

# The Devil in the Details: Analysing the Ethno-Cultural *Blending in Malaysian Museum Buildings*

Nor Hafizah Anuar,<sup>+</sup> Muhammad Ilmam Tharazi,<sup>++</sup> Yasmin Mohd Faudzi<sup>3</sup> & Najah Md. Alwi<sup>4</sup> (Malaysia)

## Abstract<sup>++</sup>

Museums are often used as a ‘visualizing technology’ to project the cultural identities of a nation or a particular demographic. The choice of building, either newly constructed or converted from an historic structure, places the importance of its architectural features to convey certain meanings over others. Using comparative analysis on multiple case studies as the main method for data collection, this paper identifies the architectural features on three selected building facade of Penang museums in relation to one another. It will then determine the cultural influences to explore the mechanism of ethno-cultural blending integrated into the architectural styles. Penang was chosen due to its heterogeneous population, allowing for symbiotic blending of diverse cultures, ethnicities and religions. Hence, highlighting the significant role that architecture plays in shaping not only the design of a museum but also in projecting the national identities through the political and historiographical complexities of cultural blending.

**Keywords:** Asian Architecture, Ethno-cultural Blending, Museum Design, Malaysian Buildings, Malaysian Architecture, Malaysia

<sup>+</sup> Nor Hafizah Anuar, Senior Lecturer, Architecture Department, Faculty of Architecture & Ekistics, Universiti Malaysia Kelantan, Malaysia. email: norhafizah@umk.edu.my & anuarhafizah83@gmail.com.

<sup>++</sup> Muhammad Ilmam Tharazi, Independent Researcher, Malaysia. email: ilmamtharazi@gmail.com.

<sup>3</sup> Yasmin Mohd Faudzi, Lecturer, Architecture Department, Faculty of Architecture & Ekistics, Universiti Malaysia Kelantan, Malaysia. email: yasmin.mf@umk.edu.my.

<sup>4</sup> Najah Md. Alwi, Senior Lecturer, Architecture Department, Faculty of Architecture & Ekistics, Universiti Malaysia Kelantan, Malaysia. email: najah.ma@umk.edu.my.

## Introduction

Many of the listed heritage buildings that have outlived its original purposes are often re-adapted into new uses and functions. Among its later incarnations, was to be converted into a heritage museum, which ensuring the survival of the building into the future all the while retaining its architectural features of the past. Indeed, not all heritage buildings could serve this specific purpose, as it should be deemed suitable enough to be able to cater to the needs of a museum. Apart from the technical particularities, often the building also has historical connections associated with the theme or subject presented in the museum.

The UNESCO's Convention Concerning the Protection of the World Cultural and Natural Heritage (1972) has already defined the criteria of cultural heritage in three main classifications of Monuments; Groups of buildings; and Sites. These classifications are all adopted into the Malaysian National Heritage Act 2005 for heritage property listings and conservation works (Siti Norlizaiha, 2011). While the 2005 Act refers to a set of unique architectural criteria to be present, it has yet to include a further specific requirement for the conversion of a heritage building into a museum building. This study emphasizes on how the choices of heritage buildings converted into museums should be drawn from the application of criteria item no. I of "the historical importance, association with or relationship to Malaysian history" and item no. Vi in possessing "the importance of exhibiting a richness, diversity or unusual integration of features, " as part of Malaysian National Heritage Act 2005 criteria (Act 2005 in Siti Norlizaiha, 2011) rather than just be derived out the convenience for the heritage list upkeep and maintenance.

From the museological perspective, a museum could be symbolically defined as a curated representation of a nation or a particular community. Museum, as an institution reflects what self-identity the nation or the community wants to project. Using Macdonald's framework (1996) of theorizing museums as a 'visualizing technology,' this paper argues that the museum building itself, either purposely built or a conversion from an existing structure, is part of the chosen 'visual' to represent the constructed projection of self. Focusing on museums housed in heritage buildings, this paper seeks to analyze the facade of the chosen museums, which serves as the first outer layer of this visualizing technology. This paper therefore, intends to highlight the significance of heritage museum buildings as a proxy for the nation's constructed identity. The city of Georgetown, Penang provides a suitable case for showing how this mechanism works.

## Literature Review

Architecture has a way of connecting the functional physicality of a designed space with personalized memory and meanings from its surrounding context. From the perspectives of cultural and heritage research fields, buildings are considered as a form of culture embodiment that shares much of their social, political, economic stories (Lounsbury, 2010) within its structure, properties and intricate elements. This is where heritage buildings, particularly ones that have been refashioned and reconciled its use into becoming museums, can contribute to providing the "details" about the identities of the people shaping the ethno-cultural architectural styles.

Building facade conformation and configuration are one of the vital urban physical factors which effectively harmonizing the ambience of the urban space (Alishah et al., 2016). The building styles can show phases of trends according to historical periods, regions and cultural effects. The uniqueness of architectural styles comes from the fact that each style combines a certain set of architectural elements and ornamentations in its period of conception that represents a function and meaning. Facades of architectural styles do not repeat each other, since the variations of structural elements; facade decorations and ornamentations are unlimited.

### **Ethno-cultural Blending in Malaysian Architecture**

While post-independence Malaysia is known for its ethnically diverse demographics, many scholars have suggested that much of the mechanism that contributes to its current multi-ethnic architectural vibrancy took place between the 14th to the early 20th century (Ghafar, 1994). This is also due to the unique development of a particular Malaysian architectural style known as the *Peranakan* style, particularly concentrated in several of the selected geographical areas where of the Straits Settlements were located: namely Melaka and Penang Island, along with Singapore which was also part of the Malay Peninsula at the time. It is important to note that these identified areas are also the same settlements where multi-ethnic society lived together and thrived.

The term *Peranakan* is a Malay reference for the lineage of descendants of mixed marriages between the local indigenous people of the Malay Peninsula and immigrants that had throughout generations, managed to assimilate the two cultures together in their everyday life. Although the term could be technically used to describe the various communities of mixed descendants, it is however commonly used to refer to those of Chinese descent, the *Baba-Nyonya*, due to their larger numbers and more prominent positions in society. This paper specifically uses this term in the context of architectural heritage features of a building, which highlight examples of cultural blending process in Malaysia. Further description of the concentrated *Peranakan* Chinese architecture is detailed in the next section.

On the matter regarding the evolution of the *Peranakan* or “Straits” architectural style, it must be noted that before the East India Company was disbanded in 1858, the foundation of the “Straits” architecture started with the establishment of military engineers that advanced from Britain to India and the Strait Settlements. According to Lim (2015), during this period the engineers shared equal privileges in the architectural practices, with architects remaining subordinate to engineers. It was only after 1895 that the British colonial governments started employing qualified architects and many who came brought their architectural skills and their knowledge of the burgeoning empire to reflect the sense of imperialist tradition (Ghafar, 1994). Their private projects, on the other hand, which consisted of townhouses and mansions, reflected on the ethnic background of the elite clients who commissioned them. These architects had to adapt their designs to satisfy the varied living conditions in the multi-ethnic society at the time of the construction.

These adaptations resulted in an architectural hybrid between the European colonial influences, modelled in a fusion of various cultures, each with their own needs and varied lifestyles. The variety of influences for the eclectic architectural style originated from the migration of people from other parts of Asian regions, traders and travellers from China, India, and the Middle East from before and during the colonial period. It was only appropriate for architects involved to devise an architectural scheme to suit the taste and the outward appearance for the affluent classes. Different clients favoured certain styles; with the Chinese Peranakan clients often preferred more intricately ornamented houses (Lim, 2015).

While the ports of the Strait settlements existed before the colonial rule, this process of ethno-cultural blending, together with the European cultural heritage and legacies that existed in colonial times had left significant impacts on the country's cultural development, which can be visibly appreciated in many heritage buildings that remain today.

### Chinese Peranakan Architecture

The start of the Chinese *Peranakan* lineage is said to begin in the five port centres of Southeast Asia (Melaka and Penang (Malaysia), Singapore, Phuket (Thailand) and Yangon (Myanmar)). These towns were linked not only by its business interest but also through the bonds between the temples and personal alliances that facilitated the continuation of inter-marriages between the local townspeople (of each town) and the established Peranakan families. For the Chinese *Peranakan*, much of the local culture in practice included food preparation, traditional costumes and use of local languages. How these features are assimilated into their culture and the everyday environment is also present in the architecture of Chinese *Peranakan*.

In Penang, up until the late 19th century, the Chinese craftsmen mainly duplicated the styles of existing buildings with the aid of readily available book references. During that time, it was the combination of building materials imported from China, using trading vessels, with local materials such as timbers that created a pleasant grand residence which purposely imitated the style back home for the Chinese *Peranakan*. Meanwhile, some tropical climatic considerations, mimicking the indigenous Malay house, were adapted which can be seen in the building design such as the use of projecting verandah, broad eaves overhangs, walls' ventilation grilles, roller blind made for shading and large windows and doors.

The combination of specially skill-set knowledge applied in the construction of these shophouses can be seen and identified by studying the detailings of the facade composition where the characteristics of the ethnic-influenced architectural elements are placed. These elements include the Chinese friezes, '*pintu pagar* half door,' the Palladian-style fanlight, the arched French windows, the intricate Malay fretwork and ventilation grilles, egg and dart moulding, extravagant cornices, tropical timber louvres, the glazed English tiles, the fluted pilasters as well as the ornate Corinthian and the austere Doric columns. Borrowing the western architectural elements, adapted to hot and humid living conditions, coupled with

symbolic enhancement derived from traditional Chinese motifs are what made the Chinese *Peranakan* architecture unique, as recognized by UNESCO with the inscription of the historic centres of George Town and Melaka as part of the World Heritage Site in 2008.

Other notable features include the use of the external color schemes that differentiate between the urban structure in Southern China and the early Southeast Asian urban settlements. Whereas the original construction method was commonly made of lime plaster that turned into a mottled white and muted earth tones by ages, wherein the Chinese *Peranakan* architecture in the Straits Settlements, more vibrant tones in time began to emerge, first with ochre, green and indigo.

### **Museum as a Symbol of National Identity**

Museum can be defined as 'a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment' (International Council of Museums, 2007). Museums like to be perceived as neutral, although activities they conducted thrust them into the position of power; able to influence the way societies make sense of the world. The choice of building to house a museum, either in a new construction or historic structure, therefore reflects the ideals and aspirations museums like to project, and such choices need to be scrutinized.

The proliferation of museums in the late 19th century coincided with the rise in the nationalistic tendencies within the European nations which later spread to the other parts of the world throughout the 20th century (Whitehead, 2013). These national museums serve as a validation for the nation's constructed history, showcasing the pride and achievement of often-fragile national identity. In Malaysia, where cultural heritage is regarded both an attraction and a learning tool for the public, museums are quickly becoming a niche product in the Malaysian tourism industry (Shamsidar et al., 2013). Ramey-Gassert, Walberg and Walberg (1994) acknowledge the fact that museum as one of the cultural institutions that form an integral part of the broader learning experience, playing a key role in educational leisure. It could be argued that apart from serving as an institution to spread knowledge, the role of museums should also be seen as an asset for investment in supporting the tourism industry not only in the cities but also for the country.

### **Methods**

Several qualitative methods were employed to collect data and assess the aesthetic nature of this study. The recognition of the historic schemes on the façades of heritage buildings in Malaysia began first with a literature study of the socio-demographic and architectural history of the case study area of George Town, Penang. Relying on sources from secondary data, which included textbooks, reports

and publications from an already established body of scholars such as the literature provided by George Town World Heritage Incorporated (GTWHI), were used to determine how to conduct the research and proceed with case study selection, data collection and analysis methods.

The case study method was used for this project as Yin (2009:4) suggests that "the case study method allows investigators to retain the holistic and meaningful characteristics of real-life events" and when the focus is on a contemporary phenomenon within some real-life context (Yin, 2017 & 1992). It was important that each of the site selected represented a significant period of social and economic changes at the time it was built, and that the architectural facade (along with its elements) reflected the intricate cultural influences into the architectural style.

The next phase of data collection was a site visit to each chosen case studies to allow for physical examination and collection of photographic evidence of its current condition. Records were taken to allow detailed analysis of every constructed feature and element on the selected buildings. Further description of each of the case study, its location within the heritage area and significance follows the next section. It is important to note that this study covers only to the parameters set by the scholarship and allocated time of limitation, where funds are sufficient for only a set number of site visits and data collection of (secondary data gatherings) within Malaysia. Much of the historical information and accuracy of data regarding the events of the colonial periods were totally dependent on the reliability and relativity of the secondary data gathered as listed in the references section.

### **Historical Significance and Site Selection**

The island of Penang became a trading post of British East India Company in 1786 from the time it was still a part of the Kingdom of Kedah State. It was not long before the island became one of the Straits Settlements states, as it was an important seaport for Malay Peninsular where they attracted a great diversity of traders and travellers. The wealth of architectural variations prevalent in Penang reflects its historical complexities - from a colonial trading post to the vibrant cultural melting pot, which presented an opportunity to investigate the ethno-cultural blending phenomenon.

Selection of cases is an important aspect of building theory from case studies. The three (3) selected museums are located in areas of former trading areas in the historic centre of old George Town as marked in the figure below (Figure 1). The museums are the Teh Bunga Mansion, the Sun Yat Museum and Pinang Peranakan Mansion. Street locations marked the socioeconomic levels of the early urban settlers, therefore highlighting their status and wealth, and to some extent the influencing demographics of the area. Locations of case study sites on Hutton Lane, Armenian Street and Church Street each depicted the affluence of the building owners that until today remains as part of the historic part of the island.

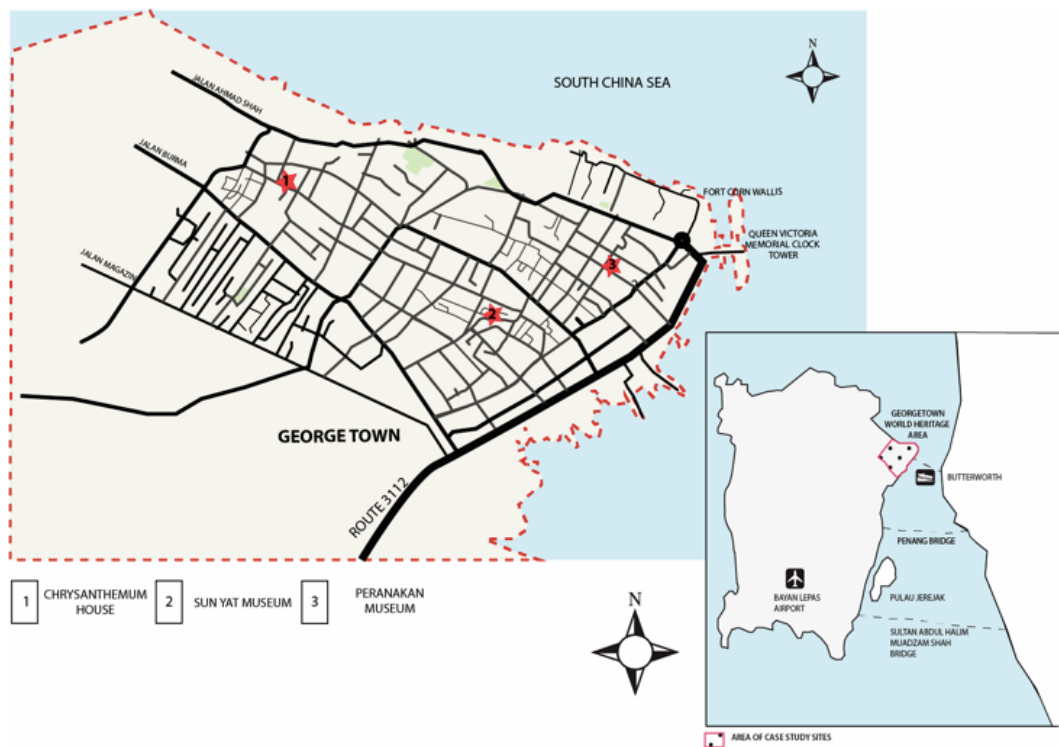


Figure 1. George Town map showing the Teh Bunga Mansion, the Sun Yat Museum and Pinang Peranakan Mansion. (Source: Authors).

## Results

### Case Study and Comparative Analysis

This study chooses to adopt a descriptive case in investigating a process of ethno-cultural blending of heritage museum buildings in Penang, Malaysia. A descriptive case study differs from an exploratory case study in that it relies on existing details from hard collected evidence (such as detailed photographs from site visits) coupled with one or more verified secondary sources to support the validity of its findings. A primary tool used for this research was to compare evidence collected from the on-site observation to several sources of scholarly literature from corresponding disciplines such as history, ethnic studies, anthropology, and sociology to help identify and explain the architectural paradigms. By cross-referencing each of the detailings on the architectural elements of the facades separately to a specific time, the particular needs of a specific ethnic group, type of material and construction style, an approximate account of ‘for whom’ and ‘for what style’ it was built for can be revealed. The next section describes a brief historical overview of each site, building typology, previous functions followed by illustrated figures of the architectural elements identified.

### *The Teh Bunga Mansion (Chrysanthemum House)*

The *Teh Bunga* Mansion is a stately double-storey heritage building in George Town. It was reportedly built by a prominent Malay trader, M.Z. Merican, the son-

in-law of Mohamed Ariff Mohamed Tajoodin, one of the richest Jawi Peranakan in the late 19th century. The *Jawi Peranakan* are Malays whose ancestral blood traces back to outside Penang, to Java, Kedah and even to Arabia. It was named the *Teh Bunga* Mansion due to its ochre hue, and also because the owner happened to also be known by the same nickname. The mansion is divided into several sections or blocks that comprise the main house, the link, the kitchen annex and the garage.

The *Teh Bunga* Mansion was occupied by several generations of a Chinese family until it was bought over by the *Jabatan Warisan Negara* (National Heritage Department). Conservation work on the mansion began in 2007, over a good 18 months, and at a cost of around RM2 million. The work included replacing parts that have been damaged and strengthening the structure. As far as possible, the original tiles are retained.



Figure 2. The *Teh Bunga* Mansion facade with identified features of architectural elements (Source: Authors).

### ***The Pinang Peranakan Mansion***

Pinang Peranakan Mansion is a large double-storey heritage mansion building located on Church Street, George Town. It was owned and built in the 1980s by one of the richest 'Kapitan China' (a government servant of the Colonial Governance) from the state of Perak, Chung Keng Quee. The mansion was also formerly known as Hai Kee Chan, which means "the Sea Remembrance Hall" in Penang Hokkien dialect. The ownership of the mansion was passed down to the descendants of Chung Keng Quee after he died in 1901 but was also formerly used by the Chinese secret society, known as the Ghee Hin. A property developer later bought it in the 1990s where it was repurposed into a museum dedicated to showcasing the Peranakan lineage of Penang. Currently, it also consists of a local gift shop to the tourists.





Figure 3. Pinang Peranakan Mansion facade with identified features of architectural elements (Source: Authors).

### ***The Sun Yat Museum***

The Sun Yat Museum was formerly a two-storey townhouse built around 1880 in the heritage core zone of the World Heritage Site of Penang. Dr. Sun Yat Sen, the founding father of Modern China had frequently visited Penang Island in his determination to convince the diaspora of Chinese citizens living abroad to support the revolutionary movement to overthrow the Qing government in the late 1800s - early 1900s period (Akram & Azizi, 2017). The building was the residence of Dr. Sun Yat Sen in his visits and also served as a gathering place for special meetings.

This building underwent a few renovations and restoration work in 1993 and completed in 1994. At present, only the ground floor is accessible to the public to be used as Dr. Sun Yat Sen's Museum, where an exhibition on the memorabilia of Dr. Sun Yat's accomplishments is shown along with the photograph past owners of the townhouse. The first floor is now converted as a hostel for travellers (Jasme et al., 2014). The ongoing renovation of the upper floors of the building into the research centre has been carried out currently.



Figure 4. Sun Yat Museum facade with identified features of architectural elements (Source: Authors).

### Façade Elemental Study

The chosen case study in this research consists of a former townhouse (Sun Yat Museum) and two former family mansions (Pinang Peranakan Mansion and Teh Bunga Mansion) currently open to the public as museums. While presented photographs of the selected case study museums illustrate several key facade features which identified the three main styles of European, Chinese and Malay, evidence also shows that the featured ornamentations (on the building facade) are of the Peranakan Chinese origins as well as the Arabs. Data collected from site investigation is reviewed into a summary of the comparative table below.

The table presents a division of identified facade features categorized according to the style features followed by columns in the order of each case study museums. Specific architectural details and distinguishing features on the building facade are organized from 'top-down,' beginning with the roof elements and ending with the ground-floor elements.

Façade Element	Sun Yat Museum	Pinang <i>Peranakan</i> Mansion	<i>Teh Bunga</i> Mansion
European			
Pediment			•
Clay roof tiles		•	•
Cornice		•	•
Column with pilaster	•	•	•
Keystone		•	•
Fanlight		•	•
Transom window		•	
Roman Arch			•
Round Arch			•
Porte Cochere			•
Chinese			
Terracotta roof tiles	•		
Gable roof	•		
Air Vent (butterfly-shaped)	•	•	
Air Vent (circular shaped)			•
Ceramic vent	•		
Signage	•	•	
Malay			
Pitched roof		•	•
Ornamentation on pediment			•
Low wall	•		
Louvered shutters	•	•	•
Timber louvered	•		
Double leaf timber door	•	•	•

Figure 5. A matrix summary of the identifiable architectural elements from each case study façade.

The results of the findings resemble other similar studies in the literature review, confirming the identified style influences from three main sources of - European, Chinese *Peranakan* and Malay origins. The elements of the European influences are the pediment, the clay roof tiles, the cornice, the column with pilaster, the keystone, the fanlight, transom windows, the roman round arches and the porte-cochere. On Sun Yat Museum, the European architectural elements adapted are the columns with a pilaster. Meanwhile, on the facade of Pinang *Peranakan* Mansion, the elements that were adapted are the clay roof tiles, the cornice, the column with pilaster, the keystone, the fanlight and transom windows. Whereas in *Teh Bunga* Mansion shows a higher European influence with all the characteristic features of transom windows. The dominance of European style in these two mansions could be attributed to the fact that the style was the height of fashion at the time, associated with the elite merchant class who were often in the same social circle with the European traders and the colonial administrators. Many of them were keen to emulate the lifestyle brought over by their European counterparts, including the house design.

The Chinese influences can be seen the most on Sun Yat Museums' facade elements such as terracotta roof tiles, gable roof, butterfly-shaped air ventilation, ceramic ventilation on the first floor and signage. On Pinang *Peranakan* Mansion, only two elements of Chinese influences - the butterfly-shaped air ventilation and signage. The least elements on Chinese influences can be seen at *Teh Bunga* Mansion on its circular-shaped ventilation. This could be attributed to the fact that the building was not originally made for a Chinese client.

The Malay influences can be categorized mostly on environmental parts of the facade elements: the pitched roofs, low walls, louvered shutters, timber louvered, double leaf timber doors and ornamentations on pediment. Most of these Malay influences can be seen on all of the case study museums, which were originally designed in such a way due to the local context and its climatic conditions.

## Discussion

The findings of this study show a summary of comparison of facade elements featured in the three different heritage museums in George Town, Penang. Findings also related on how the different types of heritage building typology - a former townhouse and two mansions - all retrofitted and renovated into museums share an array of architectural features, a result of ethno-blending exercise, from different styles of origins in Penang.

The argument proposed by Coombes (1988) is that museums are not always a natural entity, but rather a political statement actively shaping the public's opinion on issues concerning the nation and its identity. For this reason, buildings listed as national heritage that also serve as museum buildings - as the case for this paper - should not be studied in isolation. These monuments must be able to relate within the contexts in which they seek to serve as a place for the public's education and enjoyment. Keeping in mind that the ethnic-blending process in museum buildings is only one form of mix-cultural expression in a spectrum of

possibilities, other types of eclecticism in heritage architecture can help to open up fresh ideas as to what might be the most effective adaptive style and serve as an exercise in building a national identity. This study also hopefully could serve as a way to start a dialogue about the need to keep preserving and reusing this type of heritage building as a museum for the future.

### Conclusion

This paper achieves its objective to add towards the present literature on the epistemological function of the museum building for heritage architecture. This paper identifies each of the detailed elemental features on the facade buildings of the Sun Yat Museum, the Pinang *Peranakan* Mansion and the *Teh Bunga* Mansion to demonstrate how the ethno-cultural blending process is part of a symbolic exercise in embracing a new identity. It can be concluded that the type of museum architectural styles for the selected case studies inclined its preferences towards several combinations of oriental eclectic architecture. This can be seen specifically in the assimilation of Chinese and Anglo-Indian European styles, combined with the needs for local climatic considerations, which borrowed some elements from the traditional Malay architecture, particularly in the use of the pitch roof, clay materials and covered porch as part of the facade design. Results from this study have shown how significant that the role of architecture plays in shaping not only the design of a museum but also in projecting the national identities through the political and historiographical complexities of cultural blending. This study demonstrates how the ethno-cultural blending shown in architectural styles suggested that adaptation is part of a natural process in a city that embraces its cosmopolitanism and modern transition.

Overall, this study elaborates the narrative on ways to utilise architectural approaches as a means of cultural integration. These can be seen through the ways in which the assimilation of Malay-Islamic, Chinese, Anglo-Indian, and European styles blended creating not only harmonious facade, but also taking into consideration of climatic adaptation as well. Apart from that, this study also points to the way of utilizing old buildings into new purposes, and how one seeks to go about it. Conservation of buildings and cultural heritage requires knowledge and understanding of those resources and the history they represent.

### References

- A Ghafar Ahmad. "The Architectural Style of the Peranakan Cina." *Minggu Warisan Baba dan Nyonya*, Universiti Sains Malaysia (1994).
- Akram Zwain & Azizi Bahauddin. "The Sustainable Architectural Values of Eclectic Style Shophouses Case Study: Sun Yat Sen Museum Penang, Malaysia." *Panggung* (2017): 27.
- Alishah, M., A. Ebrahimi & F. Ghaffari. The Role of Buildings Facades of on Urban Landscape (case study: Old Context of Sari). *The Turkish Online Journal of Design, Art and Communication - TOJDAC* August 2016. Special Edition.
- Coombes, A. E. Museums and the Formation of National and Cultural Identities. *Oxford Art Journal* 11(2), (1988): 57-68.

- Fee, C. V. (Ed.). *The Encyclopedia of Malaysia: Architecture*. Archipelago Press. 2001.
- Shamsidar Ahmad, Mohamed Yusoff Abbas, Wan Zaiyana Mohd Yusof & Mohd Zafrullah Mohd Taib. "Museum Learning: Using Research as Best Practice in Creating Future Museum Exhibition." *Procedia-Social and Behavioral Sciences* 105, (2013): 370-382.
- Siti Norlizaiha Harun. "Heritage Building Conservation in Malaysia: Experience and Challenges." *Procedia Engineering* 20, (2011): 41-53.
- International Council of Museums. *ICOM Code of Ethics for Museums*. ICOM, 2007.
- Jasme, N., M. O. Mydin & N. M Sani. "Investigation of Adaptive Reuse of Heritage Buildings in Penang." *SHS Web of Conferences* (Vol. 11, p. 01007). EDP Sciences, 2014.
- Knapp, R. G. *The Peranakan Chinese Home: Art and Culture in Daily Life*. Tuttle Publishing, 2013.
- Lim, J. *The Penang House and the Straits Architect, 1887-1941*. Areca Books, 2015.
- Lounsbury, C. R. Architecture and Cultural History. In *The Oxford Handbook of Material Culture Studies*. OUP Oxford, 2010.
- Macdonald, S. Theorizing Museums: An Introduction. *Theorizing Museums* (1996): 1-18.
- Ramey-Gassert, L., H. J. Walberg III & H. J. Walberg. "Re-examining Connections: Museums as Science Learning Environments." *Science Education* 78(4), (1994): 345-363.
- Wallace, A. R. *The Malay Archipelago: The Land of the Orangutan and the Bird of Paradise; A Narrative of Travel, with Studies of Man and Nature*. Courier Corporation, 1962.
- Whitehead, C. Museums and the construction of disciplines: Art and archaeology in nineteenth-century Britain. A&C Black, 2013.
- Yin, R. K. *Case Study Research and Applications: Design and Methods*. Sage publications, 2017.
- Yin, R. K. *Case Study Research: Design and Methods* (4th ed.). Sage Publications, 2009.
- Yin, R. K. "The Case Study Method as a Tool for Doing Evaluation." *Current Sociology* 40(1), (1992): 121-137.