of the monument, the square terraces of the pyramid, and the round terraces with *stupas*. Six of the nine terraces are squared and are decorated, while the rest are circular and devoid of all ornamentation.

Borobudur (8C), Central Java; Panataran temple (1197-1454), East Java



An examination revealed that the layered stone and decorative structure system have the durability and the character of infinity to form an ideal home for the gods. Besides, the structure allows ornamentation, reducing the massiveness of the building. According to Zimmer (1960), the refined techniques of the sculpture and ornamentation of the temple appear to have an Indian origin, guided by indigenous inspiration, due to a close relationship between Gupta India (c. 350-650) and Borobudur. Gupta is considered to be the golden age of Indian culture. Its shrines reflect ‘sudden glory’ under a fresh inspiration.

Munsterberg (1970) has another opinion that carvings in Borobudur exemplify Javanese characteristics, such as the use of black volcanic stone, the ethnic type of sculpture, and softer and gentler forms than Gupta’s carving. But he accepts a reference to Indian models in style and iconography. Soekmono (1990) shares Munsterberg’s idea, because the art form of Borobudur was not transplanted intact from India to Indonesia, but was a combination of the Indian world of

thought and Indonesian creativity following its native potentiality and tradition. Stutterheim connects the temple with Gandhara⁷ of Northern India in the first century A.D.

I found among the remains of Nalanda some things that may be recognized as the immediate models of Central Javanese art... The temples of West India, Nalanda, [are linked] to the renowned school of Gandhara, where the sculpture of stupas is linked with the Hellenistic sculpture of sarcophagi known to us from Asia Minor... We find an offspring thereof in the Borobudur.

In East Java, the most significant *candi* is the Hindu temple complex of Panataran (1197-1454). Situated on the north of Blitar, it consecrated to Siva, the Lord of the Mountain. Despite some earlier construction during the Singasari period, the critical parts were finished at the time of Majapahit. The *candi* has a variety of ornamental motifs in three temple courts which connect. Kala (lion) heads and tumpals (triangular motifs) displayed on a temple in the first court, and another temple in the next has a unique decoration. A big naga (snake) is coiled-round a figure, and tumpals reappear. In the third court stands the main temple with a Meru roof. It bears lavish ornamentation with bands of friezes and numerous medallions of animals and reliefs, illustrating the Hindu epic story, Ramayana. These designed in an ingenious *wayang* (shadow puppet) style. Commaraswamy (1972) further explains:

Here the worship of Siva as a Mountain God facilitated a combination of Hinduism with old Indonesian terrace cults; in the resulting mixture of Indo-Javanese and Indonesian elements and a new combination of both there appeared for a brief period a definite style, not lacking in vitality.

Two Cultures of Central (760-930) and East (930-1500) Java

Hindu-Buddhist art in Java divided into two periods: Central (760-930) and East Java (930-1500). Several attempts have been made to show continuity between them, and it was Krom (1923) who began discussing the unity of two cultures. Temples of both regions display a continuous aesthetic principle. He called Central Javanese art 'Hindu-Javanese' style, and treated East Javanese art as a 'degeneration' of Central Javanese style.

The continuous line has never been broken in any respect, and the difference between what we call Central-Javanese and East-Javanese art...is the gradual development of the art sprouting from Hindu tradition in the Indonesian way... No matter how far the endpoints might stand from each other, Hindu-Javanese art remains one and indivisible.

⁷ A Hellenistic fusion into Gandhara (B.C. 250 to 450 A.D.), called the Greco-Buddhist, shows a Corinthian capital with a small Buddha figure enthroned amidst the conventional Greek acanthus leaves.

Krom has met with much opposition in detailed analyses by Wagner, Holt, and Fontein. They claim that ornamentation of Central Java was directly influenced by Indian elements, while indigenous Javanese created that of East Java. Wagner (1959) argues that ornamentation in Central Java is subordinate to the concept of the building. Ornaments become like works of art 'in their own right', with lavish embellishment, while in East Java, the style of sculptures is no longer Indian in character, but evolves into a style similar to the native *wayang*. Moreover, he disagrees with Krom's 'degeneration' theory, maintaining that the visible change of form in religious art can understand in terms of two interacting Javanese cultural movements.

Holt (1967) shares Wagner's perspective. Natural elements become highly stylised on temple ornamentation in East Java. For example, trees and foliage adorn low relief in a combination of spiral and flame-shaped motifs. And the filling of space, animating it with dynamic configurations, is another new feature. So, the style of East Java is an outcome of a creative response by its artists to the cultural climate of their time. Denying Krom's 'degeneration', Holt describes a process of 'indigenisation', in which foreign influences integrated into local ideas and concrete forms as 'the spirit of the age'. Fontein (1971) also differentiates between two cultures, although he believes in their continuity. In Borobudur of Central Java, the artist practised his rich artistic imagination and rich ornamentation in variations on lotus scroll and kala-makara (lion head and fish-elephant trunk) motifs. Eastern Javanese temples do not display the same characteristics, despite their higher artistic quality. The relief sculpture shows a stylised and literary flavour. The art of Central Java is 'monumental and robust', but that of East Java is 'intimate and poetic'.

Despite this tendency towards wayang-like stylisation, the tradition of spirited, lively rendition...continued to exist, and emerged, again and again, from among the more hieratic and stylised representations in relief sculpture.

This dissimilarity noted by Klokke (2000). Central and East Javanese ornamentation have a few motifs in common but have their distinct motifs. Central Java has kala, makara, lotus, rosettes, and upward rising or rectangular panels with scrolls, derived from Indian art. In East Java, motifs are concentrated horizontally, particularly in three horizontal bands on the upper, middle, and lower part of temple bases and bodies. Many Central Javanese motifs reappeared sporadically or vanished completely in East Java. Contemporary Indonesian scholars add to this:

Central Javanese motifs have a classical Indian style, using lotus, while those of East Javanese have indigenous and slender, applying different forms of ornaments. (Tjandrasasmita 2004^{interview})

There is a revival of indigenous ornaments to temples. (Sedyawati 2004^{interview})

The former characterises in three-dimensional and voluminous with natural qualities. By contrast, the latter is two-dimensional, flat, and stylised: 'Decoration in East Java is like a renaissance of pre-Hindu ideas which were animistic and two-dimensional'. (Priyotomo 2004^{interview})

FOUR MOTIFS IN JAVANESE TEMPLE ORNAMENTATION

Temple Ornamentation

Indian art is essentially idealistic, mystic, symbolic, and transcendental. The artist is both priest and poet... Indian art appeals only to the imagination and strives to realise the spirituality and abstraction of the supra-terrestrial sphere. (Bosch 1970)

The Chinese-influenced Dong Son style of the Bronze-Iron age influenced Southeast Asia. In Indonesia, spiral lines and decorative geometrical figures, such as tumpal and swastika, appeared along with ancient symbolic signs. Popular plant motifs later introduced during Hinduisation in the fifth century. As *candis* represent the universe and the home of the gods, their proportion, numbers of pillars and corridors, and sculptures should conform to the canon of Hindu religious architecture and sculpture, called '*silpasastra*'. The walls, carved with decorative motifs of human beings, animals, and mythological characters, as well as floral motifs, have a specific place in the scheme of temple architecture. However, the canon does not deal with temple ornamentation in depth.

In adorning temples, Javanese artists elaborated a wide range of ornamental motifs from India into the Javanese environment. A combination of different motifs was usual, varying according to location, and in groupings on temples to deliver messages of the divine nature of structures and ornaments. Many motifs are of things which Javanese believed found in heaven. Two common motifs are triangular shaped antefix and tumpal, carved with different variations on the tops of walls and cornices. As an animal form, kala-makara appears on the lintels of doorways and stairs in a combination of kala, as a symbol of time, and makara, representative of the primal source of life. Hindu Garuda (bird) repeatedly used with the Vishnu (Hindu god), or without him, to connote the mount of Vishnu. It is possible that reverence for Garuda in Indonesia became combined with a much earlier bird cult.

It is lotus (*padma*) by which the sacredness of the temple was mostly expressed, signifying the seat of the highest divinity, the birth of the Universe, the birth of the Buddha, and the ultimate truth. Indian mythology says that gods were born out of the lotus flowers upon which they were seated. Of floral decoration on temples, two main purposes of aesthetic beauty and religious connotation exist. The 4-, 5-, 6-, 8-petalled floral motif without leaves, stems, and fruits vary their symbolic meanings according to the number. Consequently, symbols are more important than a purely decorative function.

Moreover, on relief panels and niches of temples, kalpataru (the wishing tree) represents heaven, while purnaghata (a pot of plenty)⁸ appears with flowering plants or scrolls growing from ewers of holy water, symbolising the elixir of immortality. To this, kinnara (heavenly musician), usually female, half-human, half-bird, is added.

Before starting the next section, a reason for choosing four motifs (tumpal, kala-makara, lotus bud, scroll) should clarify. During the field study, the researcher often noticed them in temples and mosques. As the research question investigates the continuity of pre-Islamic motifs in Javanese mosque ornamentation, prehistoric tumpal was selected to represent indigenous ornament in Java. Hindu-Buddhist kala⁹-makara, lotus bud, and scroll were singled out to demonstrate Hindu-Javanese ornaments after Hinduisation in the fifth century. Although the hadith forbade depicting living figures in Islamic art, surprisingly, kala-makara did not disappear in Javanese mosques. Instead, they were modified, probably as an outcome of Hindu-Javanese syncretism. The researcher decided these four as the unique syncretic motifs across the pre-Islamic and Islamic periods.

Prehistoric Tumpal

Javanese Islam adopted indigenous geometrical ornaments and Hindu-Buddhist floral motifs. (Subarna, 2004^{interview})

A tumpal, a decorated triangle, is one of the most widely distributed ornaments in temples. The motif not only originated from ancient Neolithic and megalithic times but survived in regions where Hinduism almost infiltrated. No certainty on its origins has reached. Some scholars interpret it as a human figure which became unrecognisable, due to the extreme stylisation, while others consider it to be a stylised bamboo shoot. As an old figure or bamboo, it had either a supernatural character or represented an idea of fertility respectively.

Like fisherman's baskets which indigenous seafarers in the Neolithic period used, a probably ceremonial vessel from Madura outside Java (exhibited at the Museum Nasional in Jakarta) reveals that a triangular decoration forecasts the tumpal ornamentation of later Indonesian art. Tumpals, filled with scrolls, were most popular in batik work. Sometimes the triangle itself is omitted; thus only the scroll ornament remains to keep a more or less triangular shape.

⁸ The Gupta capital has purnakalasa (bowl of plenty), signifying a renewed faith. Allegory of a 'vase and flower' motif is one of the most graceful forms in Indian architecture.

⁹ Referring to the origin of kala, Subarna (2004^{interview}) insists on a similar type which had already appeared in prehistoric Indonesia.

Megalithic tumpal from Madura outside Java (Kempers 1959); Kalasan temple (9C), Central Java; Panataran temple (1197-1454), East Java



Hindu-Buddhist tumpal has another role. According to Tjandrasasmita (2005^{interview}), ‘Tumpal is a symbol of the Cosmos Mountain, Meru. Beliefs about its role existed in prehistoric times. This thought expressed in Hindu-Buddhist temples and Islamic mosques, owing to Javanese Islam being a syncretic religion’. In *candi* Kalasan (9C) in Central Java, two types of tumpal, free-standing and attached to other objects, were shown. At the temple entrance, a big tumpal adorns the upper shoulder of a lion and stretches over his neck and head. Although its shape is not a typical geometric triangle, its curved triangular outline makes it be the tumpal.

Tumpal border, composed of a row of isosceles triangles, is beautifully elaborated on the Naga temple of Panataran (1197-1454). Here tumpal is embellished with scrolls, and occurs four times, twice to the right and twice to the left on stairways. In *candi* Djago (1268), tumpals on the upper corner of the entrance and the volute spiral on the flight of steps leading the second terrace to the next demonstrate their popularity as ornaments in East Java. Tumpal is a significantly sacred motif, linking mystic animism to Hindu-Buddhism in the Javanese pre-Islamic period.

Hindu-Buddhist Kala-Makara

A kala head frequently shows in Hindu-Buddhist temples. In India, it was often taken to be a lion’s head (*kirtimukha*, *banaspati*), but in Indonesia, it merged into a human face or a demon’s head. Kala with the swollen eye and tusk appears over an arched gate of any Javanese Hindu-Buddhist temples, while a pair of makaras by curving outwards terminates at the bottom of a gatepost. A makara, an imaginary animal with the shape of a fish and the trunk of an elephant, was introduced into Indonesia during Hinduisation. In Indian mythology, kala-makara (or naga=snake) represents the Cosmos Mountain, the abode of the gods. It also serves to ward off demonic influences from the temple. Another assumption is that kala and makara stand respectively for the celestial and watery elements in creation. In a combination, they represent a duality, such as celestial/watery, or male/female. They imply the principal aspects of totality, illustrated in a beautiful kala head from *candi* Kalasan. The face protrudes against a background of floral ornament, and part of the head has transformed into leaves and shoots.

The kala-head, in Indonesia, apparently had various symbolic functions. As a head completes with the lower jaw, it could be interpreted as the body-less head of the monster that swallows the moon (causing eclipses) and which was punished by decapitation. (Kempers 1991)

Makara, Prambanan (8-9C) Central Java; Kala, Singasari (12C), East Java



The face of kala from *candi* Djago (1268) in East Java is much more human than that of Central Java. The mouth is as terrifying as the bulging eyes; the hands, a new addition in East Java, are raised in a threatening gesture. The high crest which crowns Central Javanese kala has reduced to a triangular ornament above the nose, and the ear ornaments shape like the leaf-like decoration. Central and East Javanese kalas were again differentiated. The former has no lower jaw and shows a friendly appearance, whereas the latter displays a full face with a jaw having a fiercer look. Combined kala-naga in East Java replaced kala-makara in Central Java. Kala-makara appears to be a sacred motif for protecting gods. They can imply totality.

Hindu-Buddhist Lotus Bud

In Hindu-Buddhist art, many symbols also have a decorative function and may be components of a highly developed system of ornamentation. They encounter in a great variety of works of art; buildings and carved/painted figures. Some repeat in all Hindu-Buddhist lands, and many of them have a common link. The less representational and the more fitted for abstract decoration, the more comfortable they can be ornaments. Plant motifs predominate over animal ones and geometric over figurative.

Lotus played the most significant role in Hindu-Buddhist art. Three types exist: (1) the red lotus (*Nelumbium speciosum*, in Sanskrit *padma*) has broad petals with buds and a cone-shaped receptacle. Its leaves undulate at the edges, and its flowers rise over the water, (2) the blue lotus (*Nymphaea stellata*, in Sanskrit *utpala*) has narrow petals, flower half in the bud, a bulbous receptacle, and smooth leaves. Neither leaves nor flowers rise over the water, and (3) the white lotus (*Nymphaea lotus*, in Sanskrit *kumuda*) has broad but pointed petals with a bulbous receptacle. The leaves do not twine but float on the water with flowers.

Hindu mythology says that the world was composed of *atman* (the soul) and *maya* (illusion), and the growth of lotus symbolised its creation. As the primordial lotus grew from the waters of eternity, bringing Brahma (god of creation) and all other creations, it became a dominant motif in representing creation and sanctity. In Hindu-Buddhist temples of Central Java, lotus, characterised by naturalism, was extensively used for wall decoration, signifying ideal beauty and integrating natural forms and supernatural power. The identity of the primaevial lotus and Dharma (mystical doctrine) is fundamental in Mahayanist (Great Vehicle) Buddhism, too. Lotus, as creator and supporter of the Cosmic Tree, became the pattern for the abstract notions of Dharma, preached by the Buddha.

Bodhisattva lotus-in-hand, Borobudur temple (8C); Prambanan temple (8-9C), Central Java



Lotus in iconography has four primary forms: (1) lotus goddess, (2) lotus supports, (3) Bodhisattva lotus-in-hand, and (4) lotus flowers. At first, (1) lotus goddess (*padma*), dwelling in the lotus, is synonymous with Sri Lakshmi, wife of the Hindu Vishnu god who is the creator and maintainer of the world. Representing earthly fulfilment and bliss, Lakshmi is a manifestation of the universal mother of life in her benevolent life-bestowing. She presides over the fertility and moisture of the soil and stands on the lotus. (2) On an Amaravati pillar (3C) in India, an early example of the lotus pedestal for the Buddha exists. Here he stands on expanded lotus calyxes. As luminous phantoms, the Buddha and Bodhisattvas reflect the phenomenal planes of celestial and terrestrial interaction. The earliest seated Buddha on lotus calyxes appeared in the later Gandhara works (3C). Since then, lotus on the Buddha pedestal has become the principal image of Mahayana worship.

(3) Bodhisattva Avalokitesvara is the most potent Buddha, holding a lotus flower on a long stem in his left hand, supported by a lotus pedestal, ‘a wandering saint teaching the doctrine of enlightenment to all creatures’ (Zimmer 1960). In Java, at one time Avalokitesvara,¹⁰ the Buddhist goddess, moved by compassion for this wretched world, shed a tear which changed into a lake full of lotuses. On one of them arose a goddess. Her figure represents in the central panel of *candi*

¹⁰ In India, Avalokitesvara is a god, but in Indonesia, a goddess (Sedyawati, 2004^{interview}).

Mendut (9C), and two nagas supported lotus stalk. In Borobudur, Bodhisattvas carry a long-stemmed lotus in one hand. (4) Lotus flower undergoes a series of evolutions, starting with a bud as a primary form of symbolic transformation. Three types develop: half-open, fully open, and half-withered flower. Lotus can be a symbol when its flower becomes part of a composite plant whose branches of candelabrum are spread, bearing the figure of a god or other object of worship. Its best examples appeared on the railing pillars of the Buddhist Bharut and the gateways of Sanchi in the second century B.C. in India. On Sanchi, a whole scene of trees, plants, animals, and humans are embellished, giving the panorama a pastoral effect. Hindu temples also had lotus flower; Brahma sitting on a lotus or purely decorative lotus. Lotus is the most potent expression in the sacred temple ornamentation.

The lotus flower symbolises the essential nature of all human beings and all things, in principle unpolluted...of the samsara sphere, or by Delusion, and realised by attaining Enlightenment. At the same time, it forms a cosmic symbol which unfolds in all directions: the stalk represents the axis mundi, and thus the lotus also serves as the throne of the Buddha and the centre of the mandala. (Seckel 1964)

Hindu-Buddhist Scroll¹¹

It was not until the Hindu period in Java that vegetal ornaments came into the vogue; ever since they have formed the principal part of Indonesian ornamentation. (van der Hoop 1949)

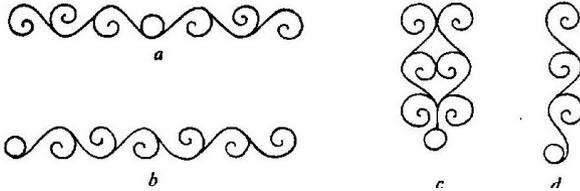
In the Hindu-Buddhist ornament, a scroll motif often occurs in the shape of a recalcitrant spiral. It is the rootstock of undulating lotus which produces nodes (Sanskrit, *parvan*) at regular intervals; from each node emerges a leaf-stalk in the shape of a spiral. These spirals undulate alternately to the right and the left. At the end of each leaf-stalk, there is a leaf which bends in the opposite direction to the stalk. Where the stalk curls clockwise, the leaf undulates the other way. Brandes named it 'the recalcitrant spiral'. Various adaptations were introduced to employ the natural plant of lotus scrolls in temples for decoration. Rather stylised, the submerged, horizontally growing part of the plant was made visible to the spectator and transformed into a decorative motif. Nevertheless, the importance of scrolls lies in its function as a symbol. It is the start of life, called '*Hiranyagarbha*', 'the Golden Germ'.

Bosch (1960) states that the Indian concept of the origin of life has dominated by the belief in dual forces in nature: the male element is creative and omnipresent, and the female part is chaos,

¹¹ Different terms have been used in literature to describe scroll. Brandes uses 'spiral', while Kempers 'tendrils'. This research chooses 'scroll' as a standard term.

an inert mass of primaevial waters. When creative breadth enters the waters, 'the Golden Germ', the beginning and origin of all creation, is born. A close look at Borobudur exposes an interesting variant on the lotus rootstock. An animal or a human or another emblem in a circular form replaces the lotus root, and rises upwards, introducing nodes, indicating 'the Golden Germ'.

Various types of undulating scrolls (Bosch 1960)¹²



It must underline that the idea of 'the Golden Germ' is the most crucial concept in using scrolls on Hindu-Buddhist temple ornamentation. It is also a vital clue to identifying the origins of scrolls in Javanese mosques, either as Hindu-Buddhist or Islamic or both. 'The Golden Germ' in the form of a root or a makara on the bottom of Hindu-Buddhist scrolls symbolises 'life' (Santiko, Sedyawati, Tjandrasmita, 2004^{interview}). Compared to Indian ones¹³, scrolls in Borobudur are reminders of the Greco-Buddhist style, showing its influence on the sculptural ornament. They also reflect the lotus scrolls of Bharhut in India in the second century B.C., although a difference lies in the small-size of reliefs being placed in the curves of the scrolls in Bharhut, while there are larger panels separated by recalcitrant vertical spirals in Borobudur.

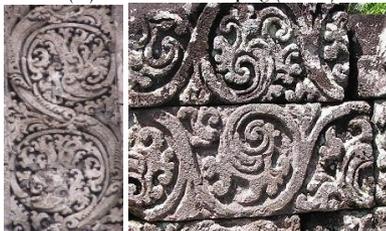
Candi Mendut has the most beautiful pattern with 30 panels of scrolls, which sprout from a rounded tuber, sometimes replaced by a fish, a vase, or a tortoise. These decorative panels are in partly purely ornamental and part filled with semi-divine beings. *Candi Kalasan* has rich vegetation of flowers and curly leaves, too. Vine scrolls as a variant of lotus emerge from a tuber and develop sideways. As a tuber is a symbol of plenty, the lotus is supposed to sprout from a tuber. The beauty of the temple praised.

¹² The stem with its side-branches moves forward horizontally with two ways of treatment of a & b. Stems of c & d move vertically upward and present two modes.

¹³ Over some surfaces of the Dhamek Stupa at Sarnath in India, a diaper pattern is luxuriantly and elegantly carved in floral scrolls. The most original and remarkable designs are those forming a wide border around its lower circuit, composed of floral and geometric motifs. This floral spiral motif is typically in Gupta style and became the archetype of the edge of spiral curves and foliate medallions on the façade of the Qutub Mosque at Delhi many centuries later, during the Muslim regime. It shows a syncretic ornament between the Hindu-Buddhist and Islamic periods in India.

This temple is overcrowded with ornament...but when seeing the good taste with which it has been applied; when realizing that all these decorations are not contrived, being merely enlargements of what the dogma prescribes, when observing how perfectly they harmonize with the whole, then we must admit that this temple had to be built that way and no other in order to be perfect. (Bruyn cited by Bosch 1961)

Kalasan (9C), Central Java; Sumping (13-14C), East Java



East Javanese scrolls are more stylised and indigenous than Central Javanese ones. *Candi Djago* (1268) has a display of scrolls, a variant of the spiral ornament, on the post and lintels. The vertical movement of the shortened scrolls has lost much of its smoothness. A complicated arrangement of curls and scrolls with 1.80 metres height on the flight of steps springs from behind the back of a lion. In *candi Panataran* (1197-1454), scrolls mostly expressed in the form of medallions on the main temple. Diameters are about 35 cm, and all kinds of animals use as decoration within a circular shape. Their tails continue into a scroll, recalling those of Central Java, but reduced to a single curl which fills the entire medallion. Scrolls represent both beauty and connotation of the sacred life, stretching out horizontally and vertically.

Referring to the vine scrolls, Trilling (2001) argues that they are the prototype of arabesque. In the sixth century B.C., Greek artists adopted stylised plant forms from Egypt and the Near East and transformed them into the first vine scrolls. By the second century A.D., vine scrolls of recognisable Western origin reached India. During the Gupta period between the late third and sixth centuries, artists elaborated them to a new level of elegance in images of the Buddha. Gradually, they became flame-like, distanced from the original plant-form and introduced into Java, Indonesia, during Hinduisation in the fifth century.

Trilling's theory raises a question. Zimmer (1960) claims that the sculpture of Borobudur was of Indian origin, probably from Gupta, while Stutterheim (1956) associates Borobudur with the Greco-Buddhist school of Gandhara, accepted by Kempers (1959). The question remains open as to whether the vine scrolls in Borobudur came to Indonesia via India, based on the Greek original, while it also made a journey to the Arab world, becoming the fashionable arabesque in mosque ornamentation. This supposition can suggest an example of syncretic ornaments beyond time and space. Ornament seems to be a mediator between different cultures.

SUMMARY AND CONCLUSION

Hindu-Buddhist culture came to Indonesia most probably through trade and missionaries in the fifth century. Among different views of Hinduisation, (1) Indonesian's indebtedness to civilised Indian culture, (2) indigenous theory, (3) local genius, and (4) equal value of cultures. Theories of indigenous and local genius seem to be most favoured by Indonesian scholars today. Significant cooperation between Indian artistic tradition and indigenous creative spirits gave birth to the term 'Hindu-Javanese'. Javanese religion is a blending of mystic animism, Sivaite Hinduism, and Mahayanist Buddhism. This syncretism has fully displayed in Hindu-Buddhist temples, the abode of gods, to present a replica of the Cosmos Mountain, Meru. Java has two cultures: Central (760-930) and East Java (930-1500). Luxurious and natural ornamentation on Central Javanese temples has an Indian influence, while simple, stylised ornaments in East Java reflect their native and indigenous style. Hindu-Buddhist temples adorn with many types of motif for beauty and significance. Four motifs (tumpal, kala-makara, lotus bud, scroll) appeared frequently. Tumpal was derived from Neolithic and megalithic times in Indonesia, while India introduced kala-makara, lotus bud, and scroll. They are integrated side by side in temples as the most significant sacred ornaments.

In conclusion, Hindu-Buddhist culture in Java shows the vital connection between the prehistoric and Islamic periods, providing an inheritance to Javanese mosque ornamentation.

A few findings can contribute to this research. (1) A syncretic religion of animism and Hindu-Buddhism in Java anticipates a peaceful introduction of Islam. It leads us to inspect four motifs in Javanese mosques. (2) The sacred character of temple ornamentation endows ornaments in Javanese mosques to be holy, differentiating them from orthodox Islamic ornament which stands for aesthetic beauty.

Four motifs have symbolic connotations in the Javanese context. (3) Similarities and dissimilarities in ornamentation between Central and East Java can be helpful to identify the origins of motifs in Javanese mosques, especially in scrolls. Naturalness in ornament more found in Central Java, compared to stylisation in East Java. The idea of 'the Golden Germ' (the creation of life) leads towards a solution. If a root finds in scrolls, its origin is Hindu-Buddhist.

♣ References in alphabetical order: Atmadi 1988; Bosch 1946/1970/1960/1961; Brown 1956; Coomaraswamy 1972; Dawson and Gillow 1994; Dumarçay 1986; Fontein 1971; Fox 1998; Gupta 1996; Holt 1967; Kempers 1937/1959/1991; Klokke 2000; Koentjaraningrat 1990; Krom 1931; Miksic 1990; Munsterberg 1970; Pepin Press 1998; Prijotomo 1992; Rutherford 1996; Santiko 1995/2004(interview); Seckel 1964; Sedyawati 1990/ 2004(interview); Soekmono 1990; Soemantri 1998; Stutterheim 1931/1956; Subarna 2004(interview); Sudradjat 1991; Suleiman 1976; Prijotomo 2004(interview); Tjahjono 1998; Tjandrasasmita 2004(interview)/2005 (interview); Trilling 2001; van der Hoop 1949; Wales 1948/1951; Wagner 1959; Zimmer 1960

ISLAMIC JAVA (15C-TO THE PRESENT DAY)

This chapter focuses on its Islamic era, related to syncretic Javanese Islam and continuity of pre-Islamic motifs in mosque ornamentation. A difference between Agami Jawi (Javanese Islam) and Agami Islam Santri (Islam of the Religious People) enables us to understand the presence of pre-Islamic ornaments and the later appearance of orthodox Islamic ones. The spread of Islam in Java and the origins and characteristics of Javanese mosques inform us of the political background and social circumstances. Moreover, the adoption of existing architectural elements and the sacred mihrab in Java can differentiate from those in the Middle East. Finally, a short account of pre-Islamic and Islamic ornaments displays a whole picture of Javanese mosque ornamentation from the start until now.

SYNCRETIC ISLAM IN JAVANESE MOSQUES

Agami Jawi (Javanese Religion) and Agami Islam Santri (Islam of the Religious People)

Islam came, in any case, by sea...but of trade... And the trading classes...combined in Java to produce a religious system not quite doctrinal enough to be Middle Eastern and not quite ethereal enough to be South Asian. The overall result is what can properly be called syncretism. (Geertz 1971)

Islam, interpreted as ‘submission’ to the Will of God, was originated in the Arabian Peninsula by the Prophet Muhammad (born c. 570, died 632) when he received revelations (the Holy Koran) from God in about 610. His migration (*hijrah*) in 622 from Mecca to Medina is a turning point in establishing the Islamic community (*ummat*), denoting a transition from the pagan to the Muslim world. Islam endows life with unity, and the essence of Islam contains in a single sentence: ‘There is no god but God, and Muhammad is the Prophet of God (*La ilaha illa’Llah, Muhammad rausla’llah*)’. This profession and credo (*shahadah*) of absolute monotheism is held to be the ultimate revelation of God’s Will, expressing the idea of unity. Principles of the Islamic faith are Five Pillars: (1) credo, (2) ritual prayer five times a day in the direction of Mecca (*salat*), (3) fast (*sawm*) in the tenth month of the lunar year, Ramadan, (4) alms (*zakat*), giving between 2.5 and 10 percents of one’s wealth to the needy, and (5) pilgrimage (*haj*) to Mecca at least once in one’s life. *Shariah*, Islamic law, clarifies the principles of Islam.

In Java, although Islam is the official creed and has contributed to Javanese society as a means of enhancing the unity in culture, the basic patterns of ancestral and mythical beliefs provided a common background for religious experience. As a result, two types of Islamic

religious manifestation exist. One, Agami Jawi (Javanese Religion), represents an extensive complex of mystically inclined Hindu-Buddhist beliefs and concepts, integrated within an Islamic frame of reference. The other, the Agami Islam Santri, interpreted as 'Islam of the Religious People', is a variant of Javanese Islam and is much closer to the formal dogma of Islam.

Toward the middle of the 19th century, the isolation of Indonesian Islam from its Middle Eastern source started to break down. From Hadhramaut of the Arabian Peninsula, more traders arrived in Indonesia, transmitting their orthodoxy to local people. Besides, the growth of sea travel allowed Indonesian Muslims to go on the pilgrimage to Mecca. After returning from Mecca, religious leaders at pesantren, a boarding school for Islamic teachings, stressed that Islam was a different religion from polytheistic mysticism, and set up a clear orthodox body of Islamic teachings. Thus the Islamic reform movements of Egypt and India produced a significant impact on open-minded Indonesian Muslims, encouraging them to embrace Islam as a living faith. With the foundation of Muhammadiyah in 1912, a new movement emphasising the need of pure Islam in Indonesia, Agami Islam Santri, spread in the country, founding ummat, a true Islamic congregation.

Islam in Indonesia had been unfenced by many local customs (adat) and ideas. Learned Indonesian Muslims now consequently observed all around them a widespread need for reform; their feelings were strengthened by Dutch domination, which they felt had been made possible by the decline of (orthodox) Islam. (Ricklefs 1993)

However, this specific characteristic of the interplay of customs and ideas could interpret as a universal tolerance of different races, colours, and creeds. Syncretism was practised by Sultan Agung¹⁴ of Mataram who absorbed Islamic elements into Hindu-Javanese life.

Indonesian scholars also expressed views of the nature of Javanese syncretism:

Indonesian Islam did not precisely accept Islam as 100%. It was a selection. (Tjandrasasmita 2004^{interview})

Hindu-Javanese Islam is a somewhat relaxed Islam, and Islamic orthodoxy started after the Dutch colonisation of Java. (Pirous 2004^{interview})

A Javanese attitude gives priority to Javanese identity, then to Islam as a religion. (Priyotomo 2004^{interview})

¹⁴ Under Sultan Agung, decorative arts rejuvenated. Agung sought to strengthen his authority in the state and to endow his monarchy great influence and prestige. The motifs used during the kingdom are Hindu-Javanese prototypes. Islam had little impact on Javanese philosophy, but changed some basic social customs, such as circumcision and burial, replacing Hindu-Buddhist cremation.

The Arrival and Spread of Islam¹⁵ in Java

The spread of Islam may have been the result of the presence in Java of Muslim foreigners belonging to various social classes: on the one hand substantial businessmen and their dependants in the harbour towns, on the other adventurous wanderers with a zeal for the propagation of the faith and an eye to concomitant worldly profit. It seems certain that the two groups were interrelated from the beginning. (Pigeaud and de Graff 1976)

Over Indonesian history, the spread of Islam is one of the most significant processes and is the most obscure. Two developments probably took place in various areas at different times: (1) indigenous Indonesians who came into contact with Islam converted of their own volition, (2) Muslim traders - Arabs, Persians, Indians, and Chinese - settled down, bringing their religion with them and associated practices. It is most likely that the primary influence of Islam spread across the archipelago via trade routes and its principal introduction into Java was around 1450 from Gujarat¹⁶ in northern India.

According to Islamic sources, one of the earliest gravestones (1419) found at Gresik on the coast of Java (*pasisir*) indicates that Malik Ibrahim, born in Persia, journeyed to Java as a Muslim trader. Gravestones in Tralaja in East Java prove the presence of Javanese Muslims in the Hindu Majapahit kingdom as early as 1376. Another tombstone of 1448 at Trawulan marks the burial of a Muslim queen of Majapahit from Champa (now Vietnam). Moreover, Tomé Pires, Portuguese apothecary, spent time in Malacca from 1512 to 1515, visiting Java and Sumatra, and his book *Suma Oriental* tells of the penetration of Islam into Indonesia. What arrived in Indonesia was 'secularised' Islam, adapted into the South Asian trading cities, because the attraction of Islam for traders under the caste system and the rule of the Hindu kingdom were in its ideology of equality as a member of the Islamic community. Indonesian Islam was cut off from its centre of orthodoxy at Mecca.

¹⁵ The arrival of Islam in Indonesia still disputes. The first assumption is that Islam was directly originated from Mecca or Arabia since the seventh century, based on the Chinese source of *Hsin-T'ang Shu*. A Ta-shih Muslim community which settled at the coast of Sumatra had a plan to attack the Ho-ling kingdom under the reign of Queen Sima in Java in 674 (Groenveldt 1960). The other is that Sufi Islam came to Indonesia in the 13th century from Iraq, Persia, and India when the Mongols attacked Baghdad under Hulaghu in 1258; thus the old route running the Persian Gulf via Baghdad to the ports of Syria and Asia Minor was replaced by the new one from Aden along the Red Sea to Alexandria, Egypt. This theory sustains by finding a gravestone of Sultan Malik as-Salih (1297) in Gampong Samudra (Moquette 1913).

¹⁶ By the beginning of the 16th century, Gujarati merchants had trading posts in all the important commercial centres in South East Asia.

According to Tjandrasmita (1985), Islamisation gradually carried through many channels: (1) trade among Muslim traders with local communities, (2) marriages among Muslims with local girls, especially from the noble families, (3) preaching on Sufism, (4) pesantren¹⁷ and (5) art, architecture, decoration, performance, literature, etc. to create tolerance, syncretism, understanding, and adaptation of Islam for not as yet converted people.



Mainly, in the cultural heartland of Central and East Java, its medium was by *walis* (saints) of the Sufi (mystical teachers) brotherhoods, nine in number (*wali songo*). Many of them were of non-Javanese origin and often connected with particular port-towns along the coastal area. Sufis were travelling mystics who propagated charismatic traditions of ecstasy, asceticism, dance, and poetry, and such teachings could accord with the existing political and cultural climate of the Hindu-Javanese courts without causing undue conflict.

Their preaching was often done at the Agung Demak (1479) through sociological, psychological and cultural approach, according to the principal concept of Islam with peace and order without force. For instance, Yunardi (2004^{interview}) says that in Cirebon of Central Java, *walis* attempted to make Islam as simple as possible, so that people could embrace this new religion readily. They told that mosques were oriented to the west¹⁸, not to be too complicated and detailed for simple people, whereas in Arab countries, orientation was worked out to face the Holy Kaa'ba in Mecca. Thus, many Cirebon mosques do not face Mecca.

During Islamisation, polytheism, the deification of princes, and the caste system were rejected, except for the ancestor cult, a feature of mystic animism, which was both tolerated and

¹⁷ The *mandala* education converted into pesantren. Most building forms and elements were unchanged. By giving a new Islamic meaning to the ancient symbols, Sufis achieved smooth contact with believers.

¹⁸ From Indonesia, the Arab area which Islam started directs toward the west.

incorporated into Islamic rituals, such as visiting graveyards. The ban on representing living figures by the *hadith* not strictly observed. Instead, the stylised *wayang* (shadow puppet)¹⁹ of Hindu-Buddhist tradition used as a means of spreading Islam because of its magic power, replaced by Islamic figures and phrases. Sunan Kalijaga, one of *wali songo* considers to a *wayang* creator.

Among several channels, Sufism is the most distinctive in converting Hindu-Javanese people, because Islam was already imbued with oriental mysticism and had lost much of its original rigid orthodoxy on its spread from the Middle East into India. Javanese, traditionally inclined to mysticism, discovered the same level of spiritual and material culture with this new religion. Existing architecture and decorative art were strongly visualised to disseminate Islamic teachings. Roofs of old mosques and palaces resemble the Hindu Cosmos Mountain, Meru, while mihrabs, minbars, and tombstones decorate with kala-makaras. The basic styles and characteristics of Javanese mosques were set up, differing from those built in other Islamic countries: a square ground plan and tiered-roofs, being their most common characteristics.

Fanani (2006interview) argues that the domestication of Islam in Java occurred in five ways. They are (1) changing foreign ulamas (religious teachers), such as Malik Ibrahim, to local *wali songo* who had never visited Mecca, (2) replacing the Islamic centre from the Middle East to the Malay peninsula, (3) domesticating books of ideas, so that Hindu epics became Islamic stories, (4) creating a *Jawi* script which is a combination of Arabic scripts and local language, and (5) adopting existing art and architecture, called 'Malay Islamic Javanese variant'. Islam was thus able to spread in Java without causing undue political and cultural conflicts because of the spirit of Islam and the tolerance of the people. This peaceful Islamisation reached a turning point in the early 16th century on the foundation of the new Islamic kingdom of Demak. From then on, religion became an indissoluble part of the traditional socio-cultural structure.

Origins of Javanese Mosques

Sudradjat (1991) observes debates on the origin of Javanese mosque architecture which started in the late 1920s and continued until 1980. The first idea was 'cultural continuity', which argues that the pre-Islamic architectural tradition was the source of a mosque building. The second one, adopted by a few radical scholars, was that of 'cultural influence' on the mosque, particularly from Islamic India and China.

It was Stutterheim (1927) who took the initiative, maintaining that the Javanese mosque was a modification of the Balinese cock-fighting court (*wantilan*), and that Muslims used this prototype.

¹⁹ Javanese believe that a sacred ritual could invoke the soul of ancestors as shadows. Hindu-Buddhist Mahabharata and Ramayana stories were accommodated into *wayang*, which Islam adopted. Due to the flexible stories and foresight of *wali songo*, Islam was concretised to the less modified but still predominant Hindu mythology. *Wayang* became a popular cultural value and ethics.

despite its profane character. Rouffaer (1932) opposed this. The multi-tiered roof mosque was Hindu in its origin, modulated afterwards by Malay Muslims. While both saw the mosque at the level of physical form, Hidding (1930) searched for a spiritual symbolism in mosques, calling attention to the significance of the Cosmos Mountain which played an essential part in animistic and Hindu-Buddhist societies. The tiered-roof form of the mosque was thought to represent the Cosmos Mountain, Meru. Of this, Tjandrasmita (2005^{interview}) argues of three tiered-roof structure as constituting an Islamic idea to approach Allah in three ways (Insan-faith, Ihsan-charity, Islam-submission)²⁰. Noe'man and Fanani (2005^{interview}) comment this form to be the most suitable for tropical weather against heavy rain and for ventilation.

In 1947, Pijper carried out a systematic analysis of the characteristic elements of Javanese mosque. The ancient mosque has (1) square ground plan, (2) support on a massive elevated foundation, (3) pointed roof with two to five stories, narrowing upward, (4) extension for mihrab, (5) serambi (veranda), and (6) open space enclosed by a wall and a front gate. Its origin was not a strange form introduced by foreign Muslim missionaries but was a pre-Islamic structure, adapted to the demands for the Muslim worship. The only serambi was added later, taken from Javanese houses.

Pijper's theory was opposed by de Graaf (1947-8), insisting on the origin of the mosque in Sumatra where the Islamic influence first saw. Then he changed his mind. Islam brought itself through trade routes. Thus the Javanese mosque building was not pre-Islamic, but was a tradition of Indian Islam, perhaps from Gujarat or Malabar or Kashmir. In 1966, Wirjosuparto returned the origin of the mosque to pre-Islamic building typologies, giving an example of *pendopo*, an extension in a building for meetings and performances. There was also an effort by Slametmuljana (1976) to suggest that its origin was Chinese pagoda, because of Chinese Muslims' contribution to the conversion of Javanese to Islam.

Whatever the origin was, these debates changed from a simple idea of Javanese mosque as 'cultural continuity' and a narrowed concern for the physical form of the mosque building into more comprehensive incorporation of spiritual and symbolic aspects of Islam in the mosque building.

²⁰ (1) The lowest roof represents Shariah, Islamic Law, (2) the second: Tariqah, a way to get Allah's blessing, (3) the third: Hakikah — the spirit of a Muslim's good deed, and (4) mustaka at the top: Marifah to know Allah (Suryo, "Traditional Javanese Mosque", *Romantika Arkeologia*).

Characteristics of Mosques in Java

A mosque is a place of prayer, the supreme act of submission to God. The Holy Koran defines the mosque as the place where Muslims worship and an expression of their belief in the unity of God achieved through prayer: 'And the mosques are for Allah (alone); so invoke not anyone along with Allah' (Koran, Surah 72:18). The Arabic word 'masjid' (mosque) means the place of prostration.

In the Islamic world, three types in the urban context can describe: (1) masjid al-jami (group/daily mosque for the neighbourhood), (2) masjid al-jumah (mosque for Friday prayers with a sermon), and (3) mussalla (ceremonial prayer place for an entire city). A mosque can have several purposes, such as praying, a democratic and political institution for religion, law, and government, and an educational centre for teaching the Koran. The first mosque of the Prophet in Medina was just an enclosure of mud brick walls without ornamentation, but this first structure is believed to establish the basic space needs of a mosque for the Muslim community.

Although mosques have been built, depending upon different cultural traditions around the world, their fundamental elements remained the same: mihrab (prayer niche), minbar (sermon pulpit), minaret (tower)²¹, a place for ablution, women's prayer area, and sometimes maksura (prayer place for ruler).

As the introduction of the mosque and the idea of a communal prayer were new in Indonesia, and the Koran contains few regulations regarding the form of a mosque, Javanese architects were free to interpret its basic requirement following an individual experience for the mediation in temples. It is known that pre-Islamic traditions underline the form and setting of the site, its buildings, and images in sacred places. Consequently, mystical Sufis borrowed them, based on their belief of mosques to be holy in space and structure, creating a combination of indigenous and Islamic ideas and forms in their mosques. The common heritage in many mosques reflects the close political relationship between Muslim rulers in different regions in Java. Shared features are the tripartite division (base, main body, superstructure), a centralised plan, multi-tiered roof, mutsaka (crown), an outer colonnade, serambi, a walled courtyard with two gateways, drum, graveyard, etc.

Prijotomo (2004^{interview}) relates Javanese mosques adopted the existing forms to attract non-Muslims to enter the building and to receive Islamic teachings. The architecture used as a way of introducing non-Muslim Javanese to Islam. For Isnaeni (2004^{interview}), 'the character of the Javanese mosque is Javanese culture. Muslims still consider Hindu-Buddhist ornament as a mystical way to approach to God'. Isnaeni in his PhD thesis, 'The Javanese Mosque, a Regional Interpretation of Form and Mystical Concepts' (1960), discusses continuity of pre-Islamic mysticism to Javanese mosque elements. For example, the multi-tiered roof symbolises a link between God and Muslims, based on Sufis' view. A mustaka, a crown of red lotus at its apex, is a container of the essence of

²¹ In Java, a drum is usually used for calling prayer, instead of a minaret.

divine unity in Hinduism, but in Islam, it embodies the ultimate goal of the mystical path into God. Soko guru, four master columns, signifies the spiritual context: the verticality and centralisation express an ultimate unity between God and his believers which continued from the Hindu belief in the identity of self and the universal soul. Water has been significant in spiritual rituals to purify a person in Hindu-Buddhism and Islam. Islam requires ablution before prayer. Its channel, located in the front of the mosque, represents new creatures that will fill the void of the universe with life. The development of the pre-Islamic feature in Javanese mosques indicates that Islam in Java did not introduce new forms of religious architecture. It is apparent the teaching itself was considered to be more important than a physical characteristic of the mosque. Islam teaches that Allah has created this world as a mosque.

Commonness appeared in Javanese mosques during the researcher's field work, hinting strong continuity of pre-Islamic architectural, decorative, and mystical elements. The majority have (1) soko guru, mihrab, minbar in a prayer hall, (2) two kinds of gateway, (3) mustaka on a multi-tiered roof, occasionally together with the crescent of Islam, (4) drum, (5) partition between men and women prayer, and (6) a few places for ablution.

The Sacred Mihrab

It has said that mystical Sufis adopted pre-Islamic art traditions to create Javanese mosques with a sacred character. Among many elements in the mosque, a mihrab, a prayer niche, has been the most significant, in terms of aesthetic and symbolic functions. Mihrab is an indentation at the point where the Qibla axis meets the far wall of the mosque, taking the shape of an arch. Being both the visual and liturgical climax of the mosque where an imam (a religious leader) leads the congregation in prayer, mihrab usually decorates with lavish ornamentation. The mosque of the Prophet in Medina and the earliest mosques in the Umayyad dynasty had no mihrabs.

Opinions on the origin of mihrab are various. It had a forerunner in the niches of Byzantine architecture. Two sources are possible: (1) the prototype of the Torah-niche in the synagogue, where Jews kept the Scriptures, and (2) the apse of Christian churches in early Coptic chapels in Egypt. It was combined with the triumphal arch over the tabernacle to show the symbolic presence of God. Another theory suggests its origin as the place for a statue in the Greco-Roman temple or the apse in a church. The word 'mihrab' reappears several times in the Holy Koran and had many meanings before becoming attached primarily to a niche in the back of the mosque. It is a place of honour, but it is difficult to know what meant in the context of the passage in the Koran (Surah 34:13). King Solomon, patron of works of art, ordered the molten brass, and jinns (spirits) manufactured for him 'maharib' (plural of the mihrab, statues, cooking vessels, and tableware).

They worked for him as he desired, high rooms, images, basins as large as reservoirs, and cauldrons fixed. 'Work you, O family of Dawud, with thanks!' But few of My slaves are grateful. (Surah 34:13)

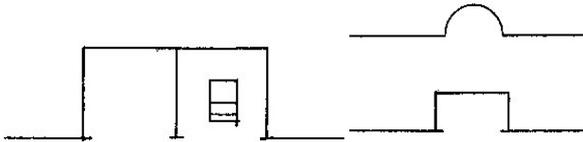
The word ‘mihrab’ was also used relative to the divine character, in a paper of *Les mihrab et leurs ornements décoratifs (the mihrabs and their decorative ornamentations)* at the international conference (1980) on mihrabs, held in Paris.

Then he came out to his people from Al-Mihrab, and he told them by signs to glorify Allah’s Praises in the morning and the afternoon. (Surah 19:11)

A concave mihrab was built in 707-9 A.D. when Al Walid of the Umayyad brought Coptic masons to Medina to rebuild the Prophet’s mosque. A Coptic devotional niche was changed into a directional Islamic niche. Since then, mihrab became the central feature of all sacred art and architecture in Islam. Unlike an altar, mihrab is not sacred itself but indicates the direction of prayer, which is holy. For this reason, it is accorded extraordinary respect and is the most ornate feature of the mosque with three types of Islamic decorative motif: vegetal, geometric, and epigraphic.

The mihrab is the focus of religious symbolism in mosque architecture. Technically and theoretically, it could be a visual identification of the Qibla wall. But popular belief shows it as a shrine for divine illumination and as the gate to Paradise. (Hillenbrand 1994)

Different types of the mihrab (Subarna 1982-3)



In the Middle East, mihrabs are often semi-circular, while in Spain and Morocco they are polygonal, often accentuated by a hanging dome over or in front of them. From the early eighth century, mihrab has either a single or, less frequently, double or multiple niches. In some places, Shiite mosques have double mihrabs.

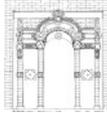
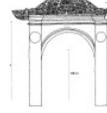
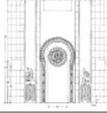
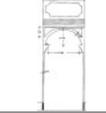
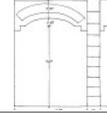
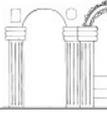
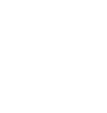
Visibility, a principle in Islamic ornamentation, is generally focussed on the portal, mihrab, and maksura. And Arabs ‘almost’ always insisted on adorning the columns of mihrab with capitals in style in conformity with their ornamentation. Ways of enhancing mihrab varied, depending upon periods and places, and even non-ornamentation on it can make a visible distinction from its surrounding areas. In adorning Javanese mihrabs, the same idea seems to be applied. However, Mansyur Sawah Lio (2003^{interview}) stresses that mihrabs in Jakarta do not have much ornamentation, for fear of disturbing prayers’ concentration on God. By contrast, Prijotomo (2004^{interview}) says that a beautiful mihrab is a strategy for encouraging non-Muslims to embrace Islam.

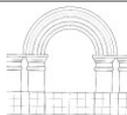
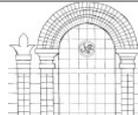
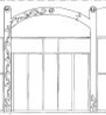
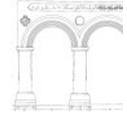
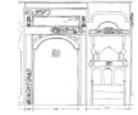
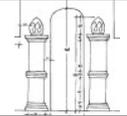
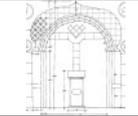
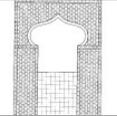
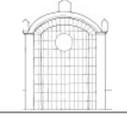
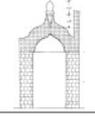
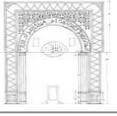
Characteristically, in Java, the sacredness of mihrab was stressed. Several mosques have a chronogram (*candrasengkala*) within or above the mihrab. Most mihrabs have a semicircular vault and ornamentation, often with kala-makara. A kala head at the top in the centre with the symmetrical and scroll-like body flows down on either side and meets makara at each end. Sometimes floral motifs replace a visible kala-makara.

For instance, the mihrab in Agung Kasepuhan of Cirebon has elaborate decorations: a lotus flower suspended within the vault of the mihrab, and Surya (sun), a symbol of the Hindu Majapahit, represent power and supremacy. Isnaeni (1996) observes that as central motifs, the lotus and the sun signify essential aspects of life - 'embodied immortal and religious duties (lotus flower), and the perfect attainment of spiritual insights towards victory in the after-life (sun)'. Islam emphasises the Muslim duty in social and spiritual relationships, and without performing their duties, Muslim rights do not respect. In this context, the relationship between Islamic principles and the images of the lotus flower and the sun on the mihrab becomes clearer.

Many mihrabs in Java were rebuilt during renovations, using new glazed ceramic tiles on the walls. Mihrab can have two or three arches, depending upon its size, but a traditional mosque usually has one simple mihrab. Compared with lavish and elaborate mihrabs in other parts of the Islamic world, the simple design of Javanese mihrabs could be considered a characteristic. In several modern mosques, it has even been omitted, like in Pondok Indah, 1998 of Jakarta, the capital of Indonesia.

Mihrabs of 40 Javanese mosques in alphabetical order

agung demak	agung jepara	agung Kasepuhan	agung malang	agung mataram
				
agung solo	agung yogya	al akbar surabaya	al anwar angke	al alam cilincing
				
al azhar	al makmur jipang	al marunda	Mukarmah bandan	al ukhuwah b. kota
				
al w m	astana mantingan	bayat	caringin labuan	carita labuan
				

angkunegara					
cut meutia	hidayatullah	jami kanoman	kampung nembol	kanari	
					
kasunyatan	kanoman semarang	langgar k. kanoman	menara kudus	menar kp. melayu	
					
merah panjunan	pajlagrahan	pusdai jaber	raya cipaganti	robayan jepara	
					
sabilliah malang	sandang duwur	sunan giri	sunan kalijaga	sunda kelapa	
					

THREE ISLAMIC PERIODS

Islamic Java can divide into three distinct periods²²: (1) continuation of pre-Islamic influence in the transitory period (15C-1619), (2) European and Islamic influences during the Dutch colonisation of Java (1619-1945), and (3) a pure Islamic movement in the contemporary period (1945-to the present), caused by the political and religious movements, although other invasions - Chinese, Portuguese, British, and Japanese brought lesser changes in the island.

Indonesian scholars, such as Tjandrasasmita, Anbary, and Sedyawati (2004-6^{interview}), relate that Islamic art and architecture were brought by traders and ulamas (religious teachers), not by

²² Tjandrasasmita (2005^{interview}), but for Fanani, three divisions can be: stage 1 (1000-1650), stage 2 (1650-1900), stage 3 (1900-2000) in a view of the Islamic movement in Java, but this research standardises the term 'transitory, Dutch colonisation, and contemporary'.

cultural people around the 12th century. As foreign missionaries did not possess skills in making Islamic ornaments, instead, they focused on explaining the principles of the religion to local people. Poor execution of calligraphy on the earlier gravestones is probably an example of the limited skills that transferred. This tradition spread further, and local genius started to create new motifs after the modification of existing ones with Islamic context. The first syncretic ornaments named as 'local Islamic or Malay Islamic ornaments' which differ from the orthodox Islamic ones. Among the three genres, arabesque and geometry were somehow absorbed into Hindu-Buddhist scrolls and megalithic geometry, while Arabic calligraphy kept its position. In Java, it was combined with the Malay language, inventing a local script, 'Jawi'.

Around the 18th century during Dutch colonisation, Javanese Muslims were much more able to make the journey to Mecca as pilgrims and started to learn about orthodox Islamic ornament, finding them more beautiful than what they had at home. Eventually, they brought them home and began adapting them into local ornamentation and cultural context; thus the creation of the second syncretism occurred. Following Indonesian independence in 1945, any Muslim could travel everywhere and learn pan-Islamic ornament, repeat the same process, and invent the third syncretism. It can say that each period had its Malay Islamic ornament (Fanani 2006^{interview}).

Marwoto (2006^{interview}) agrees with Fanani in part, but stresses the Dutch contribution in disseminating Islamic ornament in the island: 'We have only temples. We do not know how to make mosques. The orthodox Islamic dome arrived here through the Dutch who knew them. They taught us since we had no direct contact with the Arab world'. Fanani accepts the Dutch contribution that Muslims' visits to Mecca had more influence on Javanese mosques. Tjandrasasmita (2006^{interview}) gives another reason:

If Muslim missionaries who had brought their Islamic architecture and ornament wanted to introduce them here, at first, they could not accept, because we had already our architecture, such as a stepped roof, and ornaments, based on geographical and ecological experiences which should continue.

Whatever the case was, the assimilation of Islamic ornaments into the local culture was caused by the flexibility and tolerance of both Islam and Javanese people. And different views imply the lack of full research on Islamic culture.

The Transitory Period (15C-1619)²³

The Islamic transitory period starts from the foundation of the earliest Islamic kingdom of Demak around 1479 after the conquest of Hindu Majapahit kingdom and ends with the beginning of Dutch

²³ The first Islamic Demak kingdom founded around 1479, but as mosques might have already existed, the transitory period starts from the 15th century.

colonisation of Java in 1619. During this time, remnants of Hindu-Buddhist influence were evident in Javanese mosques. Three kingdoms arose in sequence: Demak on the coast, Pajang, and Mataram in the inland of Central Java. According to Javanese chronicles and oral traditions, the main aim for struggling Islam from the coastal Demak to the inland Mataram was to gain legitimacy over Majapahit. At this time, mosques served both as places for prayer and for showing Islamic power over Hindu-Buddhism.

After the foundation of Demak, Muslims strove to declare Islamic power dominant, and Islam reached its supremacy during the rule of Sultan Agung (r.1613-45) of Mataram. Although Mataram and its spiritual sovereignty existed until Indonesian independence in 1945, the death of Sultan Agung in 1646 was a starting point of a decline in the political power of Javanese rulers. During the Islamisation, a few Islamic centres were founded along with the coast (*pasisir*) in Central and West Java, such as Kudus, Jepara, Cirebon, Banten, Gresik, and Surabaya, keeping close contact with Demak and sharing the pre-Islamic syncretic culture.

Agung Demak (1479), Central Java



The tradition says that the oldest mosques were likely reused buildings within palaces or small prayer halls in villages. They modelled on existing building types used for a similar sacral purpose. The four main columns (*soko guru*) support the uppermost roof, separating it from the double-layered outer roof to admit light and to allow ventilation of the prayer hall. The earliest large mosques are revered as the oldest of their kind in Southeast Asia, and the first mosque is said to be Agung Demak (1479). Despite its renovation and reconstruction in the 19th and 20th centuries, the present form of this mosque still resembles the original one, becoming a standard for the mosque building later.

The only mosque tower locates in a pilgrimage town of Kudus (Arabic: *al-Quds*), whose mosque has the tomb of the *wali* Sunan Kudus. The structure of the tower closely resembles that of Hindu Majapahit and recalls the *kul-kul* towers of Balinese villages. The tower contains a cylindrical drum to beat for calling prayer as a common tradition.

A comparison of architectural forms in the coastal and inland mosques reveals that, in the inland regions, mosques had a square prayer hall and a water channel bordering the serambi,

while in the coastal area, half of the mosques had a square hall and a stylised Hindu-Buddhist kala-makara on the mihrab. However, the mosque complex reflects the style of Hindu-Buddhist temples in East Java, surrounded by walls and located in the middle of the site with a prayer hall, soko guru, and tiered roof. The shift of political power from the coastal to inland kingdoms brought a movement of Islam and its culture from trading to an agrarian basis, but the essential elements of the mosque remained.

The Dutch Colonisation Era (1619-1945)

During the last decades of the 16th century, English and Dutch ships began to explore Southeast Asia. A European administration was set in place to strengthen international trade and to regulate production in responding to the demands of their home markets. Although the official start of Dutch colonisation of Java was on 30 May in 1619 when Jayakarta fell by J. P. Coen, the Dutch had already influenced the courts of Central Java. Traders, such as Acehnese, Javanese, Arab, and Indian, from any part of the Muslim world, settled down harbours in Sumatra, Banten, Batavia²⁴ and Surabaya in Java, forming communities with mosques as their life focus.

Slightly small in scale, the previous traditional Hindu-Buddhist style still echoed in mosques. Agung Palembang (Sumatra), Kebun Jeruk, Angke, and Jami (Jakarta) have a similar profile in a traditional pyramidal roof and soko guru. A wide range of ornaments of Middle Eastern and Indian, sometimes of European and Chinese or even regional inspiration, was applied to the doors and windows and details of masonry walls.

Hidayatullah (1750). West Java



The collapse of the Dutch East India Company at the end of the 18th century and a brief British administration for seven years from 1811 provided an opportunity for the Dutch government to control Java from 1813. It was this decade that the first Mogul dome of Baiturrachman (1831) was built by the Dutch in Aceh, combined with the local serambi, and further introduced in Javanese mosques.

²⁴ Jakarta has many other names historically: Sunda Kelapa, Jayakarta, and Batavia.

Towards the end of the 19th century, however, European liberal movements against injustices in the colonies brought interest in their indigenous culture and religious life, neglected by the ruling government. As a result, in the early 20th century, existing Javanese mosques began renovations by the support of the Dutch, and new larger mosques, such as those in Bandung and Semarang, were sited on the public squares. A departure from local tradition saw in the addition of a freestanding tower, and an iron tower surmounted by an Indian style dome built alongside the old mosque in Demak.

The Contemporary Period (1945-to the Present Day)

From the end of the 19th century, new directions in theological education and social reform throughout the Islamic Arab world introduced alternative architectural styles which emanated from Cairo and Arabia. They were somehow accepted in Java but resisted by other nationalistic sections of the *ummat*. After Independence in 1945, this trend reversed in a movement towards solidarity among Muslim nations and the development of a combination of Javanese and international styles in variety, in the context of modern technology and characteristic design.

President Sukarno initiated an extensive 'Islamic' building program and continued by President Soeharto of Indonesia during the early 1980s. Sukarno wanted to build the National Mosque, Masjid Istiqlal, which would accommodate 20,000 at prayer inside and 100,000 in its courtyards. Interestingly, in this case, Javanese traditions were disregarded by his obsession with the mosque to rival all others in the Islamic world. Instead, the centralised domed space of the 14th-century Ottoman architecture took as a model.

During the period of Soeharto, a traditional but strictly functional design prevailed in more than 400 mosque buildings throughout the country. The government-sponsored foundation *Yayasan Amal Bakti Muslim Pancasila* offered a standard model to use for a mosque building in less advantaged areas: a basic plan with a three-tiered roof, available in three sizes (15, 17 or 19 m²). Although its model was old Agung Demak, the absence of soko guru in a new mosque design denies the metaphorical role of linking the believers to Allah. A dome-like structure would appear to be discouraged by the officially claimed foundation. Perhaps this is a way to resist change and to retain cultural identity amidst the challenge of other images for a mosque such as that of a dome or a flat roof (Saliya 1990).

Al Akbar Surabaya (1995-2000), East Java



Generally, Javanese Muslims associate mosques with columns as an active element of design. As the most excellent example, Soko Tunggal (1973) at Taman Sari in Yogyakarta took over the centralising plan from its predecessor, Agung Yogyakarta (1773) built by Sultan Hamengkubuwono I of the glorious Mataram kingdom. In the prayer hall, a single column reminds the mythological axis of the cosmos, or 'spindle of the universe', by supporting the roof. The central column and its curving brackets are decorated to represent the stem and branches of the 'celestial tree' or the lotus. The central focal column indicates the unity of God and signifies the Sufi principle of the union between Muslims and God. The expansion of population has brought about the need for many larger mosque complexes in recent years, and designs from the Middle East, India, and North Africa have taken over local traditions.

The absence of mihrab is seen at Pondok Indah (1998) in Jakarta. The less popular flat-roof was adopted at Salman (1974) in Bandung following the Western functionalism. Young designers are also searching for a more authentic architecture responsive to the local environment, such as Adhi Moersid who built Said Naum (1977). Moreover, details on several mosques still reflect their predecessors in the use of the material or structural method to continue their cultural heritage. Consequently, in this cosmopolitan atmosphere, uncertainties arise for local architects or ulamas who are endeavouring to advise on the appropriate Islamic forms.

...in recent years planners of complexes to accommodate the faithful at prayer in this eastern extremity of Muslim Asia have begun to examine their rich heritage. Inevitably they will continue to work through their great tradition of mosque-building and make their architecture resonate with the grace and power of its expressive forms. (O'Neill 1993)

In short, in the transitory period, significant continuity of pre-Islamic tradition was shown, while European and Islamic influences on Javanese mosques took place gradually during Dutch colonisation. Toward the contemporary era, pan-Islamic motifs replaced those existing elements. However, a tendency to continue the traditional cultural heritage is still seen, creating a characteristic regional style in both architecture and ornamentation.

JAVANESE MOSQUE ORNAMENTATION

Remnants of Pre-Islamic Ornaments

Although the Mataram dynasty was Muslim, it patterned itself after the great Hindu-Javanese empires of previous centuries... Clearly, identification with the prestigious Majapahit royal house was of greater importance than religious solidarity with the coastal powers. (Raffles 1817/1982)

Krom (1923) was among the first scholars to discuss the Islamisation process in Java. Illustrating the minaret of Kudus as an adaptation of an old form, Islam in Java was not hostile to established architectural traditions, owing to gradual Javanese conversion to Islam, rather than revolution. Moreover, the significant modification was limited to the principles of decoration, in consequence of the Islamic prohibition on depicting living beings. It encouraged two leading Indonesian archaeologists, Tjandrasmita and Ambary, to develop this idea further. Tjandrasmita (1984) attempted to prove that Islam took over local conditions and, to a certain extent, contributed to the preservation of indigenous cultural values and traditions. It could be because the Islamic propagators and the Indonesian themselves have always known tolerance, which is not only evident in the architecture and decorative art but is also in other aspects of their culture.

For instance, Astana Mantingan (1559) in Central Java and Sendang Duwur (1561) in East Java exhibit a blend of Hindu-Javanese and Islamic cultural elements, indicating a close relationship between Hindu Majapahit and Islamic cities on the coast. He stressed the importance of ornaments in integrating Islam into Javanese culture, encouraging artists to adjust gradually to new realities, instead of putting any imposition on them. This theory was shared by Ambary (1983), asserting that Indonesian Islamic art was a continuation of indigenous art from the prehistoric period, with the full absorption of Islamic calligraphy as a new element. Others, such as dome and minaret, could not be integrated and remained as foreign objects. In his book, *Finding the Civilisation of Islam and Archaeology in Indonesia* (1998), Ambary relates that Islamic art in Java tends to be non-iconoclastic, particularly in places of worship, and does not separate architecture and ornament; preferably, they integrate.

He divides Javanese arts between the pre-Islamic and Islamic periods: (1) Hindu-Buddhist art is characteristic of its political and cultural background, while Islamic art is not. (2) Research into the art of the Islamic period has not been intensive and continuous, compared to that into the Hindu-Buddhist period. (3) Islamic art has lost its continuity in certain things. During the Hindu-Buddhist period, art was centred, using professional artists in the palace, but in the Islamic period, some cultural centres started to deviate from the original art forms, because of the foundation of small kingdoms, different interpretations of art, and diverse tastes of artists who created local art.

As Islamic ornaments have pre-Islamic traditions, the Hindu Majapahit art was to complete during the Islamic period by additional patterns of Islamic and Chinese ones.

Syncretic motifs in Astana Mantingan and Sendang Duwur further were explained by Fontein (1990). In Astana Mantingan, a large number of sculpted foliated stone medallions²⁵ combine with stylised animals - elephant, tiger, monkey, and crab -, demonstrating a smart and artistic way of replacing living figures, instead of rejecting them in orthodox Islam. A combination of kala head and deer on a doorway at the winged gate of Sendang Duwur indicates the artist's indebtedness to his Hindu-Buddhist predecessor: 'The gate has two large wings that make it look a Garuda flapping its wings about to embark upon his adventurous flight in search of the elixir of immortality'. Prijotomo (2004^{interview}) underlines a combination of pre-Islamic and Islamic ideas and forms in floral decoration at Sendang Duwur:

It is not a real floral, but a modified one, seen as floral. This ambiguity is a Javanese characteristic. Javanese mosques use Hindu-Buddhist motifs in an Islamic way. The form is Hindu, but the idea is Islamic, or vice versa. As Islam allows liberty, everybody can make their style but keeping continuity.

Tjandrasmita (1984) maintains that Islam penetrated slowly into Indonesian minds without force, due to its basic concept. Sendang Duwur reflects the process of acculturation with tolerance, syncretism, local genius, the friendship of the Javanese in the transitory period. It is the earliest product of Indonesian Islamic art.

Marwoto in her PhD thesis, 'Decoration of Mosques in Northern Java from the 15th to 17th Centuries' (2003) investigates ornamental motifs in mosques and on chungkups (graves of famous people) on the coastline of Java where the early Islam began. Four different types of Hindu-Buddhist or Islamic motif were found: (1) natural motif: mountain, cloud, coral, sun, (2) fauna: bird, lion, goat, horse, deer, monkey, snake, bugs, dog, tiger, fish, elephant, bull, kala-makara, (3) floral: flower, leaf, tree, heart-shape, (4) construction element: one or four or five masts, non-winged or winged gate, (5) geometric interlace, (6) Arabic calligraphy, (7) cross, (8) pool, (9) *wayang*, and (10) frame.

Among the pre-Islamic motifs, kala-makaras and floral seemed to continue mostly. Especially, lotus was much used in both Hindu-Buddhist and Islamic periods, filling the panels in a storytelling relief or without it. Islamic poets describe flower as a book, where one can study the knowledge about God. Flowers with different numbers of petals in a combination of birds are present on graves, and their coexistence can consider as the characteristic of Islamic decorative art

²⁵ Medallions of Hindu-Buddhist lotus or Tree of Life in Mantingan (1559) have a rounded and rectangular shape. According to Stutterheim, Bergema, and others, 'the tree of life' is both related to the Cosmos Mountain in Hinduism and the life in Paradise in Islam.

in Java, despite a ban on living figures by the *hadith*. Motifs which brought with Islam are a heart-shaped leaf, geometric interlace, calligraphy, and the winged gate.

A wish to present a living creature, especially animals, was kept on, even though sometimes the form is blurred. An Islamic characteristic on the northern Javanese coast is the tendency to take an existing shape, and transform it into a style which is considered to be more Islamic.

Orthodox Islamic Ornaments by Local Genius

Islamic stylised design contains the Islamic spirit. (Subarna, 2004^{interview})

The ornament is a visual prayer. It consists of rhythmic repetition and continuity. (Pirous and Noe'man, 2004^{interview})

Islamic ornament has three genres of arabesque, geometry, and calligraphy to endow visual pleasure and the paradise concept. Islam's rejection of the representation of living beings has often mentioned. The Holy Koran²⁶ itself has no formal ban on this representation, but the *hadith*, Sayings of the Prophet, took a hostile attitude towards representation. It says, 'those who will be most severely punished on the Day of Judgement are the murderer of the prophet, one who leads men astray without knowledge, and a maker of images of pictures'. Similarly, 'The artists, the makers of images, will be punished at the last judgement by the decree of Allah who will inflict upon them the impossible task of breathing life into their works'²⁷.

The *hadith* implies in no way that the Prophet prohibited mosque ornamentation. The Prophet neither forbade meaningful and moderate mosque ornamentation nor permitted it. But, lavish ornamentation is believed to decrease Muslim faith in God by distracting concentration on prayer; thus the form, design, and function of the mosque ought to be inspired by Islamic faith, principles, and values²⁸. Among Indonesian scholars, different views appeared:

Artistic freedom is allowed in Islam, although ornament regulates in the *hadith*. (Ambary 2004^{interview})

Islam has no instruction on using ornament, and artists have freedom. (Said 2004^{interview})

²⁶ The Koran has no message about art and architecture, despite uncompromising to idolatry: 'Believers, wine and games of chance, idols, and divining arrows are abominations devised by Satan. Avoid them, so that you may prosper' (Surah 5:95).

²⁷ Bukhari's *hadith*.

²⁸ Caliph Al Walid I (r.705-15) of the Umayyad introduced mosque ornamentation on a grand scale to enhance the status of Islam.

Between two schools in Islam, one forbade living figures to prevent iconoclasm, while the other allowed them under the condition that ornaments should use for a useful purpose. The ornament is a means of attracting people to embrace Islam. (Herman and Atik 2004^{interview})

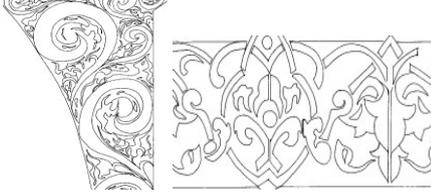
About a deliberate practice of ornamentation in Javanese mosques, people's urge to visit a place of worship forms by their culture and practises on the material level. Javanese Muslims thought that a mosque should be the most beautiful and lavish building, legitimising this as 'God Himself is beautiful, and He loves beauty.' A deeper understanding of this thought, however, tells against this lavishness and warns that superfluous ornament is a way close to the devil (Surah 12:27). Anything which distracts from prayer should avoid. As a solution, stylised forms in repeated geometric patterns are applied, while Koranic calligraphy verses use as a means of communication (Noe'man 2004^{interview}).

Marwoto (2003) states earlier that the first appearance of Islamic ornaments in Java was a heart-shaped leaf (*waru leaf*), geometric interlace, and calligraphy. The heart-shaped leaf²⁹, a kind of Islamic arabesque, was mostly decorated in mosques and on gravestones, such as Mantingan and Banten, while geometric interlace and Arabic calligraphy appeared on gravestones, ceramics, and mosques of Kudus, Mantingan and Cirebon. Winged gate neither found in the Hindu-Buddhist period nor any other Islamic culture. As a bird of the vehicle of Vishnu in Hindu myth, this motif could be the invention in Javanese Islamic decorative art. Moreover, a few interviews (2006) can enrich this information, owing to the lack of literature and research on this theme.

ARABESQUE is particularly hard to define as Islamic ornament or not. Javanese Muslims do not consider arabesque to be remarkable, compared to geometry and calligraphy as the sign of Islam. Few samples found in the transitory period (Marwoto). Its reason can be due to the rapid assimilation of arabesque with Hindu scrolls when it arrived. Local culture accepted arabesque but modified it, as arabesque was close to existing scrolls (Tjandrasasmita and Fanani).

²⁹ It showed in Iran ceramics (13-14C). During Yuan dynasty in China, the motif knew as 'yun jian' or cloud collar. Arabesque appeared on mosaics in Dome of the Rock.

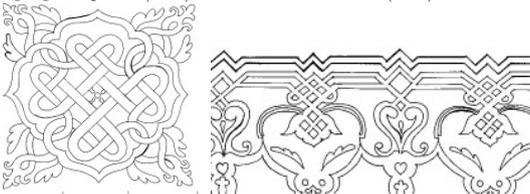
Hidayatullah³⁰ (1750), West Java; Cut Meutia (1920), West Java



GEOMETRY: Although the prehistoric megalithic culture had geometry in Indonesia, a simple Islamic geometric decoration showed on ancient tombs in Aceh and earlier mosques of Cirebon around the 16th century. Islamic geometry has its distinct pattern and grids, while the megalithic one does not have this rule. There seems no strong continuity on Islamic geometry, due to the specific patterns which Javanese Muslims could not make. Instead, they used local geometry in earlier mosques, differing from that in new mosques (Marwoto). And there was an effort of a simple Islamic geometrical frame at Sendang Duwur or combined interlace with a foliate motif on the mihrab of Agung Kasepuahn (1498) (Tjandrasasmita).

Sharing with Marwoto, Fanani relates, despite the arrival of geometry to Indonesia in the first Islamisation, it was not quickly adopted, not because of local geometry, but because of the complexity of Islamic geometry, based on a mathematical calculation which local people at that time did not know. Megalithic geometry merely made. When Muslims went to Mecca during Dutch colonisation, its technique brought back. It was after independence in 1945 that orthodox Islamic geometry executed by architects who had studied mathematics, and became famous.

Agung Kasepuhan (1498), Central Java; Cut Meutia (1920), West Java



CALLIGRAPHY: Arabic scripts gradually introduced to Indonesia. Between two types of *Kufic* and *Ta'liq/Nasta'liq* on tombstones, *Kufic*³¹ was used in words 'Allah' and 'Muhammad'. Islamic

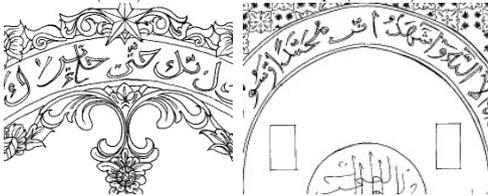
³⁰ A variation of arabesque newly made during the mosque renovation. The artist saw orthodox Islamic arabesque from books but wanted to express in a regional character (Keeper of the mosque, 2004^{interview}). It was confirmed by Fanani, calling it 'Malay Javanese Islamic arabesque' (2006^{interview}).

³¹ The gravestone (1082) at Leran in Gresik was written in *Kufic*.

calligraphy also applied to Koranic words on sculptures and drawings which depict human beings, animals and flora. From the 14th to 16th centuries, calligraphy appeared less likely in mosque ornamentation but was on graves or in manuscripts, combined with Javanese and Arabic letters, called *Jawi* (Tjandrasasmita). Ambary (1998) says that Arabic *Kufic* script stated from the 11th century, introduced by Cambay graves in Gujarat, and other styles, such as *Naskhi*, appeared on stone, glass, wood, and paper in the 18th century when the Middle East or Mogul architecture established. Calligraphy successfully absorbed into local Javanese culture and decorated mosques as a creative art. The significance of calligraphy praised: 'In Islamic culture, calligraphy is the most important, then geometry sometimes' (Marwoto), and 'Calligraphy was easily adopted here due to the message of Islam' (Sedyawati).

In parallel with the use of Hindu-Buddhist motifs in mosques, continuity of Islamic ornaments can also discuss. Suptra underlines that all Islamic ornaments were accepted, but calligraphy was mostly used as a new form of art. Islamic geometry and arabesque became syncretic with local ornaments, as a characteristic expression of Javanese Islamic ornament. Marwoto shares this view partially that 'Islamic ornaments have always been in Java. Calligraphy was mostly visible, while the others were shown from time to time, separately or mixed'.

Al Marunda (1527), West Java; Sunda Kelapa (1969-71), West Java



Sedyawati agrees with this, 'Geometry and arabesque were likely continued. We can glimpse them in mosques'. Of these, Fanani tries to resolve that 'Islamic ornament continued all the time, a kind of arabesque at the transitory period, calligraphy during the Dutch colonisation era, very popular geometry in the contemporary period'. For the researcher's view, the study on Islamic ornaments greatly neglected. Was it due to the continuity of pre-Islamic motifs in mosques?

During the fieldwork on surveying 30 mosques, nine have arabesque on mihrabs, minbars, ceilings, railing, walls of the prayer hall and serambi. Sometimes the motif is displayed on lamps. Fourteen mosques have geometric motifs, adorned with floral, calligraphic and bird-like motifs. Geometric designs have more variety than arabesque in their location, ranging from mihrabs, minbars, ceilings, doors, pillars, windows, railing, and walls to floors, both indoors and outdoors. Calligraphy appears in all mosques, particularly on mihrabs, graves, facades, signboards, and roofs. The Islamic crescent symbol was attached to by calligraphy, making visible the name of 'Allah'. At

mosques in the contemporary period, either renovated or newly built, geometry and arabesque were full. Nevertheless, every incoming Islamic ornament had to be adapted to local culture, creating a syncretic Javanese Islamic one, regardless of more or less its use in mosques.

Chinese and European Influences

The Chinese also contributed to the development of Javanese culture. Their contacts with Indonesian island were as early as the fifth century. However, traders from the southern provinces of China and the coast of Campa (now Vietnam) became active in Java and the south of Archipelago in the 15th century. The tales of the Malay Annals of Semarang and Cirebon give rise to the assumption that Chinese Muslim traders and artisans lived in business quarters around mosques. Vast quantities of Chinese cash and earthenware were imported into Java. The annals contain information on the building of mosques by Chinese Muslims, too. The style is similar to the pagoda built in China, composed of superimposed roofs. Following their settlement in port towns in Java, such as Gresik, this style spread widely. It supposes that the Chinese introduced carving tools for mosque ornamentation. Decorative stone reliefs on Islamic tombs on the north coast testify to Chinese artistry, the art of woodcarving for doors, panels, and chests.

Chinese traders had a strong position at pasisir communities. They were also talented craftsmen in wood and ceramic. (Fanani, 2004^{interview})

The most distinct Chinese influence was curvilinear meanders and cloud motifs, shown on the relief of the Panataran temple complex in Majapahit. In Cirebon, Chinese motifs of cloud and rock, taken from ceramics and paintings, were incorporated into the designs of palaces and mosques and displayed in the gateway to the Kasepuhan Palace. In particular, the cloud motif often accompanies kala-makara, becoming a flame or floral-like. The door of Agung Demak (1479) has a Chinese form, a dragon breathing fire. Ornamental Chinese plates inserted into the walls of mosques at Banten, Kudus, Jepara, and Cirebon. Tjandrasasmita (2004^{interview}) asserts the influence of Chinese rock and cloud in ceramics of mosques in Demak and Cirebon. Yunardi (2004^{interview}) gives a reason for a mixture of Arabic, Chinese, and local people's influences on Cirebon mosques.

Compared to their active colonisation of Indonesia, Europeans did not leave a permanent mark on Islamic mosques in Java³². Wertheim (1956) explains that, despite the foreign merchants' trade, they did not mix with Indonesian society, partly because of the low esteem in which European traders held. When the Portuguese³³ set out to spread Christianity, they first had to adapt themselves to peculiar Indonesian culture. It was the same for the Dutch colonisers in the 17th and

³² The term 'Dutch' has no relation to art and culture, but its rule in Java.

³³ Portuguese introduced synthetic eastern and European style at Water Castle in Yogyakarta.

18th centuries. Javanese culture developed largely unaffected by the presence of the Dutch traders³⁴. Tjandrasmita claimed that Christianity did not influence Javanese mosques very much. If they did, palmette³⁵, crown, and flower, especially tulip or lily³⁶, appeared. European and Indonesian styles in furniture were popular in the 19th century. He described this phenomenon as Javanese ‘tolerance’. Sudradjat (2004^{interview}) inclined to ignore the impact of the Dutch on mosques. Dutch ceramics and tiles used in mosques without any religious meaning (Herman and Atik 2004^{interview}).

European motifs sporadically show in many mosques, particularly on glazed tiles or carved wood. The mihrabs and walls of Menara Kudus (1537) and Tambora (1761) bear floral tiles, while the wooden minbar of Al Azhar (1952-8) is engraved with palmette and other geometrical motifs. Cut Meutia (1920), which started as a government office but became a mosque, echoes a trend of a current European style: simple but elegant floral motifs and palmettes.

SUMMARY AND CONCLUSION

Javanese people are syncretic; this is called Indonesian tolerance and flexibility. Two Islamic manifestations exist: Agami Jawi (Javanese Religion) adapted mystically inclined Hindu-Buddhist beliefs and concepts, and integrated them within an Islamic frame of reference. To the contrary, the Agami Islam Santri (Islam of the Religious People), a variant of Javanese Islam, is much closer to the formal dogma of Islam. Interviews with Indonesians revealed the importance of Agami Jawi, and, historically, the Mataram kingdom practised syncretic teachings from mystic animism, Hinduism, Buddhism, and Islam. Although Islam arrived around 1450 in Java, probably from Gujārat in northern India, it gradually spread via several channels: trade, marriages, Sufism, pesantren, and art and culture to create an adaptation of Islam. The origin of the Javanese mosque, either pre-Islamic or foreign in its source, is still uncertain, but as mystical Sufism believed mosques to be sacred places, existing ideas and forms of mysticism continued: a square plan, soko guru, and tiered roofs from Hindu-Buddhist temples in East Java. Consequently, Javanese mihrabs possess the sacredness, but are not as elaborate as those in the Arab world.

The Islamic Java has three periods, based on the political and religious movements: (1) the transitory period (15C-1619), (2) Dutch colonisation of Java (1619-1945), and (3) the contemporary period (1945-to the present). In the transitory, significant continuity of pre-Islamic tradition was shown, while European and Islamic influences on Javanese mosques took place gradually during Dutch colonisation. Toward the contemporary, pan-Islamic motifs replaced those existing elements.

³⁴ Palaces of the Governor-General (Jakarta) and Kasepuhan (Cirebon) bear Dutch predominance.

³⁵ Sasanian palmette, a prototype Islamic arabesque, was introduced to Indonesia by Portuguese and Dutch Christians, not by Indian or Arab Muslims (Tjandrasmita 2005^{interview}).

³⁶ Ottoman tulip and lily became cultural mediators in Europe, particularly during the Rococo period.

Nevertheless, traditional cultural heritage continues, creating a characteristic regionalism in architecture and ornamentation.

Many pre-Islamic motifs continued in mosque ornamentation, such as natural fauna, floral, geometric interlace, and calligraphy. Among them, kala-makara and lotus were the most popular and recurrent. Living figures were stylised, rather than abandoned, despite the ban of depicting figures according to the *hadith*. As new motifs, calligraphy, interlaced geometry, heart-shaped leaf, and winged gate appeared at Sendang Buwur (1561) which was the best syncretic architecture and ornamentation. Islamic ornament was brought to Java by traders and missionaries. Calligraphy mostly used, while geometry and arabesque were assimilated with megalithic geometry and Hindu-Buddhist scrolls, differing from those in the Arab world, called 'Javanese Islamic ornament'. Islamic Java consists of multiple elements: prehistoric, Hindu-Buddhist, Islamic ideas and forms, including to a lesser extent Chinese and European ones. The syncretic religion mirrored in mosque ornamentation, and continuity is a 'must' for Javanese Muslims.

A few findings can answer the research questions. (1) Elements of Javanese mosques may have mystical functions. (2) The majority of motifs appear to be a continuation of pre-Islamic ornaments. (3) The sacredness of Javanese mosques allowed their mihrabs and ornaments to be sacred, implying ornaments both as aesthetic and symbolic. (4) Syncretism can cause difficulty in identifying motifs whether they come from Hindu-Buddhist Java or copied from the orthodox Islamic world outside Java. (5) The literary debates on 'continuity' put forward into interviews to find its information in depth.

♣ References in alphabetical order: Ambarly 1998/2004(interview); Baloch 1980; Behrens-Abouseif 1998; Boedjardjo 1978; Brown 1956 ; de Graff 1947-8 ; de Graff and Pigeaud 1984; Davies 1982; Dawson and Gillow 1994; Dickie 1978; Fanani 2004 (interview)/2005(interview)/2006(interview); Fontein 1990; Fox 1998; Frishman 1994; Geertz 1964/1971; Grabar 1973; Groenveltdt 1960; Hattstein 2000; Herman and Atik 2004(interview); Hillenbrand 1994/2001a; Insoll 1999; Irwin 1997; Isnaeni 1996/2004 (interview); Johns 1961; Koentjaraningrat 1990; Krom 1923; Kuban 1994; Lewis 1992; Mansyur Sawah Lio 2003(interview); Marwoto 2003/2006(interview); Naddaff 1991; Moersid, Fanani & Budhi 1991; Moquette 1913; Noe'man 2004(interview)/2005(interview); O'Neill 1993/1994; Omer 2004; Pigeaud and de Graff 1976; Pijper 1947; Pirous 2004(interview) ; Pope 1977 ; Prisse 1983 ; Raffles 1817/1982 ; Rice 1989; Ricklefs 1974/1993; Prijotomo 1992/2004(interview); Said 2004(interview); Saliya 1990; Schrieke 1957; Slametmuljana 1976; Soemantri 1998; Stierlin 1996; Subarna 2004(interview); Sudradjat 1991/2004(interview); Suptra 2006(interview); Tjahjono 1998; Tjandrasasmita 1978/1984/1985/ 2004(interview)/2005(interview)/2006 (interview); Wafi 1988; Wagner 1959; Wertheim 1956; Yunardi 2004(interview)

IDENTIFICATION OF MOTIFS IN JAVANESE MOSQUES

A juxtaposition of symbolic connotation and aesthetic beauty in ornaments enriches a subtle and serene atmosphere in the temple and mosque ornamentation. In Hindu-Buddhist temples, scrolls represent 'the start of life', blessed by numerous gods and goddesses, while in mosques, the magic of Islamic arabesques allures our eyes into wandering, denoting 'the vision of paradise'. Intentionally or coincidentally, scrolls and arabesques came to merge into the wholeness, created by the local genius, and provide a passage to Paradise in Javanese mosques.

Qualitative research is the 'generation' of ideas which can shape blocks of knowledge into manageable categories, and the interview is the most extensively used method in qualitative research. Three types of interview find: structured with the schedule, semi-structured with the schedule, and unstructured. In the semi-structured interview with the schedule, the interviewer has a list of questions on specific topics, but the interviewee has great freedom in making answers. Questions do not necessarily follow the outlined schedule and can be improvised, depending upon the nature of the replies given. A successful interviewer needs nine qualities to be 'knowledgeable, structuring, clear, gentle, sensitive, open, steering, critical, remembering and interpreting'.

INTERVIEWS ON IDENTIFYING ORNAMENTS

Background

This research mainly concerns the question of continuity of pre-Islamic motifs in Javanese mosque ornamentation. Literary sources were used³⁷ to answer the research question, but did not fully answer questions when the researcher met difficulty in identifying scroll motifs in Javanese mosques. Similarities exist between Hindu-Buddhist scrolls and Islamic arabesques, caused by their having the same character of undulation and repetition. However, in Hindu-Buddhist temple ornamentation, naturalness and lavishness were found in Central Java, while stylisation appeared in East Java. Interestingly, the term 'stylisation' also applies to Islamic arabesque³⁸.

³⁷ Three sources were attempted: (1) Javanese temples and mosque ornaments (Stutterheim 1927, Kempers 1959, Fontein 1971), recommended by Indonesian archaeologists (Santiko and Tjandrasasmita) who underline that ornaments created by local genius in Java, (2) Indian influence on Indonesian ornaments (Coomaraswamy 1972, Sedyawati 1990), and (3) Hindu-Buddhist Indian temples as the origin of those in Indonesia (Burgess 1956, Brown 1956, Zimmer 1960). *Indian Architecture according to Manasa-Silpastra* (Āchārya 1996) did not mention on rules of ornaments. Moreover, a few scholars in the UK revealed no rules of Hindu-Buddhist temple ornamentation.

³⁸ Islamic geometry can be problematic, due to ingenious geometrical motifs in prehistoric Indonesia. Calligraphy is a novelty.

Finally, the researcher considered the interview as the best method of clarifying several points not discernable from the literature. There is a substantial body of intellectuals and practitioners working in the field in Indonesia, and for the background to this thesis, evidence was sought through an interview with 20 specialists in art, archaeology, architecture, design, and history, hoping to find a new approach to the identification of origins of motifs in Javanese mosques. Between November and December in 2004, on the occasion of the researcher's second field trip to Java, more than 20 interviews were conducted in West and East Java. The meetings were planned to be semi-structured around the three main questions with the possibility of spontaneous questions. It was made according to the researcher's long experience in an interview for the best outcome.

The interviews undertaken by telephone, mail or face-to-face meeting at university, office, mosque, or the home of the interviewees. Interviews were conducted with four archaeologists, eight architects, one architecture historian, two artists, one historian, a couple of ornamentists, one art historian, one designer, and one carver. Their names were found from literature reviews in Indonesia or by recommendation of one scholar by another. Despite their different backgrounds and range of ages between 40 and 70, they are all (1) of similar professions in art, design, and architecture, (2) Javanese who reside in Java with the exception of one Balinese, (3) Muslims except one Christian, and (4) international contacts through their studies, seminars, and conferences. As part of the interview, a few drawings of motifs in Javanese mosques were shown to the interviewees as examples to build an interactive atmosphere and to obtain a focused response to identifying motifs, since the topic had not explored deeply before. All the interviews were taped, and some critical explanations were written down at the same time. The meetings held in a setting which was quiet and familiar to the interviewees. They were objective, open-minded, and conducted in an informal atmosphere. Most of the interviewees spoke English reasonably well, although an interpreter required on one occasion. The interviewees seemed to enjoy the communication with the interviewer, expressing curiosity and surprise, although there were a few points of which they had neither thought previously nor knowledge.

The outcome of the interviews led directly or indirectly to three conclusions. First, they supported the importance of empirical work (measuring, drawing, comparing ornaments on existing monuments) to arrive at conclusions. Second, they opened up more alternatives by which to classify motifs from different religions. Third and last, they encouraged more research into this subject, since only a few theses (Habib/Marwoto) and articles (Ambary/Tjandrasasmita) have been published about it in depth hitherto.

The following three main questions formed the structure of the interviews.
(Question 1): Does Hindu-Buddhism have a canon of temple ornamentation?

(Question 2): If there is no canon, how can origins of motifs in Javanese mosques be identified as Hindu-Buddhist or Islamic or both?

(Question 3): What conclusions can an examination of motifs on renovated mosques facilitate?

Drawings which showed during the interview were chosen from different areas and periods in Java, displaying either or both Hindu-Buddhist and Islamic influences, in terms of ideas and forms. These examples were not comprehensive but were intentionally selected to clarify their origins. Scrolls of Agung Malang (1853-90), Al Wustho Mangkunegara (1878-1918), and Al Ukhuwah Balai Kota (1990) appear to be Hindu-Buddhist, due to a resemblance of those in Hindu-Buddhist temples. Motifs of Hidayatullah (1750, renovated) and Sunda Kelapa (1969-71) are likely Islamic origin because they associated with stylised Islamic arabesques. A motif of Raya Cipaganti (1933) is perhaps a combination of Hindu-Buddhist and Islamic styles, while that of Cut Meutia (1920) can be classed as European, according to the mosque design by a Dutch architect during Dutch colonisation. Geometric motifs were also examined to add information on syncretism in Javanese mosque ornamentation because several types of geometrical design found in prehistoric times (Subarna 1982-3), and geometrical interlace appeared during the Islamic period (Marwoto 2003).

In this context, a few further questions arise.

(1) Does Islamic interlace differ from earlier prehistoric geometrical motifs?

(2) Can geometry be identified as Islamic, if it finds in mosques?

(3) What is the difference between a geometrised Hindu-Buddhist lotus motif in Agung Malang and Islamic geometry which resembles stylised lotus in Al Akbar Surabaya?

(4) Are the different geometrical tiles of Raya Cipaganti to be interpreted as design, or as merely showing a ready-made European material? Calligraphy seems to be a sole ornament which has no difficulty to be called Islamic.

Rules of Hindu-Buddhist Ornament

(Question 1): Does Hindu-Buddhism have a canon of temple ornamentation?

Five of the 20 respondents answered that there are no rules observable in Hindu-Buddhist ornaments. A Hindu guidebook, *silpastra*, deals with architecture and sculpture but does not with ornament (Lugra/Noe'man/Santiko/Sedyawati/Tjandrasmita). One (Priyotomo) was not sure about the existence of rules, while the rest (14) had no comment on this matter. Roebiharto and Lugra commented that techniques of ornamentation were inherited from generation to generation, while Muharam said that carvers neither had knowledge of the meanings of motifs nor their proportions in adorning temples. It indicates that no canon of temple ornamentation exists.

confirming the researcher's assumption. Moreover, Javanese temple ornamentation was derived from India, but created by the local genius, naming 'Hindu-Javanese'.

Identifying Origins of Motifs as Hindu-Buddhist or Islamic or Both

(Question 2): If there is no canon, how can origins of motifs in Javanese mosques be identified as Hindu-Buddhist or Islamic or both?

The Indonesian scholars recommended nine approaches of identifying origins of motifs: (1) ambiguity, (2) background, (3) chronology, (4) creativity, (5) empirical fieldwork, (6) heritage, (7) principle, (8) purpose, and (9) reference. Each of the nine ways of looking at motifs needs to elaborate.

(1) 'Ambiguity' is the result of syncretic Islam in Java, absorbing local animism and Hindu-Buddhism which leads an unclear boundary between different faiths; thus no clear definition can be made with one religion or set of beliefs. It applies to ornaments too. The presence of continuity and change in ornaments at the same time became problematic identifying motifs in lotus and scroll (Sedyawati). Ambiguity was due to Islamic flexibility, taking any motif except living figures (Ambary/Tjandrasasmita). (2) 'Background' covers the culture, religion, people, politics, and economy of a society. Both cultural history and people's deeds and sayings should emphasise. A mosque building itself is not a sufficient guide to classifying motifs as Hindu-Buddhist or Islamic (Noeman/Prijotomo). Historical, anthropological, and social-scientific approaches are necessary. Political and all other sources should use. 'I try to see historical sources because manuscripts contain culture' (Tjandrasamita).

(3) 'Chronology' makes distinctions between three Islamic periods: transitory (c.150-1619), Dutch colonisation (1619-1945), contemporary (1945-the present). Transitory starts around the foundation of Demak and continues until Dutch colonisation of Java began. Contemporary begins when Indonesia's independence. Orthodox Islamic elements appeared more in the contemporary (Isnaeni/Said/Tjandrasasmita). (4) 'Creativity' of decorating Javanese temples has referred to the term 'local genius'. Artists had their concepts of beauty, and new mosques allowed them to explore any style in mosque ornamentation (Lubis/Muharam).

(5) 'Empirical fieldwork' among monuments and their surroundings was advocated. In examinations, temple motifs should primarily be analysed, and then its outcome is compared with ornaments found in mosques (Santiko/Sedyawati/Tjandrasasmita). However, 'Investigating Javanese mosques are difficult, due to changes, renovations, reconstruction, and lack of old descriptions and historical records. Therefore empirical research into Javanese temples is crucial to understand Javanese mosques' (Budi). (6) 'Heritage of prehistoric indigenous and Indian Hindu-Buddhist motifs categorise Javanese mosque motifs as pre-Islamic or Islamic. Cultural heritage, both in temple and mosque ornamentation should be valued (Subarna).

(7) 'Principle' means the general rules of Hindu-Buddhist and Islamic ornaments. Its significance will be dealt with comprehensively later. (8) 'Purpose' is another expression for a function of ornament as symbolic or aesthetic. Of the same motif, Hindu-Buddhist ornaments to be symbolic; and Islamic as aesthetic (Lubis/Muharam). Santiko borrowed Bosch's theory that if scrolls have a root with meaning in Hindu-Buddhism. If not, the motif is more likely to be Islamic. (9) 'Reference' is personal experiences or literary sources, which can identify motifs. If motifs have been seen before, related to Islamic buildings or literature, this experience prompted him to judge a motif as Islamic (Pirous).

During the interviews, two basic terms emerged: 'cultural continuity' as a preference for Javanese, which Fanani has tried to emulate in Agung Semarang mosque in 2004; a distinction between 'Arabic' and 'Islamic'. Islamic can be international, not necessarily mean Arabic. Arabic expresses ethnic Arab culture. 'I am Javanese, and then my religion is Islam' Javanese philosophy affected Javanese mosque ornamentation (Priyotomo). The result showed principles (16 out of 20) as the best approach to analysing the origins of motifs. Chronology (14) and creativity (13) are alternatives. Although empirical analysis seems less important (8), the researcher considers it the most appropriate method in this research.

Continuity of Javanese Culture in Mosque Ornamentation

Continuity of pre-Islamic ornaments in mosques strongly voiced:

Any motifs are allowed in Islam, as long as they do not cause controversy (Ambary). Javanese culture is much concerned with continuity. Indonesia is a melting pot of syncretism and continuity (Fanani). In Java, everything is mixed. Javanese make their style (Herman and Atik). In general, Javanese mosques use Hindu-Buddhist motifs (Lubis). Indonesia has a transparent syncretism. For cultural continuity and identity, the Indonesian Koran used local motifs (Pirous). Javanese mosques use Hindu-Buddhist motifs in an Islamic way: a combination of idea and form (Priyotomo). Continuity from old religions to a new one is a deep-rooted cultural value (Sedyawati). Indonesian heritage is significant in mosque ornamentation (Subarna). Islam adopted all kinds of design spiritually and physically, as the principle of worship is the same in temples or mosques. Indonesia is a melting pot of assimilation, diffusion, synchronisation, and flexibility (Tjandrasmita). Mosques took local motifs, called 'Islamic Indonesian motifs' (Yunardi).

Hindu-Buddhist and Islamic Principles of Ornament

The result shows 'principles' as the best means for distinguishing motifs (HB: Hindu-Buddhist, I: Islamic).

I: stylistic, not necessarily repetitive (Ambarly). HB: natural, not stylised; I: abstract, interlaced, intricate (Budi). HB: smoother, flowers; I: geometry, rigid, strict, leaves (Fanani). HB: might show repetition; I: geometry, calligraphy, plants (Herman and Atik). HB: no rules on repetition, freer, more natural; I: abstract, circular rhythm (Isnaeni). HB: natural, animals with flowers and landscapes; I: calligraphy, natural trees, leaves, flowers (Lubis). HB: detailed floral motifs (Lugra). HB: natural; I: geometric, abstract (Muharam). I: repetition, geometry (Noe`man). I: abstract, repetitive, floral (Pirous). HB: natural, coarse, 3-dimensional floral, a root in scrolls with plants or animals (Prijetomo). I: geometry, calligraphy (Said). HB: a root in scrolls (Santiko). HB: a root in scrolls, sometimes replaced motifs like animals. Scrolls move to multi-directions; I: foliage, no root, the movement of scrolls has one direction (Sedyawati). I: geometrical (Tjandrasasmita). HB: flowers; I: geometrical, straight, strong lines, leaves (Yunardi).

In identifying Hindu-Buddhist ornaments, the most notable quality is natural, free, coarse, and detailed (6 responses). An alternative is a root in scrolls, sometimes replaced by other motifs such as animals (4). Floral or flowers (3) is another solution to be looked. Of Islamic ornaments, geometric and straight (7) is the first choice, and plant and leaves (5) and abstract (4) and repetitive (4) are alternatives.

Principles of Hindu-Buddhist (HB) and Islamic (I) motifs

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
HB			1		1	3		1	6		1	4			1
I	4	3	1	1		2	7			5	4		2	1	

A=abstract; B=calligraphic; C=curved, circular; D=continuous, one direction; E=delicate, smooth; F=floral, flowers; G=geometric, straight; H=interlaced, intricate; I=natural, free, coarse, detailed; J=plant, leaves; K=repetitive; L=a root, sometimes animals; M=stylistic, rigid, strict; N=strong; O=3-dimensional;

Ornaments on Renovated Mosques

(Question 3): What conclusions can an examination of motifs on renovated mosques facilitate?

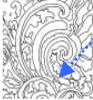
Ornaments on mihrabs in the transitory period showed Hindu-Buddhist influence, but if they renovated after the 18th century, they could be Islamic (Said/Tjandrasasmita). In-depth research around the mihrabs should do due to lack of documentation on mosques (Budi/Heuken/Isnaeni). Many renovated mihrabs adorned by local people (Yunardi). New motifs on mihrabs could copy from the West (Muharam). A beautiful mihrab is a strategy to encourage non-Muslims to embrace Islam (Prijetomo). A low degree of ornamentation on mihrabs was caused either by a wish not to

disturb prayers or because there was not enough finance for elaboration. Renovation of mosques happened mostly after the Dutch colonisation of Java but renovated/reproduced scrolls could have both Hindu-Buddhist or Islamic origins (Said).

Applying Theories to Selected Motifs in Javanese Mosques

Based on the literary sources of Islamic arabesque and the interviews, three categories are made to identify the origins of motifs: Hindu-Buddhist scrolls (HBS), orthodox Islamic arabesque (OIA), and combined Hindu-Buddhist scroll and Islamic arabesque in idea or form (CHI). Scrolls are chronologically listed, according to the date of the foundation of their mosques, with renovated/reproduced ones at the end.

Examination of HBS, OIA, CHI

<p>Agung Demak (HBS): Golden Germ</p>	<p>Al Wustho Mangkunegara (HBS): Makara</p>	<p>Sunda Kelapa (OIA): geometric, abstract, no root</p>	<p>Agung Jepara (CHI): repetitive, diagonal rhythm (OIA): natural, symbolic (HBS)</p>
			

Thirty motifs selected from the 26 mosques of the pilot study and fieldwork. Four (Cut Meutia, Sunda Kelapa, Al Ukuwah Balai Kota, and Hidayatullah) mosques displayed two types of the motif, because of influences from both Hindu-Buddhism and Islam. Prijotomo (1984) claimed that a combination of idea and form in Hindu-Buddhism and Islam practised in syncretic Javanese mosque ornamentation.

Transitory-(HBS) 8; Dutch colonisation-(HBS) 5, (OIA) 2, (CHI) 2

Contemporary-(OIA) 5, (CHI) 3; Renovated/Reproduced-(HBS) 2, (OIA) 1, (CHI) 2

Total-(HBS) 15, (OIA) 8, (CHI) 7

The total shows 15 Hindu-Buddhist scrolls, eight Islamic arabesques, and seven with a combination of Hindu-Buddhist and Islamic origins. ‘HBS’ which were completely dominant in the transitory continued during the Dutch colonisation era but evolved in the contemporary. Instead, ‘OIA’ became predominant. During Dutch colonisation, decorating Islamic arabesque in Kampung Nembol could be the influence of a Palestine missionary and builder. ‘CHI’ appeared this time, and continued in the next period. Renovated/reproduced scrolls employed ‘HBS’, ‘OIA’, and ‘CHI’, indicating continuity through syncretism in idea and form between Hindu-Buddhist scrolls and Islamic arabesques. In short, Hindu-Buddhist scrolls favoured in Javanese mosques, despite a tendency towards Islamic arabesques in the contemporary period. Continuity of Hindu-Buddhist scrolls, sometimes combined with Islamic style, is seen in this analysis.

Pajlagrahan 452(HBS) TRANSITORY	Agung Demak 1479(HBS)	Sunan Giri 1485(HBS)	Agung Kasepuhan 1498(HBS)	Al Marunda 1527(HBS)
				
Sunan Kalijaga 1533(HBS)	Astana Mantingan 1559(HBS)	Agung Mataram 1568(HBS)	Agung Solo 1757(HBS) DUTCH C	Agung Yogya 1773(HBS)
				
Agung Malang 1853(HBS)	Al W. Mangkunegara 1878(HBS)	Kampung Nembol 1880(OIA)	Caringin Labuan 1883(CHI)	Cut Meutia 1920(HBS)
				
Cut Meutia 1920(OIA)	Raya Cipaganti 1933(CHI)	Al Azhar 1952(OIA) CONTEMP	Sunda Kelapa 1969(CHI)	Sunda Kelapa 1969(OIA)
				
Sabilliah Malang 1974(CHI)	Al Ukhuwah B. Kota 1990(CHI)	Al Ukhuwah B. Kota 1990(OIA)	Al Akbar Surabaya 1995(OIA)	Pusdai Jaber 1996(OIA)
				
Agung Jepara 1561(CHI) RENOV/REPRO	Agung Mataram 1568(HBS)	Kanoman Semarang 1575(CHI)	Hidayatullah 1750(OIA)	Hidayatullah 1750(HBS)
				

Consultations given by Indonesian scholars who argue on characteristic regional Islamic motifs.

SUMMARY AND CONCLUSION

In Java, syncretism, local genius, creativity, and continuity are specific terms, used to explain the ornamentation of temples and mosques. No explicit rules seem to exist, because of the syncretic history of religions in Java. From the interviews, five findings emerged.

(1) There are no known rules on temple ornamentation.

(2) Origins of motifs as Hindu-Buddhist or Islamic or both can identify through nine approaches (ambiguity/background/chronology/creativity/empirical work/heritage/principle/purpose/reference). Among them, the principles of ornament, chronology, and creativity are the most important. A practical method, however, comparing temples and mosques should have the same importance too.

(3) Hindu-Buddhist scrolls have 'natural, free, coarse, and detailed' quality, while Islamic ones represent 'geometric and straight' at first. An expression of 'ornament is based on geometry' by Day (1903) corresponds to the interviews and literary sources.

(4) As mosque renovation started after Dutch colonisation of Java, especially in the beginning of the 20th century, some of renovated/reproduced scrolls can recognise their origins.

(5) Scrolls in Javanese mosques were strongly influenced by Hindu-Buddhist ornamentation in the transitory, while Islamic arabesque seems to be more common in the contemporary period. On the whole, purely Hindu-Buddhist or a combined style with Islamic arabesque in idea and form indicates how Javanese mosques have kept their heritage.

The interviews contributed to analysing the origins of scrolls. Specific findings in this chapter are to be applied to Chapter 10, 'Harmony of Hindu-Buddhist Scrolls with Islamic Arabesques'.

PART 2

Part 2 introduces the methodology for analysing four syncretic Hindu-Buddhist ornaments and their findings to conclude whether continuity and influence on Javanese mosque ornamentation took place in the four ornaments.

C H A P T E R V I

LOGICAL BUT CREATIVE APPROACH TO AIMS AND SOLUTIONS

If there was a methodology on saving species from DARWIN's evolution (1859) or rescuing the hero from GOETHE's (1749-1832) book, how could the world have changed? In a case of Goethe's, neither might Napoleon have read the book seven times during his war campaigns nor might many passionate Europeans have felt the need to farewell this world, due to their uncontrollable inner turmoil, influenced by 'Sturm und Drang' movement in the 19th century.

In this chapter, the research design is formulated and elaborated. A detailed and operational framework of data collection with triangulation as its method shows the procedure of the literary review, empirical fieldwork, pilot study, observation, and interviews. The reason for a purposive sample, rather than a random one, is clarified, including a choice of four motifs (tumpal, kalamakara, lotus, scroll). Many experiments, attempts, and the most appropriate method of solving the research question are also noted. Four indicators (line, shape, form, rhythm) as tools for comparing pre-Islamic and Islamic motifs are explained.

DATA COLLECTION BY TRIANGULATION

Quantitative and qualitative researches take different approaches. The former emphasises quantification in collecting data and its analysis, and the latter collects and analyses non-numerical data. 'Maximum variation' obtains a broad range of differences and patterns between the sample, while 'snowball' sampling, in which the first group of literature and scholars nominate following sources of information and further individuals, investigates literature in publicly available libraries and in making personal contacts. In this research, four methods were (1) literature review, (2) pilot and field study, (3) observation and measurement, and (4) interview.

The concept of triangulation originates from discussions of measurement validation by quantitative methodologists. It was Denzin (1970) who first advocated and popularised triangulation in qualitative research. The term itself is designed to evoke an analogy with surveying or navigation, in which people discover their position on a map by taking bearings on

two landmarks, lines from which will intersect at the observer's position. This method assumes a single fixed reality that can be known objectively through the use of multiple methods of qualitative and social research.

Four types of triangulation are (1) data, (2) investigator, (3) theory, and (4) methodological triangulation. Methodological one is the most broadly used as a 'between-method' approach: a combination of ethnographic observation and interviews. This method frequently cited as a rationale for mixing qualitative and quantitative way in a study. For data collection, methodological triangulation is literature, observation and measurement, and interviews. Primary sources acquired in Indonesia, and secondary data were both in the U.K. and Indonesia, despite additional ones from Finland, Kuwait, Spain, and Syria for example.

Literature Review

It is the progressive narrowing of the topic, through the literature review, that makes most research a practical consideration. (Hart 1970)

The literature review based on library resources (the British Library, Courtauld Art Institute), museums (the British Museum, the Indonesia Nasional), government authorities (Department of Religion in Indonesia), institutes (Indonesian Institute of Science, National Archaeology Research Centre in Indonesia), seminars (Indonesian Heritage Society), conferences (Thailand, Malaysia), media, and the internet.

During data collection, the researcher realised that personal contacts were essential, owing to a deficiency of references on the research subject in libraries, both in the U.K. and Indonesia. The researcher was informed that several types of research of the Dutch scholars (Krom 1923/1931, Vogler 1949) could be available at the Leiden University in the Netherlands. However, a more effective approach was to contact Indonesian scholars, students, and any related people directly, due to (1) the researcher's lack of knowledge of the Dutch language, (2) the limited time for the research, and (3) a possibility of acquiring insight into these publications from Indonesian scholars.

After that, useful documents (Subarna 1982-3, Tjandrasasmita 1984, Anbary 1998), written in Indonesian or in a foreign language (Dutch or French), could be translated into English in Indonesia. Another method of collecting data was through the interview. When two PhD theses (Sudradjat 1991, Isnaeni 1996) on Javanese architecture, written in English were acquired, history in Java was more clearly understood. Later, when another PhD thesis (Marwoto 2003) on ornaments on the northern coast of Java presented, specific data could be gathered. Research on Indonesian Islamic art and architecture seems to be highly marginalised.

Pilot Study and Empirical Work

The nature of the pilot study is to test the methodology and set 'the gold standard' for more extensive research. In this research, the intended objectives are to record the frequency of occurrence and application of prehistoric and Hindu-Buddhist ornaments in Javanese temples and mosques. A pilot study was proposed to demonstrate the necessity of this research and to test the method and to explore a potential weakness in the project arising from an anticipated negative attitude of the mosque authorities to the researcher who is a non-Muslim, foreigner, woman, and non-Indonesian speaking. This sceptical attitude experienced during her residence in Kuwait, when she was studying Islamic art and culture but was also advised to be attentive to the same possible manner in Indonesia, due to the contemporary violence between the different religions of Hindu-Buddhism, Christianity, and Islam.

A few representative mosques selected from the internet and tourist guidebooks on Java, and a comprehensive list of mosques in Jakarta was acquired from the Jakarta Tourist Office, which recommended 24 from the 5,000 mosques. A letter to mosques from the researcher asking for their cooperation issued. For the pilot study, more than 10 of the 24 suggested mosques observed, and two famous Hindu-Buddhist temples, Borobudur (8C) and Prambanan (8-9C) in Central Java were added to provide an overview of any relationship between Hindu-Buddhist and Islamic ornaments.

The results of the pilot study indicated strengths and weaknesses. The advantage lies in the empirical examination because motifs from Hindu-Buddhist temples could compare to those in Javanese mosques. It is a realistic approach. The weakness was how to accomplish this work without arousing undue suspicions. For a solution, (1) a preliminary notice to mosques was necessary, giving clear reasons for the visits. (2) At mosques, a short interview was held with the authority to gain access and permission to use a ladder to make measurements. (3) Indonesian workforce was undoubtedly required, such as an English speaking male driver, and Muslim male or female assistants who can translate the conversation, give a favourable impression of the research and assist in making drawings. (4) An official letter from the Department of Religion to mosques was not obligatory, because each mosque had its norms and traditions. (5) A gesture such as a donation could be helpful. (6) Caution in behaviour, dress, and clean feet were a 'must'. (7) Speaking Arabic brought respect. (8) The survey could suspend at any time before prayers which take place five times a day. And (9) Friday was avoided, due to its being a day of worship.

Human and cordial communications with mutual respect seemed the only way to proceed. Face to face meeting with goodwill was essential. Accordingly, all feasible steps took, and this had beneficial results later.

Purposive Sample

The sample of people or objectives determines the nature and validity of the findings and theory generated by the research. A purposive sample is another form of judgement sampling, which relates to quota sampling: 'A sample can be made up of people or units specially selected for a particular purpose; those selected are supposed to be typical' (Gardner 1976). It is 'where the researcher selects what he/she thinks is a typical sample, based on specialist knowledge or selection criteria' (Walliman 2005).

Following the pilot study, a purposive sample was seen as the most appropriate approach, because Javanese temples and mosques which were known to displace ornamental motifs should be chosen to answer the research question. After that, a framework for a larger sample of mosques was drawn up, assisted by Faculty of Architecture at Tarumanegara University and a CD2000 produced by the Institute of Technology in Bandung. The CD gave short accounts of history and architecture on 117 great Javanese mosques by chronology and geographical area.

Although a little information on ornaments gave, it was quite useful in sampling mosques at large. Finally, 30 representative mosques, recommended by literature review, tourist office, the internet, faculty of architecture, and CD2000, were carefully chosen, ranging from the 15th century to the present day. Representation of different regions between the whole of Java also took into account. This time, a few famous Hindu-Buddhist temples, such as *candi Mendut* (9C) and *candi Kalasan* (9C) from Central Java, and *candi Singasari* (12C), *candi Djago* (1268), *candi Jawi* (13C), and *candi Panataran* (1197-1454) from East Java included. A brief explanation of the reason for the final choice gives below.

(Java): Java has the most syncretic culture in Indonesia. There is an expression: 'Islamic Sumatra, Hindu Bali, and Javanese with Islam'. Java has many significant temples and mosques, making it an ideal island on which to study cross-cultural influences.

(Areas: West, Central, East Java): Although Hindu-Buddhist culture began in West Java in the fifth century, it flourished in Central Java, and then shifted to East Java. Early mosques were built on *pasisir* (coastal area) and culminated in the inland region of Central Java. Nevertheless, a few harbours in East and West Java gradually developed from the beginning of Islamisation, and especially West Java became very active in building and renovating mosques in demand for expanding population after Dutch colonisation. In selecting local mosques, city and village were both included, because different ornamentation would find in them. City mosques have a tendency of more luxurious and richer and more prominent ornamentation than those in villages.

(30 mosques): The fact that Jakarta, the capital of Indonesia, itself has around 5,000 mosques implies uncountable mosques present in Java on the whole. Thus, it was sensible to choose 30

critical examples from the 117 representative Javanese mosques which CD2000 recommended. Some of the 30 were often introduced in other sources too, such as literature and tourist guidebooks. The number of 30 seems sufficient to validate the research findings. In the choice of mosques, based on a purposive sample, their reputation in architecture or history was not counted, unless a glimpse of ornamentation was shown, such as Agung Banten (1552-70). If any ornament displayed in CD2000 or literary sources, those were the first to be considered for inclusion in the 30. Chronologically, 15 transitory, nine from Dutch colonisation, six contemporary mosques were selected, because pre-Islamic motifs in the transitory became less used towards the contemporary period. Renovated mosques from the transitory and Dutch colonisation periods were considered to be contemporary because motifs in renovated mosques could be in general renovated or reproduced. If motifs, however, were original, and new paint added to them, they dated to the foundation of the mosque building. The researcher was aware of renovations and the lack of documents on dates of construction and ornaments in mosques. Geographically, 17 of the 30 mosques are from West Java, eight from Central Java, and five from East Java. Selection of more than half of the 30 from West Java based on knowledge of progressive Islamisation, historical settlements in this area, and different styles of ornament.

(Hindu-Buddhist temples): No visible difference between the ornamentation of Buddhist and Hindu temples in Java exists (Santiko and Sedyawati, 2004^{interview}). The temples of Buddhist Borobudur, Mendut, Kalasan, and Hindu Prambanan in Central Java were selected as representatives of lavish ornamentation with an Indian origin. In East Java, syncretic Hindu-Buddhist temples of Singasari, Djago, Jawi, and Panataran which bear indigenous ornaments were singled out. East Javanese temple ornamentation became a prototype for Javanese mosques, seen in the mosques of Demak, Sendang Duwur and Astana Mantingan in the Islamic transitory period. However, Central Javanese temples could affect mosque ornamentation within the same area.

(Four motifs: tumpal, kala-makara, lotus bud, scroll): (1) Javanese Islam is a syncretic religion derived from mystic animism, Hindu-Buddhism, and Islam. (2) The researcher frequently observed four motifs in temples and mosques during the pilot study. (3) Prehistoric tumpal and Hindu-Buddhist lotus bud seem to have continued within the Islamic period without alteration, while Hindu-Buddhist kala-makara and scroll might have changed. Kala-makara needs to modify under a ban on living figures in Islamic ornament. Scroll would rather coexist with incoming Islamic arabesques. Consequently, prehistoric tumpal, Hindu-Buddhist kala-makara, lotus bud, and scroll could present excellent examples to examine continuity and influence on Javanese mosque ornamentation.

(Islamic periods: 15C-to the present day with three divisions): Tjandrasmita (2005^{interview}) recommends dividing the Islamic period into three eras; transitory (15C-1619), Dutch colonisation (1619-1945), and contemporary (1945-to the present day), according to the political and social circumstances. Strong continuity of pre-Islamic motifs was shown in the transitory period, while European and Islamic influences on mosques took place during Dutch colonisation. Toward the contemporary era, orthodox Islamic motifs gradually replaced those existing ones. However, motifs in the contemporary should not neglect, because they reappeared in newly built or renovated mosques in the form of stylisation. A trend of returning to local culture became conscious among Javanese to keep their identity. Consequently, three suggested divisions are (1) transitory, (2) Dutch colonisation, and (3) contemporary which includes motifs from renovated and newly made mosques after 1945, grouped as 'renovated/reproduced'. If motifs often appeared in mosques, they examined for continuity. A reason for including motifs³⁹ from the contemporary period is as follows. (1) Many of the samples have the uncertainty of their dates on renovation, as no record was seen in journals (scroll in Astana Mantingan). (2) In some cases, they attempted to reproduce the same design in idea and form from an earlier period (tumpal in Agung Demak). (3) Some retained the pre-Islamic idea but changed their forms (tumpal in Menara Kudus or kala-makara in Al Marunda). And (4) some have actively continued to new mosques (lotus bud in Pusdai Jaber); thus these samples are very beneficial for comparison to observing the degree of the historical continuity on four motifs in idea and form⁴⁰, as the primary research topic.

...the investigation towards art in the Islamic period was not applied intensively and continuously, as it was done to the art of the Hindu period... Islamic art in Indonesia to some extent lost continuity, differed from in other Islamic countries...old mosques used the material in a traditional way which did not last long; therefore it added some difficulties to define the age and originality of the building. (Ambarly 1998)

Observation and Measurement

Empiricism is an approach to the study of reality in which knowledge gains through direct experience. Hume (cited by Bernard 2000) says, 'the only knowledge that human beings acquire is from sensory experience'. This research uses the empirical method of keen observation and measurement, because this method investigates a close relationship between Javanese temples and mosques, in terms of presence, continuity, and importance of four motifs in both places.

³⁹ Among four motifs from newly built mosques, tumpal and kala-makara reject for analysis, due to a few examples or non-existence. As lotus bud and scroll appeared strongly, they are to examine.

⁴⁰ Prijotomo discusses on ideas and forms between pre-Islamic and Islamic architecture in his book, *Ideas, Forms of Javanese Architecture* (1992).

Before the fieldwork began, visits to the Ministry of Religion (Departments of Hindu Guidance and Islam) and the Archaeological Research Centre meant that this study gave the status of authorised research. Although Director-General gave four instructions to each local authority to cooperate between the researcher and local mosques, the effect of the letter was never in full force, owing to the bureaucratic system and slow procedures in Indonesia. Instead of waiting for the responses from the local authorities, the researcher contacted mosques directly.

After that, several field trips occurred in spring and autumn 2004 in Java, taking into account dates of Islamic festivals, floods, and possible rejections from mosques. Interestingly, the temple fieldwork met no difficulties, probably because temples are now considered historical monuments that no longer in use. Transport is a serious matter. Buses are crammed with people, leading to the danger of being late, sometimes stopping in the middle of the road in heavy rain. Much worse, mosques are often located on small streets near marketplaces in villages, as kraton (palace), mosque, market, and inhabitants' areas used to integrate into a past Javanese settlement.

On entering a mosque, courtesy and a brief enquiry of the mosque history was shown by the researcher, while Indonesian workforce sets up a ladder to take measurements and drawings of ornaments. The mosque was on-site inspected by measuring, drawings, and photography. Photographs ranged from ornaments in the prayer hall, at the serambi, and outside the building. Among a series of similar ornaments, a few representative examples chose. Drawings were proved to be more suitable for analysis than photographs, despite time-consuming, requiring patience, and hindered by bad weather. This method can enrich a researcher's experience, knowledge of ornaments, and their surroundings, especially in perception which plays a crucial role in the analysis of motifs. Finally, data were collected from a short interview, drawing, and photographing, following cordial farewells.

In this process, an unexpected thing happened, regardless of the full preparation learned from the pilot study. A group of people irrelevant to the research accompanied the researcher as a form of hospitality; thus the survey occasionally had to stop. Moreover, some mosques were reluctant to admit non-Muslims, though a few enthusiastic religious leaders were welcoming. Some mosques employed uniformed security guards to protect buildings. Muslims at some local mosques showed their suspicion on the researcher. Probably, difficulties in entering mosques could attribute to the current violence in a given area. In this situation, Indonesian assistants took the initiative in communication with mosque leaders. However, once mutual understanding was established between the researcher and mosque leaders, investigations went smoothly, often served with mineral water and sweets.

Interview

Due to the lack of material on the research subject, the researcher attempted to get necessary information from Indonesian scholars and professionals in art, architecture, archaeology, design, and history. Four types of the interview conducted with different purposes: (1) Getting general information about Java, by borrowing books at libraries, consulting for samplings, asking recommendations of relevant people for an interview, and acquiring permissions to temples and mosques. (2) In mosques, religious leaders have been better informed on their mosques than literary sources or people at the Department of Religion and other institutes. It is known that Javanese mosques do not always record their history. (3) Semi-structured but comprehensive interview to identify the origins of motifs in Javanese mosques when a problem of distinguishing Hindu-Buddhist scrolls or Islamic arabesque had arisen. (4) Reviewing all collected motifs for fear of missing an important point, and verifying written documents to be correct (only held with a few scholars). However, contacting people was occasionally assisted by Indonesians, and during meetings, much encouragement to this research gave.

CHOICE OF THE REPRESENTATIVE⁴¹ SELECTION

Experiments

Concepts are the building blocks of theory; they consist of measures and indicators. The indicator uses for ideas that are less directly quantifiable to represent the concept, while measure refers to things which require counting. An indicator is an indirect measure of the presence of a concept. Use of multiple indicators has the advantage of recognising and dealing with potential problems. In the research proposal, four indicators of line, shape, form (elements of design), and rhythm (principle of design) suggested in analysing four motifs. However, before data analysis, the researcher experimented as much as possible to find the best method of analysis, if one existed. All experiments were not fully pursued, due to the unsuitability for answering the research question, but some partly used. Here is a short account.

- (1) Tracing geometry behind motifs, following Bay's (1903) theory whose patterns are composed of the geometry. This method was applied to Celtic art by Bain (1996).
- (2) Counting numbers of geometric elements: circle/triangle/square in motifs.
- (3) Following eye movement in inspecting motifs on Islamic artworks (Papadopoulo 1980).
- (4) Using visual pattern recognition (Dodwell 1970; Friedman and Kandel 1999).
- (5) Perception of motifs, applying the visual research methods in design (Sanoff 1991).
- (6) Using a grid or musical beat to analyse motifs (Thiel 1981).

⁴¹ Of the representative selection, if similar examples found in the same mosque, they were rejected. Representative examples maximally chose for analysis.

After the six approaches, both detailed and systematic method was chosen, reconfirming the researcher's original idea of elements and principles of design as a yardstick, given the research topic and the researcher's experience in art and design. Then, how can the best result from collected data to be acquired? Two experiments did: (1) concentrating on a very few examples of each motif and describing their similarities and dissimilarities in depth, used by archaeologists, (2) finding the mean in the scale between two opposite variables in a given sample, favoured by psychologists.

Larger and Smaller Selections, the Perception of Six Local Indonesians

Perception is the visual intake that stimulates the imagination, and is the mental grasp of objects through the senses, leading to insight, but requiring attention, effort, practice, concentration, and commitment. Arnheim (1974) stresses visual experience as dynamic. At first, the researcher chose the most representative selection of small numbers (6-8) to examine four motifs on mihrabs where much decoration is present. In this examination, the researcher perceived somehow disappearance of lines, shapes, forms, and rhythms in four motifs, due to carelessness, renovation, and weather over time; thus the analysis might not provide the exact information. As a substitute, a larger selection (45-50) of examples was attempted, acquiring almost the same outcome from both.

The next trial was to compare pre-Islamic motifs to Islamic ones by using percentage, and a problem arose. Unless the number of both examples was equal, this method does not work correctly. Collecting the same number from the prehistoric and Hindu-Buddhist periods was another problem, particularly in tumpals, chosen from outside of Java.

In parallel with this, a short test conducted by three to six local Indonesians who had no artistic training in perception. The reason for doing this was to observe whether their perception corresponded to that of the researcher; thus this result could validate the researcher's analysis. Six to eight different examples from four motifs were displayed to them once for a short time. During this process, they got confused and had difficulty in answering, probably due to their not being accustomed to perceiving objects. Consequently, this further test stopped. Training in perception needs for this type of analysis. Having considered all, the researcher decided the larger (45-50) selection as representative of both descriptive and calculative methods in the analysis. Each motif is to be perceived many times at constant intervals by the researcher who is trained in art and design, using elements and principles of design as indicators. Observation during the fieldwork also took into account.

FOUR INDICATORS: ELEMENTS AND PRINCIPLES OF DESIGN

The researcher has three specific reasons to use elements and principles of design as indicators to answer the research questions. First, they are the essential components in art and architecture,

discussed by Greek, Roman, medieval, Renaissance and modern philosophers. In his *Grammar of Ornament* (1856/2001), Owen Jones put forward geometry as general principles for decoration: ‘All ornament should be based upon a geometrical construction’, praising Alhambra palace built by the Moors.

... every ornament contains a grammar in itself. Every principle which we can derive from the study of the ornamental art of any other people is not only ever present here, but was by the Moors more universally and truly obeyed.

Second, Islamic ornament is composed of geometry, whose background is based on elements and principles of design. Critchlow (1989) discusses a circle as a symbol of the ‘origin’ and ‘end’ of geometric forms.

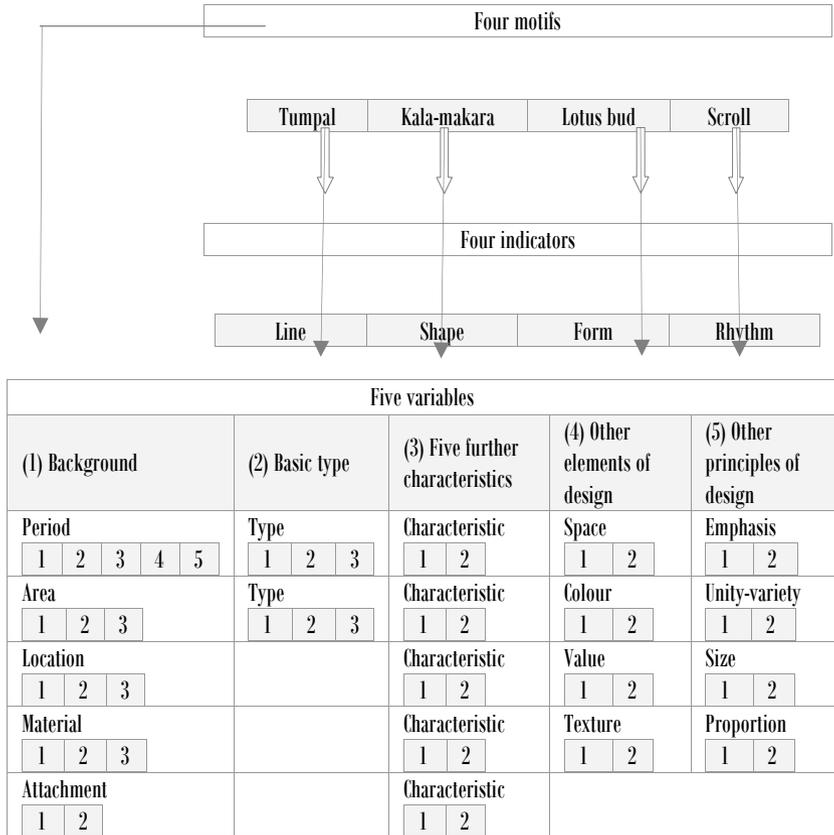
Islamic art is essentially a way of ennobling matter by means of geometric and floral patterns united by calligraphic forms which embody the word of God as revealed in the sacred book, the Holy Koran. (Seyyed Hossein Nasr, cited by Critchlow 1989)

Third and last, the researcher has trained in visual art and design; thus using these indicators can provide the best and comprehensive information on this research, propelling a challenge into a new method.

Ornaments base on elements (line, value, shape, form, space, texture, colour) and principles (unity-variety, balance, emphasis, rhythm, proportion, size). Principles of the design show how the elements are aesthetically combined to arouse a sensory response. Elements, the raw materials of works of design, are arranged to produce order in composition, supported by principles. The table below explains how four motifs are to analyse according to four indicators and five variables. Functions of four motifs do not test because all are supposed to be symbolic (Tjandrasmita 2005^{interview}). Balance is also not examined, as the majority of them balance in symmetry.

Four motifs, four indicators, and five variables

Motifs	Indicators	Variables
Tumpal	Line	(1) background (2) basic type (3) five further characteristics (4) other elements of design (5) principles of design)
Kala-makara	Shape	same as above
Lotus bud	Form	same as above
Scroll	Rhythm	same as above



Line (Element)

Without a study of Greek, we could not know the meaning of great design, of harmonious lines and masses, of proportion and composition, of thoughtful correctness in figure-drawing, of the pleasant and proper disposition of the materials or motifs of an ornament. (Collingwood 1883)

The line consists of an extended point, and its only feature is the length. It connects other visual elements, describes edges, formulates shapes, and articulates the surfaces of planes. Although line theoretically has only one dimension, it has visible thickness. The character of the line, such as bold or tentative, graceful or ragged, is decided by human perception of its length-width proportion, its outline, and its degree of continuity. The line is a creation of the human

sense of sight, constructed for simplicity, borrowing Delacroix's (1798-1863) idea of the straight line as 'never occurs in nature; they exist only in the brain of man'.

Despite possessing no actual movement, a line suggests a direction, either one way or in diverse ways. Lines may divide into straight or curved. A straight line defines as 'the shortest distance between two given points'. It can be vertical, horizontal or diagonal, and appears stronger and more direct than a curved line. A vertical line is structural, upward, and the strongest, and expresses a state of equilibrium with the force of gravity. A horizontal line represents stability on the ground plane. A diagonal line indicates action, due to its disturbing effect. Horizontal lines create geometric shapes, whereas contour lines decide space, and repeated lines create texture.

Of a curved line, Hogarth (1679-1764) introduces the aesthetic concept of his precise serpentine line as 'line of beauty'. He saw beautifying lines as the ideal sign of artistic craftsmanship. In this context, Riegl (1893) argues that line was the primary tool of the artist, and decorative art was the application of line to solve ornamental problems. The term 'beautiful' was bound up with the idea of organic, undulating lines and with the art of classical Greece. Logarithmic spirals enhance the dynamism of the curve. Lines are associated with the views of praise, aspiration, and ascension. Vertical lines increase this feeling, but downward bent lines convey despair. As a language, a line is the most sensitive and vigorous speech for all purposes. The line is used as a vehicle to record nature and human features, appealing to human emotions and evoking sympathies with the life of nature and humanity.

This upward surge of lines, characteristic of Gothic art, was an element of beauty which at the same time responded to a profoundly appealing feature of medieval mysticism. (Aubert 1959)

Shape (Element)

The shape is the outline of a plane figure or the surface configuration of a form. It is the fundamental means of providing recognition, identification, and categorisation for specific figures and forms. The perception of shape depends on the level of visual contrast between the outline which separates a figure from its ground. Positive and negative shapes and their interrelationships are a principle of composition. Positive shapes are the subject matter itself, becoming the centre of interest, while negative shapes are the areas surrounding the positive shape.

Although the negative shape is not always of equal interest with the positive figure, it is essential in providing an illusion of depth. Shapes can form by lines, areas of texture, value, and colour. Shape varies from simple circles, triangles, and squares to complex silhouettes of nature and the human form. They have both two- and three-dimensional characters. Two-dimensional shapes border by lines and are perceived as a visual unit distinct from their background, while three-dimensional ones can extend in any perceivable direction, creating forms. Four categories of

shape exist - (1) natural, (2) geometric, (3) abstract, and (4) non-objective. Natural shapes originate from nature and human figures, while geometric shapes arise from human-made construction. Abstract shapes are the outcome of reducing natural ones by stylisation. Non-objective shapes do not originate from any recognisable source.

According to the Gestalt psychology school, the mind makes the visual environment simpler to understand it. Given any composition of forms, the brain tends to reduce the image to the simplest and most regular shapes. Originated in Germany in the early 20th century, the school has been most influential in the field of perception. It formulated four laws for establishing a visual field: (1) Proximity, (2) Similarity, (3) Continuance, and (4) Closure. The Law of Proximity means the relative closeness of units in which they are seen together as a new entity. The similarity is the tendency of commonalities in the attributes of separate elements to cause them to see as a group. Continuance refers to the trend of similarities in changes of attributes, while Closure deals with our perceptual tendency to group certain visual elements to establish one simple larger form.

Thus a shape is never perceived as the form of just one particular thing, but always as that of a kind of thing. Shape is a concept in two different ways: first, because we see every shape as a kind of shape compared what was said about perceptual concepts; second, because each kind of shape is seen as the form of a whole kind of objects. (Arnheim 1974)

Shapes can be basic emotional symbols with a powerful impact. A clearly defined shape, such as a cross or a key, can generate a universal appeal as a symbol.

Form (Element)

The Greeks seem to be the first people to have been delighted in the pure beauty of form and always reached out after an ideal perfection of form. A form is a perfect combination of all visual elements, themes, moods, techniques, functions, structure, and organisation. The elements are balanced and organised through the use of principles of design to establish harmonious unity in a form. A form has several characteristics, either a recognisable appearance or a particular condition in which something manifests itself. In art and design, the term denotes the formal structure of a work. It is the manner of arranging and coordinating the elements to produce an image. The form is the shape of an area of three-dimensional volume, defined by the lines of its borders. Straight lines make shapes of triangles, squares, and pentagons. Triangles can be part of composing conic and pyramidal forms. On the other hand, curved lines make shapes of circles, ellipses, and ovals. Circles create spherical forms.

Forms can divide into natural and geometric forms, but no clear line can draw between them. The difference, however, is that natural forms are representational, while geometric forms are not. Natural forms are mostly of organic or living objects, such as foliage and humans, used in

ornament both realistically and conventionalised. When a natural form is simplified to fit its use, it is called 'conventionalised' or 'stylised'.

According to a theory of the 20th century, there are five fundamental geometric forms: sphere, cube, cylinder, cone, and pyramid. They are solid and closed entities that show weight and mass. Primary forms are those whose parts are related to one another in a consistent and orderly manner - symmetrical, steady. Sphere, cylinder, cone, cube, and pyramid are regular forms. Non-primary are dissimilar, related to one another in an inconsistent way - asymmetrical and more dynamic than primary.

Rhythm (Principle)

God is light, and light gives beauty to things; essential beauty must be identified with a brightness which, together with harmony and rhythm, reflects the image of God. (Aubert 1959)

Those ineffable feelings of God's presence and purpose in His creation, that awareness of wholeness and infinitude, manifest in the natural world, and in those patterns and rhythms which govern it, are exemplified in iconic form in the art of calligraphy and illumination, as well as in the abstract disposition of mass, space and surface in architecture (Yeomans 1999).

The word 'rhythm' in Greek means 'to flow'. Long before the Greeks, the rhythm was considered the creative principle, both in the manifestations of nature and in a regulated human life. In a world controlled by cruel gods, the Greeks invented a world of the mind, where the disaster expelled, and a divine order ruled, demonstrated in the repeated columns in the Parthenon. In design, rhythm is organised by a visual movement, built around repetitions of strong and weak design elements. As a means of conveying a feeling, rhythm has a variety of forms, such as sharp, jagged, jerky, irregular, radical, and energetic rhythms. Regular rhythm occurs when the repetition of size, shape, and colour remain the same with constant intervals. Irregular rhythm can add suspense to any work, and increase its interest, caused by the varying size, colour, and shape of units.

Three ways of achieving rhythm are (1) through repetition, (2) through a progression of design elements, and (3) through a continuous primary line. Repetitive rhythm marks by a recurrence of patterns and is the simplest rhythm. Progressive rhythm requires an increase or decrease in shapes and is stronger than a repetitive rhythm. Continuous rhythm consists of curves, giving a rippling effect. Repetition is one of the most outstanding characteristics of form in nature, creating complex rhythmic passages of the pattern. Five kinds of repetition exist: (1) simple regularity of shapes and intervals, (2) alternation: repetition of two different elements, (3) inversion: repetition in which the position of a unit reverses, (4) irregular recurrence: a chosen

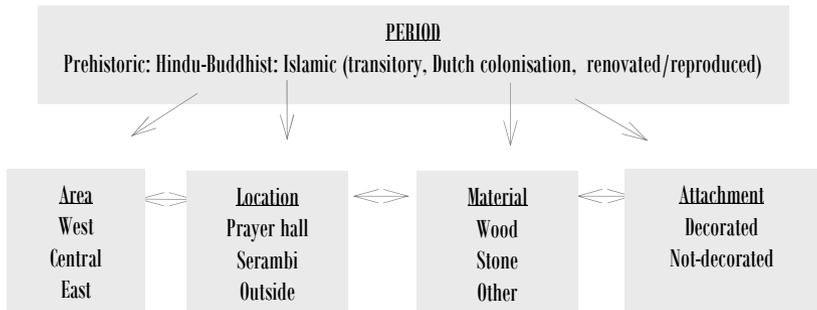
shape appearing at irregular intervals or with various sizes, (5) radiation: units fan out from a central point in symmetrical or asymmetrical array.

FIVE VARIABLES TO FOUR MOTIFS

(1) Background

Five aspects (period, geographical area, location in a mosque building, material, attachment) could acquire a more extensive result in continuity of four motifs in Javanese mosques. The period is directly related to the primary research question. A comparison of motifs between temples and mosques in the whole Java could show their geographical distribution. Different locations of motifs in a mosque building could reveal whether mihrabs much embellish in Javanese mosques, compared to those in another Islamic world. Using various materials on motifs could show the creativity of local genius.

In general, temples favoured stone, while mosques preferred wood. The term ‘attachment’ means whether motifs decorate with other ornaments, such as calligraphy. Chronological three divisions are prehistoric, Hindu-Buddhist, Islamic with transitory (15C-1619), Dutch colonisation (1619-1945), and contemporary which includes renovated/reproduced (1945-to the present day). Geographical three areas are West, Central, and East Java, while three locations are prayer hall, serambi, and outside a mosque building. Three types of material are wood, stone, and other. ‘Decorated’ or ‘not-decorated’ chooses for attachment.



(2) Basic Type, and (3) Five Further Characteristics

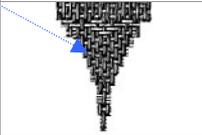
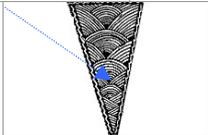
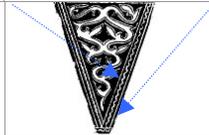
Based on various theories, two categories of each indicator decide: ‘basic type’ with subdivisions, and ‘five further characteristics’ with their opposites. Basic type means the most representative characteristics in each indicator, while five further characteristics are the addition to enriching information on each motif. Accordingly, tumpals are analysed by line, kala-makaras by shape, lotus buds by form, and scrolls by rhythm, accompanying their five further characteristics.

Meanings of each characteristic were described as objectively as possible, according to literary sources and the researcher’s view.

(Tumpals: Basic Type of Line and Five Further Characteristics)

Sub-question 1 answers through LINE as the most suitable indicator for tumpals. In general, tumpals have straight lines on frames and curved lines within them.

Basic type of line

Straight			Curved		
Vertical	Horizontal	Diagonal	Circular	Spiral	Undulating
straight- vertical & horizontal			curved- circular	curved-spiral	curved- undulating, straight-diagonal
					

Five further characteristics

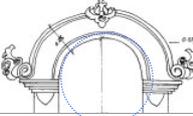
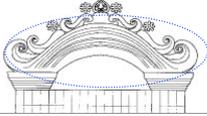
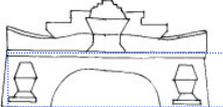
Broken/Unbroken	If lines of tumpal do not connect with the starting point and repeatedly stop, they are called ‘broken’.
Natural/Geometrical	If lines of tumpal are not stylised or are not composed of circle, triangle, and square in composition, they are called ‘natural’.
Inner/Outline	If lines of tumpal do not constitute a boundary, they are called ‘inner’. Any lines within the frame treat as ‘inner’.
Short/Long	If lines of tumpal are composed of short lines, they are called ‘short’.
Simple/Complicated	If tumpals became stylised by line, they are called ‘simple’.

(Kala-Makaras: Basic Type of Shape and Five Further Characteristics)

Hindu-Buddhist kala-makaras are analysed by SHAPE to answer sub-question 2. A reason for this indicator is that different stylised shapes of kala-makara appeared in Javanese mosques following the Islamic art tradition. A comparison of their shapes can produce the most exciting result. Hindu-Buddhist kala-makaras seem to have natural shapes, while a few Islamic ones display a combination of extremely stylised triangular and rectangular shapes.

Basic type of shape

Natural	Geometric				
	Circular	Oval	Triangular	Square	Rectangular
natural	geometric-circular			geometric-oval	

		
geometric-triangular	geometric-square	geometric-rectangular
		

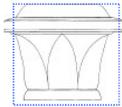
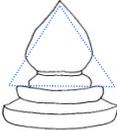
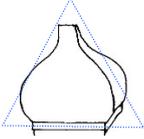
Five further characteristics

Dynamic/ Static	If shapes of kala-makara show a movement in different directions, they are called 'dynamic'.
Single/ Assorted	If shapes of kala-makara have different styles of shape, such as a circle, triangle, and rectangle, they are called 'assorted'.
Illustrating/ Abstract	If shapes of kala-makara are composed of natural lines, and express a real image, they are called 'illustrating'.
Smooth/ Complicated	If shapes of kala-makara perceive as jagged and uneven, they are called 'complicated'.
Small/Big	If shapes of kala-makara are made of a big and whole shape, they are called 'big'.

(Lotus Buds: Basic Type of Form and Five Further Characteristics)

Hindu-Buddhist lotus buds are analysed by FORM to answer sub-question 3 because of their three-dimensional character. In this research, any forms which symbolise 'life' and 'creation' of lotus buds are accepted, such as a jar on roofs or round bases on floors to support pillars in mosques.

Basic type of form

Primary					Non-primary
Cubic	Conic	Spherical	Cylindrical	Pyramidal	
primary-cubic	primary-conic	primary-spherical	primary-cylindrical	primary-pyramidal	
					

Five further characteristics

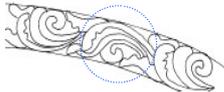
Voluminous/Slender	If forms of lotus bud look massive and large, they are called 'voluminous'.
Open/Closed	If forms of lotus bud have open bulbs, or are to be opened, or surrounded by lotus petals, they are called 'open'.

Realistic/Stylised	If forms of lotus bud construct in a naturalistic way, they are called 'realistic'.
Dynamic/Static	If forms of lotus bud arouse actions, they are called 'dynamic'.
2-3 dimensional/ 3-dimensional	If forms of lotus bud are attached to other objects, such as walls and sculptures, they call '2-3 dimensional'.

(Scrolls: Basic Type of Rhythm and Five Further Characteristics)

Hindu-Buddhist scrolls, analysed by RHYTHM, will answer sub-question 4. Selecting rhythm as an indicator is the repetition in the motif. Interestingly, scrolls in Javanese temples and mosques bear the same characteristics as Islamic arabesques. They are repetitive, continuous, and harmonious. It is worth investigating how Hindu-Buddhist scrolls combined with Islamic arabesques in ideas and forms.

Basic type of rhythm

Vertical		Regular		Irregular
regular-vertical	Horizontal	Diagonal	regular-horizontal	
				

Five further characteristics

Repetitive/ Non-repetitive	If rhythms of scroll repeat the same way, they are called 'repetitive'.
Harmonious/ Disharmonious	If rhythms of scroll occur regularly in harmony, they are called 'harmonious'.
Single/Multiple	If scrolls have one rhythmic style, they are called 'single'.
Strong/Weak	If rhythms of the scroll are dynamic, they are called 'strong'.
Continuous/ Discontinuous	If rhythms of the scroll do not stop in a given area, they are called 'continuous'.

(4) Other Elements of Design: Space, Colour, Value, and Texture

Among the seven elements, the most relevant ones select to each motif. Tumpals analyse by space; kala-makaras by colour; lotus buds by value; and scrolls by texture.

Motif	Other elements			
	Space	Colour	Value	Texture
Tumpal	Narrow/Wide	x	x	x
Kala-makara	x	Original/Coloured	x	x
Lotus bud	x	x	Light/Dark	x
Scroll	x	x	x	Smooth/Rough

Space	if the space between adjacent lines is broad in tumpals, they are called 'wide'.
Colour	if kala-makaras are made of natural materials, and not coloured/painted, they are called 'original'.
Value	if lotus buds do not have layers; thus no darkness is created on their surfaces, they are called 'light'.
Texture	if scrolls regularly undulate, arousing evenness, they are called 'smooth'.

'Space' is the medium in which shapes exist. It has three characteristics of pictorial, illusionistic, and actual. Pictorial space is the outcome of artistic work. Illusionistic space creates a perceptual illusion through various devices, while actual space deals with three-dimensional work. 'Colour' evokes the highest emotional response, suggesting a mood and depth of experience. Colour is both art and science. Physicists discuss abstract theories of colour with light and optical principles involved in colour sensation; chemists formulate rules for blending colours; psychologists preoccupy with emotional responses to colours.

'Value' is the degree of lightness or darkness of an object. Light values appear to expand and approach, while dark values appear to contract and recede, regardless of their size or shape.

'Texture' refers to the surface of an object, natural or manufactured. It can be perceived in two different ways, visual and tactile. Tactile sensing happens through touch and connects to our experience. Variations on smooth or uneven surfaces produce different visual textures.

(4) Other Principles of Design: Emphasis, Unity-Variety, Size, and Proportion

Among the six principles, the most significant apply to each motif. Tumpals test by emphasis; kala-makaras by unity-variety; lotus buds by size; and scrolls by proportion.

Motif	Other principles			
	Emphasis	Unity-Variety	Size	Proportion
Tumpal	Dominant/ Subordinate	x	x	x
Kala-makara	x	Separate/Unified	x	x
Lotus bud	x	x	Small/Big	x
Scroll	x	x	x	Progressive/ Non-progressive
Emphasis	If lines are more important than other elements in the composition of tumpals, they are called 'dominant'.			
Unity-Variety	if shapes of kala-makaras are not separated from each other, they call 'unified'.			
Size	if lotus buds are small in reality, they are called 'small'.			
Proportion	if the same type of rhythm recurs by the increase, they are called 'progressive'.			

‘Emphasis’ is created by visual importance through selective stress. It involves dominance and subordination. Dominance is the effect of superior value against the subordination of something of minor importance. Emphasis, reinforced through repetition, proportion, simplification, and contrast, also be achieved by a group or the isolation of a feature.

‘Unity-Variety’: According to da Vinci (1452-1519), ‘Every part is disposed to unite with the whole that it may thereby escape its incompleteness’. Each part should be essential itself and yet add to the total effect. Variety means different qualities through contrast. Unity and variety are interdependent in maintaining balance.

‘Size’ describes the relative scale of a given element to other elements and the composition as a whole. It perceives in many ways, as expressing symbolic meanings, attracting attention, and endowing dramatic emphasis. Big size means power. ‘Proportion’ refers to the relationship of a shape to a total unit. The Greeks’ search for correct proportions is reflected in architecture by the creation of balance and harmony. Their geometric plan of the ‘Golden Mean’ established a canon of perfect proportion.

SCALED VALUE MODE, AND TOTAL NUMBERS IN FOUR MOTIFS

This section introduces an overall view of analysing four motifs to examine their continuity and influence in Javanese mosque ornamentation. Specifically, two stages apply for basic type and five further characteristics: (1) verifying whether a given characteristic in a given type is present in examples of each motif, and (2) counting the frequencies of these characteristics by scaled values, modes, and total numbers.

For example, in tumpals, this assessment is demonstrated on a scale of characteristics of dominant lines from many to the absence of the characteristics, none (see below). Each point on the scale gives a numerical value (many=4, none=1). In other words, each of tumpals is assessed and tabulated within a chronological group. The results drawn from this tabulation are summarised in the same table, and present the modal value of the characteristics in each group - that is the most frequently occurring value. They also provide total numbers in each group. Scaled values, modes, and total numbers are yardsticks for continuity of tumpals between the pre-Islamic and Islamic periods.

Scaled value in tumpals



LIMITATIONS OF THE STUDY

Before a summary, the limitation of the study should clarify. Preface explained the scope of the research. Chronologically, Javanese mosque ornamentation was covered from the 15th century to the present day, including the prehistoric and Hindu-Buddhist periods. The geographical area was limited to Java, where all the different cultures have practised. The starting point of this research was the pre-Islamic ornament in Javanese mosques with consideration of both Hindu-Buddhist and Islamic ornament traditions. Four motifs examined were tumpal, kala-makara, lotus bud, and scroll, which frequently appeared both in temples and mosques. The research concerned the degree of continuity and influence of four pre-Islamic motifs in Javanese mosque ornamentation. Use of indicators for each motif was also limited: line, shape, form, rhythm.

This research will use many different methods, mainly by perception. It is a combination of (1) the researcher's informed judgment based on training in art and design, (2) observations during the fieldwork, (3) general rules on elements and principles of design, according to literary sources, and (4) the respect of Indonesian cultural heritage. The extraordinary difficulty in this research lay in the hindrance of the lack of literary sources on the subject matter, as Indonesian Islamic ornaments seemed to be extremely marginalised in the research field among the West and Indonesia herself, which encouraged the researcher to pursue creative and innovative methods in tackling the research questions. This research is likely to be a pioneer work, according to comments by the 20 Indonesian specialists in art, architecture, archaeology, design, and history. The research itself can be put forward as a proposition to stimulate further studies to fill in the gaps in Javanese history through an investigation of ornaments.

Of course, it has to admit that the perception and experiences of the researcher colour the interpretation of the primary data. Subsequently, personal arguments may produce a contentious conclusion, but this can be a strength because creative thinking in solving the questions can give a vast space to new possibilities in research. It has to stress that the beauty of ornament depends upon one's free thoughts, perceived individually with one's cultural background and experience. It can see in the principles appropriate to Hindu-Buddhist or Islamic ornaments. Hindu-Buddhist motifs stress symbolism overall, while Islamic ornaments underline beauty, based on mathematical calculations in geometry.

Therefore, the researcher feels confident and proud of this research, because many possible methods will intensively and extensively attempt in analysing four motifs from various angles. The methods which will implement in this research are believed to provide an effective solution; thus the findings can be validated with full support. In other words, five aspects (background, basic type of indicator and its subdivisions, five further characteristics, elements and principles of designs) will be thoroughly and objectively examined to each motif various times at constant

intervals, guided by the researcher's attitudes hopefully of non-bias, conscience, commitment, and discipline with passion.

SUMMARY

This chapter has provided practical information, reasons for choosing four motifs, indicators, variables, and different methods of answering the research question. For collecting data, literature review, empirical work, and interviews applied, and in choosing the 30 mosques, a purposive sample did. A larger (45-50) selection of examples in each motif explained the procedure to take.

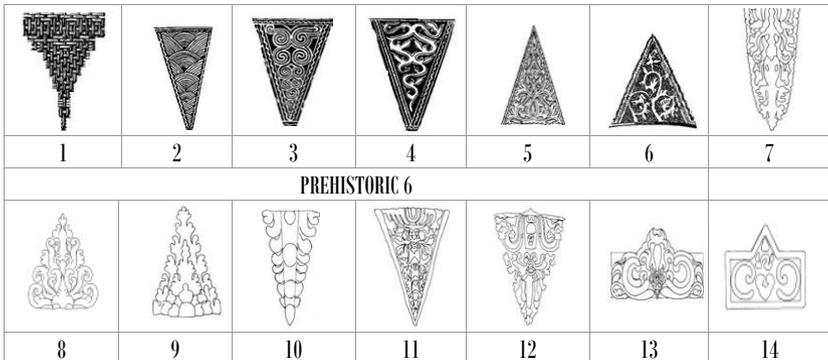
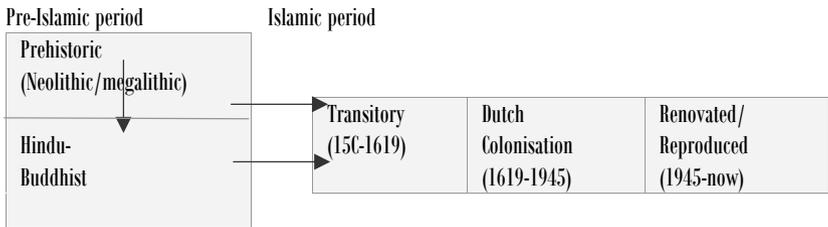
Moreover, various experiments and attempts to the research questions were noted down. In data analysis, the researcher's perception and observations added to literary sources. Overall, four motifs are to test according to five aspects. The background has period, geographical area, location in a mosque building, material, and attachment. Four indicators are line, shape, form, and rhythm. Prehistoric tumpals are to be examined by line, Hindu-Buddhist kala-makaras, lotus buds, and scrolls are by shape, form, and rhythm respectively. In analysing motifs, two stages are (1) verifying the presence of a given characteristic in each indicator, and (2) finding its frequency by scaled value, mode, and total number. This extensive analysis anticipates continuity and changes of four motifs over time in accord to orthodox Islamic ornament.

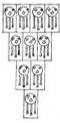
♣ References in alphabetical order: Alexander 1965; Arnheim 1974; Blaiki 1991; Brommer 1975; Bryman 2003; Burke 1955; Ching 1996; Crane 1900; Denzin 1978; Gatto 1975; Gray 2004; Grillo 1960; Hamlin 1916; Handell & Handell 1995; Holt 1989; Krommenhoek 1975; Olin 1992; Pole and Lompard 2002; Robson 2002; Seale 1999; Stoops 1983; Thiel 1981

TRANSCENDENCE OF PRE-ISLAMIC TUMPALS VIA JAVANESE TEMPLES TO MOSQUES

If you stroll around Javanese temples and mosques, you will be amazed by a beautiful triangular shape, called “tumpal”. If you by chance have a glimpse of a lion at the entrance of Kalasan temple, PLEASE be attentive, because his job is to inspect every visitor to protect the sanctuary of his superior gods and goddesses. But PLEASE be gentle to him, otherwise you will lose an opportunity to see prestigious tumpals on his shoulder; they exist not only for signifying the Cosmos Mountain, Meru, where gods and goddesses reside, but they also honour his greatness as the king of the animal world.

This chapter answers sub-question 1: How has the tumpal, the popular prehistoric motif in Indonesia, become part of Javanese mosque ornamentation, and how has it been developed and used within the Islamic period? To start with, a few examples of tumpals prove their continuity over time. Although a broad analysis of background is carried out in tumpals, the line is the primary indicator for answering the question, along with five further characteristics and other elements and principles of design. A brief account of tumpals on mihrabs accompanies a summary and conclusions.



HINDU-BUDDHIST 9						
						
15	16	17	18	19	20	21
ISLAMIC 33 (TRANSITORY 15)						
						
22	23	24	25	26	27	28
						
29	30	31	32	33	34	35
ISLAMIC 33 (DUTCH COLONISATION 6)						
						
36	37*	38*	39*	40*	41*	42*
ISLAMIC 33 (RENOVATED/REPRODUCED 12)						
						
43*	44*	45*	46*	47*	48*	

The 48 tumpals: 1-6. prehistoric, 7-9. kalasan (90), 10. east Java (12-150), 11. panataran (1147-1454), 12. djago (1268), 13-15. east Java (12-150), 16. tralaja grave (150), 17. pajlagrahan (1452), 18-21. agung demak (1479), 22. mearh panjunan (1480), 23-24. sunan giri (1485), 25-26. astana mantingan (1559), 27-28. sendang duwur (1561), 29-30. agung mataram (1568), 31-32. agung solo (1757), 33. al anwar angke (1761), 34-35. agung yogya (1773), 36. carita labuan (1883-93), 37. agung demak* (1479), 38-39. sunan giri* (1485), 40. menara kudus* (1573), 41-46. agung mataram* (1568-1601), 47-48. agung yogya* (1773) *mosques built before the contemporary period

PREHISTORIC TUMPALS IN JAVANESE TEMPLES AND MOSQUES

Forty-eight representative tumpals of the 80 surveyed were chosen and arranged by chronology and geographical area. As suitable examples of prehistoric tumpals in Java were hard to find, six Bayak ones in Borneo introduced (Pepin Press 1998). Despite unclear dates of their origins, the indications are that they are prehistoric, due to the line composition and bamboo as material in half of them. Hindu-Buddhist and Islamic tumpals were taken directly from temples, the Indonesian Archaeology Museum in Mojokerto, East Java, and mosques. All nine Hindu-Buddhist tumpals include here, but 33 of the 65 Islamic ones were selected, owing to similar design from the same mosque.

A tumpal, a decorated triangle, is a common ornament. It was originated in Neolithic and megalithic times in prehistoric Indonesia and continued in Hindu-Buddhist temples. Although the uncertainty of its origin as a human figure or a stylised bamboo shoot, the motif was used for a symbol, due to its magical character, or because it conveyed an idea of fertility. It can represent the holy worship of the Cosmos Mountain, Meru, where gods reside. Many types and variations of tumpal found, but the main shape is triangular, facing either downwards or upwards. Another type, called 'antefix', is also present in temples, but since it combines a triangle and a rectangle, Tjandrasmita (2005) recommends it as a variant of tumpal.

Group 1	T3-Prehistoric	T8-Kalasan temple	T37-Agung Demak
			
Group 2	T2-Prehistoric	T11-Panataran temple	T34-Agung Yogya
			

Commonness could trace in (1) mystical and symbolic connotation (T3/T14/T40) and (2) aesthetic and decorative beauty (T9/T25/T41). They appeared across time, scattered over the whole of Indonesia on fishing baskets and in temples and mosques. They made of wood, stone, or other materials, and some richly decorate⁴². The majority have both straight and curved lines,

⁴² 'Decoration' has two meanings: (i) decorative motifs - leaves, flowers, scrolls - are part of tumpal, composed of naturalistic lines (T5-T6/T11-T12/T16/T19), (ii) tumpals are perceived as decorative, regardless of any types of line on their composition (T7/T9/T23). Drawing by Pepin Press (1998)

balanced in symmetry. After Dutch colonisation of Java, they are coloured with paint, or their material itself has colours. Based on these facts, megalithic tumpals on fishing baskets travelled to sacred Hindu-Buddhist temples and finally settled down in sacred Javanese mosques, underlining symbolism, rather than beauty.

For continuity, a preliminary visual assessment suggests two groups. The first (T3/T8/T37) is similarly curved with spirals, despite different shapes, pointing either downwards or upwards. In material, prehistoric T3 could be bamboo, and Hindu-Buddhist T8 (Kalasan) and Islamic T37 (Agung Demak) of stone. Interestingly, a reproduced T37 inherited a prehistoric design. The second (T2/T11/T34) shares a border in common. Prehistoric T2 is edged on zig-zagged diagonal lines, while Hindu-Buddhist T11 (Panataran) and Islamic T34 (Agung Yogya) enclose with straight diagonal lines. As T34 made during Dutch colonisation, it is coloured.

BACKGROUND

Between the Pre-Islamic and Islamic

Of the 48 tumpals, six (T1-T6) are prehistoric, nine (T7-T15) Hindu-Buddhist, and 33 (T16-T48) Islamic. All prehistoric tumpals came probably from outside Java. Of Hindu-Buddhist, three are from Central Java, and six from East Java. Of Islamic, 22 locate in Central Java, four in West Java, and seven in East Java. Tumpals were mostly found in Central Java, possibly due to the first Islamic Demak and the foundation of Mataram a century later.

T16, the earliest Islamic tumpal in the sample, is a Muslim's grave at Tralaja near the capital of Majapahit in East Java, suggesting the Muslim residence inside the Hindu kingdom, and echoing a pre-Islamic motif in Islamic ornamentation already in the 15th century. The materials of all prehistoric tumpals could be bamboo and all Hindu-Buddhist of stone. 16 Islamic made of wood, eight of stone, and the rest of others such as tile which indicates European influence on mosques after Dutch colonisation. The decoration showed in two prehistoric, four Hindu-Buddhist and 19 Islamic tumpals, largely adorned with scrolls within their frames.

Tumpals: 48		P: 6	HB: 9	I: 33		
				IT: 15	ID: 6	IR:12
Area	West: 4			2	2	0
	Central: 25		3	8	4	10
	East: 13		6	5	0	2
Location	Prayer hall: 3			1	1	1
	Serambi: 9			5	4	0
	Outside: 21			9	1	11
Material	Wood: 22	6		5	6	5
	Stone: 17		9	7	0	1

	Other: 9			3	0	6
Attachment	Decorated: 25	2	4	6	5	8
	Not-decorated: 23	4	5	9	1	4

Prehistoric(P)=Neolithic/megalithic, Hindu-Buddhist (HB:8-15c), Islamic (I:15c-to the present): transitory (IT:15c-1619), Dutch colonisation (ID:1619-1945), renovated/reproduced (IR:1945-to the present)

Within the Islamic

Of the 33 Islamic tumpals, 15 are transitory, six are from Dutch colonisation, and 12 are renovated/reproduced. Of the transitory, two are from West Java, eight from Central Java, and five from East Java. Only one tumpal appeared in the prayer hall, five in the serambi, and nine outside a mosque building, mainly on graves. A question arises. Is the presence of a large number of tumpals on graves, due to the survival of remnants of the animistic Cosmos Mountain concept, in which dead souls returned to Meru? Five tumpals made of wood, seven of stone, and three of other. Six are embellished, compared to nine without decoration. During the Dutch colonisation era, two tumpals were found in West Java and the rest in Central Java. None was from East Java. One tumpal appeared in the prayer hall, and four in the serambi, and one outside. Frequent use of tumpals in the serambi can attribute to Mataram's activity in erecting Agung Mataram (1568-1601) and Agung Yogya (1773), decorating their serambis with beautiful tumpals to show the greatness of the kingdom. All tumpals made of wood, mainly adorned.

Of the 12 renovated/reproduced, most were from Central Java, located outside mosques. None showed in West Java and the serambi. Half of tumpals made of tile, glass, and plaster with scroll decoration inside frames. They display a variety of design. T37 (Agung Demak) retained Hindu-Buddhist tumpal by spiral and undulating lines. T40 (Menara Kudus) repeats the Cosmos Mountain in an extremely stylised triangular shape, composed of 10 rectangles in rows of 4-3-2-1, and each rectangle fills with a circle, triangles, and a diamond. Materials are tile and glass in many colours. If it did not place on the sacred mihrab, it could hardly perceive as a tumpal. T41 (Agung Mataram), an antefix, has natural and geometrical lines, while T48 (Agung Yogya) has stylised.

Summary and Conclusion

Preferred background	Pre-Islamic & Islamic			Islamic		
	P	HB	I	IT	ID	IR
Area		East Java	Central Java	Central Java	Central Java	Central Java
Location			Outside	Outside	Serambi	Outside
Material	Wood	Stone	Wood	Stone	Wood	Other
Attachment	Not-decorated	Not-decorated	Decorated	Not-decorated	Decorated	Decorated

(Geographic Area): Islamic tumpals in Central Java continued mainly from Hindu-Buddhist ones in East Java. The reasons could be (1) the earliest Islamic Demak in Central Java conquered Hindu Majapahit in East Java, and (2) the foundation of the greatest Islamic Mataram and others here later.

(Location in a mosque building): The majority of Islamic tumpals appeared outside mosques, particularly on graves, emphasising a syncretic culture of the ancestor worship among Javanese Muslims.

(Material): Wood, often used in prehistoric tumpals, did not influence Hindu-Buddhist ones. Stone replaced as the most suitable for enhancing the beauty of temples. In the transfer to wooden mosques, other than bamboo, tumpals followed this. New materials tried in renovated/reproduced tumpals.

(Attachment): A tradition of not decorating prehistoric tumpals continued in the Hindu-Buddhist period but was no longer influential in Islamic tumpals. It could be the influence of incoming orthodox Islamic arabesque, geometry, and calligraphy. European ornaments such as palmette (pseudo-leaf) and flowers also took part.

However, the appearance of prehistoric tumpals in mosques, particularly in renovated/reproduced ones, can prove the continuity in idea and form, expressing ‘three concepts’⁴³ through a triangular shape.

THE NATURE OF LINES

Visual perception is seeing, feeling, and expressing. Visual perception is related to one’s personal feelings and preferences to one’s memory and accumulated past experiences. (Handell & Handell 1995)

This section underlines the aim and procedure of analysis, based on the researcher’s perception and observation. Perception may vary among individuals, and readers may not entirely agree with the researcher. However, the aim tries to facilitate the constant comparison of motifs between two periods. A broad division of straight/curved lines in tumpals can be enough, but in a detailed examination, different definitions had to be intended ⁴⁴ to enrich similarities/dissimilarities between each tumpal. For example, short, much curved, zigzag lines are considered ‘short’, according to the researcher, while others regard them as ‘long’. Moreover,

⁴³ ‘Three concepts’ connect to a triangular shape of the Cosmos Mountain. In Hindu-Buddhism, they represent ‘underworld/world/heaven’. Javanese Islam adopted this idea into a three-tiered roof of a mosque, signifying three ways to be a good Muslim: faith, charity, submission.

⁴⁴ An intentional definition implies a specific meaning, of which the researcher developed the basic definitions of elements and principles of designs further, based on literary sources and own view.

it should consider that lines in tumpals were disappeared and deteriorated, caused by natural weathering or other circumstances over history.

Consequently, this research does not base on a purely scientific method; instead it combines some objective measures with subjective but informed judgement. It investigates a trend to continuity and influence from prehistoric tumpals via the Hindu-Buddhist to Islamic periods, created by the local genius. It is an amalgamation of (1) researcher’s informed judgment through training in art and design, (2) observation during the fieldwork, (3) literature on elements and principles of design, and (4) the respect to Indonesian cultural heritage. This analysis, considering these, can enhance understanding of tumpals across time and space. This aim also applies to other motifs: kala-makara, lotus bud, and scroll.

BASIC TYPE OF LINE AND ITS SUBDIVISIONS

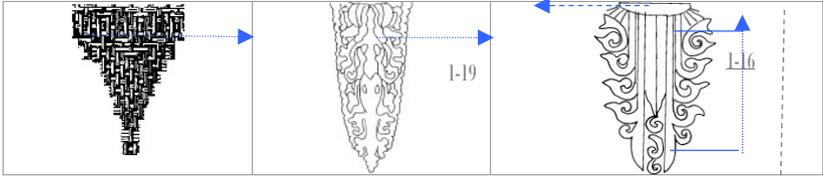
To answer sub-question 1 (How has the tumpal, the popular prehistoric motif in Indonesia, become part of Javanese mosque ornamentation, and how has it been developed and used within the Islamic period?) the 48 tumpals are assessed according to their characteristics with respect to lines: (1) presence of each characteristic, and (2) frequency of lines, due to different amounts of lines in tumpals. This assessment is demonstrated on a scale from predominant lines to their absence. Each tumpal gives a scaled value (many=4, none=1). The result presents the modal value of the characteristics in each group. Total numbers collect all scaled values to compare between different types of line. Modes, the most frequently occurring value, do not necessarily correspond to total numbers. They can be none when total numbers are high. Among the maximal and minimal use of lines, more than 20 are many, 6-20 some, under six few.

Many(4)  Some(3)  Few(2)  None(1)  x

Straight/Curved

Basic type of line can divide into straight and curved. Three examples initially assess. In this analysis, curved includes any lines except straight. Prehistoric T1 and Hindu-Buddhist T7 (Kalasan temple) have only straight or curved respectively, Islamic T21 (Agung Demak) has both. As T1 and T7 have many lines.

T1 (prehistoric) many straight 	T1 (Kalasan temple) many curved 	T21 (Agung Demak) 19 straight  16 curved 
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PRESENCE: Of the 48 tumpals, 42 have straight and 47 curved. Of the straight, six of each are prehistoric and Hindu-Buddhist, and 30 Islamic. All tumpals are curved, except for T1. Both types are prevalent between the three periods.

Tumpals: 48		P: 6	HB: 9	I: 33		
				IT: 15	ID: 6	IR: 12
Basic	Straight :42	6	6	13	5	12
	Curved: 47	5	9	15	6	12

FREQUENCY: Although straight are more in prehistoric tumpals, curved are significant overall. Their less frequency was in Islamic transitory T17-T18. Almost the equal use of both types - straight in frames and curved inside - shows in renovated/reproduced T40.

Prehistoric 6	tumpal 0	1	2	3	4	5	6								
	straight 16+	☉	☉	☉	☉	☉	☉								
Hindu-Buddhist 9	curved 19+	X	☉	☉	☉	☉	☉								
	tumpal 7	8	9	10	11	12	13	14	15						
Transitory 11	straight 17+	X	X	X	☉	☉	☉	☉	☉						
	curved 32+	☉	☉	☉	☉	☉	☉	☉	☉						
Islamic 33	tumpal 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	straight 32+	☉	☉	☉	☉	☉	☉	X	☉	☉	☉	X	☉	☉	☉
Dutch 6	curved 49+	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉
	tumpal 31	32	33	34	35	36									
Renovated/Reproduced 12	straight 13+	X	☉	☉	☉	☉									
	curved 21+	☉	☉	☉	☉	☉									
T40	tumpal 37	38	39	40	41	42	43	44	45	46	47	48			
	straight 31+	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉			
T40	curved 34+	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉			

Modes and total numbers+: straight/curved⁴⁵

Prehistoric: Curved (mode: many). Total numbers reveal almost no difference between two types. **Hindu-Buddhist:** Curved (mode: many). Total numbers prove it and show the big difference between two types. **Islamic:** Curved (modes: some-many). Total numbers reveal the slight difference between two types, except renovated/reproduced tumpals.

	Straight (111)	Curved (154)
P	Few=Some=Many (18)	Many (19)
HB	Few (17)	Many (32)

⁴⁵ T1-T6=prehistoric; T7-9=kalasan; T10, T13-T15=east Javanese; T11=panataran; T12=djago; T16=tralaja Muslim grave; T17=pajlagrahan; T18-T21, T37=agung demak; T22=merah panjuran; T23-T24, T36-T39=sunan giri; T25-T26=astana mantingan; T27-T28=sendang duwur; T29-T30, T41-T46=agung mataram; T31-T32=agung solo; T33=al anwar anke; T34-T35, T47-T48=agung yogya; T36=carita labuan; T40=menara kudus

I	IT	Few (32)	Some=Many (48)
	ID	Few (13)	Some=Many (21)
	IR	Few (31)	Some (34)

CONTINUITY/INFLUENCE: Pre-Islamic tumpals are continuous and influential between temples and mosques by basic type, specially curved, underlining Javanese cultural heritage.

Vertical/Horizontal/Diagonal of the Straight

Straight lines can subdivide into vertical, horizontal, and diagonal. Except for T7-T9, T22, T26, T31, all display straight. Sloped lines treat as diagonal. Continuous zigzags count as one line. Prehistoric T4, Hindu-Buddhist T14 (East Javanese temple) and Islamic T47 (Agung Yogya) have two or three types of line. T4 has few horizontal and some diagonal, T14 few of all types, T47 horizontal and diagonal as few and some respectively.

PRESENCE: Of the 42 straight, 20 are vertical, 38 horizontal, and 23 diagonal. Of the vertical, one tumpal is prehistoric, four Hindu-Buddhist, and 15 Islamic, while of the horizontal, three are prehistoric, six Hindu-Buddhist, and 29 Islamic. Five prehistoric, four Hindu-Buddhist, and 14 Islamic tumpals have diagonal. All types used, but horizontal are the most common across time. Prehistoric tumpals had more diagonal than almost the equal distribution of vertical, horizontal, and diagonal in Hindu-Buddhist ones. Islamic tumpals favoured horizontal.

FREQUENCY: All types are very infrequent. Diagonal, often used in prehistoric tumpals, fell in the Hindu-Buddhist period, despite sporadic appearances in the Islamic period, such as T40 (Menara Kudus) whose composition is triangles and diamonds from diagonal. Hardly used vertical in prehistoric tumpals almost disappeared in the next periods, but showed in renovated/reproduced tumpals. Horizontal continued, almost full in the Islamic period.

CONTINUITY/INFLUENCE: Prehistoric tumpals continued to temples and mosques by mainly horizontal, and other lines partially. Their continuity and influence on mosque ornamentation seem not to be constant and strong by subdivision of straight lines.

Circular/Spiral/Undulating of the Curved

Curved lines can subdivide into circular, spiral, and undulating. All tumpals have curved except for T1. In this analysis, ‘circular’ implies circles or part of a circle. A prehistoric T2 has circular, while Hindu-Buddhist T8 (Kalasan temple) and Islamic T26 (Astana Mantingan) display spiral and undulating. T2 has many half circles inside the frame, T8 many spirals and few undulating, T26 with some spiral and undulating.

PRESENCE: Of the 47 curved, 16 are circular, 31 spiral, and 43 undulating. Of the circular, one is prehistoric and 15 Islamic. No Hindu-Buddhist tumpals display circular. Of the spiral, one tumpal is prehistoric, six Hindu-Buddhist and 24 Islamic. Three prehistoric, eight Hindu-Buddhist, and 32

Islamic tumpals have undulating. All lines are present across three periods, but undulating are the most common.

FREQUENCY: Undulating continued mostly across time. Used somewhat in prehistoric tumpals, they became vogue during the Hindu-Buddhist period. Simple undulating in T17 (Pajlagrahan) made for narrow space on a door frame in the serambi. Rarely used in prehistoric times, circular evolved in Hindu-Buddhist tumpals, but reappeared sporadically in the next period. Only T2 (Prehistoric) and T40 (Menara Kudus) are full of circular. Seldom shown prehistoric spirals increased in Hindu-Buddhist tumpals, and continued further, despite absence in T17-T18 or T38-T40.

CONTINUITY/INFLUENCE: Undulating in prehistoric tumpals constantly continued in temples and mosques. Their influence is rather strong by subdivision of curved.

Conclusion

Tumpals: 48		P	HB	I		
				IT	ID	IR
Straight/Curved		Straight	Curved	Curved	C	S-C
S	V/H/DI	Diagonal	Horizontal	Horizontal	H	H
C	C/S/U	Undulating	Undulating	Undulating	U	U

S (straight), C (curved), H (horizontal), U (undulating)

(Straight/Curved): In prehistoric tumpals, straight were slightly predominant. Curved became frequent in the Hindu-Buddhist and Islamic periods. Equal use of both types saw in renovated/reproduced tumpals during the Islamic contemporary. Continuity of pre-Islamic tumpals in Javanese mosque ornamentation tended to be constant and influential by curved.

(Vertical/Horizontal/Diagonal of the Straight): No clear and direct relation could be made between these lines across three periods. Popular diagonal in prehistoric tumpals were not influential; instead, horizontal connected the Hindu-Buddhist and Islamic periods. Continuity of pre-Islamic tumpals in Javanese mosques seemed to be neither consistent nor significant by subdivisions.

(Circular/Spiral/Undulating of the Curved): Undulating in prehistoric and Hindu-Buddhist tumpals influenced Islamic ones, marking strong continuity in mosque ornamentation. An assumption can make. Undulating highlight a symbolic connotation, rather than the beauty of a triangular shape, composed of straight lines. They represent the Cosmos Mountain, three worlds in Hindu-Buddhism, and three ways to approach Allah.

COMPARING FIVE FURTHER CHARACTERISTICS

A more detailed analysis did in five further characteristics (broken/unbroken, natural/geometrical, inner/outline, short/long, simple/complicated). Each characteristic carefully chose, and its meaning was described as objectively as possible, according to literature and the researcher's

view. All tumpals were examined several times at constant intervals. Two choices are given for each characteristic, due to many characteristics in tumpals. A few examples can illustrate continuity over time.

In the dichotomy between **broken/unbroken**: if lines of tumpals do not connect to the starting point and repeatedly stop, they are called 'broken'. They can perceive in (i) short, (ii) inner lines within the frame, (iii) lines which change directions. Among the samples, prehistoric T1 and Islamic T34 display broken. T1 has short lines, due to interchanging and inner lines, while T34 short and inner. T1 has many broken but T34 some. No Hindu-Buddhist ones have broken. On the other hand, (i) long, (ii) continuous lines like spirals, and (iii) lines which make frames can perceive as 'unbroken'. Except for T1, unbroken are present in all tumpals. Prehistoric T3, Hindu-Buddhist T12, and Islamic T19 display unbroken. All have spiral and long lines, having many unbroken. T3 has a triangular frame besides.

FREQUENCY: Unbroken are the most common. Very popular unbroken in prehistoric tumpals continued in nearly all later tumpals, despite lower frequency in small tumpals such as T44-T46 (Agung Mataram) on a narrow frame of the gate. Contrary, sporadic broken died out in temples and earlier mosques, such as T17 (Pajlagrahan) and T18 (Agung Demak), but returned to T21 (Agung Demak) with few, and continued further. Modes of unbroken are some in both prehistoric and Islamic, and many in Hindu-Buddhist tumpals. Total numbers prove their predominance, revealing the big difference between broken/unbroken, except the prehistoric and Islamic Dutch colonisation periods.

Between **natural/geometrical**: if tupal lines are neither stylised nor composed of a circle, triangle, or square, they are called 'natural'. They can be perceived in (i) complicated, (ii) many short, and (iii) zigzag lines. Prehistoric T5, Hindu-Buddhist T11, and Islamic T28 have natural. T5 displays zigzag, T11 and T28 have both complicated and many short lines. T11 and T28 categorise as many, compared to some in T5. On the other hand, (i) simple, (ii) long, and (iii) circular and spiral lines can be perceived as 'geometrical'. Prehistoric T2, Hindu-Buddhist T13, and Islamic T30 have geometrical. T2 displays simple and circular lines, T13 simple and spiral, and T30 circular, spiral, and long. T2 is graded as many, while T13 and T30 as some.

FREQUENCY: Natural are predominant in the Hindu-Buddhist and Islamic periods, and geometrical in prehistoric times. Partially used natural in prehistoric tumpals became vogue in Hindu-Buddhist ones but decreased slightly in Islamic ones. In renovated/reproduced tumpals such as T47-T48 (Agung Yogya), there was less use, likely due to the stylisation of Islamic ornament. Contrary, favoured geometrical in prehistoric tumpals disappeared in temples (T7-T9) of Central Java, but regained in the Islamic period. Interestingly, three tumpals (T25-T26, T28) have no geometrical. T25-T26 (Astana Mantingan) and T28 (Sendang Duwur) share the commonness. Sendang Duwur

mirrored the mosque setting of Astana Mantingan, providing the earliest syncretism (Tjandrasasmita 1998). Natural lines in Hindu-Buddhist tumpals reflected in these Islamic. Of modes of natural, many grades in Hindu-Buddhist and few or some in Islamic tumpals. Total numbers prove their predominance and reveal the big difference between natural/geometrical in the Hindu-Buddhist and Islamic transitory periods.

Of **inner/outline**: if lines of tumpals do not create a boundary, they are called 'inner'. Any lines within the frame treat as inner. Prehistoric T3 and Islamic T33 have both inner and outline, compared to Hindu-Buddhist T7 which has only inner. These examples have many inner. Of outline, T3 categorises as some, T7 as none, and T33 as few.

FREQUENCY: Inner are very frequent across three periods, except for T18 (Agung Demak). Very popular inner in prehistoric tumpals continued, and were influential in all tumpals, despite different frequencies in the Islamic transitory. To the contrary, commonly used outlined in prehistoric tumpals almost evolved in the next periods. Two questions arise. (i) Has a concept of frame nothing to do with boundary, because outline did not prefer in many tumpals? Instead, could the absence of outline be an allegoric representation of the 'three' concepts? Whatever it can be, outline continuously sees in renovated/reproduced tumpals, such as T41-T46. Modes of inner are many both in the prehistoric and Hindu-Buddhist, while it varies from few to some in the Islamic period. Total numbers indicate their predominance, and reveal the big difference between inner/outline in tumpals.

Concerning **short/long**: if lines of tumpals consist of short lines, they are called 'short'. They can be perceived in (i) small curved, (ii) much zigzag, and (iii) short inner lines. Prehistoric T6, Hindu-Buddhist T9, and Islamic T35 display short. T6 is full of short zigzag, composing a frame, T9 has many small curved lines, T35 short inner. All mark as many. On the other hand, (i) big curved, (ii) straight, and (iii) outline lines can be perceived as 'long'. Prehistoric T4, Hindu-Buddhist T10, and Islamic T41 have long, while all have big curved and straight lines, categorised as some. T4 and T41 also have outline.

FREQUENCY: Of five further characteristics, short and long are the most continuous, indicating significant influence of prehistoric tumpals on Javanese temple and mosque ornamentation. Except for T1 (prehistoric) and T9 (Kalasan temple), all tumpals display both types. Less significant use of short only showed in three Hindu-Buddhist (T8, T14-T15), two Islamic transitory (T17-T18), and one renovated/reproduced (T45) tumpal. The reason for few lines in T14 (East Javanese temple), a stylised antefix, can be attributed to emphasise its symbolical function. Modes of short are some in prehistoric and many in Hindu-Buddhist tumpals. Islamic ones are either some or many. Although total numbers indicate their predominance, there is no big difference between short/long, except renovated/reproduced tumpals in the Islamic contemporary.

Finally, between **simple/complicated**: if lines tend to create stylised tumpals, they are called ‘simple’. They can perceive in (i) circular, oval, and triangular, (ii) straight, and (iii) shorter lines. On the other hand, (i) much curved or zigzag, like spirals, (ii) natural, and (iii) longer lines can be perceived as ‘complicated’. Prehistoric T5, Hindu-Buddhist T15, and Islamic T20 display both simple and complicated. T5 has straight and zigzag lines, T15 and T20 straight and spiral. All simple lines grade as few. Of complicated, T5 and T20 mark as many, T15 as some.

FREQUENCY: Overall, simple continued with moderate significance, while complicated had a few intervals. However, when they reappeared, they were significantly used, seen in T3-T6 (prehistoric), many Hindu-Buddhist tumpals, and T19-T20 (Agung Demak) in the Islamic transitory. The use of spirals partially caused this phenomenon. Simple increased in the Islamic transitory, such as in T29-T30 (Agung Mataram), and continued in the next era, such as in narrow space of T35 (Agung Yogya) and T36 (Carita Labuan). They were revived in renovated/reproduced tumpals with low frequency, underlining the simplicity of Islamic ornament. Modes of complicated is some≡many in prehistoric and many in Hindu-Buddhist tumpals. Much variation sees in Islamic ones. Total numbers indicate the almost similar use of simple/complicated across three periods.

Summary and Conclusion

PRESENCE: Of the 48 tumpals, 25 have broken/47 unbroken, 44 natural/32 geometrical, 47 inner/20 outline, 46 long/38 complicated lines. All tumpals contain short and simple lines, constantly continuing over time. Inner were fully present in prehistoric tumpals, unbroken, natural, and inner in Hindu-Buddhist, and unbroken and long in Islamic ones. Unbroken, natural, and inner more used than their opposites.

(Between the pre-Islamic and Islamic)

PRESENCE: Four out of five characteristics were present in all tumpals. Strong continuity of natural between Hindu-Buddhist and Islamic tumpals was contrary to an expectation of more geometrical in the Islamic period, according to incoming stylised Islamic ornament. Can it be interpreted as Javanese Muslims’ love for heritage through Hindu-Buddhist floral-like tumpals?

Preferred lines (48 T)	P	HB	I
Broken/Unbroken	Unbroken	Unbroken	Unbroken
Natural/Geometrical	Geometrical	Natural	Natural
Inner/Outline	Inner	Inner	Inner
Short/Long	Short	Short	Short=Long
Simple/Complicated	Simple	Simple	Simple

CONTINUITY/INFLUENCE: Prehistoric tumpals influenced Javanese temple and mosque ornamentation by unbroken, inner, short, and simple. Modes and total numbers indicated short as the most continuous across three periods. But, in detail, equal use of inner and short showed in prehistoric tumpals, while unbroken were the most common in Hindu-Buddhist ones. In the Islamic period, short were the foremost.

Modes/ Total numbers	P	HB	I
Unbroken/ 151	Some/ 18	Many/ 33	Some/ 100
Inner/ 149	Many/ 20	Many/ 31	Few=Some, Some/ 98
Short/ 153	Some/ 20	Many/ 28	Some=Many, Some/ 105
Simple/ 120	Few/ 17	Few/ 20	Few, Some/ 83

(Within the Islamic)

PRESENCE: To four characteristics from the pre-Islamic period, natural and long added.

Preferred lines (33 T)	IT	ID	IR
Broken/Unbroken	Unbroken	Unbroken	Unbroken
Natural/Geometrical	Natural	Natural	Natural
Inner/Outline	Inner	Inner	Inner
Short/Long	Short=Long	Short=Long	Short=Long
Simple/Complicated	Simple	Simple	Simple

CONTINUITY/INFLUENCE: Short are the most common with strong influence. Unbroken also shared with short in the transitory.

Modes/ Total numbers	IT	ID	IR
Unbroken/ 100	Some/ 46	Some/ 19	Some/ 35
Natural/ 90	Few/ 44	Some/ 17	Few/ 29
Inner/ 98	Few=Some/ 42	Some/ 20	Some/ 36
Short/ 105	Some/ 46	Some=Many/ 21	Some/ 38
Simple/ 83	Some/ 38	Some/ 16	Few/ 29

Continuity and influence of pre-Islamic tumpals on Javanese mosque ornamentation were very extensive and powerful in the five further of line.

EXAMINED BY SPACE: OTHER ELEMENTS OF DESIGN

This section discusses whether continuity and influence of pre-Islamic tumpals also occurred in another element of design. Space chose. One option was allowed.

In defining **narrow/wide**, in terms of space: if the distance between adjacent lines in the composition of a tumpal is closer and compact, they are called 'narrow'. Prehistoric T1 and Hindu-Buddhist T11 display narrow, and Islamic T38 wide. T1, T11 seem to focus on lines, but T38 expresses more shapes by distancing lines each other.

PRESENCE: Of the 48 tumpals, 33 have narrow and 15 wide. Narrow are double than wide in the sample, and prehistoric tumpals have nothing but narrow. Hindu-Buddhist tumpals favoured wide, while Islamic ones narrow.

EVALUATION: Neither narrow nor wide were strongly continuous across three periods. The dissimilarity indicates that space, another element of design, did not affect continuity of pre-Islamic tumpals in mosque ornamentation. Can the result be interpreted as arbitrary tumpal designs, depending on locations in temples and mosques, created by local genius?

Space	P	HB	I
Narrow/Wide	Narrow	Wide	Narrow

OBSERVING EMPHASIS: PRINCIPLES OF DESIGN

This section has the same aim as the previous. Emphasis as a relevant principle of design tests. One option was allowed for each type.

In identifying **dominant/subordinate**, in terms of emphasis: if lines of tumpals underline shapes or decorations or symbols, rather than lines, they are called 'subordinate'. Prehistoric T6, Hindu-Buddhist T10, and Islamic T25 tend to be subordinate, as they highlight decoration (T6, T25) and shape (T10).

PRESENCE: Of the 48 tumpals, 34 have dominant and 14 subordinate. Dominant are absolute, stressing the importance of lines in a tumpal composition. However, in prehistoric tumpals, such as in T5-T6, a wish to express a floral image as decoration inside frames emerges. Perhaps animistic people in prehistoric times hoped to tribute Nature as a god of agriculture. This seems to continue to mosques: T25 (Astana Mantingan) or T41-T43 (Agung Mataram). Covering the space in tumpals by decoration can correspond to the principle of Islamic ornament, called 'horror vacui' (a dread of empty space). Did its influence already begin in mosques? Dominant in prehistoric tumpals were consistently present in the Hindu-Buddhist and Islamic periods. By contrast, renovated/reproduced tumpals used almost equally both types.

EVALUATION: Dominant were both continuous and influential across three periods, marking the importance of lines. Lines mostly characterised Tumpals. Emphasis, a principle of design, played a role in the influence of prehistoric tumpals on Javanese mosque ornamentation.

Emphasis	P	HB	I
Dominant/Subordinate	Dominant	Dominant	Dominant

ON MIHRABS

The sacredness of Javanese mihrabs as the most significant place for both symbolism and aesthetics already discussed. Mystical Sufis adopted the sacredness of pre-Islamic art traditions into their mosques, creating them sacred, and consequently, mihrab was not exceptional. Mihrab, as an indicator of the building’s orientation towards Mecca, symbolises a gateway to Paradise. Moreover, since the religious leader leads the congregation in prayer, mihrab is lavishly embellished in general, although the *hadith* warns that luxurious decorations can disturb Muslim prayers. Ornamenting mihrabs did in various ways, according to periods and places. Even the absence of ornaments can highly visualise their surroundings.

The commonness in Javanese mihrab ornamentation can be attributed to *walis* (saints) who participated in constructing the earliest mosques, moving from area to area, in parallel with the spread of Islam. However, based on the number which appeared on mihrabs, tumpals were not much favoured. It also suggests that Javanese mihrabs are not luxurious; instead, they express simplicity. Two tumpals can illustrate mihrab ornamentation in Java. Both mosques bearing them belong to the transitory period. T22 (Merah Panjunan, West Java, 1480) is original, and are made of plaster, while T40 (Menara Kudus, Central Java, 1537) is newly constructed, and coloured on glazed tile and glass. Chronologically different, T22 has a diamond and is composed of natural lines. T40 shows a triangular, combined of 10 rectangles with extremely geometrised lines. In appearance, no common feature can see, but the strong symbolic meaning of the Cosmos Mountain connects them.

SUMMARY AND CONCLUSION

This chapter aimed at answering the sub-question 1: How has the *tumpal*, the popular prehistoric motif in Indonesia, become part of Javanese mosque ornamentation, and how has it been developed and used within the Islamic period?

Five aspects were assessed in the 48 tumpals: (1) background - period/geographical area/location/material/attachment, (2) basic type of line (straight/curved) and its subdivisions (vertical/horizontal/diagonal of the straight, circular/spiral/undulating of the curved), (3) five further characteristics (broken/unbroken, natural/geometrical, inner/outline, short/long,

simple/complicated), (4) another element (wide/narrow in space), and (5) principle (dominant/subordinate in emphasis) of design.

Background

As prehistoric tumpals were from outside Java, a comparison between Hindu-Buddhist and Islamic one did. Hindu-Buddhist stone tumpals without decoration were predominant in East Java, while Islamic wooden decorative ones were common in Central Java. Within the Islamic period, the majority of tumpals came from Central Java. In the transitory, they appeared outside mosques, made of stone without decoration. During Dutch colonisation of Java, they showed in the serambi, made of wood with decoration. The tendency continued in renovated/reproduced tumpals except taking other materials. Islamic tumpals in Central Java mainly continued traditions from Hindu-Buddhist ones in East Java but inherited wood from prehistoric tumpals. And the frequent appearance of tumpals in contemporary mosques, particularly in renovated ones, proves the continuity of pre-Islamic tumpals in Javanese mosques.

Basic Type of Line and Its Subdivisions

(Straight/Curved): Both types were present in prehistoric times, but curved dominated in the Hindu-Buddhist and Islamic periods. Continuity of pre-Islamic tumpals in mosques tended to be constant and influential, by the basic type, especially through curved.

(Vertical/Horizontal/Diagonal of the Straight): No direct relation between different lines was shown across time. Despite the popularity of diagonal in prehistoric times, horizontal connected the Hindu-Buddhist and Islamic periods. Continuity of pre-Islamic tumpals appeared to be neither consistent nor significant by subdivision of the straight.

(Circular/Spiral/Undulating of the Curved): Although undulating in prehistoric times continued to the next period, Hindu-Buddhist undulating influenced Islamic tumpals significantly. Continuity of pre-Islamic tumpals is strong, by subdivision of the curved.

In short, prehistoric tumpals did not affect Javanese mosques. Instead, a relationship was close between the Hindu-Buddhist and Islamic periods by curved, specially undulating.

Five Further Characteristics

(Between the Pre-Islamic and Islamic): Among the common use of unbroken, inner, short, and simple across time, short were the most continuous and influential. Natural were also frequent in Hindu-Buddhist and Islamic tumpals. Prehistoric tumpals influenced Javanese temples and mosques by these four characteristics.

(Within the Islamic): To the inherited characteristics, natural and long were added. Nevertheless, short were still the most popular.

In conclusion, continuity and influence of pre-Islamic tumpals on Javanese mosques were very extensive and powerful, by five further characteristics of line.

Space: Other Elements of Design

Neither narrow nor wide constantly continued across three periods. The dissimilarity indicated that space did not contribute to the influence of pre-Islamic tumpal on mosques.

Emphasis: Principles of Design

Dominant were continuous and very influential all the time, stressing lines as the main characteristics in a tumpal composition. Emphasis participated in mosque ornamentation.

On Mihrabs

Despite their sacred concept as embodying the Cosmos Mountain, contrary to an expectation, tumpals did not much use on mihrabs. Where they appeared, they were not decorated, probably due to their symbolism. It also indicates simple Javanese mosque ornamentation.

All the findings testify that continuity of pre-Islamic tumpals into Javanese mosque ornamentation occurred in five aspects. Influences were neither very significant nor weak.

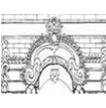
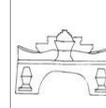
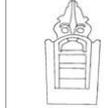
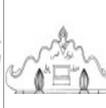
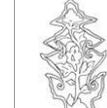
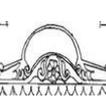
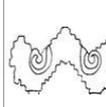
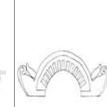
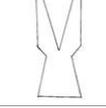
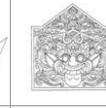
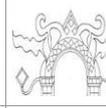
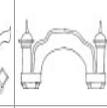
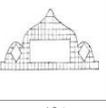
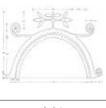
Tumpals, born on fishing baskets of an anonymous fisher in prehistoric times, transcended to sacred sanctuaries under the auspices of Hindu-Buddhist gods and goddesses many centuries later. Another epoch later, they were sited on sacred Javanese mosques as one of the prestigious ornaments. If they had not represented the holy worship of the Cosmos Mountain where gods and goddesses reside, how could their destiny be so miraculously blessed? The indebtedness goes to Javanese Muslims who love their cultural inheritance.

METAMORPHOSIS OF PRE-ISLAMIC KALA-MAKARAS FROM TEMPLE TO MOSQUE ORNAMENTATION

A Javanese term ‘Bhinneka Tunggal Ika’ approves its meaning of ‘unity in diversity’ in the temple and mosque ornamentation. When visual pleasure in beautiful tumpals accumulates, the next surprise is waiting for any wanderer at the entrance of Borobudur temple or in Agung Mataram mosque. It is a living figure of kala-makara, a combination of a kala head, and a makara created from a fish and the trunk of an elephant. In the labyrinth of symbolic and aesthetic surroundings, the wanderer had to negotiate with the kala-makara for a free pass into their sanctuaries.

This chapter analyses kala-makara motif by shape to answer sub-question 2: The *hadith*, Sayings of the Prophet, prohibits living figures depicted in art. Why therefore has the kala-makara, a favourite animal motif in Hindu-Buddhist temples, been adapted into Javanese mosque ornamentation, and how has it been used in Javanese mosques over time? A few examples of kala-makaras establish for continuity across pre-Islamic and Islamic periods. A detailed examination of them undertakes by background, basic type of shape, five further characteristics. Colour and unity-variety of element and principle of design are also tested to trace other influences. Finally, kala-makaras on mihrabs are observed, accompanying a summary and conclusion. From this chapter onwards, the term ‘pre-Islamic’ refers to ‘Hindu-Buddhist’.

Pre-Islamic	Islamic					
Hindu-Buddhist	Transitory (15C-1619)	Dutch Colonisation (1619-1945)	Renovated/Reproduced (1945-now)			
						
1	2	3	4	5	6	7
HINDU-BUDDHIST 11						
						
8	9	10	11	12	13	14
ISLAMIC 34 (TRANSITORY 14)						

						
15	16	17	18	19	20	21
						
22	23	24	25	26	27	28
ISLAMIC 34						
						
29	30	31	32	33	34	35*
(DUTCH COLONISATION 9)						
						
36*	37*	38*	39*	40*	41*	42*
ISLAMIC 34 (RENOVATED/REPRODUCED 11)						
						
43*	44*	45*				

The 45 kala-makaras: 1-3. Borobudur (8C), 4-6. prambanan (8-9C), 7. panataran (1147-1454), 8. singasari (12C), 9. djaago (1268), 10. central Java (8-9C), 12. tralaja grave (15C), 13. agung demak (1479), 14-15. merah panjunan (1480), 16-19. agung kasepuhan (1498), 20. kasunyatan (1522-70), 21-22. sunan kalijaga (1533), 23. sunan dradjat (c.1561), 24. agung mataram (1568-1601), 25. kanari (1596-1651), 26. jami kanoman (1679), 27-28. al anwar angke (1761), 29. mukarmah bandan (1789-1809), 30. kampung nembol (1880), 31-32. al mangkunegara (1878-1918), 33. carita labuan (1883-93), 34. raya cipaganti (1933), 35. merah panjunan*(1480), 36. kasunyatan*(1522-70), 37. al marunda* (1527), 38. sendang duwur* (1561), 39. al makmur jipang* (1561-77), 40. agung mataram* (1568-1601), 41. kanari* (1596-1651), 42. al mansyur sawah lio* (1717), 43. hidayatullah* (1750), 44-45. carita labuan* (1883-93) *mosques built before the contemporary period

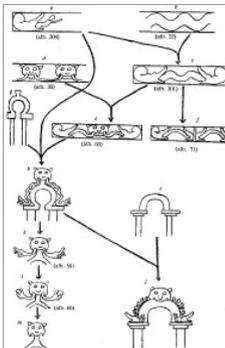
HINDU-BUDDHIST KALA-MAKARAS IN TEMPLES AND MOSQUES

Forty-five kala-makaras among the surveyed 55 were chosen and arranged by chronology and geographical area. Five Hindu-Buddhist and all 34 (except for one) Islamic kala-makaras directly took from temples, the Indonesian Archaeology Museum in Mojokerto, East Java, and mosques. The rest of the Hindu-Buddhist kala-makaras were found in 'Indonesian Heritage: Architecture' (Tjahjono 1998) and Klokke's (2000) drawings. In selecting the sample, similar kala-makaras within the same period rejected.

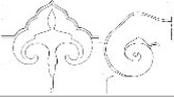
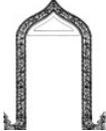
Kala-makara frequently found in temples. With a human face or demon's head, kala appears over an arched gate of a temple, while a pair of curved makaras terminates outward at the bottom of a gatepost. A makara, an imaginary animal with the shape of a fish and the trunk of an elephant, was introduced during Hinduisation, the same as kala. Nevertheless, Subarna (2005) insists on the existence of a similar form of kala in prehistoric times in Indonesia. Between Central and East Javanese kalas, the former has no lower jaw, while the latter has a full face with a jaw. In Indian mythology, kala-makara represents the holy Cosmos Mountain, the abode of gods and expels demonic influence from temples as a protector. Kala is a symbol of the celestial element, and makara is the watery element in creation. As combined, they form duality and totality.

Many types and variations of kala-makara found during the researcher's fieldwork, but the main shape is a simple rectangle or a combination of rectangles and triangles in temples, and ovals in mosques. Interestingly, their shapes changed in the transfer from temples to mosques, often simplified, probably caused by the prohibition on depicting living figures, according to the *hadith*. Usually, on mihrabs, kala sits on the top of a curved arch, accompanying makaras on each side of the bottom, balanced in symmetry. One wonders, if they were not living animals, they could smoothly continue anywhere without conflict against Islamic art tradition. Shifting natural shapes of Hindu-Buddhist kala-makaras into geometric of Islamic ones was unavoidable.

Emersion of kala-makaras in mosques (Vogler 1949)



Despite stylisation, the commonness could be traced between them in (i) mystical and symbolic connotation (K1/K12), and (ii) aesthetic and decorative beauty (K2/K24). They appeared all the time, spread in temples and mosques over the whole of Indonesia. They made of stone, wood, and other materials such as brick, plaster, and tile, sometimes adorned with scrolls. Even, they likely coloured after Dutch colonisation.

G1	K2-Borobudur temple 	K35-Merah Panjunan 	K44-Caringin Labuan 
G2	K1-Borobudur temple 	K10-Central Javanese temple 	K34-Raya Cipaganti 
G3	K6-Prambanan temple 	K40-Agung Mataram 	
G4	K13-Agung Demak 	K28-Al Anwar Angke 	K31-Al Wustho Mangkunegara 

For continuity, a preliminary visual assessment suggests four groups. The first (K2/K35/K44) shares arched shapes in common. Original Hindu-Buddhist K2 (Borobudur) have natural shapes, and newly made Islamic K35 (Merah Panjunan) and K44 (Caringin Labuan) stylised. Despite different places and periods, they testify to Javanese Muslims' concern for heritage. The second (K1/K10/K34) has a separate kala and makara. K1 (Borobudur) is a kala; K10 (Central Javanese temple) a makara. K34 (Raya Cipaganti) has kala and makara. Hindu-Buddhist kala and makara are generally separated but merged in mosques.

The third (K6/K40) resembles each other. It says that Islamic Mataram (16C) was built on the ruin of Hindu Mataram (8C), taking the same name to remember the glorious past. Mataram also practised a syncretic religion of mystical animism, Hindu-Buddhism, and Islam. The fourth (K13/K28/K31) has one shape. A difference is that K13 (Agung Demak) is extremely stylised, K28 (Al Anwar Angke) is tree-like with floral inside. K31 (Al Wustho Mangkunegara) combines K13 and K28, abstract shape with natural scrolls in the frame.

BACKGROUND

Between the Pre-Islamic and Islamic

Of the 45 kala-makaras, 11 (K1-K11) are Hindu-Buddhist, and 34 (K12-K45) Islamic. Hindu-Buddhist kala-makaras did not find in West Java in the sample, but eight are from Central Java, and three from East Java. Of Islamic ones, 23 locate in West Java, eight in Central Java, and three in East Java. The concentration of Islamic kala-makaras in West Java can be caused by building earlier mosques in Cirebon and Banten during Islamisation. It is also likely due to high demand of mosques, either renovated or newly built, in the expansion of population in Jakarta and its suburbs following Dutch colonisation of Java.

K12, the earliest Islamic kala-makara, appeared on a Muslim's grave at Tralaja in East Java, indicating Muslim activity inside Hindu Majapahit and a longing for preserving the Hindu-Buddhist motif already in the 15th century. All Hindu-Buddhist kala-makaras made of stone, compared to 10 Islamic. Of the remaining, 10 made of wood; and the rest with others, such as brick, plaster, and tile. Scrolls inside frames intensely decorate Hindu-Buddhist kala-makaras, but 20 Islamic adorn with different motifs.

Kala-makaras: 45		HB: 11	I: 34		
			IT: 14	ID: 9	IR: 11
Area	West: 23	0	8	7	8
	Central: 16	8	4	2	2
	East: 6	3	2	0	1
Location	Prayer hall: 17		6	5	6
	Serambi: 3		0	1	2
	Outside: 14		8	3	3
Material	Wood: 10	0	2	4	4
	Stone: 21	11	7	3	0
	Other: 14	0	5	2	7
Attachment	Decorated: 31	11	9	4	7
	Not-decorated: 14	0	5	5	4

Hindu-Buddhist (HB:8-15c); Islamic (I:15c-to the present)= transitory (IT:15C-1619), Dutch colonisation (ID:1619-1945), renovated/reproduced (IR:1945- to the present)

Within the Islamic

Of the 34 Islamic kala-makaras, 14 are transitory, nine from Dutch colonisation and 11 are renovated/reproduced. Of the transitory, eight are from West Java, four from Central Java, and two from East Java. Six kala-makaras appeared in the prayer hall, and eight outside a mosque building, particularly on graves. Surprisingly, kala-makaras did not show in the serambi. Two are made of wood, seven of stone, and five of other materials. Nine kala-makaras adorn with scrolls or

calligraphy, for example. During the next era, seven kala-makaras were found in West Java and two in Central Java. None showed in East Java. Five appeared in the prayer hall, and one in the serambi, and three outside. Positioning kala-makaras in the prayer hall in the transitory continued, and the serambi started in use. Four made of wood, three of stone, and two of others. Five kala-makaras do not decorate.

Entering the contemporary, eight renovated/reproduced kala-makaras were from West Java, and two from Central Java, and only one from East Java. Six appeared in the prayer hall, and two in the serambi, and three outside. Kala-makaras on graves are no longer popular. A reason can be clarified that many contemporary mosques, particularly those in the centre of big cities, cannot afford graves, because of the high price of the land. For example, when Agung Malang (1853-90) rebuilt, its grave had to be demolished. It can also attribute to orthodox Islam which does not allow the cult of ancestor worship after the pure Islam movement at the beginning of the 20th century in Indonesia. Four kala-makaras made of wood and seven of others. Stone material no longer used. Seven decorated.

A few renovated/reproduced kala-makaras display traditional and new designs. K36 (Kasunyatan), K37 (Al Marunda), K38 (Sendang Duwur) do not associate with typical kala-makaras, but their locations on mihrabs and a grave define them as kala-makaras. Especially, K37 found in a grave whose mosque locates in a poor area in Jakarta. If it were a more affluent area, elaborate kala-makara might have been the case. Extremely geometrised K38 raises a question: was it the result of being situated close to Surabaya harbour where Javanese Muslims embark trips to Mecca, bringing a new impulse from the orthodox Islamic world? On the contrary, K40 (Agung Mataram) resembles entirely K6 (Prambanan temple). Renovated/reproduced kala-makaras in the contemporary period inherited symbolic idea and geometric shapes from the transitory, testifying evidence of continuity, in terms of symbolism.

Summary and Conclusion

Preferred background	Pre-Islamic & Islamic		Islamic		
	HB	I	IT	ID	IR
Area		West Java	West Java	West Java	West Java
Location		Prayer hall	Outside	Prayer hall	Prayer hall
Material	Stone	Other	Stone	Wood	Other
Attachment	Decorated	Decorated	Decorated	Not-decorated	Decorated

(Geographic Area): Kala-makaras in Central Java continued mainly to Islamic ones in West Java. The reasons are (1) Islamisation, spreading from Central Java where Islamic kingdoms began, and (2) the expansion of urban development to meet a need for new Muslim settlement.

(Location in a mosque building): The majority of Islamic ornaments appeared on graves in the transitory, but moved to the prayer hall in the next period, highlighting mihrabs and minbars. A reason can be the financial difficulty of affording graves in city mosques under urbanisation. Other is due to orthodox Islam movement around 1920, underlining pure and formal dogma, rather than keeping animistic ancestor worship on graves. However, the large number of kala-makaras both in the prayer hall and on graves stresses the sacredness of kala-makaras. The ancestor cult takes precedence over the ban on living figures in Islam because Javanese Muslims wished Hindu-Buddhist kala-makaras to keep their mosques sacred. And the absence of kala-makaras in the serambi explains the place itself as profane, considering its origin from Javanese houses and its adaptation to mosques later for social activities.

(Material): The preferred material of stone in Hindu-Buddhist temples affected Islamic kala-makaras in the transitory but gave way to wood in the Dutch colonisation. Wood might use in temples, but disappeared, due to natural circumstances like climate. In the contemporary, others replaced wood, indicating Javanese Muslims' creativity in a choice of material.

(Attachment): A tendency to decorate kala-makaras emerged between two periods, except a lesser use during Dutch colonisation. Colour was introduced to mosque ornamentation this time, but colouring kala-makaras seems to be reluctant, possibly owing to their sacred character.

ANALYSED BY BASIC TYPE OF SHAPE AND ITS SUBDIVISIONS

To answer sub-question 2 (The *hadith*, Sayings of the Prophet, prohibits living figures depicted in art. Why therefore has the kala-makara, a favourite animal motif in Hindu-Buddhist temples, been adapted into Javanese mosque ornamentation, and how has it been used in Javanese mosques over time?), the selected 45 kala-makaras were perceived several times with constant intervals. Shape is the outline of a plane figure of a form. Positive shapes are the subject matter, while negative ones are the surrounding areas. Shapes are created by line-texture-value-colour, and varied from simple circles-triangles-squares to complex silhouettes of nature-humans.

In analysing the 45 kala-makaras, natural/geometric are basic type of shape. Circular/oval/triangular/square/rectangular are subdivisions of the geometric. And continuity of kala-makaras between the pre-Islamic and Islamic periods is examined in two stages, using the same approach as tumpals: (1) verifying the presence of each type of shape, and (2) counting their frequency of use in number and establishing their scaled value, mode, and total number. If numbers of shapes are more than 10 or are perceived abundantly, they graded as many, between 5 and 9 as some, and fewer than 5 as few. The relationship between maximal and minimal use of shapes is considered. Decoration within the frame of kala-makaras (K12, K22, K24, K28, K31) does not treat as shape. K26, K33 are kala.

Many(4)



Some(3)



Few(2)

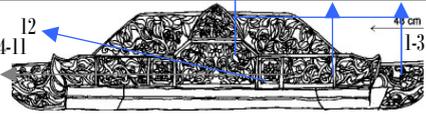
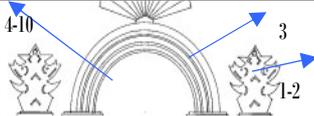


None(1)

x

Natural/Geometric

Four examples are assessed to find natural/geometric and numbers of the shapes. Defining 'natural' are (i) living animal of kala-makara, and (ii) natural floral motif without stylisation. 'Geometric' are (i) abstracted such as a circle, oval, triangle, square, and rectangle, (ii) simplified shapes, and (iii) stylised spirals.

<p>K4 (Prambanan temple*) many natural</p> 	<p>K16 (Agung Kasepuhan*) many natural</p> 
<p>K24 (Agung Mataram**)  12 geometrical</p> 	<p>K45 (Carita Labuan**)  10 geometrical</p> 

PRESENCE: Of the 45 kala-makaras, 21 have natural and 24 geometric. All Hindu-Buddhist ones display natural, compared to 10 Islamic. Geometric were popular in the Islamic period, almost fully present in renovated/reproduced ones.

Kala-makaras: 45		HB: 11	I: 34		
			IT: 14	ID: 9	IR: 11
Basic	Natural: 21	11	5	4	1
	Geometric: 24	0	9	5	10

FREQUENCY: Very popular natural in Hindu-Buddhist kala-makaras fell drastically in the Islamic transitory and almost evolved later, despite a revival in K26, for example. Geometric were common such as in Islamic K19-K21. K20 (Kasunyatan) and K38 (Sendang Duwur) are remarkably simplified. Mainly renovated/reproduced K38-K39 display geometric. To avoid conflict against Islamic art tradition, but to keep the heritage, Javanese Muslims combined a Hindu-Buddhist idea of kala-makaras and an Islamic form of stylised shapes.

Hindu-Buddhist: 11	kala-makaras	1	2	3	4	5	6	7	8	9	10	11			
	natural 39+														
	geometric 11+	X	X	X	X	X	X	X	X	X	X	X			
Transitory: 4	kala-makaras	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	natural 23+	X	X	X			X	X	X	X	X	X	X	X	X
	geometric 33+				X	X		X	X				X	X	X
Islamic: 24	kala-makaras	26	27	28	29	30	31	32	33	34					
	natural 15+														
	geometric 18+	X	X	X	X	X	X	X	X	X					
Renovated/Reproduced: 11	kala-makaras	35	36	37	38	39	40	41	42	43	44	45			
	natural 14+	X	X	X	X	X	X	X	X	X	X	X			
	geometric 32+						X								

Modes and total numbers+ : natural/geometric⁴⁶
Hindu-Buddhist: Natural (mode: many). Total numbers prove their predominance three times more used than geometric. Islamic: Geometric (mode: none-some). Total numbers reveal the rather big difference between two types in transitory and renovated/reproduced kala-makaras.

		Natural (92)	Geometric (94)
HB		Many (39)	None (11)
I	IT	None (23)	Some (33)
	ID	None (16)	None=Some (18)
	IR	None (14)	Some (32)

CONTINUITY/INFLUENCE: Natural in Hindu-Buddhist kala-makaras did not affect Javanese mosques, despite the weak continuity. This result testifies to a new influence on shapes by Islamic ornament when kala-makaras adapted into mosques.

Circular/Oval/Triangular/Square/Rectangular of the Geometric

Geometric shapes can be divided into circular/oval/triangular/square/rectangular. Five types test in the 24 geometric. Multiple options were given, because of many types of shape in kala-makaras. Geometric are stylised and abstract. Circular includes circles, circular-like, and spirals, except curved which belong to oval shapes. A diamond is doubling triangles. K14 (Merah Panjunan) has circular, K21 (Sunan Kalijaga) oval, K22 (Sunan Kalijaga) triangular, K27 (Al Anwar Angke) square, and K19 (Agung Kasepuhan) rectangular. K14 has some circular and some oval, due to moderate numbers.

PRESENCE: Of the 24 Islamic geometric, 14 are circular, 18 oval, 16 triangular, seven square, and 14 rectangular. On the whole, oval are the most common and are more used than others in transitory and renovated/reproduced kala-makaras. There are more triangular in the Dutch colonisation era. Square seem to be the least popular.

⁴⁶ K1-K3=Borobudur; K4-K6=prambanan; K7=panataran; K8=singasari; K9=djago; K10-K11=central Javanese; K12=tralaja muslim grave; K13=agung demak; K14-K15, K35=merah panjunan; K16-K19=agung kasepuhan; K20, K36=kasunyatan; K21-K22=sunan kalijaga; K23=sunan dradjat; K24, K40=agung mataram; K25, K41=kanari; K26=jami kanoman; K27-K28=al anwar angke; K29=mukarmah bandan; K30=kampung nembol; K31-K32=al wustho mangkunegara; K33, K45=carita labuan; K34=raya cipaganti; K37=al marunda; K38=sendang duwur; K39=al makmur jipang; K42=al mansyur sawah lio; K43=hidayatulla; K44=caringin labuan

FREQUENCY: All shapes continued with a weak influence. Rather significant use of oval is seen in transitory K14, K17, K21, K24 (Sunan Kalijaga) consists of a big oval, which fell slightly during the next period but regained later. K19 (Agung Kasepuhan) has triangular and rectangular, and K45 (Carita Labuan) circular to suit for an arched mihrab. Triangular were irregular except a continuous use in renovated/reproduced K37-K39. K41 (Kanari) has a diamond. Squares are mostly in K43 (Hidayatullah).

CONTINUITY/INFLUENCE: Within the Islamic period, oval-shaped kala-makaras continued in Javanese mosques, together with other shapes in part. Weak influence occurred in the subdivision of the geometric, implying any shapes were allowed to mosque ornamentation.

Conclusion

Kala-makaras: 45	HB	I		
		IT	ID	IR
Natural/Geometric	Natural	Geometric	Geometric	Geometric
Geometric: Circular/Oval/ Triangular/Square/Rectangular	None	Oval	Triangular	Oval

(Natural/Geometric): Both shapes were present between two periods, but natural were predominant in Hindu-Buddhist kala-makaras, and geometric in Islamic ones. Within the Islamic period, geometric mostly echoed.

(Circular/Oval/Triangular/Square/Rectangular of the Geometric): No particular shapes were predominant, despite the main continuity of oval. Favouring them can be attributed to stylised kala-makaras for arched mihrabs in mosques, compared to square or triangular at temple gates.

Continuity of pre-Islamic kala-makaras in Javanese mosque ornamentation tends to be irregular and less influential, by the basic type of shape and its subdivisions.

COMPARING FIVE FURTHER CHARACTERISTICS OF SHAPE

Five further characteristics do a more detailed analysis (dynamic/static, single/assorted, illustrating/abstract, smooth/complicated, small/big). One or multiple options gives.

In the dichotomy between **dynamic/static**: if shapes of kala-makaras tend to move in any directions, evoking tension, they are called 'dynamic'. They can also be realistic features; thus a concept of life is seen. 'Dynamic' can be perceived in (i) living images of Hindu-Buddhist kala-makaras, (ii) much curved and smaller, and (iii) curved rather than straight shapes. Among the samples, Hindu-Buddhist K7 and Islamic K26, K36 have dynamic. K7 is a living animal, K26 has much curved and smaller, K36 big curved shapes. As K36 has fewer shapes than K7, K26, it grades as some. On the other hand, 'static' provide a stable and balanced feeling without movement. (i)

Harmonious composition of kala-makaras, (ii) straight rather than curved, and (iii) stylised and geometric shapes can perceive as 'static'. Hindu-Buddhist K2 and Islamic K20, K38 display static. K2 seems stable in harmony, K20 has straight, K38 stylised and geometric shapes, such as triangles and rectangles which express calm. K2 has few stylised, K20, K38 some shapes.

FREQUENCY: Overall, dynamic were more used than static. They were frequent in Hindu-Buddhist kala-makaras, but fell in the Islamic period, almost absent during Dutch colonisation, such as in K29-K33. The long absence was due to stylised, less dynamic kala-makaras. By contrast, seldom used static in Hindu-Buddhist kala-makaras continued in the Islamic transitory, except extremely geometrised K19 (Agung Kasepuhan). During Dutch colonisation, they became popular such as in K27. Both types were fair in renovated/reproduced kala-makaras. Modes of dynamic are many in Hindu-Buddhist and none in Islamic ones. Total numbers prove their predominance and reveal the big difference between both in the Hindu-Buddhist era.

In distinguishing **single/assorted**: if kala-makaras are composed of one type of shape, such as circular, oval, triangular, square, and rectangular, they are called 'single'. A whole shape with different types is 'single', too. The characteristic expresses a figurative image or a symbolic message. They can perceive in (i) singular, (ii) curved or straight, (iii) simple shapes, and (iv) various widths and lengths in the same type of shape. The whole shape of K37 is counted as one shape, while doubled or distorted mirror image K13, K28 as two. Single only found in Islamic K13, K28, K37. K13 have simple and curved, K28 curved with variation in width, K37 singular, straight, and simple shapes. All have a few single. On the other hand, 'assorted' present multiple images and meanings by different shapes and sizes. Within the whole shape, each one perceives as an individual; thus a boundary between shapes is visible. They provide contrast and interplay, creating tension. (i) Curved and straight, and (ii) dissimilar length and width of different types of shape can perceive as 'assorted'. Hindu-Buddhist K1 and Islamic K24, K35 have assorted. In K1, smaller and narrower shapes are shown in the upper part, and bigger and wider on the lower. They are composed of circular and oval. K24 has triangular and oval, while K35 displays oval and rectangular. All mark as some, due to the number of shapes between the maximal and minimal use in this sample.

FREQUENCY: Assorted twice more used than single. They were very popular in Hindu-Buddhist kala-makaras, but decreased slightly in the Islamic period. A break was in the transitory, such as in K12-K13, but were full in K16, K26, K40. Interestingly K40 (Agung Mataram) resemble K6 (Prambanan temple), expressing continuity of assorted between two periods. By contrast, single were never popular. Modes of assorted are many in Hindu-Buddhist and few≡some in Islamic kala-makaras. Total numbers prove their predominance and reveal the big difference between different shapes.

Of illustrating/abstract: if shapes of kala-makaras are made of natural lines and are not stylised; thus kala-makaras can be recognised without evoking symbolism, they are called 'illustrating'. They depict real kala-makaras or similar images through shapes. 'Illustrating' can be perceived in (i) living animals or (ii) figurative shapes. All Hindu-Buddhist kala-makaras tend to display illustrating, characterising temple ornamentation. Hindu-Buddhist K4 and Islamic K16, K40 have illustrating. K4 and K40 display living images, filled with figurative shapes, and K16 figurative. K4 and K40 grade as many, K16 as some. On the other hand, the term 'abstract' is purposively made to refer to stylised kala-makaras, which vary from moderateness to extremity. (i) Stylised and geometrised shapes, mostly found in Islamic kala-makaras, and (ii) expressing symbolism by shape, rather than depicting real images, can be perceived as 'abstract'. As no Hindu-Buddhist ones found, this term can represent Islamic ornament. Islamic K12, K31, K45 have abstract. Probably, stylised K12 symbolises a protecting role against evil spirits on the grave. Stylised and geometrised K31, K45 underline the sacredness of simple mihrabs in Javanese mosques. All grade as some, few, and many respectively.

FREQUENCY: Both types fairly used between two periods. Illustrating were dominant in Hindu-Buddhist kala-makaras, while abstract replaced to Islamic ones, due to the *hadith*. But, Javanese Muslims' creativity to compromise living ones with this rule solves by both types. K13 (Agung Demak), K37 (Al Marunda), K41 (Kanari) have different grades of abstractness. Mode of abstract is none in Hindu-Buddhist, and some in Islamic kala-makaras. Total numbers prove their predominance, and reveal the big difference between opposing shapes, except Dutch colonisation.

Of smooth/complicated: if shapes of kala-makaras evoke evenness in texture, they are called 'smooth'. They can perceive in (i) simple, (ii) big and curved, (iii) stylised and unified, and (iv) the same type of shape. On the other hand, (i) uneven zigzag, (ii) natural, and (iii) smaller shapes with different curves can perceive as 'complicated'. Hindu-Buddhist K11 and Islamic K25, K41 display both. K11 consists of big, oval, and floral-like curled small shapes, perceived as smooth/complicated. K25 has big curved, K41 uneven zigzags and many simple shapes. K11 grades as few in both, K25 as few in smooth only, K41 as many in smooth and few complicated.

FREQUENCY: Both types used across time. Smooth, rarely found in the Hindu-Buddhist, became dominant in the Islamic period. In adapting into mosques, stylised kala-makaras have more smooth. And orthodox Islam movement pushed their use in the contemporary. By contrast, very popular complicated in Hindu-Buddhist kala-makaras fell drastically in Islamic ones, despite significant use in K16 (Agung Kasepuhan), K28 (Al Anwar Angke), K40 (Agung Mataram). Modes of smooth are none in Hindu-Buddhist and some in Islamic kala-makaras. Total numbers prove their predominance, and reveal the big difference between different shapes, except Dutch colonisation.

Finally, in identifying **small/big**: each meaning has nothing to do with the actual size of kala-makaras. This test finds the interaction between shapes. If kala-makaras have many tiny shapes as a decorative effect, they are called 'small'. (i) Tiny and narrow, (ii) much curved, spiral, zigzag, and (iii) smaller shapes to bigger ones can perceive as 'small'. In general Hindu-Buddhist kala-makaras have small, making a lively impression, while big appear more in Islamic ones, characterising simple and abstract Islamic ornament. Hindu-Buddhist K6 and Islamic K33, K43 have small. K6 has numerous complicated and narrow, compared to small and simple shapes in K33, K43. All grade as many. On the other hand, (i) single and unified, (ii) stylised symbolically, and (iii) bigger shapes to smaller ones can be perceived as 'big'. Islamic kala-makaras tend to have big, decorated with floral or calligraphy. Hindu-Buddhist K3 and Islamic K29, K39 display big. K3 has big on the lower part, K 29 stylised to protect the grave, K39 big shapes overall. All mark as few, some and many respectively.

FREQUENCY: Almost equal use of both shapes exists across time. Compared to the widespread occurrence in Hindu-Buddhist kala-makaras, small shapes were not notable in the Islamic period. Their popularity decreased drastically, except for K16 or K23 in the transitory. Their sharing with big saw in renovated/reproduced kala-makaras. To the contrary, less popular big in Hindu-Buddhist kala-makaras became vogue in the Islamic transitory and continued further. K36 (Kasunyatan) and K39 (Al Makmur Jipang) have many big. An allegory can attempt: many small shapes in Hindu-Buddhist kala-makaras describe human-beings' sufferings, caused by their small hearts, while Islamic kala-makaras have big shapes to express the greatness of Allah. Modes of big are few in Hindu-Buddhist and few≡some in Islamic kala-makaras. Total numbers prove their predominance and reveal the big difference between two types, except the Dutch colonisation era.

Summary and Conclusion

PRESENCE: Among the 45 kala-makaras, 25 have dynamic/20 static, seven single/38 assorted, 18 illustrating/27 abstract, 35 smooth/26 complicated, and 28 small/43 big shapes. Big are the most common. Dynamic, assorted, abstract, and smooth are more used than their opposites. Assorted are five times more than single. Chronologically, Hindu-Buddhist kala-makaras had assorted, illustrating, complicated, and small, while all Islamic ones had big. Assorted and big constantly continued between two periods.

(Between the pre-Islamic and Islamic)

PRESENCE: Among the five, both dynamic and assorted were present in all kala-makaras, indicating their main continuity between two periods. An assumption could make on their commonality. To continue a pre-Islamic idea with incoming Islamic art tradition, Javanese Muslims created a living image of kala-makaras through dynamic and assorted.

Preferred shapes (45 KM)	HB	I
Dynamic/Static	Dynamic	Dynamic=Static
Single/Assorted	Assorted	Assorted
Illustrating/Abstract	Illustrating	Abstract
Smooth/Complicated	Complicated	Smooth
Small/Big	Small	Big

CONTINUITY/INFLUENCE: Despite the popularity of dynamic and assorted, modes and total numbers show assorted more influential than dynamic. The big difference found between them in the Islamic period.

Modes/ Total numbers	HB	I
Dynamic/ 92	Many/ 29	None/ 63
Assorted/ 125	Many/ 40	Few=Some/ 85

(Within the Islamic)

PRESENCE: Static took over dynamic in the Dutch colonisation era and continued. Hindu-Buddhist assorted were consistently present, together with abstract, smooth, and big.

Preferred shapes (34)	IT	ID	IR
Dynamic/Static	Dynamic	Static	Static
Single/Assorted	Assorted	Assorted	Assorted
Illustrating/Abstract	Abstract	Abstract	Abstract
Smooth/Complicated	Smooth	Smooth	Smooth
Small/Big	Big	Big	Big

CONTINUITY/INFLUENCE: Modes and total numbers show big as mostly continuous and influential, instead of assorted. This phenomenon can be caused by locations of kala-makaras in mosques, especially on graves, mihrabs, and minbars where big are mainly displayed.

Modes/ Total numbers	IT	ID	IR
Assorted/ 85	Some/ 35	Few=Some/ 21	Some/ 29
Abstract/ 85	Some/ 33	Some/ 20	Some/ 32
Smooth/ 91	Some/ 39	Some/ 20	Some/ 32
Big/ 94	Some/ 40	Few/ 22	Few=Some/ 32

Continuity of pre-Islamic kala-makaras in Javanese mosque ornamentation was neither extensive nor strong between two periods, by using five further characteristics of shape. Within the Islamic period, continuity appears to be significant.

EXAMINED BY COLOUR: OTHER ELEMENTS OF DESIGN

This section discusses whether colour as another element participating in the continuity of pre-Islamic kala-makaras into Javanese mosques.

In defining **original/coloured**, in terms of colour: if kala-makaras are made of natural materials, and are neither painted nor coloured, they are called ‘original’. Colour introduced in Java during the Dutch colonisation era. Hindu-Buddhist kala-makaras have only original, such as K13, while five Islamic have colours, indicating European influence on mosques. K18 has blue, but K26, K39, K45 display green and gold. Probably, blue represents sacred mosques, green as an Islamic message of peace, gold as the glory of Islamic kingdoms in Java. How is yellow K41 on the sacred mihrab? Or is it due to local genius or deficient finance; thus ready-made tiles were to be?

PRESENCE: Of the 45 kala-makaras, 32 have original and 13 coloured, favouring original shapes. Entirely used original in Hindu-Buddhist kala-makaras were continued to the Islamic transitory. Coloured appeared during Dutch colonisation, almost equal use with original. In renovated/reproduce kala-makaras, colour became very popular, particularly on mihrabs where visibility underlines.

EVALUATION: Original connected two periods. The sacredness of kala-makaras should be respected because the absence of colours can enhance the purity of mosques and prayers’ concentration. It is a characteristic in Javanese mosques, far from ostentatious and colourful mosques of the Near East and the Arab world. Colour, another element of design, did not contribute to the continuity of pre-Islamic kala-makaras in Javanese mosques ornamentation.

Colour	HB	I
Original/Coloured	Original	Original

OBSERVING UNITY-VARIETY: PRINCIPLES OF DESIGN

This section tests continuity through unity-variety as a relevant principle.

In identifying **separate/unified**, in terms of unity-variety: if shapes of kala and makaras do not compose as one, they are called ‘separate’. They can perceive in (i) different locations of kala and makara, and (ii) dissimilar shapes which express kala and makara. All Hindu-Buddhist ones are separated, because kala occupies the top and makaras sit on the bottom of an arched gate. Hindu-

Buddhist K9, K10 and Islamic K34, K42 have separated. K9 is kala, K10 is makara, K34 and K42 separate kala and makara, made of different shapes. On the other hand, (i) a set of kala-makaras and (ii) the same type of shape can be perceived as ‘unified’. No Hindu-Buddhist kala-makaras found, but Islamic K21, K31, K44 display unified. All have a single shape, composed of different types.

PRESENCE: Of the 45 kala-makaras, 26 have separate and 19 unified. Separate were more used than unified. Hindu-Buddhist kala-makaras are mainly separated, while Islamic ones have both, due to their emersion in mosques. However, K 34 (Raya Cipaganti), K45 (Carita Labuan) resemble Hindu-Buddhist ones. Separate in Hindu-Buddhist kala-makaras fell up to half in the Islamic period. Unified, rarely used in the Hindu-Buddhist period, increased in the Islamic transitory, and continued further.

EVALUATION: Separate largely echoed between two periods. Variety-unity, a principle, contributed to the continuity of pre-Islamic kala-makaras in mosque ornamentation.

Unity-Variety	HB	I
Separated/Unified	Separate	Separate=Unified

ON MIHRABS

Mihrabs mostly decorate according to Islamic art tradition. A short analysis of kala-makaras on mihrabs is investigated in five aspects, to observe the development. One examines similarities between all Islamic kala-makaras and those on mihrabs too. Among the 12, six* are renovated/reproduced.

(Background): Kala-makaras on mihrabs were mostly found in West Java, made of other materials and decorated. No difference between all Islamic kala-makaras and those on mihrabs shows. (Basic type of shape): Kala-makaras on mihrabs favoured geometric. Results from all Islamic kala-makaras and those on mihrabs correspond to each other. (Subdivisions): Oval were most common. In general, as mihrabs are circular or oval, kala-makaras should be fitted to them. All Islamic kala-makaras and those on mihrabs have the same outcomes. (Five Further Characteristics): Smooth, and big were fully used. Kala-makaras on mihrabs are different from all Islamic ones which big are the most common. (Other elements of design): Kala-makaras were coloured during the Dutch colonisation era and continued entirely. All Islamic kala-makaras favoured original, those on mihrabs coloured. (Principles of design): Unified were more used than separate. All Islamic kala-makaras had both types equally, while those on mihrabs favoured unified.

SUMMARY AND CONCLUSION

This chapter sets out to answer sub-question 2: The *hadith*, Sayings of the Prophet, prohibits living figures depicted in art. Why therefore has the kala-makara, a favourite animal motif in Hindu-Buddhist temples, been adapted into Javanese mosque ornamentation, and how has it been used in Javanese mosques over time?

Five aspects were examined in 45 kala-makaras: (1) background (period/geographical area/location/material/attachment), (2) basic type of shape (natural/geometrical) and its subdivisions (circular/oval/triangular/square/rectangular of the geometric), (3) five further characteristics (dynamic/static, single/assorted, illustrating/abstract, smooth/complicated, small/big), (4) other elements (original/coloured in colour) and (5) principles (separate/unified in unity-variety) of design.

Background

Hindu-Buddhist kala-makaras were more frequent in Central Java and are made of stone, while Islamic ones were common in West Java, made of other materials. A variation of materials implies both European influence and creativity of local genius in mosque ornamentation. Their commonness was favouring decoration. Within the Islamic period, West Java was the most commonplace. Kala-makaras in the transitory were likely to be outside, are made of stone with decoration. Those in the Dutch colonisation era more found in the prayer hall, made of wood without decoration. Other materials and decoration preferred in renovated/reproduced kala-makaras. Hindu-Buddhist stone kala-makaras in Central Java continued to Islamic wooden ones in West Java. Decoration only shared between two periods. However, the appearance of kala-makaras in renovated mosques proves the continuity of pre-Islamic motif in idea and form in Javanese mosque ornamentation, in terms of the symbolic connotation of the sacredness.

Basic Type of Shape and Its Subdivisions

(Natural/Geometric): Natural were present both in two periods but were absolute in Hindu-Buddhist kala-makaras. On the contrary, geometric only found in Islamic ones. Continuity of pre-Islamic kala-makaras in mosques tends to be irregular and less influential, by the basic type of shape. Within the Islamic period, geometric continuously echoed.

(Circular/Oval/Triangular/Square/Rectangular of the Geometric): No direct relation could be made within the Islamic era. Despite the main continuity of oval in mosques, all types participated partially. Favouring oval could be due to stylised kala-makaras for arched openings on mihrabs. It can ask whether different locations in a mosque building produced a variety of shape, or whether this variety was a result of local creativity.

In short, Hindu-Buddhist kala-makaras did not affect mosque ornamentation significantly by the basic type of shape and its subdivisions.

Five Further Characteristics

(Between the Pre-Islamic and Islamic): Only dynamic and assorted shared their common presence in all kala-makaras. A compromise seemed to be created by local genius to keep a living image without conflict against the *hadith*. Assorted of pre-Islamic kala-makaras were more influential than dynamic in mosques.

(Within the Islamic): During the Dutch colonisation era, static replaced dynamic. Assorted in Hindu-Buddhist kala-makaras were consistently present with static, abstract, smooth, and big. Surprisingly, big were the most continuous and influential, instead of assorted. Shapes are dependent upon locations of kala-makaras where big are preferred.

Pre-Islamic kala-makaras did not fully continue in mosques by five further characteristics of shape. No strong influence can expect.

Colour: Other Elements of Design

Original connected Hindu-Buddhist kala-makaras with Islamic ones. The sacredness of kala-makaras should be respected without colours, to enhance the solemnity and prayers' concentration. It is a characteristic in Javanese mosques.

Unity-Variety: Principles of Design

Separate primarily echoed between two periods, but both types also became common within the Islamic period, proving the emersion of kala and makara. Unity-variety participated in the continuity of pre-Islamic kala-makaras in mosque ornamentation.

On Mihrabs

Kala-makaras mostly found in West Java, made of other materials with decoration. Oval are preferred, and smooth and big fully used, too. Unified kala-makaras were not coloured. The difference between all Islamic kala-makaras and those on mihrabs is that the former had big at first, coloured, equally separate and unified shapes. Ornamentation of kala-makaras on mihrabs did not differ from that in other locations in a mosque building.

[Continuity of pre-Islamic kala-makaras in Javanese mosque ornamentation constantly showed in five aspects. Their significance seemed not to be influential, particularly by shape.](#)

Kala-makara, one of the most important pre-Islamic heritages, originated in India and was introduced to Java during the Hinduisation in the fifth century. They signified ultimately the

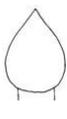
sacredness of temples and mosques over time. Although their shapes became stylised in the metamorphosis from temples into mosques, losing their living figures to conform to orthodox Islam, Javanese Muslims' strong awareness of keeping the ancestor worship is apparent through a syncretic approach. Kala-makaras will reappear in mosques, regardless of any shapes. The crucial reason is their symbolic connotation as the holiness.

PRE-ISLAMIC LOTUS BUDS IN JAVANESE MUSLIMS’ IMAGINATION

Once I was Buddhist. Each time I was desperate to reassure my world, I made a quick passage to nearby temples. Amid meditation towards Nirvana, I heard a gentle voice. The Buddha, the Enlightened, was leaving his world, his lotus seat, to console my wondering. I wandered with him in a panoramic odyssey on a lotus boat, launching a voyage at the ancient Ptolemaic temples in Egypt; loading lotus buds at the Sanchi sanctuary in India, and laying anchors at East Javanese temples in Indonesia. With the most magnificent Buddha and his passionate lotus, I recovered myself from my lost identity.

Lotus buds signify ‘life’ and ‘creation’ beyond time and space, and the flavour of their sacredness has no exception in Javanese mosque ornamentation. However, through a gradual transformation from temples to mosques, for Javanese imaginations, lotus buds seemed to be reincarnated to represent ‘oneness in Allah’, due to their holiness. Whatever it is, they are a remedy for my soul and a blessing for Javanese Muslims.

This chapter focuses on an analysis of lotus buds by form as indicator answering sub-question 3: How frequent was the use of Hindu-Buddhist lotus buds in Javanese mosque ornamentation, and how important has the lotus bud been in mosques within the Islamic period? A preliminary visual assessment of lotus buds and their background cast a glimpse of continuity across time. Through basic type of form and its five further characteristics, value, and size, more detailed analyses do in lotus buds, including those on mihrabs. ‘Pre-Islamic’ means still ‘Hindu-Buddhist’.

							
1	2	3	4	5	6	7	8
HINDU-BUDDHIST 10							
							
9	10	11	12	13	14	15	16
ISLAMIC 40 (TRANSITORY 16)							

							
s	18	19	20	21	22	23	24
							
25	26	27	28	29	30	31	32
ISLAMIC 40 (DUTCH COLONISATION 13)							
							
33	34	35	36	37	38	39	40
							
41	42	43	44	45	46*	47*	48*
ISLAMIC 40 (RENOVATED/REPRODUCED 11)							
							
49*	50*						

The 50 lotus buds: 1. Borobudur (8c), 2-4. prambanan (8-9c), 5. central Java (8-9c), 6. kalasan (9c), 7-10. east Java (12-15c), 11. pajlagrahan (1452), 12. sunan giri (1485), 13. agung kasepuhan (1498), 14. jami kanoman (1510), 15. al alam cilincing (c.1520), 16-17. kasunyatan (1522-70), 18. al marunda (1527), 19-20. sunan kalijaga (1533), 21-22. astana mantingan (1559), 23. sendang duwur (1561), 24. kauman semarang (1575), 25-26. kanari (1596-1651), 27. jami kanoman (1679), 28. al mansyur sawh lio (1717), 29. hidayatullah (1750), 30. agung solo (1757), 31. tambora (1761), 32-33. al anwar angke (1761), 34. jami al Islam (1770), 35. agung yogya (1774), 36. menar melayu (1820), 37. kampung nembol (1880), 38. carita labuan (1883-93), 39. raya cipaganti (1933), 40. al azhar (1952-58), 41. sunda kelapa (1969-71), 42-43. sabilliah malang (1974), 44-45. pusdai jaber (1996), 46. merah panjunan* (1480), 47. sunan giri* (1485), 48. menara kudus* (1537), 49. al makmur jipang* (1561-77), 50. al mansyur sawah lio* (1717) *mosques built before the contemporary period

HINDU-BUDDHIST LOTUS BUDS IN TEMPLES AND MOSQUES

Fifty lotus buds out of the surveyed 60 were selected and listed by chronology and geographical area. Hindu-Buddhist and Islamic lotus buds mainly took from temples, the Indonesian Archaeology Museum in Mojokerto, East Java, and mosques. Of 16 Hindu-Buddhist lotus buds, ten were singled out, including two from 'Indonesian Ornament' (Pepin Press 1998). All 40 Islamic ones brought from mosques, sometimes in similar forms, but different periods. Any forms which symbolise 'life' and 'creation' with lotus buds are accepted in this analysis: jar on a roof, the massive sphere on the floor to support pillars. Lotus played the most significant role in Hindu-Buddhist art. According to Hindu mythology, the creation of the world represents by the growth of the sacred lotus. In Mahayanist Buddhism, lotus, as creator and supporter of the cosmic tree, is the pattern for the abstract notions of the Dharma. Its flower undergoes a series of metamorphoses, starting with a bud as a basic symbolism.

Among various lotus buds during the fieldwork, the main form is almost a regular sphere with the narrowest angle pointing upwards. Irregular ones also appeared. Either naturalistic or stylised or combined forms, a few common characteristics could be traced in (1) mystical and symbolic connotation (L6/L27/L36) and (2) aesthetic and decorative beauty (L2/L21/L37-L39). They appeared all the time, spread over the whole of Indonesia, often accompanied by Hindu-Buddhist gods and goddesses in temples, and independently in mosques, particularly on sacred graves and mihrabs. Using different materials, they are sometimes coloured in gold and green to express the glory of Islamic kingdoms and religion. Some embellish with scrolls, kala-makaras, and calligraphy. The majority of lotus buds tend to keep singular, balanced in symmetry to stress symbolism of life and unity. Proving these, lotus buds can be the most prominent motif in religious architecture.

A preliminary visual assessment suggests four groups. The first (L6/L15/L36/L47) shares with the conic forms in common. Despite different periods, areas, and materials, Javanese Muslims' wishes to continue the motif are apparent. Islamic L36, L47 are painted in gold, associating the sacred golden lotus buds in temples.

G1	L6-Kalasan temple 	L15-Al Alam Cilincing 	L36-Menar Kp Melayu 	L47-Sunan Giri 
G2	L12-Sunan Giri 	L17-Kasunyatan 	L25-Kanari 	

G3	L1-Borobudur temple	L21-Astana Mantingan	L31-Tambora	L43- Sabilliah Malang
				
G4	L7-East Javanese temple	L13-Agung Kasepuhan	L35-Agung Yogya	L46-Merah Panjunan
				

The second (L12/L17/L25) places on floors. Partaking in the Islamic transitory, all are made of wood, and support columns in the prayer hall, implying Hindu-Buddhist ‘Golden Germ’. L12 is from East Java, while the others from West Java. A question arises: is the same type of lotus buds in different areas due to *walis* who travelled through Java to spread their religion? The third (L1/L21/L31/L43) displays open forms. L1 (Borobudur) is held by a hand of a Buddhist goddess, L21 (Astana Mantingan) at the entrance of the mosque, L31 (Tambora) on a grave, and L43 (Sabilliah Malang) on a pillar in the prayer hall. Despite different periods, areas, and locations, they symbolise ‘life’. The fourth (L7/L13/L35/L46) has spherical forms. As a creator, not only were they shown beside the Buddha in temples, but also appeared on mihrabs, making Javanese mosques sacred as a characteristic.

BACKGROUND

Between the Pre-Islamic and Islamic

Of the 50 lotus buds, 10 (L1-L10) are Hindu-Buddhist, and 40 (L11-L50) Islamic. Hindu-Buddhist lotus buds were not found in West Java in this sample, while six are from Central Java, and four from East Java. Of Islamic ones, 25 locate in West Java, 10 in Central Java, and five in East Java. Surprisingly, West Java is the most common area for Islamic lotus buds, because it was Central and East Java where the great Hindu-Buddhist kingdoms of Sailendra, Sanjaya, Singasari, and Majapahit built many temples. The first Islamic Demak continued this tradition in Central Java in the 15th century. Two questions can attempt: is the presence of a large number of lotus buds in West Java due to earlier Islamisation, using lotus buds as a sacred motif in Islam? Or is it a result of Dutch colonisation of Batavia (now Jakarta) in West Java where new mosques needed for expanding population?

Lotus buds: 50		HB: 10	I: 40		
			IT: 16	ID: 13	IR: 11
Area	West: 25	0	9	10	6
	Central: 16	6	5	3	2
	East: 9	4	2	0	3
Location	Prayer hall: 20		7	5	8
	Serambi: 3		1	1	1
	Outside: 17		8	7	2
Material	Wood: 17	0	5	6	6
	Stone: 22	10	7	5	0
	Other: 11	0	4	2	5
Attachment	Decorated: 13	1	4	3	5
	Not-decorated: 37	9	12	10	6

Hindu-Buddhist (HB: 8-15c); Islamic (I:15c-to the present)= transitory (IT:15C-1619); Dutch colonisation (ID:1619-1945); renovated/reproduced (IR:1945-to the present)

All Hindu-Buddhist lotus buds made of natural stone. Of Islamic ones, 17 made of wood, 12 of stone and the rest are of others, such as plaster or glass, indicating European influence during the Dutch colonisation era. For example, two lamps in shapes of lotus bud from L43 (Sabilliah Malang) and L44 (Pusdai Jaber) made of glass. In Islam, a hanging lamp has a sacred meaning, symbolising divine light and the presence of God himself. The Holy Koran (Surah 24:35) says: 'God is the Light of the heavens and the earth; the likeness of His Light is a niche wherein is a lamp'. Only one Hindu-Buddhist lotus bud has decoration, compared to 12 Islamic with scrolls. The absence of decoration implies the motif as a symbol, instead of adorning temples and mosques for beauty only.

Lotus Buds within the Islamic

Of the 40 Islamic lotus buds, 16 are transitory, 13 from Dutch colonisation and 11 renovated/reproduced ones. Of the transitory, nine were from West Java, five from Central Java, and two from East Java. Seven lotus buds appeared in the prayer hall, only one in the serambi and eight outside mosques, particularly on graves. Five made of wood, and seven of stone, and four of other materials. Twelve lotus buds are not adorned, preserving the symbolic connotation from Hindu-Buddhist lotus buds.

During the Dutch colonisation era, ten lotus buds appeared in West Java, and three in Central Java. None saw in East Java. Five lotus buds were present in the prayer hall, and only one in the serambi, and seven outside. Their frequent use on graves can attribute to syncretic Mataram which practised animism, Hindu-Buddhism, and Islam. Six lotus buds made of wood, five of stone, and two of others, such as tile. Three lotus buds decorated.

Of the renovated/reproduced lotus buds, six were from West Java, two from Central Java, and three from East Java. Eight appeared in the prayer hall, and only one in the serambi, and two outside. Six lotus buds made of wood, and five of others, such as coloured glass. Almost half of the lotus buds decorated. L46 (Merah Panjunan) from Cirebon in West Java is worth discussing. The mosque had several renovations, and a serambi built, because the prayer hall was too small to accommodate prayers on Friday services. Accordingly, a Hindu-Buddhist gate which bordered the courtyard and outside the mosque became located in this serambi. On its top, a new lotus bud with a Koranic word signifies the sacredness of the mosque, despite its location in the serambi⁴⁷ (Jumardi 2004). Mosques and palaces in Cirebon blended Hindu-Buddhist, Chinese, European, and Islamic ornaments during this period. L50 (Al Mansyur Sawah Lio) lacks a traditional mihrab, but an arch of extremely stylised kala-makara and lotus buds in the prayer hall serves as the mihrab. If the lotus buds were not beside the kala-makara, they are hardly recognised. The religious leader (2003) says that many mosques in Jakarta do not decorate mihrabs, for fear of interrupting prayer, but deficient finance can be the answer?

Summary and Conclusion

Preferred background	Pre-Islamic & Islamic		Islamic		
	HB	I	IT	ID	IR
Area	Central Java	West Java	West Java	West Java	West Java
Location		Prayer hall	Outside	Outside	Prayer hall
Material	Stone	Wood	Stone	Wood	Wood
Attachment	Not-decorated	Not-decorated	Not-decorated	Not-decorated	Not-decorated

(Geographical area): Islamic lotus buds in West Java continued mainly from Hindu-Buddhist ones into Central Java. Islamisation by *walis* in the earlier Islamic period and the expansion of urban areas after Dutch colonisation of Java could be its reasons.

(Location in a mosque building): Outside as favourite location for lotus buds both in the transitory and Dutch colonisation periods was replaced by the prayer hall, principally mihrabs in renovated/reproduced lotus buds during the contemporary. This change can be caused by the high price of land in cities. Javanese Muslims' wishes could initiate a transfer of lotus buds from graves to the prayer hall for keeping heritages. It supports Prijotomo (2004): 'I am Javanese, then, my religion is Islam'.

(Material): Although stone was predominant in Hindu-Buddhist temples and echoed in the Islamic transitory, wood replaced it during the next period. This choice is easy to verify. As an abode of gods and goddesses, Hindu-Buddhist temples largely construct of stone, and ornamentation

⁴⁷ The serambi is not sacred in a Javanese mosque setting, due to its origin from houses for public events.

followed the same. By contrast, mosques are normally built of wood and are designed to be for an every-day purpose, requiring renovations and constructions for the growing population in urban areas. Tropical Java can easily supply abundant wood for them.

(Attachment): The absence of decoration on Hindu-Buddhist lotus buds corresponds to Islamic ones, underlining the holy symbolism of ‘creation’ and ‘oneness in Allah’ respectively. Naturally, spherical forms are expected to appear in Javanese temples and mosques to express this. Renovated/reproduced lotus buds did not strictly follow Hindu-Buddhist ones, due to their extreme stylisation, but the symbolic sacredness was actively transferred, proving continuity and influence on Javanese mosque ornamentation.

ANALYSED BY BASIC TYPE OF FORM AND ITS SUBDIVISIONS

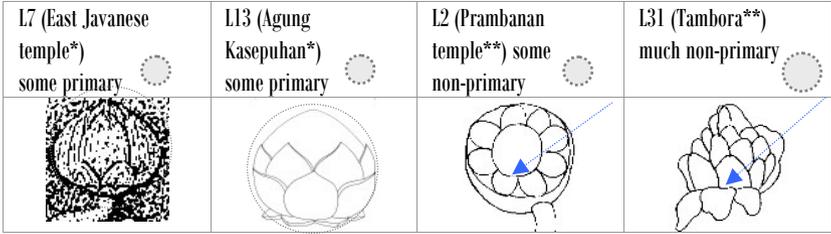
This section is designed to examine lotus buds by basic type of form and its subdivisions to answer sub-question 3 (How frequent was the use of Hindu-Buddhist lotus buds in Javanese mosque ornamentation, and how important has the lotus bud been in mosques within the Islamic period?). The chosen 50 lotus buds were perceived several times at constant intervals and observations.

A form is a perfect combination of all visual elements. Primary forms are those whose parts are related to one another in a consistent and orderly manner. They are steady in nature and symmetrical, while non-primary are asymmetrical and dynamic. In this analysis, primary/non-primary are basic type, and cubic/conic/spherical/cylindrical/pyramidal are a subdivision of the primary. Continuity of lotus buds between two periods approaches as the same as tumpals and kala-makaras. But this deals with the perfection of forms, instead counting their numbers. The researcher feels this method more appropriate to evaluating forms in (1) verifying the presence of each type of form, and (2) measuring the perfection of all forms, and establishing their scaled value, mode, and total number. If lotus bud is perfect in the primary or perfect-to-be, it grades as *much*. The relationship between the most and least perfection considers.

Much(4)  Some(3)  Little(2)  None(1) x

Primary*/Non-Primary**

Four examples are initially assessed to find primary/non-primary and their perfection. Primary are basic forms of cube, cone, sphere, cylinder, and pyramid. They can perceive in (i) 3-dimensional, and (ii) tend to be primary. Hindu-Buddhist L7 and Islamic L13 display primary, while Hindu L2 and Islamic L31 have non-primary. As lotus leaves fasten to L7, L13, they graded as *some*. Of non-primary, L31 is full of natural forms, marked as *much*, L2 as *some* due to less naturalistic than L31.



PRESENCE: Of the 50 lotus buds, 44 have primary and six non-primary. Of the primary, nine are Hindu-Buddhist, and 35 Islamic. Non-primary found in one Hindu-Buddhist and five Islamic lotus buds. Primary were predominant between two periods, indicating strong continuity from temples to mosques.

Lotus buds: 50		HB: 10	I: 40		
			IT: 16	ID: 13	IR: 11
Basic	Primary: 44	9	16	9	10
	Non-primary: 6	1	0	4	1

FREQUENCY: Although primary continued mostly between two periods, the short interval was in L37-L39 during the Islamic Dutch colonisation. Non-primary almost did not exist, but among a few examples, L31 (Tambora) appeared on a grave inside the mosque. The owner of the grave is a Chinese who built the mosque during Dutch colonisation; thus syncretic ornamentation of Hindu-Buddhist natural forms of stone lotus buds, and Chinese and European landscapes of ceramic tiles illuminates the tomb.

Hindu-Buddhist: 10	lotus buds:	1	2	3	4	5	6	7	8	9	10						
	primary 24:	☉	X	☉	☉	☉	☉	☉	☉	☉	☉						
Tambora: 10	lotus buds:	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	primary 47:	☉	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Islamic: 40	lotus buds:	27	28	29	30	31	32	33	34	35	36	37	38	39			
	primary 25:	☉	☉	☉	☉	X	☉	☉	☉	☉	☉	X	X	X			
European: 11	lotus buds:	40	41	42	43	44	45	46	47	48	49	50					
	primary 29:	☉	X	X	☉	☉	☉	☉	☉	☉	☉	☉					
	non-primary 13:	X	X	☉	X	X	X	X	X	X	X	X					

Modes and total numbers+: primary/non-primary
Hindu-Buddhist: Primary (mode: little).
Hindu-Buddhist lotus buds are neither perfect nor stylised in primary. Total numbers indicate their predominance, used twice more than their opposite. Islamic: Primary (mode: little or some) indicates more stylised Islamic lotus buds. Total numbers prove their predominance and reveal the big difference between two types except for Dutch colonisation.⁴⁸

⁴⁸ L1= Borobudur; L2-L4= prambanan; L5= central Javanese; L6= kalasan; L7-10= east Javanese temple; L11= pajlagrahan; L12, L47= sunan giri; L13= agung kasepuhan; L14= langgar kraton kanoman; L15= al alam cilincing; L16-L17= kasunyatan; L18= al marunda; L19-L20= sunan kalijaga; L21-L22= astana

		Primary (129)	Non-primary (63)
HB		Little (24)	None (12)
I	IT	Some (47)	None (16)
	ID	Little (29)	None (22)
	IR	Little (29)	None (13)

CONTINUITY/INFLUENCE: Continuity of pre-Islamic lotus buds in mosques was constant by primary with different frequencies, showing the awareness of Javanese Muslims on cultural heritage. Nevertheless, a new impulse emerged gradually, giving way to free forms, instead of keeping perfect forms. Accordingly, the influence of Hindu-Buddhist lotus buds on mosques became weaker.

Cubic/Conic/Spherical/Cylindrical/Pyramidal of the Primary

Primary forms can subdivide into cubic, conic, spherical, cylindrical, and pyramidal. Five types test in 44 primary. L19 (Sunan Kalijaga) displays cubic, despite a bulbous form on the top. L6 (Kalasan temple) and L15 (Al Alam Glincing) are conic, L4 (Prambanan temple) and L18 (Al Marunda) spherical, L5 (Central Javanese temple) and L11 (Pajlagrahan) cylindrical, L8 (East Javanese temple) and L34 (Jami Al Islam) pyramidal. L19, L11, L8 grades as *some* due to lotus leaves fastened to primary, L6, L15, L34 as *much* for pure singular forms, L4, L18, L5 as *little* owing to similar and imperfect forms.

PRESENCE: Of the 44 primary forms, three are cubic, 12 conic, 18 spherical, nine cylindrical, and two pyramidal. Cubic only found in Islamic lotus buds in the sample. Of the conic, three are Hindu-Buddhist and nine Islamic. Four Hindu-Buddhist and 14 Islamic lotus buds display spherical, while one Hindu-Buddhist and eight Islamic are cylindrical. One of each Hindu-Buddhist and Islamic lotus bud is pyramidal. Overall, spherical are the most common, but conic also echoed between two periods. These two forms raise a symbolic assumption because spherical can imply duality or totality, and conic is a process of ‘creation’ in Hindu-Buddhism. They can represent diversity in unity or ‘oneness in Allah’ in Islam.

FREQUENCY: Five types did not continue steadily. Occasional use of spherical was seen in the Islamic transitory and renovated/reproduced lotus buds. Conic and cylindrical were also sometimes used. Partial continuity of all types implies that forms had to be adjusted, according to temple and

mantingan; L23=sendang duwur; L24=kanoman semarang; L25-L26=kanari; L27=jami kanoman; L28, L50=al mansyur sawah lio; L29=hidayatullah; L30=agung solo; L31=lambora; L32-L33=al anwar anke; L34=jami al-islam; L35=agung yoga; L36=menar kp. melayu; L37=kampung nembol; L38=caringin labuan; L39=raya cipaganti; L40=al azhar; L41=sunda kelapa; L42-L43=sabilliah malang; L44-L45=pusdai jaber; L46=merah panjunan; L48=menara kudus; L49=al makmur jipang

mosque ornamentation, creating various forms. Hindu-Buddhist lotus buds are free-standing (L4), or supported by the Buddha or his attributes (L5). In adaptation into mosques, their locations became diverse. A few (L41) are on the top of columns to support arched mihrabs, while some (L12) on floors to bear columns.

Conclusion

Lotus buds: 50	HB	I		
		IT	ID	IR
Primary/Non-primary	Primary	Primary	Primary	Primary
Primary: Cubic/Conic/Spherical/Cylindrical/Pyramidal	Spherical	Spherical	Conic=Spherical	Spherical

(Primary/Non-primary): Primary of pre-Islamic lotus buds affected Javanese mosques consistently. (Cubic/Conic/Spherical/Cylindrical/Pyramidal of the Primary): A constant relationship can be set up by spherical in lotus buds between two periods. Conic equally used with spherical during the Dutch colonisation era. Probably, spherical emphasise symbolism of ‘creation’ and ‘oneness in Allah’.

Hindu-Buddhist lotus buds influenced Javanese mosques significantly by basic type of form, not through subdivisions of primary, despite the partial contribution of spherical.

COMPARING FIVE FURTHER CHARACTERISTICS OF FORM

More detailed analysis is assessed in five further characteristics (voluminous/slender, open/closed, realistic/stylised, dynamic/static, 2-3 dimensional/3-dimensional). One option gives for each characteristic.

In the dichotomy between **voluminous/slender**: if forms of lotus buds look massive and large, they are called ‘voluminous’. They can be perceived in (i) cubic or spherical, (ii) many big, (iii) open, and (iv) any forms on floors to support columns. Among the samples, Hindu-Buddhist L9 and Islamic L35, L41 have voluminous. L9 displays an open, L35 spherical and big, and L41 many big forms. L35, L41 are graded as much, due to the most voluminous. L9 some, lesser than L35, L41. On the other hand, (i) conic and cylindrical, (ii) many small, (iii) closed forms, and (iv) forms positioning on the top of columns can be perceived as ‘slender’. Hindu-Buddhist L10 and Islamic L16, L47 display slender. L10 has conic, L16 cylindrical and closed, L47 tiny forms. L10, L16 are graded as some as neither voluminous nor slender. As L47 is the tiniest form in the sample, marked as much.

FREQUENCY: Overall, voluminous were more common. Voluminous in Hindu-Buddhist lotus buds continued further, despite a break in L36-L39 during Dutch colonisation. The maximal use pursued

in L12-L13. It is logical why L12 (Sunan Giri) is massive to sustain the ceiling. Contrarily, slender were equally present with voluminous in Hindu-Buddhist lotus buds, but became fewer in the Islamic period, despite the thinnest forms in L26 (Kanari) and L42 (Sabilliah Malang). Slender have to collaborate with other motifs to create the sacred mihrabs. Modes of voluminous are none in Hindu-Buddhist and none or much in Islamic lotus buds. Total numbers prove their predominance, except Dutch colonisation. The difference between the two types sees in the transitory.

Of open/closed: if forms of lotus buds seemed to open, they are called 'open'. They can be perceived in (i) fully opened lotus bulbs or flowers, (ii) lotus buds to open, and (iii) conic and spherical forms with lotus petals. Hindu-Buddhist L2 and Islamic L21, L27 opened. L2 fully opened, L21 is to be open, L27 has spherical, composed of many lotus buds. L2, L27 are graded as much due to their full opening, compared to half-open L21 as some. On the other hand, (i) closed forms with divisions by line or without them, (ii) cubic with geometrised lotus leaves, and (iii) stylised cylinder can be perceived as 'closed'. Hindu-Buddhist L6 and Islamic L19, L22 display closed. L6 is fully closed, L19 cubic with stylised lotus leaves, L22 with a less closure on the top. L6 is graded as much due to its complete closure, while L19, L22 are marked as little and some respectively.

FREQUENCY: Closed little more used than open. Surprisingly, rather frequent open in Hindu-Buddhist lotus buds almost died out in the Islamic transitory, despite their occasional revival. Sharing with closed is seen in renovated/reproduced lotus buds. L2, L27, L31 display full open. L2 (Prambanan temple) locates beside the Hindu god, and L31 (Tambora) is on a Chinese grave. Contrarily, sporadic use of closed in Hindu-Buddhist lotus buds became common in the Islamic period, particularly in the transitory. Although L6, L25, L30, L49 are entirely closed, metaphorically, creation is still in progress. Modes of closed are none in Hindu-Buddhist and none or little in Islamic lotus buds. Total numbers prove their predominance and reveal the big difference between the two types in the transitory.

In distinguishing **realistic/stylised:** if lotus buds are constructed in a naturalistic way and resemble real lotus bud, they are called 'realistic'. They can perceive in (i) natural forms, and (ii) lotus flowers and leaves. Hindu-Buddhist L1 and Islamic L20, L42 have realistic. L1, L42 have natural, lotus leaves surround L20. Realistic did not find in renovated mosques. As L1 resemble a real flower, marked as much. On the other hand, (i) abstract, and (ii) geometrised forms, regardless of having lotus flowers and leaves, can be perceived as 'stylised'. Hindu-Buddhist L8 and Islamic L23, L46 display stylised. All are abstract and geometrised with lotus leaves. As L8 seems to be more stylised than others, it grades as much.

FREQUENCY: Overall, stylised were predominant. Universal idea of realistic in Hindu-Buddhist sculpture does not seem to apply to lotus buds. Two questions can attempt: is the stylisation of lotus buds due to highlighting the symbolic message? Or had lotus bud to be stylised, because of a

term 'bud'? Whatever the case was, stylised were continuous and influential in each period, sometimes extremely stylised. L1 (Borobudur temple) held by the hand of the Buddhist goddess, and L38 (Caringin Labuan) on the mihrab wall. Contrarily, occasional, but significant use of realistic in Hindu-Buddhist lotus buds nearly evolved in the Islamic period. Modes of stylised are much in Hindu-Buddhist and vary from none to some in Islamic lotus buds. Total numbers prove their predominance and reveal the big difference between two types in the Islamic period, hinting a new phenomenon of lotus buds in Javanese mosque ornamentation.

Regarding **dynamic/static**: if forms of lotus buds direct a movement, they are called 'dynamic'. They can perceive in (i) spheres in a vertical or horizontal row, (ii) massive, (iii) many small, and (iv) open forms with lotus flowers and leaves. Hindu-Buddhist L3 and Islamic L37, L45 have dynamic. L3 has many spherical vertically and horizontally, L37 several small, L45 massive forms. L3 is graded as much due to a moving rod held by Hindu god, while L37, L45 as some to their less dynamic than L3. On the other hand, (i) conic and spherical, (ii) slender, (iii) singular, and (iv) stylised forms can be perceived as 'static'. Hindu-Buddhist L10 and Islamic L12, L40 display static. L10 is conic, slender, and stylised, and L12, L40 are spherical, singular, stylised. L10 grades as little due to less static than L12, L40, marked as much.

FREQUENCY: Dynamic were more common than static. Even so, the favourite dynamic in Hindu-Buddhist lotus buds fell slightly in the Islamic period. L2-L4, L41-L45 display different grades of dynamic. Many divided spherical with vertical and horizontal layers in L4 (Prambanan temple) raises a motion of breaking up at any time if they were not balanced. L41 (Sunda Kelapa) and L45 (Pusdai Jaber) remind of combined lotus and lily columns in unifying ancient Egypt of the upper and lower lands. They also resemble Ptolemaic pillars which stretched up to the sky where heaven is believed to be. A lamp of L43 (Sabilliah Malang) can lead to Paradise. Perhaps, lotus buds should be dynamic to reach unlimited space. Modes of dynamic are some \equiv much in Hindu-Buddhist and none \equiv some in Islamic lotus buds. Total numbers prove their predominance and reveal the difference between two types except for the Dutch colonisation era.

Between **2-3 dimensional/3-dimensional**: if lotus buds fasten to other objects, such as walls and sculptures, they call '2-3 dimensional'. Hindu-Buddhist L7 and Islamic L24, L39 have 2-3 dimensional. L7 fasten to a god. L24 on pillars, supporting a gate, L39 on columns in a prayer hall. L7, L24 are graded as some due to a few 2-3 dimensional, compared to full 2-dimensional and dissimilar forms in L39. On the other hand, 3-dimensional are free-standing. Hindu-Buddhist L4 and Islamic L25, L43 are 3-dimensional. L4 located in a sanctuary of Hindu temple, L25 on the floor in the prayer hall, supporting columns. A hanging lamp of L43 is also on pillars in the prayer hall. All are graded as much due to many similar forms, but with different volume.

FREQUENCY: 2-3 Dimensional/3-Dimensional: Neither 2-3 dimensional or 3-dimensional continued influentially. Evenly shared with 2-3 dimensional, 3-dimensional in Hindu-Buddhist lotus buds became very frequent in the Islamic transitory, but decreased gradually later. Contrarily, 2-3 dimensional held a position in renovated/reproduced lotus buds. Successive appearances in 3-dimensional saw in L15-L23, L29-L36. L18 (Al Marunda) has a symbolic form of a jar on the roof with many spherical forms in a row, replacing Hindu mustaka (crown) to represent the sacredness. As Javanese syncretism, the jar interprets as life-giver due to possessing water in it, linking to the concept of the creation in lotus buds. Modes of 3-dimensional are none in Hindu-Buddhist and vary from none to much in Islamic lotus buds. Total numbers prove their predominance and reveal the big difference between two types in the transitory.

Summary and Conclusion

PRESENCE: Among the 50 lotus buds, 29 have voluminous/21 slender, 21 open/29 closed, 13 realistic/37 stylised, 31 dynamic/19 static. Twenty-two have 2-3 dimensional and 28 3-dimensional forms. Stylised are the most common across time. Moreover, voluminous, closed, dynamic and 3-dimensional favoured for their opposites. Except realistic/stylised and dynamic/static, two types are equitably distributed, implying continuity of all forms into mosques. Chronologically, dynamic are predominant in Hindu-Buddhist lotus buds, used four times more than static. However, in the Islamic period, stylised replaced dynamic. Renovated/reproduced lotus buds seemed almost stylised following the principle of Islamic ornament. Various forms can attribute to artists who know materials and locations in mosques. Contemporary ones allowed any creativity in ornamentation (Muharam, interview 2004).

(Between the pre-Islamic and Islamic)

PRESENCE: Voluminous, stylised, dynamic, and 3-dimensional lotus buds shared continuity between two periods. Allegorically, ‘life’, ‘creation’, and ‘oneness in Allah’ have something to do with volume and dynamic because a human cannot create without massiveness and actions. Moreover, 3-dimensional can signify totality, while stylised enhance prayers’ concentration in temples and mosques. The stylisation also consents to the principle of orthodox Islamic ornament.

Preferred forms (50 L)	HB	I
Voluminous/Slender	Voluminous=Slender	Voluminous
Open/Closed	Open	Closed
Realistic/Stylised	Stylised	Stylised
Dynamic/Static	Dynamic	Dynamic
2-3 dimensional/3-dimensional	2-3 dimensional=3-dimensional	3-dimensional

CONTINUITY/INFLUENCE: Although four characteristics connected two periods, stylised were mostly continuous and influential, testified to modes (HB: much, I: none-much) and total number. Stylised were the real mediator between the temple and the mosque ornamentation.

Modes/ Total numbers	HB	I
Voluminous/ 112	None/ 20	None, Much/ 92
Stylised/ 138	Much/ 25	None=Some, Much/ 113
Dynamic/ 110	Some=Much/ 27	None=Some/ 83
3-dimensional/ 108	None/ 20	None=Some=Much/ 88

(Within the Islamic Period)

PRESENCE: Stylised and dynamic were regularly continuous. Interestingly, each period has its favourite. Both closed and 3-dimensional were popular in the transitory and Dutch colonisation, open and 2-3 dimensional in renovated/reproduced lotus buds. Voluminous interchanged with slender alternately.

Preferred forms (40 L)	IT	ID	IR
Voluminous/Slender	Voluminous	Slender	Voluminous
Open/Closed	Closed	Closed	Open
Realistic/Stylised	Stylised	Stylised	Stylised
Dynamic/Static	Dynamic	Dynamic	Dynamic
2-3/3-dimensional	3-dimensional	3-dimensional	2-3 dimensional

CONTINUITY/INFLUENCE: Of continuity, stylised played a crucial role in bridging within the Islamic period. Apart from different frequencies in each era, the result reveals perfect favour for the stylisation of lotus buds, highlighting symbolic undertone, rather than visual pleasure.

Modes/ Total numbers	IT	ID	IR
Stylised/ 113	Much/ 48	None=Some/ 32	Some/ 33

Continuity of pre-Islamic lotus buds in Javanese mosque ornamentation was constant and strong between two periods by five further characteristics. The tendency disappears in some characteristics within the Islamic period.

EXAMINED BY VALUE: OTHER ELEMENTS OF DESIGN

This section tests the continuity of pre-Islamic lotus buds in value as another element. One option is given to dominant forms.

In defining **light/dark**, in terms of value: if forms of lotus buds are singular and unified without vertical or horizontal divisions, and no shade can be made on their surfaces when the sun or other lights illuminate them, they are called 'light'. It also applies to the core form of lotus buds. Hindu-Buddhist L6 and Islamic L29, L38 have light, and Hindu-Buddhist L5 and Islamic L14, L33 dark. When the sun reflects, plain surfaces on L6, L29, L38 do not cast shadows, but part of the relief in L5, L14, L33 create darkness.

PRESENCE: Of the 50 lotus buds, 16 have light and 34 dark, indicating a predominance of dark both in Hindu-Buddhist and Islamic lotus buds.

EVALUATION: Dark connected Hindu-Buddhist lotus buds to Javanese mosques. It can be a result of enhancing the beauty of sculpture because the interplay between light and shadow on lotus buds can judge in the mastery of sculpture. The duality between light and shade brings a mystery and the sacredness in temples and mosques. Probably, local genius had known this secrecy in religious architecture. Value, as another element, contributed to the continuity of pre-Islamic lotus buds in mosques through dark.

Period	HB	I
Light/Dark	Dark	Dark

OBSERVING SIZE: PRINCIPLES OF DESIGN

This section tests the continuity of lotus buds through size as a principle. One choice was allowed.

In identifying **small/big**, in terms of size: if lotus buds are small in reality, they are called 'small'. Hindu-Buddhist L10 and Islamic L26, L47 have small. L10 could situate on a stone column, L26 on kala-makara gate, L47 on mihrab. By contrast, big were used in Hindu-Buddhist L9 and Islamic L17, L30. L9 is free-standing, L17 support columns, symbolising life-giver, and L30 on a palace mosque gate, underlining the greatest Islamic kingdom and lightening the world through Islam.

PRESENCE: Of the 50 lotus buds, 26 have small and 24 big. Small slightly more presented. Hindu-Buddhist lotus buds favoured small, compared to big in Islamic ones. Within the Islamic period, interchange occurred. In the transitory, big took over small, and continued, despite decrease. In renovated/reproduced the contemporary, small recovered its position.

EVALUATION: No commonality saw between two periods. Size, as a principle of design, did not contribute to the continuity of pre-Islamic lotus buds in mosques. But they could share symbolism of 'life' in Hindu-Buddhism and 'oneness in Allah' in Islam. During the fieldwork, the researcher observed small Hindu-Buddhist and big Islamic lotus buds. In the allegory, Hindu-Buddhist one should be small for tiny hands of gods, while Islamic ones stand alone. In Buddhism, human beings have small hearts, suffering from uncountable troubles. In Islam, Allah is almighty and has greatness.

Period	HB	I
Small/Big	Small	Big

ON MIHRABS

Mihrabs are the most critical place for symbolic lotus bud. This analysis (1) observes the development of Islamic lotus buds on mihrabs, and (2) compares between all Islamic lotus buds and those 12 on mihrabs.

(Background): Lotus buds on mihrabs were most common in West Java. They made of wood with decoration. All Islamic lotus buds used more stone in the transitory, and preferred no decoration, while those on mihrabs had different materials and decoration.

(Basic type of form): Primary were three times more used than non-primary, mainly in the transitory and renovated/reproduced lotus buds. Non-primary appeared during Dutch colonisation, such as L37 (Kampung Nembol) and L38 (Caringin Labuan). L37 is located on pillars of the mihrab, while L38 is next to an opening of the mihrab. Both have 2-3 dimensional and open forms. All Islamic motifs showed a predominance of primary across time, but those on mihrabs had more non-primary in the Dutch colonisation era.

(Subdivisions): Spherical continued mostly. No cubic and pyramidal showed in the sample. In renovated/reproduced lotus buds, conic appeared, and spherical equally used with cylindrical. For all Islamic motifs, conic which appeared in the transitory was in the second. Of mihrabs, conic showed in the contemporary. The second was cylindrical.

(Five further characteristics): 2-3 dimensional were mostly present. Dynamic and stylised conformed to Hindu-Buddhist dynamism and Islamic stylisation in ornamentation. A variety of forms reminds of an interview (Anbary 2004), arguing that everything is allowed in Islam, except for living ones. Were Javanese Muslims aware of this theory? All Islamic motifs favoured stylised and closed in sequences, while those on mihrabs had 2-3 dimensional first.

(Other elements of design): Dark were twice more than light, fully used in the transitory. Light appeared during Dutch colonisation and partly employed in renovated/reproduced lotus buds. No difference existed between all Islamic motifs and those on mihrabs.

(Principles of design): Both forms were equally used. All Islamic motifs favoured big in the transitory and Dutch colonisation, while small showed in renovated/reproduced lotus buds. Those on mihrabs preferred small in Dutch colonisation and equal use of both forms in the next period.

SUMMARY AND CONCLUSION

This chapter was designed to answer sub-question 3: How frequent was the use of Hindu-Buddhist lotus buds in Javanese mosque ornamentation, and how important has the lotus bud been in mosques within the Islamic period?

Five aspects were tested in the 50 lotus buds: (1) background - period/geographical area/location/material/attachment), (2) basic type of form (primary/non-primary) and its subdivision (cubic/conic/spherical/cylindrical/pyramidal of the primary), (3) five further characteristics (voluminous/slender, open/closed, realistic/stylised, dynamic/static, 2-3 dimensional/3-dimensional), (4) other elements (light/dark in value), and (5) principles (small/big in size) of design.

Background

Hindu-Buddhist lotus buds were more present in Central Java and are made of stone, while Islamic ones were most common in West Java, made of wood. A commonality was the absence of decoration. Within the Islamic period, West Java and the lack of decoration were in common. In the transitory, they showed more outside, made of stone, but in the next period, wood replaced. In renovated/reproduced lotus buds, the prayer hall became primarily. Hindu-Buddhist stone lotus buds in Central Java continued to Islamic wooden ones in West Java, sharing the absence of decoration. Despite a change of material, the symbolism of 'life' in Hindu-Buddhism and 'oneness in Allah' in Islam seems to be still intact. And the appearance of lotus buds in contemporary mosques testifies to continuity from temple to mosque ornamentation.

Basic Type of Form and Its Subdivisions

(Primary/Non-primary): Primary were predominant between two periods. Hindu-Buddhist lotus buds affected Islamic mosques, revealing a strong awareness of Javanese Muslims on cultural heritage.

(Cubic/Conic/Spherical/Cylindrical/Pyramidal of the Primary): No consistent relationship could be set up across time. Spherical Hindu-Buddhist lotus buds were continuous in the Islamic period. Conic equally used with spherical during Dutch colonisation. Spherical were likely to emphasise symbolism.

Hindu-Buddhist lotus buds had constant continuity and significant influence on Javanese mosques by basic type of form, not in subdivisions of the primary.

Five Further Characteristics

(Between the Pre-Islamic and Islamic): Voluminous, stylised, dynamic, and 3-dimensional shared in common between two periods. Allegorically, 'life' or 'creation' or 'oneness in Allah' associated with volumes and dynamics. 3-dimensional represent totality, and stylised enhance prayers' concentration in temples and mosques.

(Within the Islamic): Stylised were mostly constant and influential. Stylisation highlights symbolic connotation, rather than visual pleasure.

Continuity and influence of pre-Islamic lotus buds on mosque ornamentation were constant and strong between two periods by five further characteristics of form. This trend began to disappear within the Islamic period.

Value: Other Elements of Design

Dark in Hindu-Buddhist lotus buds continued mainly. The phenomenon could be caused by enhancing the beauty of sculpture, creating mystery and the sacredness in temples and mosques. Value contributed to the continuity of pre-Islamic lotus buds in Javanese mosque ornamentation.

Size: Principles of Design

No commonness between small and big suggested their weak influence from temples to mosques. Size did not play a role in the continuity of pre-Islamic lotus buds in Javanese mosques. Probably, sizes of lotus buds could relate to Hindu-Buddhism and Islam.

On Mihrabs

Lotus buds on mihrabs were the most common in West Java. They are made of wood and embellished, stressing symbolism through beauty. Spherical mainly used. 2-3 dimensional and dark were also predominant, and small and big were equally used. The differences between all Islamic lotus buds and those on mihrabs were that the former preferred (i) the absence of decoration, (ii) stylised, and (iii) big forms.

All findings inform us that continuity of pre-Islamic lotus buds in Javanese mosque ornamentation took place in five aspects. Influence appears to be significant, due to symbolic representation. Various forms can testify to 'diversity in unity' in Javanese culture.

Lotus bud emerged from Egyptian and Indian civilisations in the ancient world, had an absolute reason to be the most potent ornament in Javanese temples and mosques, beyond time and space. They had a priceless prestige in imaginations of Hindu-Buddhist gods and goddesses, whose splendour was prolonged by Allah and his people. Lotus bud is the greatest mediator for

Javanese syncretic ornamentation. Surely, Javanese Muslims knew the magic and holiness of a lotus bud, learned from their indebted ancestors.

HARMONY OF PRE-ISLAMIC SCROLLS WITH ISLAMIC ARABESQUES IN JAVANESE MOSQUES

Javanese people are syncretic, called Indonesian tolerance and flexibility... One is Agami Jawi (Javanese Religion) which adapted mystically inclined Hindu-Buddhist beliefs and concepts and integrated within an Islamic frame of reference. The other is the Agami Islam Santri (Islam of the Religious People), a variant of Javanese Islam, which is much closer to the formal dogma of Islam.

This chapter is the last part of four analyses, focusing on scrolls to answer sub-question 4: What if any was the influence of Hindu-Buddhist scrolls on Javanese mosque scroll designs? Syncretic Javanese scrolls in a combination of Hindu-Buddhist and Islamic ideas and forms in many occasions are ready to prove Java, Indonesia, as a melting pot.

A preliminary visual presentation and background of 50 scrolls cast a glimpse of continuity of pre-Islamic scrolls in Javanese mosque ornamentation. And the main research lies in two analyses by basic type of rhythm and its five further characteristics, using indicator from principles, instead of from elements of design as texture and proportion trace potential contribution to continuity. Finally, scrolls on mihrabs reveal own development, accompanying a summary and conclusions. Specially, in this chapter, all scrolls in mosques are recognised as Hindu-Buddhist either in idea or in form, according to the identification of their origins. A term ‘pre-Islamic’ still means ‘Hindu-Buddhist’.

					
1	2	3	4	5	6
HINDU-BUDDHIST 11					
					
7	8	9	10	11	12
					
13	14	15	16	17	18
ISLAMIC 39 (TRANSITORY 17)					
					

19	20	21	22	23	24
					
25	26	27	28	29	30
ISLAMIC 39					
					
31	32	33	34	35	36
(DUTCH COLONISATION 10)					
					
37	38	39	40	41	42
ISLAMIC 39 (RENOVATED/REPRODUCED 12)					
					
43	44	45*	46*	47*	48*
					
49*	50*				

The 50 Scrolls: 1. Borobudur (8c), 2-3. mendut (8c), 4-5. kalasan (9c), 6. panataran (1147-1454), 7-8. panataran (1147-1454), 9-10. djago (1268), 11. jawi (13c), 12. tralaja grave (15c), 13-14. pajlagrahan (1452), 15. agung demak (1478), 16-17. sunan giri (1485), 18. agung kasepuhan (1498), 19. al marunda (1527), 20-22. sunan kalijaga (1533), 23-24. astana mantingan (1559), 25-27. sendang duwur (1561), 28. agung mataram (1568-1601), 29. agung solo (1557), 30. al anwar angke (1761), 31-32. agung yogya (1773), 33. mukarmah banding (1789-1809), 34. agung malang (1853-90), 35. al wustho mangkunegara (1878-1918), 36. kampong nembol (1880), 37. carita labuan (1883-93), 38. cut meutia (1920), 39. raya cipaganti (1933), 40. sunda kelapa (1969-71), soko tunggal (1973), 42-43. sabilliah malang (1974), 44. al ukwah balai kota (1974), 45. astana mantingan* (1559), 46-47. agung jepara* (1561-77), 48. agung mataram* (1568-1601), 49. kauman semarang* (1575), 50. hidayatullah* (1750) *mosques built before the contemporary period

HINDU-BUDDHIST SCROLLS IN JAVANESE TEMPLES AND MOSQUES

Fifty scrolls out of the 60 surveyed were chosen and arranged by chronology and geographical area. All Hindu-Buddhist and Islamic scrolls directly took from temples, a grave, and mosques in Java. Only similar scrolls during the same period rejected. Hindu-Buddhist scrolls often occur in the shape of a recalcitrant spiral. Although there are various adaptations to lotus scrolls in temples as a decorative motif, the importance of Hindu-Buddhist scrolls is the symbol of 'the Golden Germ',

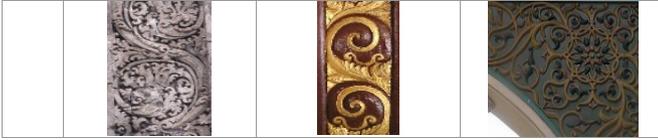
the start of life. Hindu-Buddhist scrolls in Central Java have naturalistic and luxurious decoration, influenced from India. They run vertically in a narrow panel beside arched gates. Scrolls in East Java are simple and stylised, revealing an indigenous character. They undulate horizontally in a narrow frame or sometimes shape a medallion. Both scrolls occasionally combine with animals, humans, and circular objects.

Scrolls in Javanese mosques are an amalgamation of Hindu-Buddhist and Islamic ideas⁴⁹ and forms, created by local genius. Accordingly, those in the Islamic transitory have difficulty to be called 'scrolls', because different rhythms co-occur without repetition. If they followed geometrical arabesque, their rhythms could be easily traced, especially on arched mihrabs where vertical, horizontal, and diagonal rhythms occur.

Whatever the case was, most scrolls have commonness in (1) symbolic connotation (S1/S15/S35) and (2) aesthetic beauty (S8/S12/S47). They appeared all the time, scattered over the whole of Indonesia in temples and mosques. They are made of different materials and sometimes are coloured. A few adorn with kala-makaras, Arabic calligraphy, etc. Scrolls in temples and mosques are balanced in symmetry and undulate regularly, repetitively, and continuously. They tend to represent 'the start of life' in Hindu-Buddhism and 'the vision of paradise' in Islam. Therefore, Islamic scrolls can be symbolic in syncretic Javanese mosques, although Islamic art is primarily decorative. The scroll is a universal motif in religious ornamentation.

G1	S1-Borobudur temple	S35-AI Wustho Mangkunegara		
				
G2	S4-Kalasan temple	S38-Cut Meutia	S42-Sabilliah Malang	S50-Hidayatullah
				
G3	S6-Panataran temple	S15-Agung Demak	S23-Astana Mantingan	
				
G4	S5-Kalasan temple	S31-Agung Yogya	S40-Sunda Kelapa	

⁴⁹ A stylised form of the vegetal: geometrical, abstract, repetitive, continuous rhythms.



For continuity, four groups of visual presentation are chosen. The first (S1/ S35) shares ‘the Golden Germ’ through makara and vertical rhythms in common. The second (S4/S38/S42/S50) has a vase as ‘life giver’, while the third (S6/ S15/S23) has disharmonious rhythms. As Hindu Majapahit architects made Islamic S15 (Agung Demak), it is named ‘Majapahit scroll’. The last (S5/S31/S40) shows continuous rhythms with the same symbolism. Mataram practised syncretic ornaments in S31 (Agung Yogya). S40 (Sunda Kelapa) has Hindu-Buddhist in the idea and Islamic arabesque in form, revealing continuous syncretism in renovated/reproduced scrolls.

BACKGROUND

Between the Pre-Islamic and Islamic

Of the 50 scrolls in the sample, 11 (S1-S11) are Hindu-Buddhist, and 39 (S12-S50) Islamic. By geographical area, 13 came from West Java, 22 from Central Java, and 15 from East Java. Hindu-Buddhist scrolls did not show in West Java, but five are in Central Java and the rest in East Java. Of Islamic scrolls, 13 are from West Java, 16 Central Java, and nine East Java. Central Java is the most common area for scrolls, likely due to the foundation of three Islamic kingdoms of Demak, Pajang, and Mataram. All Hindu-Buddhist scrolls made of natural stone, compared to four Islamic. Among the remains, 33 made of wood; two are of other material - plaster. Eight Hindu-Buddhist and 16 Islamic scrolls decorate with animal, humans, geometry, Arabic calligraphy.

Scrolls: 50		HB: 11	I: 39		
			IT: 17	ID: 10	IR: 12
Area	West: 13	0	4	5	4
	Central: 22	5	7	4	6
	East: 15	6	6	1	2
Location	Prayer hall: 20		6	6	8
	Serambi: 12		6	4	2
	Outside: 7		5	0	2
Material	Wood: 33	0	12	10	11
	Stone: 15	11	4	0	0
	Other: 2	0	1	0	1
Attachment	Decorated: 24	8	6	4	6
	Not-decorated: 26	3	11	6	6

Hindu-Buddhist (HB:8-15c); Islamic (I:15c-to the present)= transitory (IT:15c-1619); Dutch colonisation (ID:1619-1945); renovated/reproduced (IR:1945-to the present)

Scrolls within the Islamic

Of the 39 Islamic scrolls, 17 are transitory, ten are from Dutch colonisation, and 12 are renovated/reproduced. In the transitory, four scrolls appeared in West Java, seven in Central Java, and six in East Java. Each of six scrolls was shown in the prayer hall and the serambi, and five outside a mosque building. Wood is predominant in 12, but the stone used in four scrolls. One had other material. 11 scrolls are not adorned. During the Dutch colonisation era, five scrolls were from West Java, four from Central Java, and one from East Java. Six show in the prayer hall, and four in the serambi. Scrolls are not present outside. All made of wood, and six are not embellished.

Of renovated/reproduced scrolls, four appeared in West Java, six in Central Java, and two in East Java. Eight scrolls show in the prayer hall, and each of the two is present in the serambi or outside. All made of wood, except for one. Half of 12 scrolls decorate. Interestingly, S47 (Agung Jepara) and S48 (Agung Mataram) originate from the transitory, and S50 (Hidayatullah) from Dutch colonisation. S47 combines of Hindu-Buddhist scroll in the idea and Islamic arabesque in form. Their rhythms resemble those of Islamic arabesque, but careful observation reveals a root as the notion of life, which defines S47 as Hindu-Buddhist. S48, S50 are likely to be influenced by temples, due to naturalistic style and a vase for possessing water, symbolising ‘life giver’. These three examples can provide sufficient evidence of Javanese Muslims’ syncretic philosophy of Javanese as a cultural root and Muslim as accepting Islam religion.

Summary and Conclusion

Preferred background	Pre-Islamic & Islamic		Islamic		
	HB	I	IT	ID	IR
Area	East Java	Central Java	Central Java	West Java	Central Java
Location		Prayer Hall	Prayer hall =Serambi	Prayer hall	Prayer hall
Material	Stone	Wood	Wood	Wood	Wood
Attachment	Decorated	Not-decorated	Not-decorated	Not-decorated	Decorated= Not-decorated

(Geographical area): Hindu-Buddhist scrolls in East Java continued mainly to Islamic ones in Central Java, due to the inheritance of Hindu Majapahit culture to Islamic Demak and development during Pajang and Mataram.

(Location in a mosque building): Prayer hall was the most common place for scrolls, although serambi equally shared in the transitory. Beautifying the prayer hall can create a metaphorical

‘vision of paradise’ which Sufi Islam underlined. Or it could endow Muslims visual pleasure during their visits to mosques.

(Material): Stone was the chief material of scrolls in temples, the same as tumpals, kala-makaras, and lotus buds. This trend continued to the Islamic transitory, but unlike other motifs, scrolls preferred wood than stone. Pragmatically, the stone material is too heavy to stand on mihrabs, minbars, and pillars in mosques.

(Attachment): The tradition of not adorning scrolls was shown in the Islamic period, compared to the preference of decoration in Hindu-Buddhist scrolls. An explanation can pursue. Hindu-Buddhist scrolls produce new branches, coexisting with animals, human beings, and jars, to provide a paradisiacal and abundant atmosphere where gods reside. By contrast, mosque ornaments need to be stylised, following principles of Islamic ornament. The *hadith* warned extravagant decoration, for fear of disturbing concentration among prayers. Moreover, limited space in mosque buildings should consider to embellishment.

In short, Islamic scrolls in Central Java continued from Hindu-Buddhist ones in East Java, changing from stone to wood. Despite no commonality between two periods, the frequent appearance of scrolls in contemporary mosques gives evidence of their continuity in Javanese mosque ornamentation symbolically and aesthetically.

ANALYSED BY BASIC TYPE OF RHYTHM AND ITS SUBDIVISIONS

This section tests the continuity of scrolls by rhythm. To answer sub-question 4 (What if any was the influence of Hindu-Buddhist scrolls on Javanese mosque scroll designs?), the 50 scrolls were perceived several times at regular intervals.

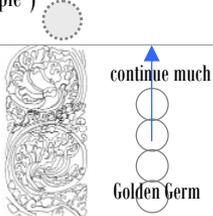
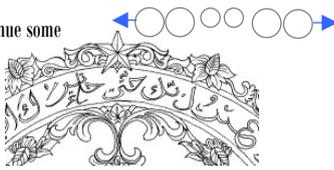
Rhythm is an organised visual movement, built around repetitions of strong and weak design elements, creating repeated beats. Rhythms can divide into regular or irregular. In this analysis, they are basic type, and vertical, horizontal, and diagonal of the regular are its subdivisions. Continuity of scrolls between the pre-Islamic and Islamic periods assess on the degree of regularity and constancy of rhythms: (1) verifying the presence of each characteristic of rhythm in all scrolls, and (2) measuring their regularity by scaled value and establishing their modes and total numbers. If scrolls undulate repetitively and continuously, making the most regular rhythms, they categorise as much. Interrelationship considered between the most and the least regular in scrolls.

Much(4)  Some(3)  Little(2)  None(1) x

Regular*/Irregular**

Take any form you please, and repeat it at regular intervals, and you have, whether you want it or not, a pattern, as surely as the recurrence of sounds will produce rhythm or cadence. The distribution of the parts need not even be regular. (Day 1903)

Four examples are assessed to observe regular/irregular in scrolls, and how constant these rhythms appeared. A priority gave to only one type of rhythm. Regular consist of consistency and repetition in the beat, while irregular do not constantly occur without recurrence, lacking rhythms. In the design element, regular can perceive when scrolls undulate in circular, oval, and spiral in the same direction, based on the similar type of line and shape. In the sample, Hindu-Buddhist S1 and Islamic S19 have regular, while Hindu-Buddhist S6 and Islamic S15 display irregular. As S1 repeats continuously and vigorously, it is graded as much, compared to S19 as some due to weaker regularity than S1. S6, S15 have irregular, as little due to few beats.

<p>S1 (Borobudur temple*) much regular</p> 	<p>S19 (Al Marunda*) some regular</p> 
<p>S6 (Panataran temple**) little irregular</p> 	<p>S15 (Agung Demak**) little irregular</p> 

PRESENCE: Of the 50 scrolls, 24 have regular and 26 irregular. Of the regular, eight are Hindu-Buddhist and 16 Islamic. Three Hindu-Buddhist and 23 Islamic scrolls display irregular. Both types fairly used between two periods. Chronologically, regular more favoured in the Hindu-Buddhist period, but irregular suddenly became vogue in the Islamic transitory, making a drastic transfer from temples to mosques. But gradual syncretism of Hindu-Buddhist and Islamic ideas and forms is expected from the next era.

Scrolls: 50		HB: 11	I: 39		
			IT: 17	ID: 10	IR: 12
Basic	Regular: 24	8	3	6	7
	Irregular: 26	3	14	4	5

FREQUENCY: Regular were more used than irregular. They were very popular in the Hindu-Buddhist period, but this trend shifted in the next period, almost evolving out. Recovery partially saw in S31-S32 (Agung Yogya). In this royal mosque, slightly stylised S31 and naturalised S32 expose the Hindu-Buddhist ‘Golden Germ’ and prove syncretic Islam. By contrast, rarely used irregular in Hindu-Buddhist scrolls became dominant only in the transitory, despite less use in S45-S46. S46 (Agung Jepara) has refined quality, due to the great woodcraft in this area. Resembling arabesque in form, it has a Hindu-Buddhist idea.

Hindu-Buddhist 11	scroll	1	2	3	4	5	6	7	8	9	10	11						
	regular 32+	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉						
	irregular 17+	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉						
Transitory 11	scroll	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	regular 22+	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉
	irregular 41+	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉
Islamic 36	scroll	29	30	31	32	33	34	35	36	37	38							
	regular 22+	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉							
	irregular 15+	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉							
Arabesque/Islamic 10	scroll	39	40	41	42	43	44	45	46	47	48	49	50					
	regular 25+	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉					
	irregular 16+	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉	☉					
		Regular (102)						Irregular (91)										
HB		Much (32)						None (17)										
I	IT	None (22)						Little=Some (41)										
	ID	None (22)						None (15)										
	IR	None=Some (26)						None (18)										

Modes and total numbers+: regular/irregular⁵⁰
 Hindu-Buddhist: Regular (mode: much). Total numbers indicate the use of regular almost double than irregular in the sample. Islamic: Regular (mode: none). Total numbers indicate almost the same use of two types, but reveal a huge difference between them in the transitory.

CONTINUITY/INFLUENCE: Regular in Hindu-Buddhist scrolls echoed in the Islamic period, but their influence tended to be weak. When Hindu-Buddhist scrolls and Islamic arabesques encountered in

⁵⁰ S1=Borobudur; S2-S3=mendut; S4-S5=kalasan; S6-S7=panataran; S9-S10=djago; S11=jawi; S12=tralaja Muslim grave; S13-S14=pajlagrahan; S15=agung demak; S16-S17=sunan giri; S18=agung kasepuhan; S19=al marunda; S20-S22=sunan kalijaga; S23-S24=astana mantingan; S25-S27=sendang dwur; S28, S48=agung mataram; S29=agung solo; S30=al anwar angke; S31-S32=agung yogya; S33=mukarmah bandan; S34=agung malang; S35=al wustho mangkunegara; S36=kampung nembol; S37=caringin labuan; S38=cut meutia; S39=raya cipaganti; S40=sunda kelapa; S41=soko tunggal; S42-S43=sabilliah malang; S44=al ukhuwah balai kota; S45=astana mantingan; S46-S47=agung jepara; S49=kauman semarang; S50=hidayatullah

Javanese mosques in the Islamic transitory, how was their assimilation, so that regular in Hindu-Buddhist scrolls could not influence Islamic ones?

Vertical/Horizontal/Diagonal of the Regular

Regular rhythms can divide into vertical, horizontal, and diagonal. Three types examined in the 24 regular. Hindu-Buddhist scrolls undulate vertically and horizontally. Central Java has upward rising scrolls or rectangular panels with scrolls. In East Java, motifs concentrate in horizontal bands. It was confirmed during the researcher's field work too. In addition to two types of rhythm, the researcher often observed diagonal in temples and mosques, especially in contemporary mosques where Islamic arabesque is often present. According to literature, the term 'diagonal' discussed in neither scrolls nor arabesques. Were 'diagonal' neglected, due to a few examples in the temple and mosque ornamentation, seen in S2 (Mendut temple), S4 (Kalasan temple), S37 (Caringin Labuan), and S40 (Sunda Kelapa)? A challenge of analysing scrolls by rhythm is waiting for us.

In this analysis, any sloped rhythms regard as diagonal. As some scrolls have more than one type of rhythm, multiple options were allowed. Hindu-Buddhist S5 and Islamic S31 display vertical, Hindu-Buddhist S8 and Islamic S32 horizontal, and Hindu-Buddhist S4 and Islamic S37 have both horizontal and diagonal. S5, S31 are graded as much, due to their continuous vertical undulation. S8, S32 regularly undulate in the horizon, marked as much, S4, S37 as some in both, due to a few beats.

PRESENCE: Of the 24 regular, 12 have vertical, 13 horizontal, and 11 diagonal. Of the vertical, three scrolls are Hindu-Buddhist, and nine Islamic. Six Hindu-Buddhist and seven Islamic scrolls have horizontal, two Hindu-Buddhist and nine Islamic diagonal.

FREQUENCY: Horizontal were the most common between two periods, particularly in Hindu-Buddhist scrolls. Stylised S8 (Panataran temple), S9-S10 (Djago temple) in East Java differ from natural S2-S3 (Mendut temple), S4 (Kalasan temple) in Central Java. The same type of horizontal in S4, S9 reappeared in S32, S24 respectively, indicating continuity. Interestingly, S2 (Mendut temple) used freely three types of rhythm in a square panel, but S40 (Sunda Kelapa) had to be fitting them in the corner of the gate. Both can signify 'the start of life' in Hindu-Buddhism and 'the vision of paradise' in Islam. All types in Hindu-Buddhist scrolls continued in the Islamic period more or less.

CONTINUITY/INFLUENCE: Continuity of Hindu-Buddhist scrolls in Javanese mosques is not constant by subdivisions of regular. At any rate, horizontal connected two periods.

Conclusion

Preferred rhythms (50 S)	HB	I		
		IT	ID	IR
Regular/Irregular	Regular	Irregular	Regular	Regular
Regular: Vertical/ Horizontal/Diagonal	Horizontal	Diagonal	Vertical	Diagonal

(Regular/Irregular): Continuity between the Hindu-Buddhist and Islamic periods occurred by regular with insignificant influence.

(Vertical/Horizontal/Diagonal): Horizontal were the most common, especially in Hindu-Buddhist scrolls, and vertical and diagonal in the Islamic period. Within the Islamic period, an inconsistent relationship developed across different eras. Diagonal in the transitory reappeared in renovated/reproduced scrolls, while vertical favoured in Dutch colonisation. Any particular rhythms neither continued fully to the next period nor affected each other.

No rhythms continued strongly between two periods by basic type of rhythm and its subdivisions. Any rhythm was allowed to temple and mosque ornamentation, giving freedom to the local genius who beautifies their sanctuaries, according to the concept of ‘the start of life’ and ‘the vision of paradise’. It also meant that arbitrary and chaotic syncretism between Hindu-Buddhist scrolls and incoming Islamic arabesque took place in the Islamic transitory. Hindu-Buddhist scrolls had a revival later.

COMPARING FIVE FURTHER CHARACTERISTICS OF RHYTHM

More analysis of rhythms investigates by comparing its five further characteristics (repetitive/non-repetitive, harmonious/disharmonious, single/multiple, strong/weak, continuous/discontinuous). Priority gave to only one characteristic.

In the dichotomy between **repetitive/non-repetitive**: if the same type of rhythm occurs regularly and consistently without shifting other types of rhythm; thus the same beat is produced, they are called ‘repetitive’. They can perceive in (i) single and (ii) similar rhythms in multiple, either strong or weak in beats, and (iii) harmonious and continuous rhythms. In design elements, scrolls undulate in circular, oval, and spiral in the same direction, composed of a similar type of line and shape. Hindu-Buddhist S9 and Islamic S24, S43 display repetitive. S9, S43 have single, similar, and continuous rhythms in strong beats, graded as **much**. S24 has **some** similar rhythms in short beats. On the other hand, ‘non-repetitive’ produce a single beat. In music, each instrument has its sound, such as a drum or triangle. They can also be different types of rhythm which repeat alternately at constant intervals; thus unified beat cannot be established. (i) Multiple, (ii) disharmonious, and (iii) a combination of regular and irregular rhythms can perceive as ‘non-

repetitive'. Scrolls undulate in curve or zigzag inconsistently or alternately, composed of different types of line and shape. Hindu-Buddhist S7 and Islamic S26, S29 have non-repetitive. S7 has regular and irregular, S26 multiple and disharmonious without repetition, creating a single beat, and S29 multiple rhythms with alternating repetition. S7 is graded as little due to few different beats, S26 as much to many single beats, S29 some to a few different, but repetitive beats. FREQUENCY: Overall, the predominance of repetitive testifies to a characteristic of scrolls in temples and mosques. It also expresses their main continuity, despite more use of non-repetitive in the Islamic transitory. All Hindu-Buddhist scrolls displayed repetitive except for S7. S1 (Borobudur temple) and S5 (Kalasan temple) in Central Java are naturalistic, but S8 (Panataran) and S10 (Djago temple) in East Java are stylised. Sharing repetitive in common, Central Javanese scrolls tend to be more melodious and stronger in beats than those in East Java. Of Islamic scrolls, significant use of repetitive occurred in S39-S41. Especially S40 (Sunda Kelapa) and S47 (Agung Jepara) used repetitive maximally to represent Hindu-Buddhist idea of 'the start of life' and an Islamic form of 'infinite repetition'. If no symbolic message embedded, the scrolls could identify as Islamic arabesque. Modes of repetitive are much in Hindu-Buddhist, and none or some in Islamic scrolls. Total numbers prove their predominance and reveal the difference between two types except for Dutch colonisation.

In distinguishing **harmonious/disharmonious**: if rhythms are in balance and create resonance in the beat, they are called 'harmonious'. They can be perceived in (i) regular, (ii) continuous, (iii) even, and (iv) balance of strong and weak rhythms. Scrolls undulate regularly and evenly in circular, oval, and spiral, composed of similar lines and shapes. Hindu-Buddhist S5 and Islamic S21, S42 display harmonious. S5 has much regular, continuous, and even rhythms. S21 balances with some strong and weak, but less regular than S5. S42 is the least continuous in few beats as little. On the other hand, 'disharmonious' do not have good resonance in the beat. Scrolls undulate in a curve or zigzag inconstant in diverse directions, composed of different lines and shapes. (i) Irregular, (ii) radical, and (iii) multiple rhythms can perceive as 'disharmonious'. Hindu-Buddhist S11 and Islamic S23, S34 have disharmonious. S11 displays irregular, S23 radical, S34 multiple rhythms. All grade as some for a few beats.

FREQUENCY: Harmonious, particularly in Hindu-Buddhist scrolls, were predominant, despite the significant use of disharmonious in the Islamic transitory. Hindu-Buddhist S1-S5 have regular almost in perfection, and this tendency reappeared in S30-S33 during Dutch colonisation. S2 (Mendut temple) is composed of vertical, horizontal and diagonal rhythms with a human figure in the centre of a panel. Was the figure designed for harmonising rhythms? Or was he created for protecting the temple? Or was he guiding temple passages to visitors? Modes of harmonious are much in Hindu-Buddhist, and none or some in Islamic scrolls. Total numbers prove their predominance and reveal the big difference of two types except for renovated/reproduced scrolls.

Of **single/multiple**: if scrolls are composed of one type of rhythm, and a similar beat continuously make with or without a stop, they are called 'single'. They can perceive in (i) continuous and (ii) the same type of rhythm, either strong or weak in beats. Scrolls undulate in circular, oval, and spiral, regardless of widths and heights, composed of similar lines and shapes. Hindu-Buddhist S1 and Islamic S31, S48 share single and continuous in common. S1, S31 have one type in even and strong beats, S48 has single with a stop. S1, S31 are graded as much due to many regular beats, compared to S48 as some. On the other hand, 'multiple' imply the simultaneous occurrence of similar or different kinds of rhythm, making several beats. (i) Different and (ii) repetitive rhythms in several locations can perceive as 'multiple'. Scrolls undulate in any direction, composed of the same or different lines and shapes. Hindu-Buddhist S2 and Islamic S17, S46 display multiple. S2 has repetitive, and S17, S46 different rhythms. All scrolls have rhythms simultaneously in several locations. All grade as some due to neither many nor few in beats.

FREQUENCY: Single mostly used between two periods, despite the predominance of multiple in the Islamic transitory. Their strong occurrences can see in Hindu-Buddhist S1, S5 and Islamic S30-S32, S39-S41, mainly after Dutch colonisation. Single in S5 (Kalasan temple) are ready to challenge a nearby kala-makara at the gate, running over the whole temple façade, exposing ultimate beauty. One wonders whether Islamic arabesque could invent if any Muslim in the Umayyad of the Near East had been here. Earlier, the researcher traced to link vine scrolls in Borobudur temple to Islamic arabesque. Modes of single are none≡much in Hindu-Buddhist, and none or some in Islamic scrolls. Total numbers prove their predominance and reveal the big difference between two types in the transitory.

Between **strong/weak**: if rhythms evoke dynamic and powerful movement, they are called 'strong'. They can be perceived in (i) regular and repetitive, (ii) big, (iii) multiple, and (iv) progressive rhythms. Scrolls undulate circularly and diagonally, composed of different types of line and shape. Circular and vertical lines and shapes arouse stronger beats than oval and horizontal. Hindu-Buddhist S4 and Islamic S38, S40 display strong. S4 has progressive, S40 regular, repetitive, and multiple, and S38 big rhythms. S4, S40 are graded as much due to dynamic, while S38 as little for the weak movement in few beats. On the other hand, 'weak' occur in the lack of rhythm. Beats are obscure and feeble; thus rhythms can be hardly seen. (i) Irregular and non-repetitive, (ii) small and single, and (iii) uneven and complicated rhythms can perceive as 'weak'. Scrolls undulate inconsistently in any direction, despite the same type of line and shape. Hindu-Buddhist S6 and Islamic S13, S44 have weak. S6 has irregular, small, and single, S13 irregular and non-repetitive, and S44 has uneven and complicated rhythms. S6 is graded as little due to few beats, compared to more beat in S13. S44 is marked as much, caused by many single beats.

FREQUENCY: Both rhythms appeared across time, but strong slightly more used. If scrolls do not show rhythms, can they be called ‘scrolls’? How can Islamic transitory scrolls which are short of rhythms characterise? The strongest rhythms occurred in Hindu-Buddhist S8, S10, and Islamic S40, S47. Compelling rhythms in S8 (Panataran temple) and S10 (Djago temple) reject any stray within the fixed outline. In S40 (Sunda Kelapa) and S47 (Agung Jepara), the combined Hindu-Buddhist idea and Islamic form approve a characteristic of rhythmic Islamic arabesque through strong. Modes of strong are much in Hindu-Buddhist and none=some in Islamic scrolls. Total numbers show almost no difference between two types as a whole, despite big differences in details.

Finally, about **continuous/discontinuous**: if rhythms repeat regularly or alternately in single or in multiple, they are called ‘continuous’. They can be perceived in (i) regular and repetitive, and (ii) even and clear rhythms. Scrolls undulate in the same direction, composed of similar types of line and shape. Hindu-Buddhist S8 and Islamic S19, S35 have regularity, repetition, evenness, and clarity in rhythm, but different degrees. S8, S35 are graded as much due to their continuous beats, S19 as some for a few. On the other hand, ‘discontinuous’ mean (i) the lack of rhythm, (ii) irregular and non-repetitive, and (iii) limited rhythms. Scrolls undulate in many directions without repetition, composed of different types of line and shape. Hindu-Buddhist S7 and Islamic S18, S36 display discontinuous. In S7, two different rhythms stop by a human, S18 seems not to have rhythms by irregular undulation, and S36 has limited rhythms. S7 is graded as little due to few beats, S18 as much due to many single beats. S36 between S7, S18.

FREQUENCY: Continuous were predominant. All Hindu-Buddhist scrolls except for S7 displayed significance. The popularity decreased drastically during the Islamic transitory and remained until a full revival in renovated/ reproduced scrolls. S5 (Kalasan temple) and S8 (Panataran temple) symbolise ‘the start of life’ through new branches. Stylised S31 and naturalistic S32 (Agung Yogya) followed them as Islamic arabesque in form, depicting ‘the vision of paradise’. Modes of continuous are much in Hindu-Buddhist, and none or little in Islamic scrolls. Total numbers prove their predominance and reveal the big difference between two types except for Dutch colonisation.

Summary and Conclusion

PRESENCE: Of the 50 scrolls, 33 have repetitive/17 non-repetitive, 29 harmonious/21 disharmonious, 35 continuous/15 discontinuous. Each of 25 scrolls shares with single and multiple, and strong and weak. Overall, continuous were the most common between the two periods. Chronologically, repetitive and continuous were equally present in the Hindu-Buddhist period, while continuous appeared foremost in the Islamic period. However, each era has its favourite rhythms: multiple in the transitory, harmonious in the Dutch colonisation era, and continuous in renovated/reproduced scrolls.

Very popular repetitive and continuous in Hindu-Buddhist scrolls decreased drastically in the Islamic transitory, but recovered almost entirely in the next periods. Rarely used in the Hindu-Buddhist period, non-repetitive, disharmonious, weak, and discontinuous became vogue only in Islamic transitory scrolls with confused blending in the transfer from temples to mosques. It explains extraordinary assimilation of the Hindu-Buddhist idea and Islamic form in scrolls. ‘The Golden Germ’ in Hindu-Buddhism and stylisation in Islamic ornament had to confront for coexistence. After the conflict, the syncretic process returned to the next era. Unlike tumpal, kalamakara, and lotus bud, the transition of scrolls seems more chaotic due to incoming Islamic arabesque.

(Between the Pre-Islamic and Islamic)

PRESENCE: Repetitive, harmonious, and continuous connected two periods, despite the interval of their opposites in the Islamic transitory. Three rhythms can represent the main characteristics of scrolls, regardless of their origins either as Hindu-Buddhist or Islamic or both.

Preferred rhythms (50 S)	HB	I
Repetitive/Non-repetitive	Repetitive	Repetitive
Harmonious/Disharmonious	Harmonious	Harmonious
Single/Multiple	Single	Multiple
Strong/Weak	Strong	Weak
Continuous/Discontinuous	Continuous	Continuous

CONTINUITY/INFLUENCE: Three types were almost the same in total numbers, justifying their equal contributions to continuity. Weak influence of Hindu-Buddhist scrolls on Javanese mosques took place. In the transfer of scrolls from temples to mosques, a phenomenon of discontinuity occurred. This trend can be traceable in background of scrolls, explaining the syncretic process.

Modes/ Total numbers	HB	I
Repetitive/ 118	Much/ 35	None, Some/ 83
Harmonious/ 117	Much/ 33	None, Some/ 84
Continuous/ 118	Much/ 35	None, Little/ 83

(Within the Islamic)

PRESENCE: No direct relationship with each other implies weak continuity. When chaos in rhythm ended after transfer from temples to mosques, characteristics of Hindu-Buddhist scrolls became revived. Shifting rhythms seem to be unavoidable, due to Javanese Muslims who wanted heritage, but had to beautify scrolls by any rhythm in their mosques, in accord with incoming Islamic

arabesque. The freedom of Islamic ornament except living figures could be another factor in this process.

Preferred rhythms (39 S)	IT	ID	IR
Repetitive/Non-repetitive	Non-repetitive	Repetitive=Non-repetitive	Repetitive
Harmonious/Disharmonious	Disharmonious	Harmonious	Harmonious
Single/Multiple	Multiple	Single	Single
Strong/Weak	Weak	Strong	Strong
Continuous/Discontinuous	Discontinuous	Continuous	Continuous

CONTINUITY/INFLUENCE: Four types, which had an interval in the transitory, continued with low influence to the next periods. Continuity of pre-Islamic scrolls in mosques was not constant.

Attention needs to a finding of scrolls in Javanese temples and mosques: repetitive, harmonious, continuous rhythms. The term ‘repetitive’ links ‘harmonious’ to ‘continuous’, corresponding to geometrical, abstract, repetitive, continuous Islamic arabesque, a stylised form of the vegetal scrolls, characterised. The same outcome from Hindu-Buddhist scrolls and Islamic arabesque is not coincidental. The crucial difference between them is the symbolic ‘Golden Germ’.

EXAMINED BY TEXTURE: OTHER ELEMENTS OF DESIGN

This section tests whether, texture, another element, took part in continuity. Between two types (visual and tactile) of texture, this analysis assesses visual one.

Smooth/rough, in terms of texture depend on how scrolls regularly undulate, continuously, and evenly with similar lengths and heights, composed of the same or different types of line and shape. Harmonious beats create a smooth texture, and curved lines are smoother than zigzag. ‘Smooth’ can perceive in (i) regular and repetitive, (ii) continuous or alternating rhythms in harmony, and (iii) balance of strong and weak rhythms. By contrast, (i) irregular and non-repetitive, (ii) repeated rhythms at short intervals, and (iii) progressive rhythms can be perceived as ‘rough’. Hindu-Buddhist S5 and Islamic S31, S50 display smooth, while Hindu-Buddhist S6 and Islamic S15, S23 have rough.

PRESENCE: Of the 50 scrolls, 22 have smooth and 28 rough. Although rough were predominant, almost full in the Islamic transitory, smooth were more common in other periods. Nearly half of smooth in Hindu-Buddhist scrolls disappeared in the Islamic transitory, questioning whether smooth in Islamic arabesque influenced scrolls in mosques.

EVALUATION: Divergence of two types indicates no consistency. Texture, another element, did not contribute to the continuity of pre-Islamic scrolls in mosques significantly.

Texture	HB	I
Smooth/Rough	Smooth	Rough

OBSERVING PROPORTION: OTHER PRINCIPLES OF DESIGN

As the most related principle, proportion examines for continuity. One choice was allowed for each type.

Either **progressive/non-progressive**, in terms of proportion: if rhythms increase singularly or in multiple, and the gradual beat creates, they are called 'progressive'. Scrolls undulate in larger and different sizes of the curve. 'Non-progressive' include regular and single, or lack of rhythm. Hindu-Buddhist S4 and Islamic S37, S47 display progressive, while Hindu-Buddhist S3 and Islamic S32, S41 non-progressive.

PRESENCE: Of the 50 scrolls, 11 have progressive and 39 non-progressive. Non-progressive were used three times more than progressive, favoured by both scrolls. The popularity can be argued that any types of scrolls welcomed, instead of Islamic arabesque which tends to have progressive on the corner panels.

EVALUATION: Commonality of non-progressive between two periods implies their main continuity. Proportion as a principle of the design was a contributor to bridging Hindu-Buddhist and Islamic scrolls by non-progressive. Progressive in Islamic arabesque did not affect scrolls in Javanese mosques.

Proportion	HB	I
Progressive/Non-progressive	Non-progressive	Non-progressive

ON MIHRABS

This examination is designed to observe similarities or dissimilarities between all Islamic scrolls and those on mihrabs. It also investigates the development of mihrab ornamentation. Of the 11 scrolls of Hindu-Buddhist origins, S43-44, S47 are renovated/reproduced.

(Background): Overall, scrolls on mihrabs are more present in Central Java. They dominantly made of wood without decoration. Although all types of material used in the transitory, wood became only in the next periods. Decoration was more shown during Dutch colonisation. All Islamic scrolls and those on mihrabs show no difference in between.

(Basic type of rhythm): Regular are almost double than irregular. However, all Islamic scrolls show the predominance of irregular in the transitory. Favouring regular raises an assumption. If scrolls are not in harmony, they can disturb prayers' concentration, and cannot create beautiful

mihirabs to indicate the gateway to Paradise. No difference shows between all Islamic scrolls and those on mihirabs.

(Subdivisions): Diagonal were more used. Vertical appeared during Dutch colonisation, sharing with horizontal. Using all types can be due to rectangular panels on mihirabs where scrolls should be filled up in three directions. All Islamic scrolls favour vertical and diagonal equally, but those on mihirabs reveal diagonal the foremost.

(Five further characteristics): Continuous are the most common. Repetitive and continuous are full in the transitory; different rhythms share in the next periods. All Islamic scrolls display multiple, harmonious, and continuous from each period respectively. Those on mihirabs have different types in each era.

(Other elements of design): Smooth are more present than rough. All Islamic scrolls have rough, significantly in the transitory.

(Other principles of design): Non-progressive were absolute on mihirabs, particularly during Dutch colonisation. No difference sees between all Islamic scrolls and those on mihirabs. Javanese mihirabs differ from those in the Near East and the Arab world. With simple ornaments on the sacred mihirabs, Javanese Muslims pay tribute to God.

SUMMARY AND CONCLUSION

This chapter is the last analysis which aimed at answering sub-question 4: What if any was the influence of Hindu-Buddhist scrolls on Javanese mosque scroll designs?

Five aspects are tested in 50 scrolls. (1) background - period/geographical area/location/material/attachment), (2) basic type of rhythm (regular/irregular) and subdivisions (vertical/horizontal/diagonal of the regular), (3) five further characteristics (repetitive/non-repetitive, harmonious/disharmonious, single/multiple, strong/weak, continuous/discontinuous), (4) other elements (smooth/rough in texture), and (5) principles (progressive/non-progressive in proportion) of design.

Background

Hindu-Buddhist scrolls are more found in East Java. They are made of stone and decorated. Within the Islamic period, Central Java, the prayer hall, wood, the absence of decoration were common. Islamic scrolls in Central Java are likely to be influenced by Hindu-Buddhist scrolls in East Java, changing from stone to wood. However, the constant use of pre-Islamic scrolls throughout history can prove continuity in Javanese mosques.

Basic Type of Rhythm and Its Subdivisions

(Regular/Irregular): Regular played the leading role in connecting Hindu-Buddhist and Islamic scrolls, although their influence was not strong.

(Vertical/Horizontal/Diagonal of the Regular): Horizontal were the most common overall, especially in Hindu-Buddhist scrolls. Vertical and diagonal favoured in the Islamic period. Within the Islamic period, an inconsistent relationship developed across time. Diagonal in the transitory reappeared in renovated/reproduced scrolls, while vertical predominated during the Dutch colonisation era.

No rhythms strongly continued between two periods by basic type of rhythm and its subdivisions. Any type was allowed in temple and mosque ornamentation.

Five Further Characteristics of Rhythm

(Between the Pre-Islamic and Islamic): Repetitive, harmonious, and continuous connected two periods. Continuity of pre-Islamic scrolls in mosque ornamentation was influential, despite opposing rhythms in the Islamic transitory. The three rhythms represent characteristics of scrolls in mosques, regardless of their origins as Hindu-Buddhist or Islamic or both.

(Within the Islamic): No direct relationship was visible in each period. No rhythms continued fully. All types continued insignificantly, caused by an interval in the transitory.

Continuity of pre-Islamic scrolls in the Javanese mosques was not constant. The weak influence caused by a radical change of rhythms from temples to mosques.

Texture: Other Elements of Design

Although rough were predominant, almost full in the Islamic transitory, smooth were more common in other periods. The divergence of rhythms indicates that texture did not contribute to the continuity of pre-Islamic scrolls in mosques.

Proportion: Other Principles of Design

Non-progressive were favoured in both periods, implying the main continuity. Proportion contributed significantly to bridging Hindu-Buddhist and Islamic scrolls. Islamic arabesque did not affect Javanese mosque ornamentation.

On Mihrabs

Scrolls on mihrabs mostly locate in Central Java. They made of wood without decoration. Scrolls favoured diagonal in particular. Additionally, continuous rhythms were the most common. Smooth and non-progressive were displayed. All Islamic scrolls had the same use of vertical and diagonal, while those on mihrabs revealed diagonal.

According to all the findings, continuity of pre-Islamic scrolls in Javanese mosque ornamentation happened in five aspects. The Influence was neither consistent nor strong.

When Hindu-Buddhist scrolls with animals in large temples had to yield their freedom into small mosques, and change to lifeless shapes, due to the *hadith*, their identity can only be preserved in symbolism. 'The start of life' in Hindu-Buddhist scrolls had to encounter 'the vision of paradise' in Islamic arabesques, to sanctify and beautify mosques, especially on mihrabs.

Symbolic Hindu-Buddhist scrolls, confronting this task, did not surrender, instead invited Islamic arabesques to be symbolic in sacred Javanese mosques. Consequently, geometric and mathematical Islamic arabesques had no choice of denying the invitation, due to Sufi Islam in Java. Their different principles in ornamentation became assimilated by tolerant and inventive local genius, despite the momentary chaos in their first meeting in ideas and forms. Soon after, Javanese Muslims brought back heritage. Why? What they are looking for was the same Golden Fleece: 'the start of life' and 'the vision of paradise'. Scrolls in Javanese temples and mosques are the most cosmopolitan motif, sharing the characteristics of repetitive, harmonious, and continuous rhythms with Islamic arabesques in common. 'The Golden Germ', a key for Hindu-Buddhist scrolls, was still intact in Java.

PART 3

Part 3 discloses all the findings from the analysis of the four syncretic ornaments, to prove the continuity of pre-Islamic motifs in Javanese mosque ornamentation.

S U M M A R Y & C O N C L U S I O N

BHINNEKA IKA TUNGGA

WANDERER'S NIGHTSONG

Over every hilltop is peace,
Throughout the woods, all noises cease,
Little birds sleep in each leafy bough,
Wait but in patience, soon Thou shalt sleep now.
-Johann Wolfgang von Goethe-

This concluding chapter presents reflections on the findings related to the literature which connected to the research question. It also tries to evaluate the outcome and its methodology. It submits the results of the analyses of four syncretic motifs (tumpal, kala-makara, lotus bud, scroll) across the pre-Islamic and Islamic periods. The most important literary sources are summarised to compare the findings of consent or disagreement. Comparisons of four motifs in five aspects clarify the research question on continuity of pre-Islamic ornaments in Javanese mosque ornamentation. The evaluation and importance of the findings and further studies suggest.

PREPARING FINDINGS

Regionalism in Islamic Religion and Ornaments in Javanese Mosques

The introduction of orthodox Islamic ornaments to Java created a regional characteristic. Definition and types of Islamic ornament should identify from a Javanese viewpoint, due to its geography, natural resources, and syncretic culture of animistic, Hindu-Buddhist, Islamic, Chinese, and European ones, called 'Islamic Javanese ornaments'.

JAVA, situated on the southern Indonesian archipelago, has a tropical climate, abundant rainfall, and fertile soils, providing bountiful natural resources. The Hindu-Buddhist culture had influenced Java until Islam became the dominant religion in the 16th century. However, the basic patterns of

ancestral and mythical beliefs were integrated within Sufi Islam which had lost much of its orthodoxy in its spread from the Arab world. Sacred pre-Islamic architecture and ornaments became a means for Islamisation. Sufis borrowed this, based on a belief of mosques to be holy, creating a combination of indigenous and Islamic ideas and forms. Ancestor worship and the cosmological belief penetrated Islamic cosmology, creating regional culture. Roofs of old mosques resemble the Cosmos Mountain, Meru, while kala-makaras decorate mosque mihrabs.

ISLAMIC ornament is designed to provide visual pleasure to Muslim eyes and to represent God's existence in their minds. Its character is abstract and geometrical. From a Malay perspective, ornament provides delight and purity. The main difference between Islamic art and that of Malay is the level of religious values inherent in the artefacts. Islam allowed artistic freedom, despite regulation of ornaments in the *hadith*, because ornament could encourage artists to adjust the integration of Islam into the existing culture. Accordingly, Javanese Islamic art became a continuation of the indigenous one, with the exception of a new import of calligraphy. Javanese Islamic ornaments tend to achieve two functions: symbolic Hindu-Buddhism and aesthetic orthodox Islam.

Many motifs transferred from temples to earlier mosques, but prehistoric tumpal, Hindu-Buddhist kala-makara, lotus bud, and scroll seemed to continue mostly. A combined bird-lotus or invented winged gate characterises Islamic Javanese decorative art. Orthodox Islamic heart-shape floral (arabesque-like), geometric interlace, and calligraphy arrived with Islam to Java but had to adapt into existing motifs and appeared more prolifically later.

For the Javanese, it is difficult to define arabesque as Islamic, because of its similarity to Hindu-Buddhist scroll. Local culture accepted and modified it; thus arabesque was not much appreciated, compared to calligraphy, a clear sign of Islam of which a few samples found in the transitory period. Geometry followed a similar fate to arabesque, owing to the existence of geometric patterns in prehistoric times. However, a simple Islamic geometry appeared in Acehnese tombs and Javanese mosques around the 16th century. Interestingly, the difference between Islamic geometry and local practice is that the former has patterns, based on a mathematical calculation, while the latter does not follow such precise rules. The existence of prehistoric geometry and the lack of skills in mathematics prevented the frequent use of Islamic geometry. Therefore, local geometry, made by unskilled labour in transitory mosques, differs from Islamic geometry which is mathematically calculated by contemporary architects and is becoming popular.

Between the 14th to 16th centuries, calligraphy was not less likely to be used for mosque ornamentation, but was regularly observed on gravestones or in manuscripts, combined with Javanese and Arabic letters, called *Jawi*. The blessed Islamic words were read to remember God, and inscriptions perceived as potent as protection. The Koranic words on sculpture and drawings which depict human beings, animals and flora suggest the talismanic Sufi metaphysics. As the

only auspicious Islamic ornament, calligraphy was gradually absorbed into local culture since it was a means of carrying God’s messages.

THE political and Islamic movement in Java divides into three periods: transitory (150-1619), Dutch colonisation (1619-1945), and contemporary (1945-present). Each period created syncretism between regional tradition and incoming Islamic culture, based on mutual tolerance and flexibility. These steps are (1) parallelism between old and new culture, (2) adaptation between the two and (3) creation of a new syncretic culture.



The first syncretism (stage I: transitory): Geographical isolation from the Arab world allowed local Malay culture to be the only source for mosque architecture and ornamentation. Syncretism occurred between Sufism and Javanese faiths; thus *walis* said that the direction of the Qibla was the ‘west’. Strong continuity of pre-Islamic tradition showed, but Javanese Muslims designated new functions and meanings to their mosques. The local genius created syncretic Islamic motifs, as a result of modifying local motifs within an Islamic context, learned from missionaries who brought orthodox Islamic ornaments to Java. New regional ornaments, termed ‘local Islamic or Malay Islamic’, differ from orthodox ones. Chinese motifs contributed partially to this process.

Islamisation	Source	Preachers	Doctrine	Communication	Decoration
Stage I* 15c–1615 (transitory)	Local Malay	Wali songo	Sufism	Oral lecture	Pre-Islamic, Chinese
Stage II 1615-1945 (Dutch colonisation)	Mecca, Medina	Ulamas: Al Makasari, Al Bakari, Al Bantan	Shariah/ Orthodoxy	Pesantren and Kitab	European, Orthodox Islamic (calligraphy)
Stage III 1945-present (contemporary)	World	Ulamas: N. Madjid, A.Rais, etc.	Modern Scientific	Pesantren, university, prints, radio, multimedia	Pan-Islamic (arabesque, geometry)

* For Fanani, stage 1 (1000–1650), stage 2 (1650-1900), stage 3 (1900-2000).



The second syncretism (stage II: Dutch colonisation): Sources for inspiration during this phase became Mecca and Medina because ulamas (religious leaders) were able to visit Mecca and bring orthodox Islamic architecture and ornaments back home, which later adjusted to the local

ones. Ulamas said that Qibla directs 'around the west'. However, the lack of skills also played a role in the postponement of replication until the Dutch colonisers' engagement in teaching techniques. In architecture, the second syncretism occurred in a combination of dome and local serambi (veranda). During this time, European motifs, such as the palmette, were introduced. Constant but lesser use of pre-Islamic ornaments as an outcome of the new contacts between Java and the Arab world prompted calligraphy to become popular.



The third syncretism (stage III: contemporary): A standard design and symbols of mosques, inspired by Demak (1479), was set up in Java. Every Muslim could travel and get sources from the whole world. Pan-Islamic ornaments were blended with local tradition, bringing the third syncretism of plurality. Muslims could interpret Islamic architecture

and ornament to their tastes since the modern science and technology, and Islamic environment in daily life are closely related. At this period, ulamas established the exact location of the qibla as being the 'northwest'. Orthodox Islamic motifs of arabesque, geometry, and calligraphy gradually replaced pre-Islamic ornaments. Flat roofs, the absence of mihrabs or columns, geometry and arabesque became a trend. In the midst of this, a new consciousness to formulate a style which reflects the regional flavour and diversity became stronger towards globalisation, either traditional or pan-Islamic or combined to keep Javanese cultural heritage.

HISTORICALLY, Islamic art had lost its continuity in certain things. Some cultural centres deviated from the original art forms, due to small kingdoms, different interpretations of art, and diverse tastes of local artists, compared to centralisation and professionals in palaces during the Hindu-Buddhist period. Nevertheless, Islamic ornaments have always been in Java. Calligraphy was mostly visible, while others appeared sporadically. A plurality of Islamic Javanese ornaments with this background is key to understanding regionalism in Java.

In the Midst of Climbing with Sisyphus

As no literature could be consulted to identify motifs in Javanese mosques, especially on scrolls, a solution sought through interviewing 20 Indonesian specialists in art, architecture, archaeology, design, and history, in Indonesia. The need for the interview was due to ambiguity in syncretic motifs, as some bore both Hindu-Buddhist ideas and orthodox Islamic forms. THE OUTCOME WAS: (1) a canon, called *silpasastra*, was established in Hindu-Buddhist architecture and sculpture, but not in ornamentation, and (2) for identifying origins of motifs, nine methods were suggested: ambiguity, background, chronology, creativity, empirical method, heritage, principle, purpose,

and reference. Among them, principles of ornaments, chronology of mosques, and comparison between temple and mosque ornaments by empirical work proved the most appropriate.

Methodological Challenges

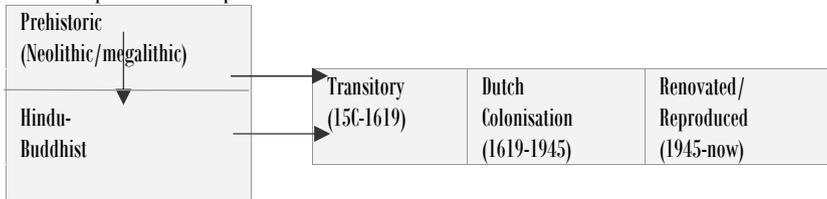
(1) A purposive sample in choosing the 30 mosques, (2) a representative selection of four motifs, (3) their comprehensive examination in five aspects (background/basic type of indicator/live further characteristics/element and principle of design). Tumpals by line, kala-makaras by shape, lotus buds by form, and scrolls by rhythm, and (4) the meaning of each characteristic, based on literature and the researcher’s view.

For the validity of data, (1) the researcher’s informed judgement, trained in art and design, (2) observations during the fieldwork, (3) general rules on elements and principles of design, and (4) the respect of Indonesian cultural heritage. The significant use of four motifs tested in the presence and frequencies of four indicators, evaluated by scaled value, mode, and total number. Each motif was examined (1) between the pre-Islamic and Islamic, and (2) within the Islamic (transitory, Dutch colonisation, renovated/reduced in contemporary).

Scaled value in four motifs



Pre-Islamic period Islamic period



REINCARNATION OF PRE-ISLAMIC MOTIFS IN MOSQUES

MAIN QUESTION: Continuity and Influences of Four Motifs

What has been the degree of continuity of pre-Islamic ornaments in Javanese mosque ornamentation from the 15th century to the present day?

Towards the main research question, approaches were carried out from three directions, due to Javanese syncretic culture, being an amalgamation of (1) animism in prehistoric Indonesia, (2) Hindu-Buddhism, introduced from India in the fifth century, and (3) Javanese Islam, penetrated

peacefully through traders from India in the 15th century. By assembling different literature towards answering the research question, background of Islamic ornament had to be verified to trace a relationship between orthodox and Javanese Islamic mosque ornaments. In parallel, a study focused on Javanese Hindu-Buddhist temple ornamentation to which Javanese mosques were indebted, particularly in the Islamic transitory (150-1619), caused by symbolic connotation and aesthetic beauty.

The most frequent four motifs (prehistoric tumpals, Hindu-Buddhist kala-makaras, lotus buds, and scrolls) were selected from temples and mosques in Java and examined their presence, influences, and development across the pre-Islamic and Islamic periods. However, identification of the origins of scrolls in mosques, as either Hindu-Buddhist or Islamic or both in idea and form, proved more problematic.

SUB-QUESTION 1: Transcendence of Prehistoric Tumpals

How has the tumpal, the popular prehistoric motif in Indonesia, become part of Javanese mosque ornamentation, and how has it been developed and used within the Islamic period?

Prehistoric	Kalasan temple	Agung Yogya mosque
		

A tumpal, a decorated triangle, originated in Neolithic and megalithic times and continued in Hindu-Buddhist temples and Islamic mosques. Despite its uncertain origin, the motif has a symbolic value, owing to its magical character, or because it conveys an idea of fertility. In temple and mosque ornamentation, the syncretic motif represents the Cosmos Mountain, Meru, and reaches back to animism in prehistoric Indonesia.

Five aspects were examined: (1) background (period/geographical area/ location in a mosque building/material/attachment), (2) basic type of line (straight/curved) and its subdivisions (vertical/horizontal/diagonal of the straight; circular/spiral/undulating of the curved), (3) five further characteristics (broken/unbroken, natural/geometrical, inner/outline, short/long, simple/complicated), (4) space (wide/narrow) as element, and (5) emphasis (dominant/subordinate) as principle.

The findings revealed the continuity of pre-Islamic tumpals in Javanese mosque ornamentation, but their influence was neither strong nor weak. Probably, tumpals continued, because of their symbolism. Moreover, the analysis of background argued for continuity of

tumpals, especially in renovated mosques, despite a few intervals across two periods. According to a detailed analysis by line, strong continuity mostly found in the use of ‘curved’, ‘undulating’, ‘unbroken’, ‘inner’, ‘short’, and ‘simple’ lines. ‘Dominant’ also continued significantly. Neither ‘wide’ or ‘narrow’ constantly showed. ‘Horizontal’ mainly continued between the Hindu-Buddhist and Islamic periods.

If you have a chance to stroll around Javanese temples and mosques, you will be amazed by a beautiful triangular shape, called a tumpal, everywhere...they exist not only for aesthetic beauty (Introduction of the chapter).

Leaving aside prehistoric wooden tumpal outside Java, when Hindu-Buddhist stone tumpal in East Java had to find their next home in Central Java in the wake of Islamisation, not only the name was changed to ‘Islamic’ tumpal, but also the material returned to prehistoric wood, possibly due to Javanese Muslims’ longing for their indigenous culture. Only survival remained in the absence of decoration on tumpals until the Islamic transitory. However, by basic type of line and its subdivisions, tumpals continued similarly across time. ‘Undulating’ reconciled pre-Islamic with Islamic tumpals, accelerated by four characteristics and the importance of lines supported by the principle of design. Whatever the case was, the reappearance of tumpals in renovated mosques is evidence of their survival.

This continuous existence of tumpals raises a question. Was it due to their **TRANSCENDENCE** from fishermen’s baskets? They were first welcomed to Hindu-Buddhist sanctuaries and again upgraded to sacred Javanese mosques. According to online dictionaries⁵¹, the term ‘transcendence’, derived from the Latin *transcendens*, has three meanings: (1) extending or lying beyond the limits of ordinary experience, (2) being beyond comprehension, and (3) transcending the universe or material existence. Prehistoric tumpals extended their existence, and transcended into the realm of God, going beyond rational understanding. This blessing was impossible if tumpals were not symbolic and sacred, and this was what syncretic Javanese Sufi Islam was searching for to worship Allah (Tjandrasmita 2006^{interview}). The idea of the holy Cosmos Mountain both in mystic animism and Hindu-Buddhism propelled tumpals from a lower status to a much higher up by magic of local genius.

⁵¹ Mariam Webster (<http://www.m-w.com>), Britannia (<http://www.britannia.com>), and the American Heritage Dictionary of the English Language 2004.

SUB-QUESTION 2: Metamorphosis in Hindu-Buddhist Kala-Makaras

The *hadith*, Sayings of the Prophet, prohibits living figures depicted in art. Why therefore has the kala-makara, a favourite animal motif in Hindu-Buddhist temples, been adapted into Javanese mosque ornamentation, and how has it been used in Javanese mosques over time?

Borobudur temple	Central Javanese temple	Agung Kasepuhan mosque
		

A pair of kala-makaras frequently appears in temples and mosques. A kala, a human face or a demon's head, and a makara, an imaginary animal with the shape of a fish and the trunk of an elephant, were introduced during Hinduisation in the fifth century. In Indian mythology, kala-makaras represent protectors of the sacred Cosmos Mountain and temples where gods are believed to reside, expelling demonic influences. They also express duality and totality.

Five aspects were tested: (1) background, (2) basic type of shape (natural/ geometric) and its subdivisions (circular/oval/triangular/square/rectangular of the geometric), (3) five further characteristics (dynamic/static, single/assorted, illustrating/abstract, smooth/complicated, small/big), (4) colour (original/coloured) as element, and (5) unity-variety (separate/unified) as principle. From this chapter onwards, two periods call Hindu-Buddhist and Islamic; thus 'pre-Islamic' means 'Hindu-Buddhist'.

The findings revealed the continuity and influence of pre-Islamic kala-makaras on Javanese mosque ornamentation as less constant and significant than those in tumpals. However, kala-makaras continued, owing to their symbolism. Despite a few interruptions between two periods, caused by different principles in ornamentation between Hindu-Buddhism and Islam, detailed analysis of shapes indicated that strong continuity mainly found in the presence of 'dynamic' and 'assorted'. Within the Islamic period, 'static' replaced 'dynamic', and continued with four characteristics. Moreover, 'original' and 'separate' continued, implying that colour did not favour in separate kalas and makaras. On the whole, 'natural' were more common, despite their significant continuity.

... the next surprise is waiting for any wanderers at the entrance of Borobudur temple or in Agung Mataram mosque... In the labyrinth of symbolic and aesthetic surroundings (Introduction of the chapter).

When kalas and makaras dwelled separately in Hindu-Buddhist temples in Central Java, they made of stone, but in the transfer to mosques in West Java, they became unified as one body of

wooden kala-makaras. Probably Javanese Muslims' love for cultural heritage allowed to decorative kala-makaras to survive. Nevertheless, their real life went through a METAMORPHOSIS, because they were not allowed any longer to smile and threaten temple visitors with 'natural' shapes. Instead, they became motionless without expression, displaying 'geometric' and 'stylised' in mosques. Why such a change? It can be the *hadith* which forbids depiction of living figures.

According to online dictionaries, the term 'metamorphosis' whose origin was from the Latin *metamorphōsis* has three main meanings: (1) change of physical form, structure, or substance, especially by supernatural means, (2) change in the form and often habits of an animal during normal development after the embryonic stage in biology, and (3) a usually degenerative change in the structure of a particular body tissue in pathology. Kala-makaras changed their forms and habits and underwent a degenerative change into a sublime abstraction, created by local genius. This would have been impossible if there had been no syncretic Javanese Islam which still allowed some freedom to the cult of ancestor worship. However, the holy Hindu-Buddhist kala-makaras were fully adopted to represent the sacredness of Javanese mosques.

SUB-QUESTION 3: Lotus Buds in Javanese Imagination

How frequent was the use of Hindu-Buddhist lotus buds in Javanese mosque ornamentation, and how important has the lotus bud been in mosques within the Islamic period?

East Javanese temple	Agung Kasepuhan mosque
	

Lotus is the most noteworthy motif in Hindu-Buddhist art. Hindu mythology says that the creation of the world symbolises by the growth of lotus, representing creation and sanctity. In Mahayana Buddhism, the motif is the pattern for the abstract notions of mystical doctrine. Its flower has a series of evolution, starting with a bud as basic symbolic transformation.

Five aspects were tested: (1) background, (2) basic type of form (primary/non-primary) and its subdivisions (cubic/conic/spherical/cylindrical/pyramidal of the primary, (3) five further characteristics (voluminous/slender, open/closed, realistic/stylised, dynamic/static, 2-3 dimensional/3-dimensional), (4) value (light/dark) as element, and (5) size (small/big) as principle.

The findings revealed the constant continuity of pre-Islamic lotus buds in Javanese mosque ornamentation, having strong significance. This probably enhanced by their symbolism of 'life' and 'creation' in Hindu-Buddhism and the belief in 'oneness of Allah' in Islam. Moreover, the analysis of background supported continuity of lotus buds, despite a few changes in geographical

area and material. Detailed analysis by form reveals strong continuity in ‘primary’, ‘voluminous’, ‘stylised’, ‘dynamic’, and ‘3-dimensional’. And ‘dark’ were a real contributor in bridging two periods, maximising the beauty of lotus buds.

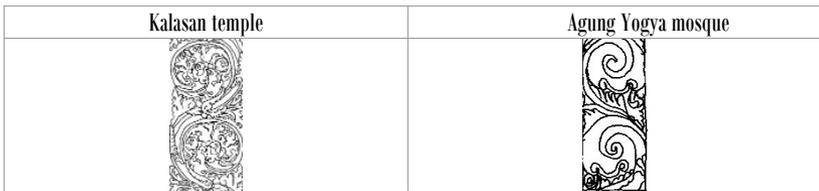
... Lotus buds signify ‘life’ and ‘creation’ beyond time and space, and the flavour of their sacredness has no exception in Javanese mosque ornamentation...lotus buds seem to be reincarnated to represent ‘oneness in Allah’ (Introduction of the chapter).

When Hindu-Buddhist stone lotus buds in Central Java relocated to West Java, they became wooden Islamic ones. A sole remnant was the absence of decoration, probably caused by the symbolism of lotus buds which deeply integrated into Javanese Muslims’ **IMAGINATION**. For them, concepts of ‘life’ and ‘creation’ in Hindu-Buddhist lotus buds could correspond to ‘oneness of Allah’ in Islam, because creation happens by Allah.

According to online dictionaries, the term ‘imagination’, originating from the Latin *imagination*, has three meanings: (1) the act or power of forming a mental image of something not present to the senses, (2) the ability to confront and deal with reality by using the creative power of the mind, and (3) creation of the mind. Lotus buds had the power of arousing imagination and could confront with their beauty by the creativity of local genius. They provided a sacred atmosphere in syncretic Javanese mosques, and their symbolism as the holiness was rejuvenated in Javanese imagination, signifying and beautifying sanctuaries.

SUB-QUESTION 4: Harmony between Symbolic Scrolls and Aesthetic Arabesques

What if any was the influence of Hindu-Buddhist scrolls on Javanese mosque scroll designs?



Hindu-Buddhist scrolls often occur in the shape of a recalcitrant spiral: a rootstock of the undulating lotus which produces nodes at regular intervals. Among various adaptations, the somewhat stylised, horizontally growing part of the lotus scrolls transformed into a decorative motif. However, the value of scrolls lies in their obvious symbolism of ‘the Golden Germ’, a start of life. Indian concepts say that dual forces of nature have dominated the origin of life. When creative breadth enters the waters, ‘the Golden Germ’ is born. By contrast, Islamic arabesque is a stylised

form of the vegetal motif, growing from one another infinitely in any direction, characterised by geometrical, abstract, repetitive, and continuous rhythms.

Five aspects are analysed: (1) background, (2) basic type of rhythm (regular/irregular) and its subdivisions (vertical/horizontal/diagonal of the regular), (3) five further characteristics (repetitive/non-repetitive, harmonious/disharmonious, single/multiple, strong/weak, continuous/discontinuous), (4) texture (smooth/rough) as element, and (5) proportion (progressive/non-progressive) as principle.

The findings revealed the presence of pre-Islamic scrolls in Javanese mosque ornamentation as continuous, having neither strong nor weak influence. Scrolls are likely to have continued, owing to their symbolism as 'the start of life' in Hindu-Buddhism, and the 'vision of paradise' in Islam. Moreover, the analysis of background showed the weak continuity of scrolls across two periods.

Detailed analysis by rhythm reveals that continuity was strongly found in 'repetitive', 'harmonious', and 'continuous' which surprisingly correspond to characteristics of the Islamic arabesque. And 'regular' played the leading role in connecting Hindu-Buddhist and Islamic scrolls, despite less significance. Other rhythms did not contribute much. Interestingly, in scrolls, a more radical change appeared between the Hindu-Buddhist and Islamic transitory periods, compared to the other three motifs. A question arises: was this change caused by incoming Islamic arabesque? Or was this confusion in rhythms an inescapable process to evoke a feeling of abundance in mosques, especially on mihrabs, which was said to be a gateway to Paradise?

Javanese people are syncretic, called Indonesian tolerance and flexibility. One is Agami Jawi...which adapted mystically inclined Hindu-Buddhist beliefs... The other is Agami Islam Santri...which is much closer to the formal dogma of Islam (Introduction of the chapter).

When Hindu-Buddhist decorative stone scrolls moved to Central Java, with a new name of Islamic scrolls, they became clothed of wood without decoration. For a smooth transfer from temples to mosques, Hindu-Buddhist scrolls had to cooperate with Islamic arabesques in ideas and forms, in [HARMONY](#).

According to online dictionaries, the term 'harmony' originated from the Latin *harmonia*, and has three main meanings: (1) agreement in feeling or opinion, (2) a pleasing combination of elements as a whole, and (3) the sound of two or more notes heard simultaneously in music. Scrolls agreed with arabesques, expressing a common idea of the sacredness, and combined their beauty in three characteristics in rhythms. 'The Golden Germ' in Hindu-Buddhist scrolls propelled Islamic arabesques to be holy in Javanese mosques, on behalf of syncretic Javanese Islam, commissioned by local genius. Scrolls succeeded to coexist with arabesques, becoming the best example of syncretic ornament in Javanese ornament history. Accordingly, arabesques in Javanese

mosques are symbolic, rather than aesthetic which is how orthodox Islamic ornament employs them.

ALL THE FINDINGS of four motifs signalise a common thread. Pre-Islamic motifs had to continue in Javanese mosques, for the sake of commonality of the holiness in symbolism to pay tribute to Allah. It was an inevitable destiny. Their influence was strong or weak, according to their locations in mosques, or the creativity of local genius, or the level of freedom afforded to Islamic ornament. Whatever the influence was, continuity always showed.

All symbolic connotations in four motifs were **HARMONISED** by syncretic Islam, **IMAGINED** by local genius, and **TRANSCENDED** into the sacredness of mosques. They went through a **METAMORPHOSIS**. A new world was born, composed of **SYMBOLIC=SYNCRETIC=SACRED=LOCAL GENIUS** in Javanese mosque ornamentation. These four components could serve perfectly to the concept of totality in Islam. Four sacred pre-Islamic motifs of tumpal, kala-makara, lotus bud, and scroll were the great mediators of the totality.

FOUR MOTIFS: DIVERSITY OF EXPRESSION IN UNITY OF CONCEPT

What has been the degree of continuity of pre-Islamic ornaments in Javanese mosque ornamentation from the 15th century to the present day?

This section answers the central question by assembling four motifs, detailed in the previous chapters. It also traces their significant influence on Javanese mosque ornamentation. Specifically, Javanese mihrab ornamentation is investigated, accompanying results of comparing all Islamic motifs and those on mihrabs.

BACKGROUND

Between the Pre-Islamic/Islamic

(Geographical Area) East Java is where Hindu-Buddhist tumpals/scrolls mostly found, Central Java for Hindu-Buddhist kala-makaras/lotus buds, and Islamic tumpals/scrolls, West Java for Islamic kala-makaras/lotus buds. A distinct feature is a shift of geographical area between two periods. Interestingly the changes occurred from East to Central Java or from Central to West Java, not back to East Java. It is known that the first Hindu-Buddhist culture was practised in Central Java, then moved to East Java. The earliest Islamic Demak in Central Java took over the sovereignty of Hindu Majapahit in East Java. During Islamisation in the transitory, many mosques were built in West Java, and the foundation of Batavia as the capital by the Dutch brought immigration into this area, requiring more mosques. No motif constantly continued in the same area, but the table indicates logic behind the transition between two periods.

Preferred background		P	HB	I
Area	Tumpal	Outside	East	Central
	Kala–makara		Central	West
	Lotus bud		Central	West
	Scroll		East	Central
Material	Tumpal	Wood	Stone	Wood
	Kala–makara		Stone	Other
	Lotus bud		Stone	Wood
	Scroll		Stone	Wood
Attachment	Tumpal	Not-decorated	Not-decorated	Decorated
	Kala–makara		Decorated	Decorated
	Lotus bud		Not-decorated	Not-decorated
	Scroll		Decorated	Not decorated

P (prehistoric), HB (Hindu-Buddhist), I (Islamic)

(Material): Prehistoric tumpals were likely made of wood. Stone was used in the Hindu-Buddhist, but wood became prevalent in the Islamic period. Favouring stone in Hindu-Buddhist motifs is understandable, because the stone temple underlines the solemn sacredness for the home of gods, and ornaments followed this. It also has to do with being wearable and withstanding durability outdoors. Of course, it can question of the use of wood in temples. If so, it would hardly survive, due to the climate. The researcher observed only stone during the fieldwork. By contrast, mosques for the everyday activity of prayer and social gathering built of wood, and ornamentation had to follow it. In general, four motifs appeared indoors, such as mihrabs, minbars, and pillars where light materials were needed. Islamic kala-makaras in the transitory could be of brick which Majapahit favoured. New materials such as tile were introduced during Dutch colonisation, but the popularity showed in the contemporary. No motif was fully continuous in the material. The table indicates a change between two periods.

(Attachment): Not using decoration was common in Hindu-Buddhist tumpals/lotus buds, and Islamic lotus buds/scrolls. Decoration favoured by Hindu-Buddhist kala-makaras/scrolls, and Islamic tumpals/kala-makaras. Despite commonality, Hindu-Buddhist kala-makaras were decorated by floral within the motif to express an active image, while stylised Islamic ones were adorned by floral within their frames or next to them. Perhaps, a way to create living figures by decoration attempted on Islamic kala-makaras, following the *hadith*.

Other common factors were shared in symbolic lotus buds, hoping that simple and unified forms could encourage prayers in temples and mosques. Decorated kala-makaras and lotus buds without decoration were continuous, but table indicates a change in two motifs across time.

Within Islamic

(Geographical Area): Central Java could be commonplace for tumpals, and West Java for kala-makaras/lotus buds. Scrolls changed from Central to West Java, probably due to the construction of new mosques in West Java where Dutch colonisation started. Renovations of mosques can cause the revival of scrolls in Central Java during the contemporary. The table indicates the constant presence of three motifs except for scrolls.

Preferred background		IT	ID	IR
Area	Tumpal		Central	Central
	Kala-makara		West	West
	Lotus bud		West	West
	Scroll		West	Central
Location	Tumpal	Outside	Serambi	Outside
	Kala-makara	Outside	Prayer hall	Prayer hall
	Lotus bud	Outside	Outside	Prayer hall
	Scroll	Prayer hall=Serambi	Prayer hall	Prayer hall
Material	Tumpal		Wood	Other
	Kala-makara		Wood	Other
	Lotus bud		Wood	Wood
	Scroll		Wood	Wood
Attachment	Tumpal		Decorated	Decorated
	Kala-makara		Not-decorated	Decorated
	Lotus bud		Not-decorated	Not-decorated
	Scroll		Not-decorated	Decorated-not decorated

I (Islamic), T (transitory), D (Dutch colonisation), T (renovated/reproduced)

(Location in mosque buildings): In the transitory, location as outside was the most common. During Dutch colonisation, this changed to the prayer hall and became popular in renovated/reproduced motifs. Scrolls kept the prayer hall as a favourite, but table indicates gradual changes in the location of four motifs.

(Material): Although three motifs shared with Hindu-Buddhist stone in the transitory⁵², wood was fully used in the next period, and partly continued further, due to lightness and flexibility. It was only wooden scrolls which continued entirely. The table indicates a radical change from the transitory to further.

⁵² Had wood disappeared in the transitory period due to climate? It can be doubted, since scrolls were made of wood in the same period.

(Attachment): The absence of decoration was prominent in the transitory and Dutch colonisation. In three of our renovated/reproduced motifs, more decoration emerged. Lotus buds were consistently not-decorated, and table indicates that decoration disfavoured in general.

Conclusion

Four motifs appeared in all regions in various locations in mosques. They made of multiple materials, sometimes decorated. Weak, but present continuity between the pre-Islamic and Islamic periods informs us that, apart from the commonness of four motifs for symbolising sacredness, Hindu-Buddhist temples and Islamic mosques have different philosophy and rules on ornamentation. Therefore, a logical and gradual transfer was unavoidable in the Islamic transitory, mediated by the local genius who combined existing culture with Islamic art traditions and requirements in Javanese mosques.

LINES, SHAPES, FORMS, RHYTHMS

Between the Pre-Islamic/Islamic

(Basic Type): Curved lines in tumpals and primary forms in lotus buds continued mostly across time. Natural shapes in kala-makaras and regular rhythms in scrolls of the Hindu-Buddhist period did not continue, instead, geometric shapes and irregular rhythms replaced them in the Islamic period. Straight lines were favourite in prehistoric tumpals. The table indicates changes in three motifs in the transition between three periods.

Preferred basic	P	HB	I
Tumpal (line)	Straight	Curved	Curved
Kala-makara (shape)		Natural	Geometric
Lotus bud (form)		Primary	Primary
Scroll (rhythm)		Regular	Irregular

(Subdivisions): Undulating lines in tumpals and spherical forms in lotus buds continued across two periods. Popular diagonal lines in prehistoric tumpals did not extend; instead, horizontal largely corresponded between two periods. In kala-makaras, oval shapes saw in the Islamic period. Horizontal rhythms in scrolls were more frequent in the Hindu-Buddhist period, compared to vertical and diagonal in the Islamic era. The table indicates changes in tumpals and scrolls between two periods.

Preferred subdivisions	P	HB	I
Tumpal (straight/curved)	Diagonal*, Undulating	Horizontal, Undulating*	Horizontal, Undulating*

Kala-makara (geometric)			Oval
Lotus bud (primary)		Spherical	Spherical
Scroll (regular)		Horizontal	Vertical=Diagonal

(*more present characteristic between two types)

(Five Further Characteristics): Continuity was shown in five further characteristics of Hindu-Buddhist and Islamic tumpals. In other motifs, partial similarity appeared between two periods. However, unbroken lines, assorted shapes, stylised forms, and repetitive and continuous rhythms were the most frequent characteristics. The table indicates partial changes across three periods.

Pre f f c	P	HB	I
Tumpal	Unbroken, Geometrical, Inner, Short*, Simple	Unbroken*, Natural, Inner, Short, Simple	Unbroken, Natural, Inner, Short*=Long, Simple
Kala-makara		Dynamic, Assorted*, Illustrating, Complicated, Small	Dynamic=Static, Assorted, Abstract, Smooth, Big*
Lotus bud		Voluminous=Slender, Open, Stylised*, Dynamic, 2-3=3-dimensional	Voluminous, Closed, Stylised*, Dynamic, 3-dimensional
Scroll		Repetitive, Harmonious, Single, Strong, Continuous*	Repetitive, Harmonious, Multiple, Weak, Continuous*

(* = the most common characteristic according to presence, mode, total number)

Within Islamic

(Basic Type): Within the Islamic period, except scrolls, curved lines in tumpals, geometric shapes in kala-makaras, and primary forms in lotus buds were consistently continuous.

Preferred basic	IT	ID	IR
Tumpal (line)	Curved	Curved	Straight=Curved
Kala-makara (shape)	Geometric	Geometric	Geometric
Lotus bud (form)	Primary	Primary	Primary
Scroll (rhythm)	Irregular	Regular	Regular

(Subdivisions): Horizontal and undulating lines in tumpals and spherical forms in lotus buds continued, while shapes in kala-makaras and rhythms in scrolls had to alter. It can argue that dissimilarities caused by changes in the location of motifs in mosque buildings, operated by local genius.

Preferred subdivisions	IT	ID	IR
Tumpal (straight/curved)	Horizontal, Undulating*	Horizontal, Undulating*	Horizontal=Undulating
Kala-makara (geometric)	Oval	Triangular	Oval
Lotus bud (primary)	Spherical	Conic=Spherical	Spherical
Scroll (regular)	Diagonal	Vertical	Diagonal

(* = undulating are more present than horizontal).

(Five Further Characteristics): The table shows constant continuity in tumpals. In other motifs, some characteristics continued, indicating no strong relationship between different periods. As the most common characteristics, on the whole, unbroken lines in tumpals, big shapes in kala-makaras, and stylised forms in lotus buds were selected. Scrolls had their patterns, such as multiple rhythms in the transitory, harmonious in Dutch colonisation, and continuous in renovated/reproduced ones.

Pre f f c	IT	ID	IR
Tumpal	Unbroken*, Natural, Inner, Short=Long, Simple	Unbroken*, Natural, Inner, Short=Long, Simple	Unbroken*, Natural, Inner, Short=Long, Simple
Kala-makara	Dynamic, Assorted, Abstract, Smooth, Big*	Static, Assorted, Abstract, Smooth, Big*	Static, Assorted, Abstract, Smooth, Big*
Lotus bud	Voluminous, Closed, Stylised*, Dynamic, 3-dimensional	Slender, Closed, Stylised*, Dynamic, 3-dimensional	Voluminous, Open, Stylised*, Dynamic, 2-3 dimensional
Scroll	Non-repetitive, Disharmonious, Multiple*, Weak, Discontinuous	Repetitive=Non-repetitive, Harmonious*, Single, Strong, Continuous	Repetitive, Harmonious, Single, Strong, Continuous*

(* = the most common according to presence, mode, total number)

Conclusion

Between the pre-Islamic and Islamic periods, of basic type, primary forms in lotus buds showed the sole continuity. Of subdivisions, undulating lines in tumpals and spherical forms in lotus buds continued. Of five further characteristics, no consistent continuity was shown, except Hindu-Buddhist and Islamic tumpals which displayed unbroken, natural, inner, short, and simple lines. A trend towards discontinuity can also be traceable in the analysis of background. Within the Islamic period, of basic type, curved lines in tumpals, geometric shapes in kala-makaras, and primary forms in lotus buds were consistently continuous. Of subdivisions, horizontal and

undulating lines in tumpals and spherical forms in lotus buds continued. Of five further characteristics, unbroken lines in tumpals, big shapes in kala-makaras, and stylised forms in lotus buds as foremost. Few changes occurred.

THE OUTCOMES imply the big difference between a temple and a mosque ornamentation in principle. The careful adjustment needed in the transfer. And, mosques had to provide suitable locations for ornaments, regardless of their hierarchy in a mosque setting. Freedom of any motif without causing conflicts with the *hadith* brought diversity in ornamentation, created by the local genius, particularly in the Islamic transitory when much of radical change occurred.

OTHER ELEMENTS AND PRINCIPLES OF DESIGN

Between the Pre-Islamic/Islamic

(Other Elements): The common factors between two periods were in original shapes in kala-makaras and dark forms in lotus buds. Narrow lines linked prehistoric and Islamic tumpals. The table indicates continuity in two motifs.

Preferred other elements	P	HB	I
Tupal (space: narrow/wide)	Narrow	Wide	Narrow
Kala-makara (colour: original/coloured)		Original	Original
Lotus bud (value: light/dark)		Dark	Dark
Scroll (texture: smooth/rough)		Smooth	Rough

(Other Principles): Except lotus buds, other motifs had constancy, such as dominant lines in tumpals, separate shapes in kala-makaras, and non-progressive rhythms in scrolls.

Preferred other principles	P	HB	I
Tupal (emphasis: dominant/subordinate)	Dominant	Dominant	Dominant
Kala-makara (unity-variety: separate/unified)		Separate	Separate= Unified
Lotus bud (size: small/big)		Small	Big
Scroll (proportion: progressive/non-progressive)		Non- progressive	Non- progressive

Within Islamic

(Other Elements): Narrow lines in tumpals and dark forms in lotus buds continued cross three periods. Original colours in kala-makaras and smooth rhythms in scrolls partly continued.

Preferred other elements	IT	ID	IR
Tumpal (space: narrow/wide)	Narrow	Narrow	Narrow
Kala-makara (colour: original/coloured)	Original	Original	Coloured
Lotus bud (value: light/dark)	Dark	Dark	Dark
Scroll (texture: smooth/rough)	Rough	Smooth	Smooth

(Other Principles): Constant continuity of dominant lines in tumpals, and non-progressive rhythms in scrolls. A tendency towards partial continuity occurred in kala-makaras and lotus buds.

Preferred other principles	IT	ID	IR
Tumpal (emphasis: dominant/subordinate)	Dominant	Dominant	Dominant
Kala-makara (unity-variety: separate/unified)	Separate= Unified	Unified	Separate
Lotus bud (size: small/big)	Big	Big	Small
Scroll (proportion: progressive/non-progressive)	Non-progressive	Non-progressive	Non-progressive

Conclusion

Continuity partly showed in other elements of design. The common use of original shapes in kala-makaras and dark forms in lotus buds explained the absence of colour and the interplay of lightness and darkness in value. Within the Islamic period, narrow lines in tumpals and dark forms in lotus buds underlined space and value as important elements.

Of other principles of design, continuity of dominant lines in tumpals, separate shapes in kala-makaras, and non-progressive rhythms in scrolls stressed emphasis, unity-variety, and proportion. This trend again showed in tumpals and scrolls within the Islamic period. It can repeat that several factors were involved in the transfer of four motifs from temples to mosques.

ALL COMPARISONS concluded that continuity existed between the pre-Islamic and Islamic periods in some motifs, although their influence was not strong. Four motifs continued but had to be altered by incoming Islamic ornaments, such as a rule of the *hadith*, or the nature of arabesque, bringing syncretism. Moreover, the freedom to decorate any motifs in Islamic ornament allowed for variations, as mosques are intended for everyday life. Here, local genius was a significant contributor, providing ornaments suitable for the requirements in mosques. Whatever the case was, the symbolism of four motifs was still intact in sacred Javanese mosques. Aesthetic beauty was an additional function.

DECORATION OF MIHRABS

Analyses of four motifs on mihrabs could demonstrate their development in Javanese mosque ornamentation. Tumpals were rejected, because of few examples on mihrabs, despite their sacred concept as the Cosmos Mountain.

(Background): Decorated kala-makaras and lotus buds were found frequently in West Java, while scrolls without decoration were more common in Central Java. Kala-makaras made of other material, compared to wood in lotus buds and scrolls. Emphasis on decoration was given to their symbolism as a principal function, and aesthetic as an addition. In general, decorated mihrabs were preferred.

Preferred background	Area	Material	Attachment
Kala-makara	West	Other	Decorated
Lotus bud	West	Wood	Decorated
Scroll	Central	Wood	Not-decorated

(Basic Type and Subdivisions): Oval shapes in kala-makaras; spherical forms in lotus buds, and diagonal rhythms in scrolls represented main characteristics.

Preferred basic & subdivisions	Basic	Subdivisions
Kala-makara (shape)	Geometric	Oval
Lotus bud (form)	Primary	Spherical
Scroll (rhythm)	Regular	Diagonal

(Five Further Characteristics): As the most representative characteristics, smooth and big shapes in kala-makaras; 2-3 dimensional forms in lotus buds, and continuous rhythms in scrolls seemed to be the answer.

Kala-makara (shape)	Dynamic, Assorted, Abstract, Smooth*, Big*
Lotus bud (form)	Slender=Voluminous, Open, Stylised, Dynamic, 2-3 dimensional*
Scroll (rhythm)	Repetitive, Harmonious, Single, Strong, Continuous*

(* = the most common according to presence)

(Other Elements of Design): Coloured shapes in kala-makaras, dark forms in lotus buds, and smooth rhythms in scrolls highlighted their mihrabs.

Kala-makara (colour: original/coloured)	Coloured
Lotus bud (value: light/dark)	Dark
Scroll (texture: smooth/rough)	Smooth

(Other Principles of Design): Unified shapes in kala-makaras, small and big forms in lotus buds, and non-progressive rhythms in scrolls were preferred.

Kala-makara (unity-variety: separate/unified)	Unified
Lotus bud (size: small/big)	Small=Big
Scroll (proportion: progressive/non-progressive)	Non-progressive

(Conclusion): Distinct features emerged from three motifs. Regardless of geographical area and material, preferring decoration did not take away the sacredness of Javanese mihrabs. Instead, it confirmed connotations of motifs as an absolute principal aim and enriched beauty as an additional function. It could argue that decoration might disturb concentration during prayers in mosques, but in the simple atmosphere of Javanese mosques, beautiful decoration would rather encourage prayers to pay tribute to God. Especially, mihrabs are said to be a gateway to Paradise, so that creating an atmosphere of Paradise in a mosque seems to be a ‘must’ among Javanese Muslims.

On the whole, oval shapes in kala-makaras, spherical forms in lotus buds, and diagonal rhythms in scrolls signified and beautified the sanctuary of Allah. Here, smooth and big shapes, 2-3 dimensional forms, and continuous rhythms partially added. Coloured kala-makaras in unified shapes, the magic of light and dark lotus buds in different sizes, and smoothly but not-progressive undulating scrolls enhanced the splendour of Javanese mihrabs.

ALL ISLAMIC MOTIFS AND THOSE ON MIHRABS

Javanese mosques tended to be pure in ornamentation, compared to extravagance in mosques in other parts of the Islamic world. And the mihrab was often the most decorated area in a mosque setting. This section discusses whether hierarchy exists in placing ornaments between mihrabs and other places in a mosque building.

(Background): Unanimity between all Islamic motifs and those on mihrabs in geographical area and material was shown. The difference was in the decoration of lotus buds. All Islamic motifs preferred the absence of decoration, while those on mihrabs favoured it. The symbolism of lotus buds on mihrabs ultimately reinforced by additional motifs, such as floral and Arabic calligraphy. Decoration enriched the beauty of lotus buds which are appreciated by Javanese Muslims’ imagination, as the most important ornament.

	Area		Material		Attachment	
	All	Mihrab	All	Mihrab	All	Mihrab
Kala-makara	West	West	Other	Other	Decorated	Decorated
Lotus bud	West	West	Wood	Wood	Not- decorated	Decorated
Scroll	Central	Central	Wood	Wood	Not-decorated	Not- decorated

(Basic Type and Subdivisions): Commonalities were shown in geometric and oval shapes in kala-makaras, and primary and spherical forms in lotus buds. The difference in scrolls indicates that all Islamic motifs had more irregular and equal use of vertical and diagonal rhythms. Those on mihrabs had regular and diagonal, which seems more logical. A common sharing of diagonal saw. The unanimity of oval shapes in kala-makaras and spherical forms in lotus buds anticipated their appearance anywhere in mosques as the main characteristics.

	Basic		Subdivisions	
	All	Mihrab	All	Mihrab
Kala-makara	Geometric	Geometric	Oval	Oval
Lotus bud	Primary	Primary	Spherical	Spherical
Scroll	Irregular	Regular	Vertical=Diagonal	Diagonal

(Five Further Characteristics): Commonness between all Islamic motifs and those on mihrabs in kala-makaras and scrolls was shown, using big shapes and continuous rhythms respectively. The difference showed in lotus buds that all Islamic motifs had more stylised forms, compared to 2-3 dimensional in those on mihrabs. A reason for 2-3 dimensional was caused by mihrab walls. Big shapes in kala-makaras and continuous rhythms in scrolls were popular in any place, implying no hierarchy in ornamentation, in terms of location.

	Five further characteristics	
	All	Mihrab
Kala-makara	Big	Smooth=Big
Lotus bud	Stylised	2-3 dimensional
Scroll	Continuous	Continuous

(Other Elements of Design): Commonality was only shown in lotus buds between all Islamic motifs and those on mihrabs. The absence of colour in kala-makaras and rough rhythms in scrolls were prevalent in all Islamic motifs, but colour in kala-makaras and smooth rhythms in scrolls were more common in those on mihrabs. Lotus buds seemed to have dark forms in any location, stressing their value as an important element.

Other elements of design		
	All	Mihrab
Kala-makara (colour)	Original	Coloured
Lotus bud (value)	Dark	Dark
Scroll (texture)	Rough	Smooth

(Other Principles of Design): There was no difference between all Islamic motifs and those on mihrabs. Anywhere in mosques, kala-makaras, lotus buds, and scrolls displayed unified shapes, big forms, and non-progressive rhythms respectively. Unity-variety, size, and proportion were important principles.

Other principles of design		
	All	Mihrab
Kala-makara (unity-variety)	Separate=Unified	Unified
Lotus bud (size)	Big	Small=Big
Scroll (proportion)	Non-progressive	Non-progressive

(Conclusion): Many similarities between all Islamic motifs and those on mihrabs gave evidence that there is no hierarchy of mosque ornamentation in location. All Islamic motifs in mosques were equally treated, even on mihrabs where the hierarchy was stressed.

The outcomes revealed simple Javanese mosque ornamentation, confirmed by interviews with the 20 Indonesian scholars. It also proved that symbolism was superior to aesthetic beauty. Humble Javanese Muslims should protect the sacred Javanese mosque, and their ornamentation proved the introduction of Sufi Islam into Javanese mosques.

FOUR SACRED MOTIFS IN SECULAR CONTEXT

Four motifs have widely used in buildings (palace, house, hotel, airport, and railway station), monuments, and objects (gamelan music instrument, batik, furniture, etc.). Although secular use as either symbolic or aesthetic depends on the artists' intention, these motifs should bear spiritual concepts; especially in gamelan and batik whose origins are from the microcosmic palace (kraton) in Java.

In doing so, a strong continuity from the Universe into everyday life allows Javanese Muslims to feel safe both as Javanese and Muslim. In other words, Javanese Muslims cannot reject the original concepts of tumpals as the Cosmos Mountain and lotus buds as creation, regardless of beautifying them by neon signs in dark streets. By contrast, rarely used kala-makaras appear at gates or on bed frames in unrecognisably abstract and stylised shapes, while scrolls in a variety of

forms appear on decorative pillars or even wedding invitations. Above all, lotus buds maintain their constant form with popularity, which can also be argued from a political background.

President Sukarno symbolised himself as the lotus bud, the god of Hindu Vishnu, the Creator. Sukarno wished to unify the vast regions and different races in Indonesia after independence in 1945. His ideology towards the international stage was that the old Hindu-Buddhist Borobudur and Prambanan temples could prove the nation's supremacy. Consequently, the lotus (*padma*) which he chose from temples became the main ornament in architecture, interior, urban design, and crafts during the period of 1945-1959 (Ardhiati 2004). Four motifs seem to be more spiritual and sacred, according to Indonesians (June-July 2006^{interview}).

The sacred concept of tumpal as Meru has disappeared. It is a simple motif.

In small Javanese villages, even extreme Muslims build a sacred Hindu split gate for 'a welcome status', to identify as Javanese. It is a mixed Islamic culture.

For a secular purpose, Muslims can use tumpals, lotus buds, and scrolls, except kala-makara.

Kala-makara does not forbid to Muslims. In the palace, it is spiritual and sacred, while it is an expressive and abstract ornament in everyday life.

On Cirebon batik, even a bird motif used to represent a vehicle of the Prophet. It is spiritual but is not necessarily symbolic.

People believe ornaments as spiritual and beautiful, protecting against evil, expressing the status of the inhabitant, and beautifying the house. Ornaments can be aesthetic in cities but are often symbolic in villages.

President Sukarno decorated the top of the Monas Monument in Jakarta with a lotus bud, to symbolise creation, unity, and identity. The monument itself is not religious, but the choice of lotus bud implies symbolic and sacred meanings, rather than aesthetic ones.

Around 1920 in Bandung, a Dutch architect decorated kala-makaras in a public building to mark the local culture. We, Indonesians, want to continue this motif.

The symbolic motifs are also used on secular objects but are considered sacred and aesthetic.

Four sacred motifs on secular objects: Tumpal (batik), kala-makara (bed frame), lotus bud (street), scroll (door frame)





EVALUATION AND IMPORTANCE OF THE FINDINGS

It has shown that syncretic and symbolic four pre-Islamic ornaments in Javanese mosques displayed the continuity with a variety of influence. Three evaluations attempt on the continuity, influence, and supposition of four motifs.

Evaluation 1: Continuity

According to the findings, the continuity of four pre-Islamic motifs has been evident all the time in Javanese mosque ornamentation in five aspects. Of course, there was an interruption in the Islamic transitory, but it is a well-known theory in social science and art that conflicts happen when new elements confront each other. In this respect, transfer of pre-Islamic motifs from temples to mosques is not exceptional, and conflict in the transitory can be interpreted as an unavoidable process for different ideas and forms in Hindu-Buddhist and Islamic ornaments, leading towards their reconciliation.

Several reasons for continuity can be assumed: (1) a tolerant attitude between incoming Islam and Javanese peoples' acceptance of it, (2) similarity of Sufism to existing animism and Hindu-Buddhism in terms of mysticism; thus ancestor worshipping could transfer to Hindu-Buddhist gods and further to Allah, (3) flexibility of Islamic religion towards local motifs in mosque ornamentation, (4) contribution of local ornaments in converting people. In the beginning of Islamisation, local traders who wanted to have equal rights and to liberate themselves from Hindu caste systems chose Islam, for social and political reasons, rather than religious zeal. Consequently, there was neither capacity nor interest in creating new ornaments. Moreover, Java had already plentiful ornaments, (5) unskilled foreign missionaries in making orthodox Islamic ornaments, as cultural people did not bring Islam, and above all (6) strong conscience of maintaining Javanese tradition amongst the population.

Whatever the case was, the main reason for continuity of the motifs seemed to be 'the sacredness' in symbolism, rooted deeply in the pre-Islamic period. The sacred Javanese temples and ornaments were extended to mosques by mystic Sufis. As Javanese mosques were sacred (Isnaeni 1996), any motif used in mosque ornamentation also became sacred and symbolic. Among the four motifs, lotus buds the most regularly and smoothly continue.

Evaluation 2: Influence

Concerning the influence of four motifs on Javanese mosque ornamentation, again, the most powerful one is lotus bud, as its influence overall showed by high frequency. The next influential motif is tumpals, whose influence appeared broadly in five aspects. By contrast, neither shapes of kala-makaras nor rhythms of scrolls significantly affected Javanese mosques, although their backgrounds, elements, and principles of design played a role in the process.

This result raises a few questions. (1) Was the weak influence of Hindu-Buddhist kala-makaras in Javanese mosques owing to the prohibition of living figures by the *hadith* in Islam; thus a requirement for shapes to be stylised? (2) Did the appearance of Islamic arabesque prevent the frequent use of Hindu-Buddhist scrolls in Javanese mosque ornamentation? (3) One wonders whether prehistoric tumpals symbolising the Cosmos Mountain and Hindu-Buddhist lotus buds symbolising life were perfectly suitable for syncretic Javanese Muslims' imagination without any restriction for use in mosques. (4) Moreover, was the significance of four motifs dependent upon their location in mosques, or the creativity of local genius in each epoch, or the freedom given to Islamic ornament, except for depiction of living figures?

Tjandrasmita (2005^{interview}), a distinguished Indonesian scholar and specialist in syncretic Islamic archaeology, argued that Javanese Islam has a few distinct characteristics. Javanese Muslims are much concerned with the continuity of their cultural heritage, which was created by local genius (Wale's theory) across centuries, beyond religions and faiths. Furthermore, Javanese Muslims emphasise the importance of holy ornaments that were derived from Hindu-Buddhism and try to link them with Islam. For example, a symbolic tree from the Garden of Eden, created by God, continued as an Islamic concept, and Javanese Muslims connected this with the Tree of Life of Hindu-Buddhism.

Especially, as a result of Muslims' close contact with the Arab world after the pure Islamic movement in the 1920s, understanding of four motifs within orthodox Islamic context seemed to be enhanced. Of this, Tjandrasmita (2006^{interview}) argues that tumpal was associated with the megalithic stepped mountain where ancestors abode, and the Cosmos Mountain for Hindu gods' dwelling. Triangular shape of the mountain is a direction to worship gods in Javanese culture, and a triangular tumpal in mosques plays this role, as *walis* (saints) considered mosques to be the holy mountain, Meru.

According to Fanani (2006^{interview}), the holy lotus (*padma*) is the birth of Vishnu in Hinduism. Lotus floats over and down the water, implying continuity. Lotus can be interpreted as 'oneness in Allah', because of its round form which implies 'one' for all. He associates this with Muslims' perambulation of the Holy Kaa'ba during the pilgrimage as one circle.

Moreover, Hindu-Buddhist lotus buds have an extraordinary position in orthodox Islam. Nurcholish Madjid⁵³, an Indonesian intellectual on Islam, quotes of 'Sidrat al-Muntaha', translated as 'lotus tree in the furthest limit' in the Koran (an-Najm 53:18). The story is that, when the Prophet came to Allah, he saw a lotus tree very far, growing in a dangerous place. Metaphorically, the lotus means the highest wisdom that the Prophet has reached by the blessing of God. And 'behind the tree' means God's mystery that only God knows. In other words, reaching God and achieving his messages are very far and difficult.

...sidra is identified and validated by Hinduism, Buddhism and Islam. Sidra means lotus tree or flower (seroja, padma), and lotus always grows together with the water. Sidra reflects moral and spiritual messages... Sidra in Hinduism-Buddhism symbolises personal wisdom and maturity... Another wisdom arising from water flow is...the unity in diversity of life. It teaches us to listen to the sound of the water of which flows continuously...padma flower is...accepted as the symbol of holiness, wisdom, and knowledge. (Ardhiati 2004)

The new meaning of lotus buds encouraged Fanani who underlined that 'Islamisation is still going on for certain motifs. Now is the time to take care of ornaments'. In the spread of Islam, *walis* changed only existing artistic styles to an Islamic expression but did not give specific meanings in detailed motifs; thus pre-Islamic symbolism had to be used by the earlier Muslims of Java. However, Tjandrasasmita does not accept this view, saying that 'Local culture could not abolish unless there is extreme culturalisation. Lotus already used in Indonesia, so there is no link with an Islamic concept of Sidrat al-Muntaha'. Lotus buds do, however, remain as an important decorative feature of Javanese temples and mosques.

Another interesting concept is totality. It mentioned that Hindu-Buddhist living kala-makaras represent totality, and Islamic stylised lotus buds denote 'oneness in Allah'. Islamic ornament stresses the notion of the divine through the totality of forms in ornament, manifested in geometry and numbers. Whether totality is achieved in two different ways, either through Hindu-Buddhist devotional images or Islamic mathematical calculation, their common search is a doctrine of unity, composed of diversity.

Evaluation 3: Supposition

Lastly, of the degree of continuity of pre-Islamic motifs in Javanese mosque ornamentation, the apparent outcome can lead to a few suppositions. (1) The sacred four ornaments, particularly any form of lotus, in syncretic Islam in Javanese mosques have been continued to this day, and can be

⁵³ Nurcholish Madjid (2002, pp.111-2), and *Interpretation of the Meanings of the Noble Quran*, Dar-us-Salam Publications, Riyadh-Saudi Arabia 1996, p.758.

expected to be prolonged in the future, as long as Java exists, but (2) their frequent use in mosques has been and will be dependent upon local genius, who yearns to preserve his local culture, proved in the analyses of five aspects. One wonders: did local genius in every epoch think about rules of elements and principles of design, or simply take cultural heritage for granted from their predecessors by inheritance?

Javanese Muslims are very familiar with their cultural heritage. Through existing media, Islam was effectively penetrated into their hearts, because of the love for heritage and the similarity to Islamic concept. (Sedyawati 2006^{interview})

Repeatedly, the main findings from the empirical work validated the literature reviews and interviews with the 20 Indonesian scholars on syncretic Javanese Islam, symbolic Islamic ornaments, and local genius which facilitated the continuity of the existing culture within the three Islamic periods. It is a regional approach to create Javanese Islamic architecture and art, beautifully and smoothly cooperated with incoming orthodox Islamic ornaments of arabesque⁵⁴, geometry, and calligraphy, even more with Chinese and European ones.

In other words, Javanese Islamic ornaments tend to achieve two functions simultaneously, while Hindu-Buddhist ornaments underline symbolic connotations, and orthodox Islamic ornaments mainly stand for visual beauty to Muslims' eyes. To this assimilation, Chinese and European ornaments also add in the name of 'sacredness' throughout the three Islamic periods. Javanese Islamic ornaments assimilated two different principles from Hindu-Buddhism and Islam, bringing the common aim of a sacred symbolism in mosques.

Hindu architecture is part of nature; Islamic architecture isolated from it... Hindu sculpture is vegetative or figurate; Islamic, abstract... Hindu ornament is irregular, individualistic, symbolical; Islamic is mathematical, continuous, abstract. (Goetz 1959)

Strong continuity and influence of pre-Islamic motifs were shown in the transitory period (150-1619), while European and Islamic influences on Javanese mosque ornamentation took place during the Dutch colonisation era (1619-1945). Toward the contemporary period (1945 to the present day), orthodox Islamic motifs gradually replaced those existing ornaments. However, a strong tendency of continuity returns to characteristic regional ornaments in renovated mosques

⁵⁴ Indirectly, this research indicates that Hindu-Buddhist scrolls do not own the concept of geometry or mathematical calculation, which is a "must" in Islamic arabesque, despite their same characteristics of repetition and continuity.

and is also a feature of newly built mosques, as a means of promoting 'Javanese Islamic ornaments' as a national identity.

Java is a melting pot; Javanese Islam is syncretic; Javanese descendants adore their cultural heritage; and Javanese Muslims are tolerant, inventing a beautiful amalgamation from many sources, beyond faiths and religions, in order to pay tribute to Allah. Orthodox Islam has to encourage this, in order to coexist in the tropical and multicultural Java.

ORNAMENTS IN JAVANESE TEMPLES AND MOSQUES ARE AN AUTHENTIC PROOF OF THIS.

CONTRIBUTION OF KNOWLEDGE AND FURTHER RESEARCH

Before suggesting further studies, the researcher has an urge to explain the value of the outcome of this research, because future studies can not only evaluate, but also make benefit of this.

It hopes that this study contributes to a more profound knowledge of Javanese mosque ornamentation, highlighting the importance of Javanese cultural heritage and ornaments as a communicator between different religions.

A deeper understanding of syncretic ornaments can provide a better way of handling cultural subjects in modern Javanese mosque ornamentation. Therefore, the outcome should be useful as follows: (1) the knowledge will add to the existing one in temple and mosque ornamentation, (2) the four syncretic motifs will increase the awareness of their cultural constituents and identity among Javanese people, (3) the appreciation of syncretic ornaments is essential to any contemporary ornamentists in Java, and (4) the peaceful co-existence of pre-Islamic and orthodox Islamic motifs in Java can be seen as an example for an open dialogue between different faiths in the current situation in which much conflict takes place.

Pragmatically, (1) the four motifs can promote appreciation of the beauty of Javanese temples and mosques, (2) the dissimilar degree of continuity of the four motifs from temples to mosques expose the Javanese Muslims' different attitude towards ornamentation, (3) defining Hindu-Buddhist scrolls and Islamic arabesques can be facilitated, in terms of their symbolic approach rather than their rhythms, and (4) the methods of using elements and principles of design can be innovative in research methodology, and are strongly recommended to future researchers.

Based on these results, further researches can be encouraged: (1) a comprehensive comparison of other potential syncretic ornaments across the pre-Islamic and Islamic periods in Java, (2) comparisons of ornamentation in churches/cathedrals and mosques in Java, (3) more investigation of the Chinese influence on Javanese mosques, and (4) extending comparative research outside Java to Bali, Sumatra, Kalimantan, Sulawesi, the Moluccas, and Papua. Once done, the slogan of Java and Indonesia as 'unity in diversity' will bloom with prosperity.

In addition to these topics, more innovative methodologies are encouraged to be pursued, particularly in countries where much cultural complexity has involved. Earlier, Tjandrasasmita

recommended (2004^{interview}) that a combination of historical, anthropological, cultural, religious, and other approaches was needed. To this, a few methods can add: (1) visual perception through eyes, (2) appreciation through the mind, and (3) feeling through the heart. They can be carried out by using elements and principles of design.

Finally, but urgently, a new way of evaluating ornaments should occur, because, through a process of collecting information on the ornament from the literary sources and interviews, the researcher has always felt that ornament has been part of the architecture, underestimated and ignored by architects or other related people or even ornamentists themselves. Extremely speaking, ornament meant craft work, made by anyone anywhere anytime.

But PLEASE be aware that ornament has been and will be the universal means, enhancing the value of architecture, enforcing the power of religions, and endowing the ultimate beauty to viewers. Ornament is a unique treasure for making architecture precious and splendid. Ornament can **TRANSCEND** architecture through **METAMORPHOSIS** by ornamentists' **IMAGINATION** in **HARMONY**.

Ornament is a wild celebration of freedom and fantasy, a deliberate flouting of whatever canons of naturalism happen to prevail. It can be hard to resist the assumption that the full resources of ornament, drawing simultaneously on the twin human instincts for beauty and fantasy, have always been available to anyone with the imagination and skill to harness them. (Trilling 2001)

Of course, it is well-known that *Ornament and Crime* (1908), written by Adolf Loos, affected part of the society and peoples' minds at the beginning of the 20th century, claiming that ornaments took away our visual pleasure, wasting money and harming the economy. But what he meant was unnecessary and extravagant ornaments. Therefore, more active researches on upgrading the quality of ornaments recommend, and Indonesia, where diversity in unity exists, can be the best example for implementing this urgent task.

Ornament - the elaboration of functionally complete objects for the sake of visual pleasure - has a unique place among the arts. It is as old as humankind, yet for most of the twentieth century, it was systematically excluded from the mainstream of western art-making and art appreciation... Never before had so fundamental an expression of the creative spirit been singled out for elimination. (Trilling 2001)

Before closing this research, a final thought emerges. Syncretic ornaments, accompanying a unique symbolic connotation as sacred, can represent a concept of 'unity'. The four motifs of tumpals, kala-makaras, lotus buds, and scrolls can be representative concepts of 'diversity'. When 'unity' encounters 'diversity' in metamorphosis, it turns to 'unity' sometimes. And it turns to

‘diversity’ sometimes. This ambiguity is a charm and a treasure in Javanese mosque ornamentation, to which pre-Islamic motifs have made a priceless contribution.

To tribute to the gods in the Cosmos Mountain and Allah in the eternal space, Hindu-Buddhist symbolic connotations and Islamic aesthetic beauties have been endeavouring for the totality respectively. Marvellously, it appeared in the sacred Javanese temples first, then in the syncretic Javanese mosques. Javanese Muslims’ indebtedness returns to their most celebrated ancestors.

Myself as a keen and passionate outsider to their rich culture, I wish them prosperity.

BHINNEKA TUNGGAL IKA: UNITY IN DIVERSITY

PART 4

Part 4 is a section of an appendix, such as a glossary, reference/bibliography, and syncretic/orthodox Islamic ornaments in 30 Javanese mosques.

A P P E N D I X G L O S S A R Y

Acanthus: Mediterranean leaf, the most preferred ornamental motif in religious architecture in the West.

Agami Jawi and Agami Islam Santri: *Agami Jawi* (Javanese Religion) represents an extensive complex of mystically inclined Hindu-Buddhist beliefs and concepts, integrated within an Islamic frame of reference. The *Agami Islam Santri* (Islam of the Religious People) is a variant of Javanese Islam and is much closer to the formal dogma of Islam.

Alun-alun: public square in a city centre.

Antefix: triangular element, carved in a variation on the tops of walls and cornices in Hindu-Buddhist temples.

Arabesque: stylised and geometrical leaves forming a continuous pattern composed of the acanthus, vine, and palmette. It is one of three important Islamic ornaments, along with geometry and calligraphy.

Avalokitesvara: Buddhist goddess.

Bedug: drum beat to give signals or call to prayer at a mosque.

Bodhisattva: a being who searches for the attainment of the Buddhahood for the benefit of all sentient beings. This concept, central to the Mahayana School, developed from the original idea of one who defers the 'ultimate goal' of Nirvana (extinction).

Candi: Hindu temple for keeping ashes of the king. In Java, it can be a sepulchral monument.

Candi bentar: split-gate, a gateway consisting of two separate, symmetrical parts flanking the entrance to a temple. If placed together, these two parts would form the outline of a *candi*.

Candrasengkala: chronogram in Java to indicate the year. In it, four digits together form a year of the Saka.

Cungkup: royal tomb enshrining the ashes of the burnt corpses of kings.

Dharma: a mystical doctrine which contains the part of the liberation from the life cycle, in order to attain enlightenment through the way of Buddha.

Gamelan: ancient Javanese xylophone music instrument.

Garuda: Hindu bird, sometimes accompanied by Vishnu. The reverence for the Garuda in Indonesia might refer to a much earlier bird cult.

Hadith: sayings of the Prophet Muhammad.

Hijrah: the Prophet's migration from Mecca to Medina in 622, counted as the first year of the Islamic calendar.

Horror Vacui: the dread of empty spaces. Covering the surface fully is one of the principles of Islamic art.

Imam: religious leader in prayer.

Jatakas: stories of Buddha's life.

Kaa'ba: the edifice situated in Mecca, which is the liturgical centre of Islam and towards Muslims pray.

Kala: literally 'time, death, or black'. The name is given to a demon's mask mounted above doorways and niches in Hindu-Buddhist temple with *makara*. They often appear to mihrabs in mosques.

Kalpataru: wishing tree, representing heaven.

Kendi: containers of holy water in rituals, symbolising the elixir of immortality.

Kinnara, kinnari: male and female mythical beings, half human, half bird; they act as heavenly musicians.

Kirtimukha or *Banaspati*: lion's head. Sometimes it corresponds to *kala* head.

Koran: God's message given to Muslims through the Prophet Muhammad: Book of Revelation.

Kraton: Javanese palace.

Kufic: script type of Arabic calligraphy. Named from the Iraq city of Kufa, it was used in the Koran, due to its vertical strokes and largely geometric configuration.

Kul-kul: split wooden block, beaten to give signals for calling meetings and alarms.

Kumbha: vase or vessel.

Limasan roof: pyramid form of Javanese roof construction.

Madrasah: endowed official college in which Islamic theology and law are taught.

Mahayanist: Mahayana (Great Vehicle) or Northern branch is one of the two major divisions of Buddhism, the other being Theravada (or Hinayana — Small Vehicle). Mahayana Buddhism is based on sophisticated metaphysical speculations regarding the nature of Reality, or Enlightenment and of the Buddha.

Majapahit: Hindu kingdom in East Java in the 15th century.

Makam: grave or cemetery complex.

Makara: mythical aquatic beast, probably a combination of a fish and the elephant's trunk. With *kala*, it is used to frame doorways and niches of temples.

Maksura: prayer place for king inside a mosque.

Masjid: a place for prayer.

Meru: sacred structure in Hindu-Javanese temple, by its multi-layered roof, usually in odd numbers.

Mihrab: prayer niche at the centre of the western wall of the mosque used for the Imam, indicating the direction of Mecca. In general, it has an arched form decorated with different ornaments.

Minaret: a tower for calling Muslims to pray. In Indonesia, the drum is used, instead.

Minbar: pulpit where the Imam preaches.

Mudra: a symbolic gesture of the hands in Buddhism.

Mussalla: smaller Indonesian prayer house, called 'langgar' in Java.

Mustaka: ornaments on top of the meru in a mosque or *cungkup* building in the form of a Hindu crown.

Muzzein: a man who calls the faithful to prayer five times a day.

Naga: mythical serpent, sometimes resembling a dragon.

Padma: lotus.

Paduraksa: a gate with roof and double-door, where much ornamentation is applied.

Palmette: pseudo-leaf of Sasanian origin.

Pasisir: coastline of the northern part of Java where Islam started in the 15th century.

Pawestren: prayer place for women, separated from the prayer hall in a mosque.

Pendopo: an open pavilion of a traditional Javanese house in front of the yard, for receiving guests, performances, and ceremonies.

Pesantren: Islamic boarding school or an educational institution, seen as self-sufficient communities.

Pura: Hindu sacred temple in Bali. As a shrine, it embodies the prehistoric concept of ancestor worship and the cosmological significance of Meru.

Purnaghata: a pot of plenty.

Ramayana: Hindu epic.

Qibla: the direction of Mecca towards which Muslims turn in prayer.

Saka: the era of Indian chronology, used in Indonesia during the classical period. The era was assumed to have started in A.D. 79; five hundred years after the birth of the Buddha.

Samsara: an endless cycle of birth and re-birth in the Upanishadic Hindus, where the world is seen as illusion and reality.

Selamatan: feast, shared by neighbours and relatives, that combines Arabic and Javanese chants worshipping Allah, placating the spirits, unifying the participants, so that they are all peaceful and secure.

Serambi: veranda.

Shariah: canonical law based on the Koran and Sunna guidance and governing all religious and secular duties and prohibitions.

Silpasastra: universal law in architecture and sculpture from Hindu ancient texts.

Siva: Hindu god of the destroyer.

Soko Guru: four main wood columns of joglo construction in a Javanese structure.

Stupa: Buddhist monument for storing the ashes of monks and saints, consisting of a dome-shaped body on a square base, crowned by a pinnacle.

Sufism: mystical approach, employing contemplation and ecstatic states to reach communion with the Divine, of Persian origin and much favoured by Muslim poets.

Surya: the sun, a symbol of the Majapahit kingdom, representing power and supremacy.

Tawhid: the divine unity in Islam.

Torana: arched gate before entering into a temple.

Trisula: a trident.

Tumpal: the most popular triangular motif from Neolithic and megalithic times, used both in the Hindu-Buddhist and Islamic periods in Indonesia.

Ummat: a community of the faithful, used of a specific locality or of all Islam.

Vishnu: Hindu god for peace.

Walis: saints. Nine saints are called wali songo.

Wantilan: Balinese cock-fighting court.

Wayang: Javanese shadow puppet. Wayang Kulit is the form in which leather puppets are used for shadow plays.

Wudhu: spiritual washing place. Before prayer, purification rites must be performed to establish the purity of intention. Ordinary water is used.

Ziarah: visit the graveyard.

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Interviewees 2004-2006

Ambari, Hasan Muarif (Archaeologist), Achjadi (Batik historian), Al Akbar, Ali (Calligrapher), Anas (Designer), Ardhiati, Yuke (Architect), Asmudjo (Ceramist), Bennett, James (Art curator), Budi, Bambang S (Architect), Eman, Mas Keulman (Architect), Fanani, Achmad (Architect), Haldani (Ceramist), Herman & Ken Atik (Ornamentist), Heuken, Adolf (Historian), Isnaeni, Hendrajaya (Architect), Kahfiati (Textile artist), Lubis, Adilayah Hakim (Architect), Lugra, I. Geda (Carver), Marwoto, Irmawati (Archaeologist), Muhamadia, Abdul Muti (Researcher), Muharam (Art historian), Mustopo, Habib (Archaeologist), Noe'man, Achmad (Architect), Noe'man, Fauzan (Architect), Pangasa, Galih W. (Archaeologist), Panggabean (Textile artist), Pirous, A. D. (Painter), Projotomo, Josef (Architect), Roebiharto, Artini (Interior designer), Said, Irsal (Architect), Subarna, Abay (Painter), Santiko, Hariani (Archaeologist), Sedyawati, Edy (Archaeologist), Sudradjat, Iwan (Architecture historian), Suputra, Wiyoso Yudo (Art historian), Tjahjono, Gunawan (Architect), Tjandrasasmita, Uka (Archaeologist), Yunardi, Bayu (Architect): Numerous people at different places, such as departments of religion, mosques, institutes, universities, museums, libraries, organisations in Indonesia & abroad.

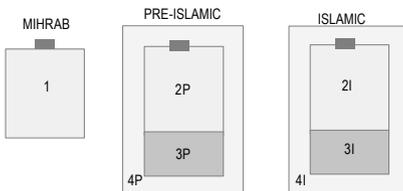
SYNCRETIC/ORTHODOX ISLAMIC ORNAMENTS IN THE 30 JAVANESE MOSQUES

The transitory period (15C-1619)

1. Pajlagrahan, Cirebon, West Java (1452); 2. Agung Demak, Demak, Central Java (1479); 3. Merah Panjunan, Cirebon, West Java (1480); 4. Sunan Giri, Gresik, East Java (1485); 5. Agung Kasepuhan, Cirebon, West Java (1498); 6. Langgar Kraton Kanoman, Cirebon, West Java (1510); 7. Al Alam Gilincing, Jakarta, West Java (c.1520); 8. Kasunyatan, Banten, West Java (1522-70); 9. Sunan Kalijaga, Demak, Central Java (1533); 10. Menara Kudus, Kudus, Central Java (1537); 11. Astana Mantingan, Jepara, Central Java (1559); 12. Sendang Duwur, Paciran, East Java (1561); 13. Al Makmur Jipang, Jepara, Central Java (1561-77); 14. Agung Mataram, Yogyakarta, Central Java (1568-1601); 15. Kanari, Banten, West Java (1596-1651)



1-15



Codes:

Four pre-Islamic motifs: tumpal (T), kala-makara (KM), lotus bud (L), scroll (S)

Three orthodox Islamic motifs: arabesque (A), geometry (G), calligraphy (C)

1 (mihrab except prayer hall, 1P: pre-Islamic motifs, 1I: Islamic motifs)

2 (prayer hall, 2P: pre-Islamic motifs, 2I: Islamic motifs)

3 (serambi, 3P: pre-Islamic motifs, 3I: Islamic motifs)

4 (outside the mosque, 4P: pre-Islamic motifs, 4I: Islamic motifs)

Mosque 1. 1: lotus bud (1P) / 2: tumpal, kala-makara, lotus bud (2P); calligraphy (2I) / 3: tumpal, scroll (3P)
 Mosque 2. 1: geometry, calligraphy (1I) / 2: lotus bud, scroll (2P); geometry, calligraphy (2I) / 3: tumpal, scroll (3P); calligraphy (3I) / 4: tumpal, kala-makara, lotus bud (4P); calligraphy (4I)
 Mosque 3. 1: tumpal, kala-makara (1P) / 2: tumpal, kala-makara, lotus bud (2P) / 3: kala-makara, lotus bud (3P); calligraphy (3I)
 Mosque 4. 1: tumpal, kala-makara, lotus bud (1P) / 2: tumpal, kala-makara, lotus bud, scroll (2P); calligraphy (2I) / scroll (3P) / 4: calligraphy (4I)
 Mosque 5. 1: kala-makara, lotus bud (1P); geometry, calligraphy (1I) / 2: kala-makara, lotus bud, scroll (2P); geometry, calligraphy (2I) / 3: tumpal (3P)
 Mosque 6.m1: tumpal, kala-makara, lotus bud (1P); calligraphy (1I) / 2: tumpal, kala-makara, lotus bud (2P); calligraphy (2I)
 Mosque 7. 1: arabesque, calligraphy (1I) / 2: arabesque, calligraphy (2I) / 3: tumpal (3P) / 4: lotus bud (4P)
 Mosque 8. 1: kala-makara (1P); calligraphy (1I) / 2: kala-makara, lotus bud (2P); calligraphy (2I) / 4: kala-makara, lotus bud (4P); calligraphy (4I)
 Mosque 9. 1: kala-makara (1P) / 2: kala-makara, lotus bud, scroll (2P); calligraphy (2I) / 3: tumpal (3P); calligraphy (3I) / 4: kala-makara, lotus bud, scroll (4P)
 Mosque 10. 1: tumpal, arabesque, geometry, calligraphy (1I) / 2: tumpal, kala-makara, lotus bud, scroll (2P); arabesque, geometry, calligraphy (2I) / 3: geometry, calligraphy (3I) / 4: kala-makara, lotus bud, scroll (4P); calligraphy (4I)
 Mosque 11. 1: tumpal, scroll (1P); geometry (1I) / 2: tumpal, scroll (2P); geometry (2I) / 3: tumpal, lotus bud (3P) / 4: tumpal, kala-makara, lotus bud (4P); calligraphy (4I)
 Mosque 12. 1: kala-makara (1P) / 2: kala-makara, lotus bud (2P) / 4: tumpal, lotus bud, scroll (4P); calligraphy (4I)
 Mosque 13. 1: tumpal, kala-makara, lotus bud (1P); calligraphy (1I) / 2: tumpal, kala-makara, lotus bud (2P); calligraphy (2I) / 3: lotus flower (3P); calligraphy (3I) / 4: calligraphy (4I)
 Mosque 14. 1: kala-makara, lotus flower with scroll (1P); calligraphy (1I) / 2: kala-makara, lotus flower with scroll (2P); calligraphy (2I) / 4: tumpal, kala, lotus scroll (4P)
 Mosque 15. 1: kala-makara (1P); geometry (1I) / 2: kala-makara, lotus bud, scroll (2P); arabesque, geometry (2I) / 4: kala-makara, lotus bud (4P); geometry, calligraphy (4I)

The Dutch colonisation era (1619-1945)

16. Jami Kanoman, Cirebon, West Java (1679); 17. Hidayatullah, Jakarta, West Java (1750); 18. Al Anwar Angke, Jakarta, West Java (1761); 19. Agung Yogya, Yogyakarta, Central Java (1773); 20. Agung Malang, Malang, East Java (1853-90); 21. Al Wustho Mangkunegara, Solo, Central Java (1878-1918); 22. Kampung Nembol, Banten, West Java (1880); 23. Caringin Labuan, Banten, West Java (1883-93); 24. Carita Labuan, Banten, West Java (1889-95); 25. Raya Cipaganti, Bandung, West Java (1933)





16-25

Mosque 16. 1: kala-makara, lotus bud (1P); geometry, calligraphy (1I) / 2: kala-makara, lotus bud (2P); geometry, calligraphy (2I) / 3: lotus bud (3P); geometry (3I)

Mosque 17. 1: arabesque, calligraphy (1I) / 2: lotus bud, scroll (2P); arabesque, calligraphy (2I) / 3: arabesque, geometry, calligraphy (3I)

Mosque 18. 2: calligraphy (2I) / 3: scroll (3P) / 4: tumpal, kala-makara, lotus bud (4P)

Mosque 19. 1: lotus bud with scroll (1P); calligraphy (1I) / 2: tumpal, lotus bud with scroll (2P); calligraphy (2I) / 3: tumpal (3P) / 4: tumpal, lotus bud (4P)

Mosque 20. 1: lotus bud, scroll (1P); geometry (1I) / 2: tumpal, lotus bud, scroll (2P); geometry, calligraphy (2I)

Mosque 21. 1: kala-makara, lotus flower scroll (1P) / 2: tumpal, kala-makara, lotus flower, scroll (2P); calligraphy (2I) / 3: geometry, calligraphy (3I) / 4: calligraphy (4I)

Mosque 22. 1: lotus bud, scroll (1P); arabesque, calligraphy (1I) / 2: kala-makara, lotus bud, scroll (2P); arabesque, calligraphy (2I) / 3: lotus bud, scroll (3P); calligraphy (3I) / 4: lotus bud (4P)

Mosque 23. 1: lotus bud (1P); calligraphy (1I) / 2: kala-makara, lotus bud, scroll (2P); calligraphy (2I) / 3: scroll (3P)

Mosque 24. 1: kala-makara (1P) / 2: tumpal, kala-makara, lotus bud (2P); calligraphy (2I) / 3: calligraphy (3I) / 4: tumpal (4P); calligraphy (4I)

Mosque 25. 1: geometry, calligraphy (1I) / 2: lotus bud (2P); geometry, calligraphy (2I) / 3: kala-makara (3P); arabesque, geometry, calligraphy (3I)

The contemporary period (1945-to the present day)

26. Al Azhar, Jakarta, West Java (1952-58): 27. Sunda Kelapa, Jakarta, West Java (1969-71): 28. Sabilliah Malang, Malang, East Java (1974) : 29. Al Ukhuwah Balai Kota, Bandung, West Java (1990): 30. Al Akbar Surabaya, Surabaya, East Java (1995-2000)



26-30

Mosque 26. 1: arabesque, geometry, calligraphy (1I) / 2: arabesque, geometry, calligraphy (2I) / 3: lotus bud (3P) / 4: lotus bud (4P); calligraphy (4I)

Mosque 27. 1: lotus bud (1P); arabesque, geometry, calligraphy (1I) / 2: lotus bud (2P); arabesque, geometry, calligraphy (2I) / 3: arabesque, geometry, calligraphy (3I)

Mosque 28. 1: lotus bud, scroll (1P); geometry, calligraphy (1I) / 2: lotus bud, scroll (2P); geometry, calligraphy (2I) / 4: geometry (4I)

Mosque 29. 1: scroll/arabesque, geometry, calligraphy (1I) / 2: arabesque, calligraphy (2I) / 3: arabesque (3I)

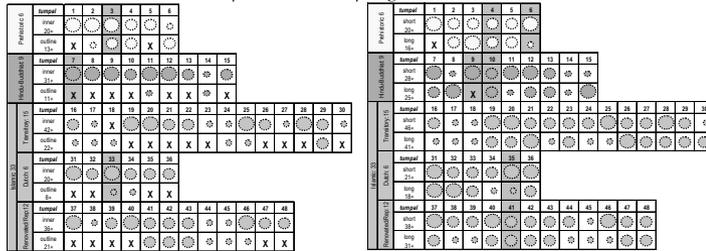
Mosque 30. 1: geometry, calligraphy (1I) / 2: geometry, calligraphy (2I)

FOUR MOTIFS

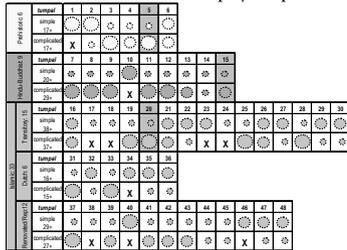
The 48 tumpals: 1-6. prehistoric, 7-9. kalasan (9C), 10. east Java (12-15C), 11. panataran (1147-1454), 12. djago (1268), 13-15. east Java (12-15C), 16. tralaja grave (15C), 17. pajlagrahan (1452), 18-21. agung demak (1479), 22. merah panjunan (1480), 23-24. sunan giri (1485), 25-26. astana mantingan (1559), 27-28. sendang duwur (1561), 29-30. agung mataram (1568), 31-32. agung solo (1757), 33. al war anke (1761), 34-35. agung yoga (1773), 36. carita labuan (1883-93), 37. agung demak* (1479), 38-39. sunan giri* (1485), 40. menara kustus* (1573), 41-46. agung mataram* (1568-1601), 47-48. agung yoga* (1773) *mosques built before the contemporary period

1	2	3	4	5	6	7
PREHISTORIC 6						
8	9	10	11	12	13	14
HINDU-BUDDHIST 9						
15	16	17	18	19	20	21
ISLAMIC 33 (TRANSITORY 15)						
22	23	24	25	26	27	28

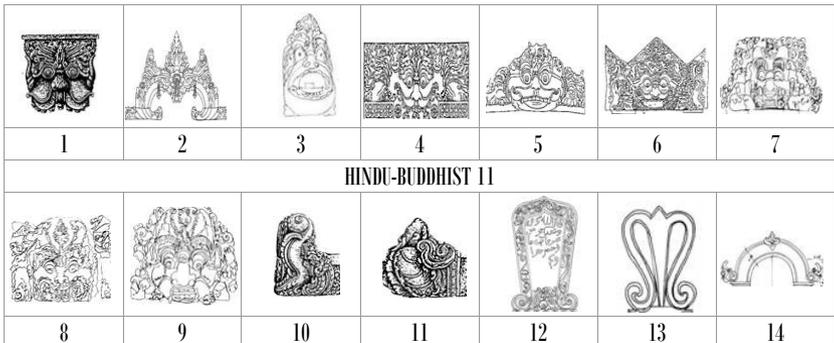
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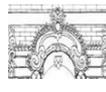
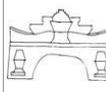
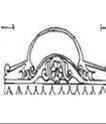
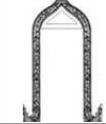
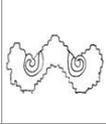
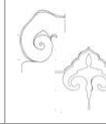
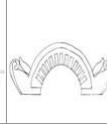
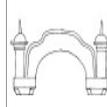
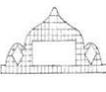
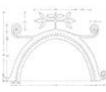


Modes-total numbers+: simple/complicated

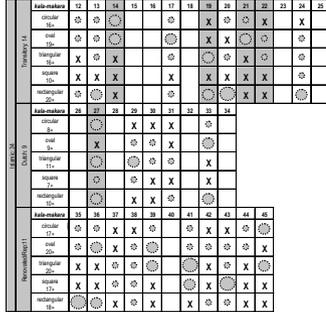


The 45 kala-makaras: 1-3. Borobudur (8c), 4-6. prambanan (8-9c), 7. panataran (1147-1454), 8. singasari (12c), 9. djago (1268), 10. central Java (8-9c), 12. tralaja grave (15c), 13. agung demak (1479), 14-15. merah panjunan (1480), 16-19. agung kasepuhan (1498), 20. kasunyatan (1522-70), 21-22. sunan kalijaga (1533), 23. sunan dradjat (c.1561), 24. agung mataram (1568-1601), 25. kanari (1596-1651), 26. jami kanoman (1679), 27-28. al anwar angke (1761), 29. mukarmah bandan (1789-1809), 30. kampong nembol (1880), 31-32. al mangkunegara (1878-1918), 33. carita labuan (1883-93), 34. raya cipaganti (1933), 35. merah panjunan*(1480), 36. kasunyatan*(1522-70), 37. al marunda* (1527), 38. sendang duwur* (1561), 39. al makmur jipang* (1561-77), 40. agung mataram* (1568-1601), 41. kanari* (1596-1651), 42. al mansyur sawah lio* (1717), 43. hidayatullah* (1750), 44-45. carita labuan* (1883-93) *mosques built before the contemporary period

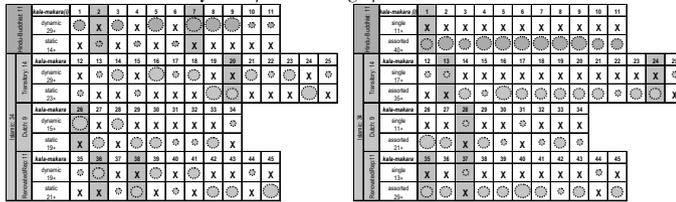


ISLAMIC 34 (TRANSITORY 14)						
						
15	16	17	18	19	20	21
						
22	23	24	25	26	27	28
ISLAMIC 34						
						
29	30	31	32	33	34	35*
(DUTCH COLONISATION 9)						
						
36*	37*	38*	39*	40*	41*	42*
ISLAMIC 34 (RENOVATED/REPRODUCED 11)						
						
43*	44*	45*				

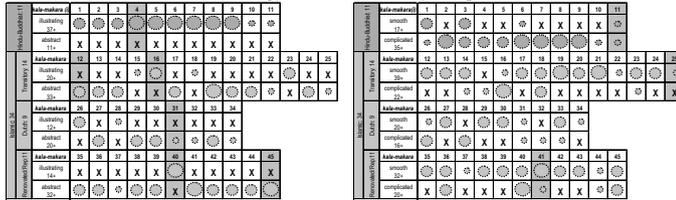
Modes-total numbers+: circular/oval/triangular/square/rectangular



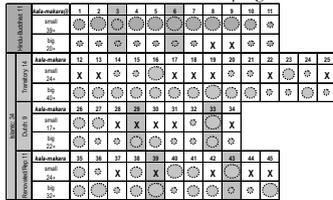
Modes-total numbers+: dynamic/static & single/assorted



Modes-total numbers+: illustrating/abstract & smooth/ complicated

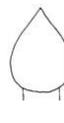
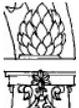
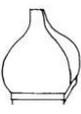
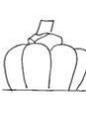
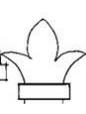
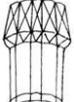


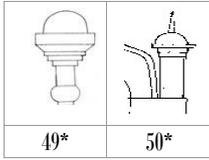
Modes-total numbers+: small/big



The 50 lotus buds: 1. Borobudur (8C), 2-4. prambanan (8-9C), 5. central Java (8-9C), 6. kalasan (9C), 7-10. east Java (12-15C), 11. pajlagrahan (1452), 12. sunan giri (1485), 13. agung kasepuhan (1498), 14. jami kanoman (1510), 15. al alam cilincing (c.1520), 16-17. kasunyatan (1522-70), 18. al marunda (1527), 19-20. sunan kaliyaga (1533), 21-22. astana mantingan (1559), 23. sendang duwur (1561), 24. kauman semarang (1575), 25-26. kanari (1596-1651), 27. jami kanoman (1679), 28. al mansyur sawh lio (1717), 29. hidayatullah (1750), 30. agung solo (1757), 31. tambora (1761), 32-33. al anwar angke (1761), 34. jami al Islam (1770), 35. agung yogya (1774), 36. menar melayu (1820), 37. kampung nembol (1880), 38. carita

labuan (1883-93), 39. raya cipaganti (1933), 40. al azhar (1952-58), 41. sunda kelapa (1969-71), 42-43. sabilliah malang (1974), 44-45. pusdai jaber (1996), 46. merah panjunan* (1480), 47. sunan giri* (1485), 48. menara kodus* (1537), 49. al makmur jipang* (1561-77), 50. al mansyur sawah lio* (1717) *mosques built before the contemporary period

							
1	2	3	4	5	6	7	8
HINDU-BUDDHIST 10							
							
9	10	11	12	13	14	15	16
ISLAMIC 40 (TRANSITORY 16)							
							
17	18	19	20	21	22	23	24
							
25	26	27	28	29	30	31	32
ISLAMIC 40 (DUTCH COLONISATION 13)							
							
33	34	35	36	37	38	39	40
							
41	42	43	44	45	46*	47*	48*
ISLAMIC 40 (RENOVATED/REPRODUCED 11)							



Modes-total numbers+: cubic/conic/spherical/cylindrical/pyramidal

Form	Category	Mode	Total Numbers														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Form A (Cubic)	Category 1	Mode 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Form B (Conic)	Category 1	Mode 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Form C (Spherical)	Category 1	Mode 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Form D (Cylindrical)	Category 1	Mode 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Form E (Pyramidal)	Category 1	Mode 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Modes-total numbers+: voluminous/slender & open/closed

Form	Category	Mode	Total Numbers														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Form A (Voluminous)	Category 1	Mode 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Form B (Slender)	Category 1	Mode 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Modes-total numbers+: realistic/stylised & dynamic/static

Form	Category	Mode	Total Numbers														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Form A (Realistic)	Category 1	Mode 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Form B (Stylised)	Category 1	Mode 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Mode 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Modes-total numbers+: 2-3 dimensional/3-dimensional

MODE 01 BOROBUDUR 8c	Ukiran Isian	1	2	3	4	5	6	7	8							
	2-3 dimensi 201	X	X	X	X	X	X	X	X							
MODE 02 PANGRAHAN 6	Ukiran Isian	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	2-3 dimensi 201	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MODE 03 DUMU 13	Ukiran Isian	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
	2-3 dimensi 201	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
MODE 04 REANTRANSITORY 1	Ukiran Isian	41	42	43	44	45	46	47	48	49	50					
	2-3 dimensi 201	X	X	X	X	X	X	X	X	X	X					

The 50 Scrolls: 1.Borobudur (8c), 2-3. mendut (8C), 4-5. kalasan (9C), 6. panataran (1147-1454), 7-8. panataran (1147-1454), 9-10. djago (1268), 11. jawi (13C), 12. tralaja grave (15C), 13-14. pajagrahan (1452), 15. agung demak (1478), 16-17. sunan giri (1485), 18. agung kasepuhan (1498), 19. al marunda (1527), 20-22. sunan kalijaga (1533), 23-24. astana mantingan (1559), 25-27. sendang duwur (1561), 28. agung mataram (1568-1601), 29. agung solo (1557), 30. al anwar angke (1761), 31-32. agung yogya (1773), 33. mukarmah banding (1789-1809), 34. agung malang (1853-90), 35. al wustho mangkunegara (1878-1918), 36. kampung nembol (1880), 37. carita labuan (1883-93), 38. cut meutia (1920), 39. raya cipaganti (1933), 40. sunda kelapa (1969-71), soko tunggal (1973), 42-43. sabilliah malang (1974), 44. al ukwah balai kota (1974), 45. astana mantingan* (1559) , 46-47. agung jepara* (1561-77), 48. agung mataram* (1568-1601), 49. kauman semarang* (1575), 50. hidayatullah* (1750) *mosques built before the contemporary period

1	2	3	4	5	6
HINDU-BUDDHIST 11					
7	8	9	10	11	12
13	14	15	16	17	18
ISLAMIC 39 (TRANSITORY 17)					
19	20	21	22	23	24
25	26	27	28	29	30

					ISLAMIC 39	
						
31	32	33	34	35	36	
(DUTCH COLONISATION 10)						
						
37	38	39	40	41	42	
ISLAMIC 39 (RENOVATED/REPRODUCED 12)						
						
43	44	45*	46*	47*	48*	
						
49*	50*					

Modes-total numbers+: vertical/horizontal/diagonal

MODES 11 non-rep/11	vert	1	2	3	4	5	6	7	8	9	10	11	
	horiz	X	X	X	X	X	X	X	X	X	X	X	
	diag	X	X	X	X	X	X	X	X	X	X	X	
	total	12	13	14	15	16	17	18	19	20	21	22	23
MODES 17 temp/17	vert	X	X	X	X	X	X	X	X	X	X	X	X
	horiz	X	X	X	X	X	X	X	X	X	X	X	X
	diag	X	X	X	X	X	X	X	X	X	X	X	X
	total	29	30	31	32	33	34	35	36	37	38	39	40
MODES 20 Dut/20	vert	X	X	X	X	X	X	X	X	X	X	X	X
	horiz	X	X	X	X	X	X	X	X	X	X	X	X
	diag	X	X	X	X	X	X	X	X	X	X	X	X
	total	39	40	41	42	43	44	45	46	47	48	49	50
MODES 27 non-rep/27	vert	X	X	X	X	X	X	X	X	X	X	X	X
	horiz	X	X	X	X	X	X	X	X	X	X	X	X
	diag	X	X	X	X	X	X	X	X	X	X	X	X
	total	39	40	41	42	43	44	45	46	47	48	49	50

Modes-total numbers+: repetitive/non-repetitive & harmonious/disharmonious

MODES 11 non-rep/11	vert	1	2	3	4	5	6	7	8	9	10	11
	horiz	X	X	X	X	X	X	X	X	X	X	X
	diag	X	X	X	X	X	X	X	X	X	X	X
	total	12	13	14	15	16	17	18	19	20	21	22
MODES 17 temp/17	vert	X	X	X	X	X	X	X	X	X	X	X
	horiz	X	X	X	X	X	X	X	X	X	X	X
	diag	X	X	X	X	X	X	X	X	X	X	X
	total	29	30	31	32	33	34	35	36	37	38	39
MODES 20 Dut/20	vert	X	X	X	X	X	X	X	X	X	X	X
	horiz	X	X	X	X	X	X	X	X	X	X	X
	diag	X	X	X	X	X	X	X	X	X	X	X
	total	39	40	41	42	43	44	45	46	47	48	49
MODES 27 non-rep/27	vert	X	X	X	X	X	X	X	X	X	X	X
	horiz	X	X	X	X	X	X	X	X	X	X	X
	diag	X	X	X	X	X	X	X	X	X	X	X
	total	39	40	41	42	43	44	45	46	47	48	49
MODES 39 non-rep/39	vert	1	2	3	4	5	6	7	8	9	10	11
	horiz	X	X	X	X	X	X	X	X	X	X	X
	diag	X	X	X	X	X	X	X	X	X	X	X
	total	42	43	44	45	46	47	48	49	50	51	52
MODES 42 temp/42	vert	X	X	X	X	X	X	X	X	X	X	X
	horiz	X	X	X	X	X	X	X	X	X	X	X
	diag	X	X	X	X	X	X	X	X	X	X	X
	total	54	55	56	57	58	59	60	61	62	63	64
MODES 50 Dut/50	vert	X	X	X	X	X	X	X	X	X	X	X
	horiz	X	X	X	X	X	X	X	X	X	X	X
	diag	X	X	X	X	X	X	X	X	X	X	X
	total	69	70	71	72	73	74	75	76	77	78	79
MODES 50 non-rep/50	vert	X	X	X	X	X	X	X	X	X	X	X
	horiz	X	X	X	X	X	X	X	X	X	X	X
	diag	X	X	X	X	X	X	X	X	X	X	X
	total	69	70	71	72	73	74	75	76	77	78	79

Modes-total numbers+: single/multiple & strong/weak

March 20		March 20												
Total Number 11		total	1	2	3	4	5	6	7	8	9	10	11	
strong	total	13	13	14	15	16	17	18	19	20	21	22	23	24
	discrimin. 11	X	X	X	X	X	X	X	X	X	X	X	X	X
weak	total	13	13	14	15	16	17	18	19	20	21	22	23	24
	discrimin. 11	X	X	X	X	X	X	X	X	X	X	X	X	X
strong	total	29	30	31	32	33	34	35	36	37	38			
	discrimin. 11	X	X	X	X	X	X	X	X	X	X			
weak	total	29	30	31	32	33	34	35	36	37	38			
	discrimin. 11	X	X	X	X	X	X	X	X	X	X			
strong	total	39	40	42	43	44	45	46	47	48	49	50		
	discrimin. 11	X	X	X	X	X	X	X	X	X	X	X		
weak	total	39	40	42	43	44	45	46	47	48	49	50		
	discrimin. 11	X	X	X	X	X	X	X	X	X	X	X		

March 20		March 20												
Total Number 11		total	1	2	3	4	5	6	7	8	9	10	11	
strong	total	13	13	14	15	16	17	18	19	20	21	22	23	24
	discrimin. 11	X	X	X	X	X	X	X	X	X	X	X	X	X
weak	total	13	13	14	15	16	17	18	19	20	21	22	23	24
	discrimin. 11	X	X	X	X	X	X	X	X	X	X	X	X	X
strong	total	29	30	31	32	33	34	35	36	37	38			
	discrimin. 11	X	X	X	X	X	X	X	X	X	X			
weak	total	29	30	31	32	33	34	35	36	37	38			
	discrimin. 11	X	X	X	X	X	X	X	X	X	X			
strong	total	39	40	42	43	44	45	46	47	48	49	50		
	discrimin. 11	X	X	X	X	X	X	X	X	X	X	X		
weak	total	39	40	42	43	44	45	46	47	48	49	50		
	discrimin. 11	X	X	X	X	X	X	X	X	X	X	X		

Modes-total numbers+: continuous/discontinuous

March 20		March 20												
Total Number 11		total	1	2	3	4	5	6	7	8	9	10	11	
strong	total	13	13	14	15	16	17	18	19	20	21	22	23	24
	discrimin. 11	X	X	X	X	X	X	X	X	X	X	X	X	X
weak	total	13	13	14	15	16	17	18	19	20	21	22	23	24
	discrimin. 11	X	X	X	X	X	X	X	X	X	X	X	X	X
strong	total	29	30	31	32	33	34	35	36	37	38			
	discrimin. 11	X	X	X	X	X	X	X	X	X	X			
weak	total	29	30	31	32	33	34	35	36	37	38			
	discrimin. 11	X	X	X	X	X	X	X	X	X	X			
strong	total	39	40	42	43	44	45	46	47	48	49	50		
	discrimin. 11	X	X	X	X	X	X	X	X	X	X	X		
weak	total	39	40	42	43	44	45	46	47	48	49	50		
	discrimin. 11	X	X	X	X	X	X	X	X	X	X	X		



Detailed information on The Continuity of Pre-Islamic Motifs in Javanese Mosque Ornamentation, Indonesia can be found in a Korean book version, called “Syncretic Architectural Heritage in Javanese Islam”. Published by Korean Studies Information, 2015. <http://ebook.kstudy.com>

Dr Hee Sook Lee-Niinioja, born in South Korea, became the pioneer student in Scandinavia in the 1970s. She has educations in journalism (South Korea), art and design (Norway), visual communication (USA), and architecture (UK). As an artist/designer/journalist/scholar, she has travelled the globe for her exhibitions "Goethe in Me" as well as presenting/publishing her scholarly research and journalistic activities. She is specialized in 'syncretic architecture between different religions', 'creative but logical thinking', and 'colour and emotions', for better dialogues through the commonness. Moreover, she has volunteered to humanitarian works while teaching at different institutes during her residence abroad as a member of the Finnish diplomatic corps. She received awards and appreciations, including the Civil Merit from the President of South Korea. Residing in Finland, she is engaged with art, writing, research and cultural heritage issues at ICOMOS.



NOVEL & NOBLE COMMUNICATIONS