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RECONSTRUCTION OF THE EARLIEST MOSQUE IN MALAYSIA USING VIRTUAL REALITY TECHNIQUE.

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Abstract (EN)

It is difficult to reconstruct with any real certainty to how Islam first came to Malaysia. Due to lack of information, historians tended to regard that an identifiable starting point for Malay history is in the 1400s when Melaka Sultanate was established.(Nik Hassan Shuheimi, 1986).

It is the aim of this research to establish the nature of those early settlements and that will hopefully provide us with some clues on how Islam as a great religion was integrated into the cultural and traditional fabric of the early pagan Malays. The information gathering process on the probable existence of the earliest mosque has highlighted related issues regarding conservation and heritage management in Malaysia. These findings have led us to the definition (or re-definition) of what is known as “Islamic Architecture” whether it is influenced by culture, if it carries a certain language, forms or function.

The use of virtual reality techniques in heritage and conservation practice is deemed important in Malaysian scenario due to lack of documented information. The reconstruction exercise will help us understand our history and what steps needed to be taken in the future to preserve items of historical values. It is also hopeful that this will set a precedent to the direction of the conservation practice in Malaysia.

Keywords: Reconstruction; Earliest Mosque; Malaysia; Heritage Management; Islamic Architecture; Virtual-Reality.

Zusammenfassung (DE)

Es ist schwierig zu rekonstruieren, wie der Islam nach Malaysia gekommen ist. Aufgrund des Mangels an Informationen tendieren Historiker dazu das um 1400 entstandene Sultanat Melaka als Ausgangspunkt der Malaysischen Geschichte zu sehen.

Ziel unserer Forschungstätigkeit ist es die Merkmale früher Siedlungen zu ermitteln. Diese, so hoffen wir, werden uns einige Anhaltspunkte darüber liefern, wie der Islam in die kulturelle und traditionelle Struktur der frühen heidnischen Malaien integriert wurde. Bei der Informationsbeschaffung über eine mögliche Existenz einer frühesten Moschee wurden verwandte Themen bezüglich der Erhaltung und des Managements von kulturellem Erbe beleuchtet. Die Ergebnisse haben uns zu der Definition (oder Neudefinition) dessen veranlasst, was als „Islamische Architektur“ bekannt ist.

Dem Einsatz der Technik der virtuellen Realität für die Erhaltung des kulturellen Erbes wird in Malaysia aufgrund des Mangels an dokumentierten Informationen eine große Bedeutung

zugemessen. Der Prozess der Rekonstruktion der frühesten Moschee wird uns dabei helfen unsere Geschichte und welche Schritte für die Erhaltung von Gegenständen mit historischem Wert in Zukunft unternommen werden müssen zu verstehen. Darüber hinaus hoffen wir, dass dieses Projekt als richtungweisendes Beispiel für die Praxis der Bewahrung kulturellen Erbes in Malaysia vorangehen wird.

Schlüsselwörter: Rekonstruktion, früheste Moschee, Malaysia, Management von kulturellem Erbe, islamische Architektur, virtuelle Realität.

Résumé (FR)

Il est difficile de savoir avec certitude de quelle façon l'Islam est arrivé pour la première fois en Malaisie. En raison du manque d'information, les historiens tendent à considérer qu'un point de départ identifiable pour l'histoire malaise se situe au XV^{ème} siècle quand le sultanat de Melaka s'est établi. (Nik Hassan Shuheimi, 1986).

Le but de cette recherche est d'établir la nature de ces premières installations, ce qui pourrait nous donner des indices sur l'intégration de l'Islam en tant que religion importante dans le tissu culturel Malais païen. Le processus de collecte de l'information sur l'existence probablement ancienne d'une mosquée a soulevé des questions relatives à la gestion et à la conservation du patrimoine en Malaisie. Nos résultats nous ont conduit à définir (ou redéfinir) ce qui était considéré comme "l'architecture islamique" selon l'influence culturelle, en fonction de l'intégration d'un certain langage, de formes ou de fonctions.

L'utilisation de techniques de réalité virtuelle pour la conservation du patrimoine est considérée comme très importante en Malaisie en raison du manque de documentation. L'exercice de reconstruction nous aidera à comprendre notre histoire et à envisager quelles mesures doivent être prises à l'avenir pour conserver les éléments ayant une valeur historique. Il est également espéré que ce projet créera un précédent dans les pratiques de conservation en Malaisie.

Mots-clés : Reconstruction, Première mosquée malaise, Malaisie, Conservation du patrimoine, Architecture islamique, Réalité virtuelle.

I. Background of Research

1. Introduction

The word ‘mosque’ originates from the word “**Masjid**”, meaning the place where people prostrate to God. Hence it is referred to the House of Allah (*Bait Allah*) –a place where only Allah is worshipped and remembered as indicated in Surah AnNuur:36,

“In houses, which Allah has ordered to be raised, in them His Name is glorified in the mornings and in the afternoons or the evenings”.

The Mosque represents the establishment of a Muslim community; it is the nucleus that created the characteristics of the Muslim society. According to Islamic beliefs, the first house ever constructed on earth is the House of Allah, Kaabah, in Makkah Mukarramah by the Prophet Adam (a.s). It was then reinstated and restored by Prophets Ibrahim (a.s) and his son Ismail (a.s). Prophet Muhammad (s.a.w) built the Quba Mosque in Medinah right after his Hijrah, to signify the born of a new Muslim community there. According to Seerah, in the past the functions of the mosque were among others:

- A *madrasah* – a learning school for all types of religious, literary and scientific subjects
- A court – where justice was carried out
- A communal forum – where citizens discussed their problems with the ruler.

The local scholars have mentioned that the arrival of Islam in Malaysia was approximately in seventh, eighth and ninth century. However, according to the China Catatan, Yuan Dynasty, and Marco Polo reports, European scholars extended the arriving period to the 13th century. According to archaeological findings, there is reason to believe that early Muslim traders introduced the gold coinage in the Northern Malay states (Kedah, Patani, Rahman, Jering, Sai, Legeh, Kelantan, Trengganu). But whether this is indicative of the earliest Muslim settlement in Malaysia is still a question that needs an answer. As quoted from (Fletcher, 1961), once this is established, then the nature of that settlement will provide us with some clues on how Islam as a great religion was integrated into the cultural and traditional fabric of the early pagan Malays. Muslims were not blind imitators but were content to adopt each local style that they found, modifying it mainly in distinctive ornamental details, but also introducing several important new features of plan and structure.

2. AIM AND OBJECTIVES

The research aims at identifying the first establishment of the Muslim community in Malaysia in the context of the built environment. The research also attempts to explore the process of the development of physical and functional character of the earliest mosque and how it has been integrated into the local context. The objectives of this research hence are as follow:

- i. To identify the earliest mosque in Malaysia in order to establish the probable period and time, on how and when Islam first came to Malaysia
- ii. To investigate through historical findings the form and function of the mosque
- iii. To investigate the impact of this mosque towards the urban fabric of the society at that time
- iv. To compare and contrast the function of the mosque with current functions of the contemporary mosque
- v. To reproduce this mosque and reconstruct the findings in a virtual reality environment to enable us to appreciate our cultural heritage and establish a link between the past, present and future
- vi. To instil awareness of the value of cultural heritage to a civilisation.

3. METHODOLOGY OF THE RESEARCH

The research is conducted through primary and secondary data collection. Since the research is to investigate the first establishment of Muslim community in Malaysia through archaeological, historical and architectural evidences, several necessary methods are carried out which include the compilation of Islamic history of Malaysia, conducting interviews with relevant authorities, historians and communities, site visits to identified historical sites. These data findings are reviewed and analysed. The compilation of data through discussions with related authorities is the most important in order to document and record the development of the earliest mosques and the impact of the mosque to the surrounding community. On the other hand, fieldwork survey of the physical condition of the identified mosque is needed to justify its present condition.

To investigate the first establishment of Muslim community and which is the earliest mosque in Malaysia, several study area in Malaysia has been identified as the samples of this research. Those selected site is based on the historical findings and evidences on the assumptions on the coming of Islam to Malaysia. Those study areas are located in Melaka, Kedah, Terengganu, Kelantan and Demak in Central Java, Indonesia. Demak has been chosen due to the resemblance of its mosque architecture to the Kampung Laut Mosque in Kelantan, which is identified as the oldest surviving mosque in Malaysia.

4. THE SCOPE OF STUDY

The preliminary stage of the research involved a series of literature review on the background of the early Islamic establishments in Malaysia and the impact of the mosque to the community. Hence, the study is narrowed down to these topics:

- i. The theory of the coming of Islam to Malaysia and its influences on the community
- ii. The evolution of the mosque architecture and its function
- iii. The impact of a mosque to the society
- iv. Issues of conservation and heritage management in Malaysia
- v. Suggestion on the best method to promote awareness of cultural heritage

The research concluded with summarizing the findings, spelling out the limitation regarding the study and produce recommendations or proposals relating to the problems identified throughout this research. Virtual-reality technique is suggested as the means of presentation, to demonstrate how digital technology could be used to promote cultural heritage awareness. These proposals will lead to the improvement of the current practice in terms of conservation and heritage management in Malaysia; documented in digitised form for future reference.

5. EXPECTED OUTPUT

At the end of this research, the expected result of will be a model of the mosque and its surrounding simulated in virtual reality environment that could be interactive; and this model could be used for future reference and further studies. It is expected that through the process of gathering information on the probable existence of the earliest mosque, related issues regarding conservation and heritage management in Malaysia will be highlighted. These findings will help us to understand our history and what steps needed to be taken in the future to preserve items of historical values.

It is also hoped that these findings will lead us to the definition (or re-definition) of what is known as “Islamic Architecture” whether it is influenced by culture, if it carries a certain language, form or function. The exercise of introducing the use of virtual reality techniques in built environment especially in applied arts and conservation fields will set a precedent to the direction of the programmes offered by the University specifically, and the conservation practice in Malaysia generally.

II. HISTORY OF ISLAM IN MALAYSIA

1. THE THEORY ON THE COMING OF ISLAM TO MALAYSIA

Since its foundation in Medina during the time of Prophet Muhammad (pbuh), Islam is recognised as one of the fastest growing religion. Throughout the passing years, Islam spread across continents and boundaries, including the Southeast Asian countries. Before being known as Malaya or Malaysia, traders from China and Middle East countries have recognized the South-east Asia as Malay Archipelago. During the thirteenth, fourteenth and fifteenth centuries, the teaching of Muhammad were introduced to Malay Peninsular and the coastal communities of Sumatra, Java, the Sulu archipelago, Borneo, Kalimantan, southern Sulawesi and Maluku. But according to evidence found from gravestones in North Sumatra and east Java, some of the ruling families have converted to Islam at least two centuries earlier.

There has been no consensus opinion on how Islam was introduced to this part of the world. China, India and Hadramaut in southern Arabia seemed to be favoured by most scholars as the likely originating sources of the faith to this archipelago. Islam was spread either via the traders who stopped by the coastal regions where trading opportunities were more accessible; Sufi missionaries; marriage with a daughter of the royal household; and conversion of the king.

Due to the trading opportunities in the region, the arriving of Muslims from Arabia, Iran and India expanded Islam. They already established their emporiums along the coast such as Gujerat , Malabar and up to Bengal. Like Hindu and Buddhist travellers more than a thousand years before, they sailed to south east and followed the same routes. As mentioned by H. O’Neill, (1994), the kingdoms of Dvaravati, Funan, Chenla, Champa and Angkor in regions of mainland South East Asia had interacted with those Kutai in East Kalimantan.

Srivijaya in Sumatra and others in Central and East Java, all under inspiration from Hindu and Buddhist doctrines from the early beginnings five hundred years before the birth of the Prophet. Therefore, it is probable that a few of converted Chinese and Indian would have been practising their faith at settlements in the estuaries along the sheltered coastlines some time before the end of the thirteenth century. Missionaries sailed the width and length of the Malay Archipelago to disseminate words of Islam to the inhabitants of these lands. They plied far and wide, with tremendous energy and devotion to fulfil their call of duty. South-East Asia became the trade routes passing between the traders from Middle East to China.

H. O'Neill, (1994) also mentioned that Chinese and European visitors recorded that Indian and Arab Muslim were establishing their trading presence and introducing their religion to coastal communities. During his second visit to Sumatran north-coast towns in 1292, Marco Polo noted that the ruler of Perlak had adopted the teachings of Muhammad. In the early fifteenth century, Malacca was established as an important trading port after its founder, Parameswara was converted to Islam before the region was attacked by Portuguese naval force in 1511.

According to the local scholars; the arrival period of Islam was the seventh, eight, and ninth century. However, according to the China notation from the Yuan Dynasty and Marco Polo report, they seem to extend the arrival period to the thirteenth century. Studying the Malay history, the European and local scholars have always differed in their period dating. According to Syed Muhammad Naquib al-Attas, the finding of slab inscription in Kuala Berang, Terengganu is the evidence of the earliest Islamic arrival in Malay during the fourth century or earlier than that. Compared to European scholars such as D.G.E. Hall and Harrison, they assumed that the dating period was during fifteenth century.

A.Kamar explained that before the coming of Islam, the indigenous Malays embraced an ancient religion with various forms of belief with some of the population belonging to the Hindu/Buddha religion. Life was structured and arranged in ways that showed the influence of more than one religion. This can be seen not only in the Malay's cultural patterns but are also part of the 'power' structure of state dignitaries and princes. At the political level, the royal ruler and the head of state in most communities in the Malay world embraced the Islamic religion. The people were impressed and attracted by the provision in the Qur'an and the Hadith that mankind should be ranked on a basis of interpersonal equality. Those who for so long had been considered of *low caste* saw how the different strata of Islamic society were

laid before them. They were no longer imprisoned within a religious caste system and the notion of living in "classes". In Islam there was no discrimination, or division on the basis of colour, class tribal affiliation, race, homeland and birthplace, all of which gave rise to problems. Equal rights seemed to be the right human solution, which in practice meant the acceptance of rights and obligation as a member of the Islamic Community. The pious person achieved submission and nearness to God.

According to A.J.Moain, he defined the arrival of Islam based on the evidence of earliest Arabic inscription in Malay Archipelago. He mentioned that the Arabic inscription has been introduced in the region as the writing in Malay lettering. The earliest evidence of the stone inscription in the Malay Archipelago dated back to the tenth century found in a few locations:

- (i) Kedah (during Langkasuka period), on the tombstone of Syeikh Abdul Qadir ibn Husin Syah Alan in 910/290 H
- (ii) Brunei Darussalam, on the tombstone of Sultan Abdul Majid ibn Mohamad Syah al-Sultan's princess in 1048/440 H
- (iii) Vietnam, on the tombstone in Phang-Rang (known as South- Champa) in 1039/431 H
- (iv) Pekan, Pahang, on the dated tombstone of 14 Rabiul Awal 419 H.
- (v) Grisek, Jawa Timur, on the tombstone of Fatimah binti Maimun binti Hibat Allah, in 1082/475 H

However, the exact period dating of the arrival of Islam and exact place in Malaysia were still unknown. Some scholars verified that Kedah is the first settlement of Muslim, but others claimed Melaka is the first Islamic State since Melaka has clearer historical finding.

Arab and Iranian traders opened their own settlements wherever they trade. That was what had happened in Canton, Champa, India, Africa and other places. They became well respected and influential in all levels of society. There is no doubt that Islam had arrived in Kedah in the 9th century A.D. and some of its local population had already embraced the religion. Dr. Syed Naguib al-Attas made the following assumption:

"After the Muslims had formed a large settlement in Canton (ever since the first century Hegira or the 7th century A.D.), they were free to practice their own religion and to execute their own civil laws, it would therefore easy to assume that they would continue the practice in their new settlement in Kedah

and Palembang, after their migration from Canton. The migration could be the first indication of the coming of Islam into the Malay Archipelago (Nusantara)."

(Syed Naguib al-Attas, 1969: 11)

Chinese travellers noted that there were many people in Kedah who had the word 'pu' at the beginning of their names. Experts on the Chinese language agreed that 'pu' could be a corruption of the word 'Abu'. This only serves to prove that there were already a large number of Muslims at that time. If the hypothesis is correct then it is true that Kedah had embraced Islam Since 877 A.D

The historical findings of slab inscriptions in some places along coastal area from Indo-China to Terengganu has inspired some scholars to expressed their opinions that the arrival of Islam in Malay archipelago originated from the east of China. This is according to the finding of slabs inscription in Phang-rang (Vietnam) which dated 416/431 H (1025/1039). The Islamic teaching was later spread by missionaries and traders to the east of South China Sea. The finding of tombstone that belonged to a woman, Makhdara in Brunei dated on 1048 M supported this opinion.

2. EARLIEST EVIDENCE OF ISLAMIC ARRIVAL IN MALAYSIA

ITEMS	AGE/ TIME PERIOD	LOCATION	SIGNIFICANCE
Gold coin	1236	Langkawi	Evidence of Islamic state of Kedah
Gold coin	577 H	Kelantan	Evidence of Islamic state of Kelantan
Batu Bersurat	4 Rajab 702 H/ 22/02/1303	Kuala Berang, Terengganu	Earliest evidence of Islamic arrival in Malaya in 14 century
Tombstone Syeikh Abd Qadir ibn Husin syah Alam	290/910 H	Kedah (Langkasuka period)	Earliest Arabic Inscriptions
Tombstone	14 Rabiul Awal 419 H/ 1028	Kg Permatang Pasir, Pekan, Pahang	Earliest Arabic Inscriptions
Kg Laut Mosque	17th Century	Nilam Puri, Kelantan	Earliest mosque in Malaysia
Tok Tuan Mosque	More than 100 years	Chukai Kemaman, Near to new mosque	
Kg Hulu mosque	1728/1141	Melaka	First mosque during Dutch period
Peringgit mosque	1720 AD	Melaka	Among earliest mosque during Dutch period
Tengkera mosque	1728/ 1141 H	Melaka	Melaka State mosque
Kg Kling mosque	1748/ 1152 H	Melaka	Among earliest mosque during Dutch period

3. THE EVOLUTION OF THE MOSQUE ARCHITECTURE IN MALAYSIA

The earliest mosques in Malaysia are not only pleasing to the eye and left historical significance; they also offered other functional uses for the surrounding society. It is impossible to isolate the Malay Peninsula from the rest of the communities scattered throughout the South-east Asia archipelago. The influence of Hinduism, Buddhism, Confucianism, Tao and Christianity has left a remarkably richly diverse architectural language that has left impacts on the mosque architecture.

The early timber mosques in South-East Asia found their richest expressions in the Indonesian archipelago. The centralized timber-columned hall with centralized roof form multiplied vertically found its origin in the sacred architecture of the Indian subcontinent. Amazingly so, elements widely associated with Islamic architecture elsewhere, such as the dome and geometric surface ornament, do not feature in these tradition. In fact, it was only in the nineteenth century that mosques with domes were first built in South-East Asia. With the arrival of the Western powers to this area, the people of Malay Peninsula whose own traditional roots were not influential enough to evolve a form of its own, quickly adopt the new expression given by the new authority. Through the auspices of the colonial authorities and community leaders, mosques and palaces were designed using styles variously referred to as Mughal or Indo-Saracenic. According to Hugh O'Neill (1994), many of the buildings were inspired by contemporary construction programmes of the British Raj and of wealthy princes in India.

4. THE SIGNIFICANCE OF ESTABLISHING KAMPUNG LAUT MOSQUE AS THE EARLIEST MOSQUE IN MALAYSIA

The oldest surviving mosque in Malaysia is Masjid Kampung Laut, believed to be erected by Muslims arriving by the sea in the seventeenth century. It is located in Kampung Laut, a coastal settlement near Kota Bharu, capital of the State of Kelantan in Malaysia. It was removed from its original location to the campus of the Centre for Higher Islamic Studies, Nilam Puri in 1970 due to the changes that occurred to the coastal line of the River of Kelantan. Currently Kampung Laut is located approximately 4.8 kilometres from the coastal line of the River of Kelantan. Originally the site of the mosque was only 0.9 kilometres from the riverside. According to N.A Halim, the mosque was originally located in the middle of a

big graveyard and next to the palace of the ruler of Kampung Laut (Raja Kampung Laut). A visit made to the site now witnessed a small portion of what was known as the back graveyard of the original mosque.

The establishment of the earliest mosque in Malaysia closely accompanies the formation of Islamic history in Malaysia. The Kampung Laut Mosque architecture echoes much resemblance to the strong Java-centred tradition of tall, multi-roofed, open halls with timber columns as structural supports. It is said to take precedence from the Demak mosque in Central Java that was built in 1474.

The departure of the Kampung Laut Mosque's architecture from the rest of the surviving mosques identified as the earliest in Malaysia, suggests the difference of route and source of the coming of Islam to Malaysia as widely believed before. According to A.Z. Abidin, it was the Javanese travellers on their journey up to Indo China that built this mosque. If this is correct, then the hypothesis will be that there might have been some sort of connection between the Muslim establishment in Kelantan and that of Demak, which was founded by a Chinese Muslim named Cek Ko-Po. Hence the source of the coming of Islam to Kelantan might be from China and this hypothesis needs to be explored further to understand the implications of this establishment to the local community.

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Born in Seremban, Malaysia. Received tertiary education in Architecture from The University of Newcastle, Australia and later Masters in Design Computing from University of Sydney. Lived in Sydney since 1990, worked in the areas of architecture and design, computer graphics and desktop publishing, computer systems and networking in Australia before studying Arabic language and Islamic Law together with her husband in Jordan. Started living in Malaysia since 2002, setting up an interior design practice and consultancy with her husband, with an interior decoration showroom specialising in custom-made teak wood furniture and accessories. Among projects ventured are timber carvings and decorations for several mosques in Malaysia. Joined International Islamic University in August 2003 and helped in formulating the curriculum for the Bachelor of Applied Arts and Design programme which offers three majorings: Interior Design, Industrial Design and Conservation. Her interests include digital technology and artificial intelligence in design.

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Born in Sabah, Malaysia. Received tertiary education in Architecture from The University of Technology, Malaysia and later furthered his studies in Bachelor of Arts majoring in Architectural Stain Glass from V.I.T.A, United Kingdom. Received his Masters in Arts from Prince's Foundation, V.I.T.A. majoring in Visual Islamic and Traditional Arts. Worked in architectural practices and interior design companies. Has done a few researches in Conservation Practice in Malaysia. His interest includes the application of Virtual Reality and Digital Technology in conservation practice. He is currently the Head of Department of Applied Arts and Design, (which offers three majorings: Interior Design, Industrial Design and Conservation) at The International Islamic University Malaysia.