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Identifying Feng Shui's Form School Influence in the Internal Layout of Peranakan Architecture

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ABSTRACT

Peranakan architecture with a confluence of Chinese, Malay, Javanese, Batak, Thai and European influences has not been studied together with principles of Feng Shui which forms part of Chinese traditional architectural theory. Understanding application of Feng Shui in Peranakan architecture is pertinent as Feng Shui's philosophy is to achieve harmonious living among nature, buildings and people. Furthermore, Feng Shui's Form School approach is used for determining the site and building layout. With Form School approach has scientifically proven to be viable for analyzing the built environment, this paper investigates its influences in the internal layout of Peranakan architecture in Penang. Using a case study approach, Cheong Fatt Tze Mansion was selected as its architectural characteristics are synonymous with Peranakan architecture and are renowned for its perfect Feng Shui. Qualitative analysis was employed to determine if the internal layout of Cheong Fatt Tze mansion corresponds to favourable conditions set forth by the Form School approach. Findings indicate that the mansion's internal layout corresponds favourably.

1. Introduction

Reflecting a long history of Chinese and Malay cultures in its designs, Peranakan architecture or Straits Chinese architecture is known for its unique cultural heritage. According to Ahmad (1994) and Bahauddin, Abdullah and Siaw Ting (2010), besides Chinese and Malay influences, most of its architectural styles were implemented and developed by the Javanese, Batak, Thai and European. With hybrid architectural style and Chinese influences in the design of Peranakan architecture, the adaptation of *Feng Shui* theory has been noted in a few buildings. Nevertheless, studies on Peranakan architecture have focused mainly on conservation and tourism but not been studied together with the principles of *Feng Shui* which forms part of Chinese traditional architectural theory. The lack of research shows that Peranakan cultural heritage has not been fully

*Corresponding author (T.B. Soon). Tel: +6016-5994728. E-mail: edwint87@yahoo.com. ©2017. International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies. Volume 8 No.4 ISSN 2228-9860 eISSN 1906-9642. Online Available at http://TUENGR.COM/V08/301.pdf.

comprehended. This is because *Feng Shui* has been used to assist in site selection for dwellings and the layout of the building (Lee, 1986). Moreover, *Feng Shui*'s Form School approach has been acknowledged for having a scientific basis in analyzing the built environment (He, 1990; Wang, 1992; Cheng and Kong, 1993; Mak and Ng, 2008; Mak and So, 2015).

Thus, it is important to understand the adaptation of *Feng Shui* theory specifically Form School approach as a part of the cultural heritage studies of Peranakan architecture. As Peranakan architecture has not been studied together with the principles of *Feng Shui,* this paper sets out to investigate *Feng Shui's* Form School influences in the internal layout of Peranakan architecture in Penang.

2. Literature Review

2.1 Feng Shui

While it is difficult to define *Feng Shui* as it deals with a long history (Mills, 1992), *Feng Shui* is generally a traditional Chinese philosophical idea. It has been developed and evolved throughout the Chinese civilization with the first written evidence believed to be found in a manual called *Zang Shu (The Book of Burial)*, written by Guo Pu (276-324) in the Jin Dynasty (276-420). At the early period, *Feng Shui* was used to determine the locations of houses or graves (Mak and So, 2015). Nevertheless, *Feng Shui* as a Chinese traditional architectural theory has continued to be used in site selection for dwellings and layout of buildings (Lee, 1986). Besides, Yeh (1978) opines that *Feng Shui* philosophy is a Chinese theory for the site and environmental planning, as it involves site selection and spatial organisation which has strong parallels to the Western concept of geometry in architecture (Hwangbo, 1999).

In general, *Feng Shui* which can be translated literally to "wind" (*Feng*) and "water" (*Shui*) is based on the examination of three main sources. These three sources include astronomical phenomena, natural phenomena and human behaviour (Feuchtwang, 1974). By providing equilibrium among nature, buildings and people, the application of *Feng Shui* philosophy aims to achieve a harmonious relationship between heaven, earth and human being (Lee, 1986). According to *Feng Shui* scholars, analysis on *Feng Shui* model revealed that rather mere superstitions, the use of *Feng Shui* has reasonable scientific value (Anderson and Anderson, 1973; He, 1990). He (1990) further suggested that the *Feng Shui* model is important not only to the Chinese culture but also in architecture everywhere.

Application of *Feng Shui* is generally made up of two main schools of thought which is Form School and Compass School. The older of the two is Form School which focuses on the site analysis of landscapes. Compass School, on the other hand, is fundamentally governed by astronomical factors and calculations using the *Luopan* (*Feng Shui* compass) and involve elements of time in space (Skinner, 1982). However as time progressed, most contemporary *Feng Shui*

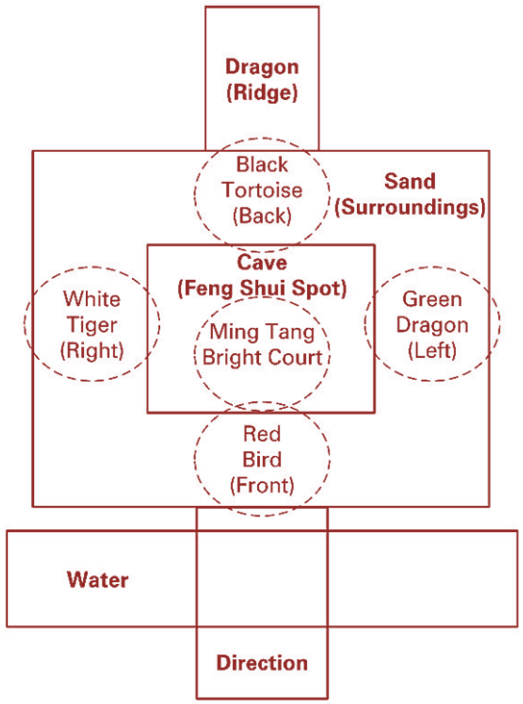
scholars have established their own criteria and system in employing *Feng Shui*. Nevertheless, they all follow the principles and practice of the Form School approach (Mak and Ng, 2008; Mak and So, 2015).

2.2 Form School Approach

Form School approach has been recognized by contemporary *Feng Shui* scholars and researchers as the most dominant approach in *Feng Shui* practice for analyzing built environment (Cheng & Kong, 1993; He, 1990; Lip, 1986; Mak & Ng, 2005, 2008; Xu, 1990). According to Lee (1986), the principles and practices of Form School approach represent "a compendium of Chinese architectural theory". Its principles have been applied in the design and construction of castles, palaces, and towns in China since ancient times (Skinner, 1982; He and Luo, 1995).

With a focus on the analysis of landscapes and shapes, Form School is the older and more basic approach of the two schools of thought. This approach looks into the physical form of a site and its surrounding context in order to identify the flow of Qi. Typically, the Form School approach observes configuration of mountains and hills; the direction of water; and the relationship between hills and water (Xu, 1990). Xu (*in ibid*) also explained that living things are influenced by the form of land. Understanding the physical form of a site is thus the most important aspect of Form School approach as these elements represent both terrestrial and celestial *Qi* (Mak and So, 2015). The fundamental concept of Form School is shown in Table 1.

Table 1: Fundamental Concept of Form School.



(after Mak and So, 2015)

Dragon: -Observe the mountain ridges (Mak and So, 2015). -Symbolises *Qi* (Feuchtwang, 1974).
Sand: -Observe the surrounding environment such as hills that protect the "Cave" (Mak and So, 2015).
Water: -Locate the river as *Qi* travelled by wind and retained by water (*ibid*).
Cave: -The ideal site where it is protected by mountains and hills with a watercourse (*ibid*).
Direction: -Determine the orientation of the building (He, 1998).

In terms of design criteria development in *Feng Shui*, while most contemporary *Feng Shui* scholars (Lip, 1979, 1986, Rossbach, 1984, 1987; Lee, 1986; Xu, 2003, 1990, Han, 1995, 2001;

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Choy, 1999; Lynch, 2003) have established their own criteria as shown in Table 2, they follow the principles and practice of Form School approach (Mak and Ng, 2008; Mak and So, 2015). While there are different design criteria and classification by various scholars built upon these three basic criteria, this paper looks into the Four Design Modules identified and classified by Mak and Ng (2008) and Mak and So (2015). The *Feng* Shui concept design criteria of the four design module were selected as it adopts the principles and practices of the Form School approach and clearly summarizes 24 key design criteria which are categorized based upon its correspondence with the respective design modules as shown in Table 3. Furthermore, each of these 24 criteria gives rise to clearly specified favourable and unfavourable conditions.

Table 2: Contemporary *Feng Shui* scholar's design criteria. (Adopted from: Mak & So, 2015)

Contemporary *Feng Shui* Scholar	Design Criteria
Lee (1986)	Three Basic Criteria
Xu (1990)	Site Selection Procedures
Han (1995)	Major criteria for the best location
Lip (1979, 1986)	Design Rule-of-thumb
Choy (1999)	Design Criteria Checklist
Rossbach (1984, 1987)	Interior Design Diagrams
Lynch (2003)	Site Design Tool
Xu (2003)	Site Analysis Framework

Table 3: *Feng* Shui concept design criteria. (Adopted from: Mak & Ng, 2008; Mak & So, 2015)

Surrounding Environment	External Layout	Internal Layout	Interior Arrangement
• Topography • Front of site • Rear of site • Sides of site • Street location • Water view • Wind direction	• Shape of site • Entrance • Shape of building • Orientation • Trees • Pond	• Layout • Doors • Windows • Shape of rooms • Staircase • Ceiling	• Door openings • Bedroom • Kitchen • Living room • Bathroom

2.3 Peranakan Architecture

Peranakan architecture, known also as Straits Chinese architecture is famous for its design of shophouses and colonial bungalows (Bahauddin, Abdullah and Siaw Ting, 2010). The architectural style of the hybrid Peranakan culture rest in the long history of the Peranakans or the Baba Nyonya community who settled in British Straits Settlements and were subsequently known as Straits Chinese. The Peranakans' cultural practices are influenced by a fusion of Chinese, Malay, English and local cultures (Teoh, 2015), which is reflected in their everyday life including language, food, daily apparels as well as their architecture. This unique cultural heritage of the Baba Nyonya community can be commonly found throughout Malaysia especially in Penang and Malacca as well as in Singapore.

According to Ahmad (1994), the architectural style of Peranakan homes in those maritime town localities was fused with a combination of European, Chinese and Malay influences and are known as "Chinese Baroque" architecture as the buildings were predominantly influenced by the design of Chinese and European building styles. Chen (1998) opines that the origin of shophouses can be traced back to the adaptation of Chinese immigrants' knowledge in construction methods with the local climate. For example, a verandah way or five foot way was designed in front of most shophouses and terrace houses to shield occupants from the sun.

In general, Peranakan houses are designed with symmetrical layout whereby entrances are located in the centre flanked by windows on the both sides. Exterior features include ornately carved entrance door known as the *pintu pagar* with *ji-ho*, a Chinese inscribed signboard hung above the main door (Ahmad, 1994) as well as ventilation openings carved in wood with symbolic decorations (Bahauddin, Abdullah and Siaw Ting, 2010). The interior features of Peranakan architecture include layout consisting of a reception hall, an ancestral hall, air well, kitchen and bedrooms. One of the most significant characteristics of Peranakan architecture, however, was the introduction of air well or a courtyard in bigger homes. The use of air well which was centrally located in the house was influenced by the Chinese courtyard house and helps in enhancing ventilation and interior lighting into the deep plan layout of shophouses (Ahmad, 1994).

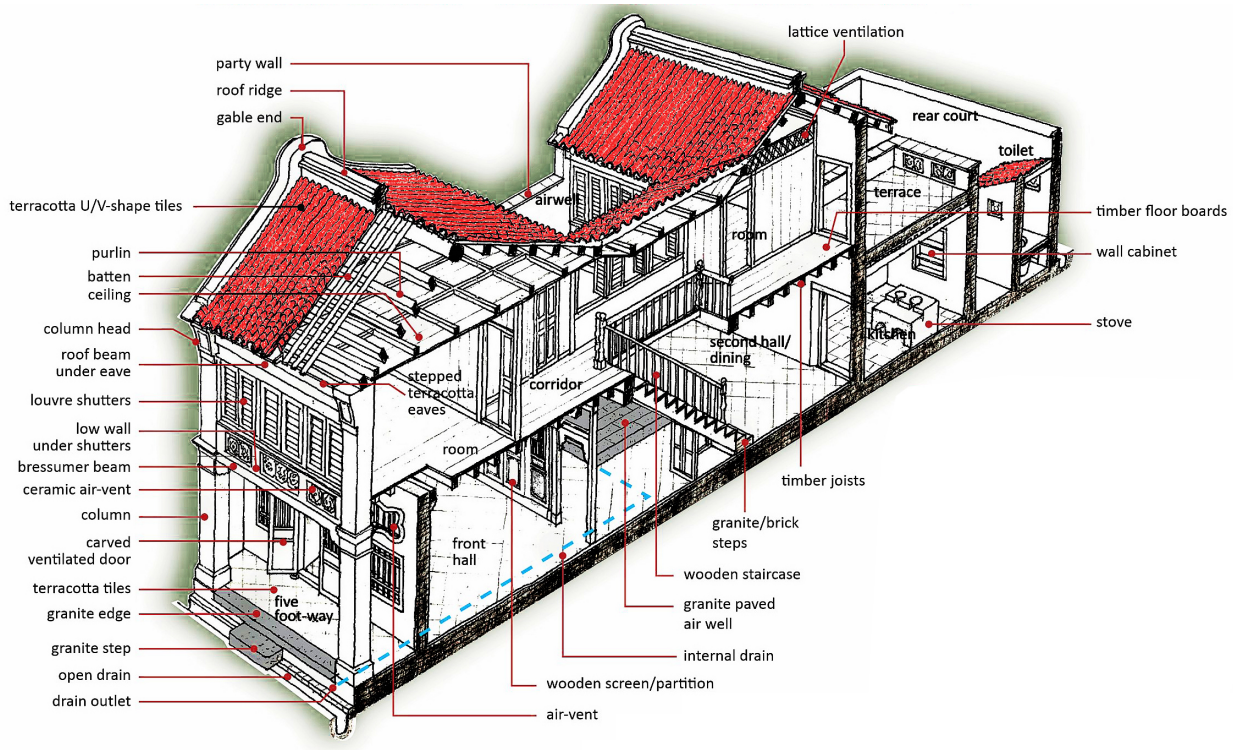

Figure 1: Site surrounding of Cheong Fatt Tze Mansion.
(Source: Penang Shophouse, 2017)

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Figure 2: Symmetrical layout with the entrance located in the centre flanked by windows on the both sides.
(Source: Penang Shophouse, 2017)

Figure 3: Courtyard enhanced ventilation and interior lighting.
(Source: Penang Shophouse, 2017)

With the flourishing of Peranakan Chinese architecture in the Straits back then, residences of wealthy Chinese immigrants who were not Peranakan began to reveal a devotion to Chinese tradition, incorporating eclectic, opulent, and fashionable elements similar to those found in Peranakan Chinese homes of the time (Knapp, 2013). Two of the noted wealthy Chinese immigrants included Cheong Fatt Tze and Chung Keng Quee in Penang who saw their homes as statements of their cosmopolitan nature and began establishing Peranakan Chinese households (*ibid*).

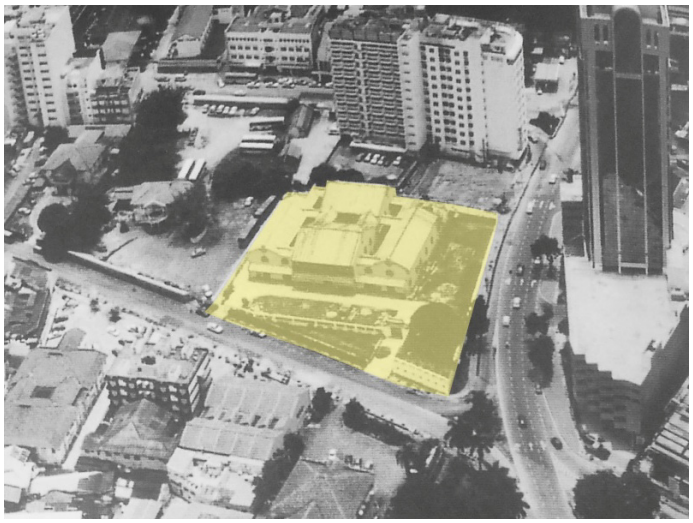

Figure 4: Site surrounding of Cheong Fatt Tze Mansion (after Loh-Lim, 2012).

2.4 Cheong Fatt Tze Mansion

Cheong Fatt Tze Mansion, more famously known as the Blue Mansion was built by the Chinese immigrant merchant Cheong Fatt Tze at the end of 19th century (Kandell, 2003). The mansion which was built in stages between 1880 and 1889 is famous for its opulent and eclectic

architectural elements as well as *Feng Shui* application. Its architecture demonstrates Cheong Fatt Tze's enthrallment with Western artisanship and his rising importance as a Chinese official and reflected both national and regional influences with a distinct mixture of materials, motifs, decorative style as well as language (Loh-Lim, 2012).

2.4.1 Architectural Elements of Cheong Fatt Tze Mansion

According to Loh-Lim (2012), the mansion was a reflection of the eclectic mix of styles featuring contrasting elements such as Scottish cast-iron balusters contrasting with Cantonese timber lattices, English Art Nouveau stained glass windows with Hokkien "*Chien Nien*" (cut and paste shard works). The architectural elements of the Cheong Fatt Tze mansion are summarized as follows in Table 4:

Table 4: Architectural Elements of Cheong Fatt Tze Mansion.

Architectural Element	Description
Roofworks	Terracotta roof tiles.
Timberworks	Timber filigree carvings, teak beams, solid panelled doors with craved architraves and timber louvred windows.
Ironworks on balustrades, columns and spiral stairs	Victorian Scottish cast-iron columns and railings.
Stained glass windows	48 Art Nouveau stained glass panels.
Decorative paintings	On gables of the buildings, beams border at the main courtyard, and the internal wall.
Decorative mosaic porcelain works	Porcelain works form elaborate patterns of men, women, animals and sceneries depicting Chinese mythology.
Plaster and paint	Lime plaster and lime wash paint.
Tiles	Coloured tiles imported from Stoke-on-Trent in Staffordshire, England.

Figure 5: Victorian Scottish cast-iron columns and railings.

Figure 6: Coloured tiles & timber filigree carvings.

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Figure 7: Terracotta roof tiles, decorative mosaic porcelain and painting work on gables & lime plaster and lime wash paint.

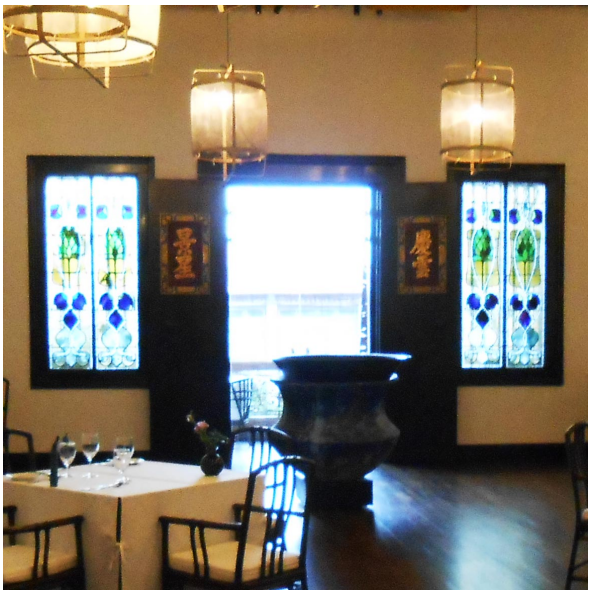

Figure 8: Stained glass windows.

2.4.2 Feng Shui Application

One of the most prominent features of the Blue Mansion is essentially intrinsic in nature. This feature was in the design and symbolic conception of the mansion's design in line with the principles of *Feng Shui*. It was recorded that the mansion was built under the supervision of some of the best *Feng Shui* experts of the period (Skinner, 2004). In fact, Cheong Fatt Tze mansion has been commented as a house with perfect *Feng Shui* by geomancers (Dijk, 2003). Although a few elements of *Feng Shui* have been identified in Cheong Fatt Tze mansion by Skinner (2004) and Loh-Lim (2012) which tended to relate more to the Compass School approach, the identified elements were not clearly defined and classified into the two different school of thought. As elements of Form School approach have not been identified, this study will look into *the Feng* Shui concept design criteria of this approach in the internal layout of Cheong Fatt Tze mansion.

2.4.3 Cheong Fatt Tze as Case Study

Cheong Fatt Tze was chosen as the case study because the architectural characteristics of the mansion reflect those of Peranakan architecture as shown in Table 5 and simultaneously renowned for its perfect *Feng Shui*.

3. Methodology

A single case study approach was undertaken with Cheong Fatt Tze mansion selected as the case study. *Feng Shui* criteria derived from the Four Design Modules developed by Mak and Ng (2008) and Mak and So (2015) was used for this study as it reflected principles of the Form School approach. However as it would be overarching to evaluate the 24 design criteria which further gives rise to favourable and unfavourable *Feng Shui* conditions, this paper concentrates predominantly on the internal layout design module. A summary of favourable and unfavourable conditions are presented in Table 6 and Table 7 respectively. During observation, favourable and unfavourable

criteria for internal layout were noted in a log. Qualitative analysis was then employed to determine if the internal layout were designed in accordance with favourable conditions. Findings were then confirmed by an inter-rater.

Table 5: Characteristic of Peranakan Architecture and Cheong Fatt Tze Mansion. (Adapted from Mak and So, 2015)

Characteristic	Peranakan Architecture	Cheong Fatt Tze
Architectural Style	A mixture of Chinese, Malay, Javanese, Batak, Thai and European elements.	A mixture of Chinese, Malay and European elements.
Exterior Features	Symmetrical organization.	Symmetrical organization.
	Five footway in front of the building.	Five footway in front of the building.
	Security bars on windows.	Security bars on windows.
	Gable and pitch roofs	Gable and pitch roofs
Interior Features	Cast iron for the pillars and balcony balustrade.	Victorian Scottish cast-iron columns and railings.
	Coloured tiles from all periods – Victorian, Edwardian, Art Nouveau, Art Deco, 1950's and 60's pop art.	Coloured tiles imported from Stoke-on-Trent in Staffordshire, England.
	Air well.	Five air wells.
	Plaster ceiling ornaments.	Plaster ceiling with decorative works in the form of peonies and gold butterflies in the corners.
	Ventilation opening or partition was carved in wood with decoration.	Timber partition between the main hall and central courtyard was carved in wood with decoration.
	The front hall or sitting area functioned as reception hall while the dining room, rear verandah and side rooms are the private family area.	The main hall (sitting area) functioned as reception hall while the dining room, rear verandah and side rooms are the private family area.
	Antique furniture.	Antique furniture.

Table 6: Favourable Conditions for *Feng Shui* Criteria in Internal Layout Module. (Adapted from Mak and So, 2015)

Feng Shui Criteria	Condition
Layout	Living room in central area
	Family room in central area
	Kitchen next to dining room
	Kitchen on the perimeter area
	Toilet on the perimeter area
	Master bedroom at upper level
Doors	Porch provided at the entrance door
Windows	Facing South
	Facing East
Shape of Room	Square
	Rectangular
Staircase	Staircase at the centre of the house
Ceiling	Flat ceiling

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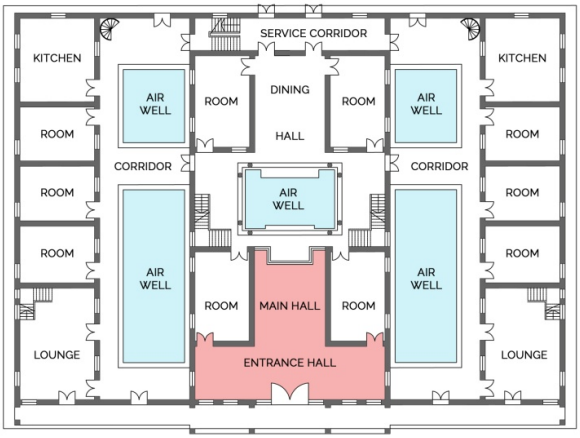
Table 7: Unfavourable Conditions for *Feng Shui* Criteria in Internal Layout Module.

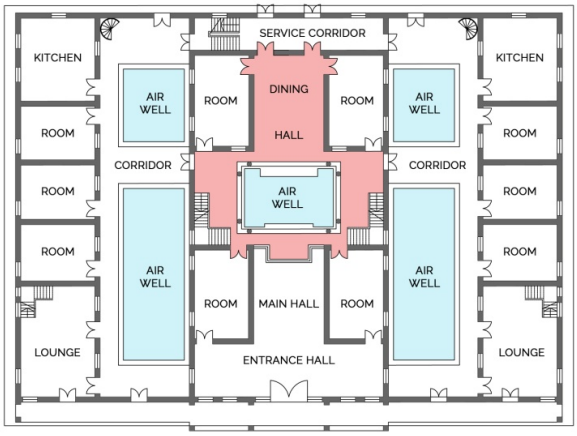
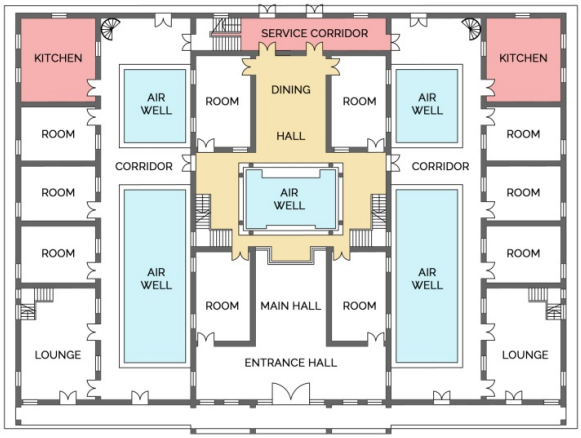
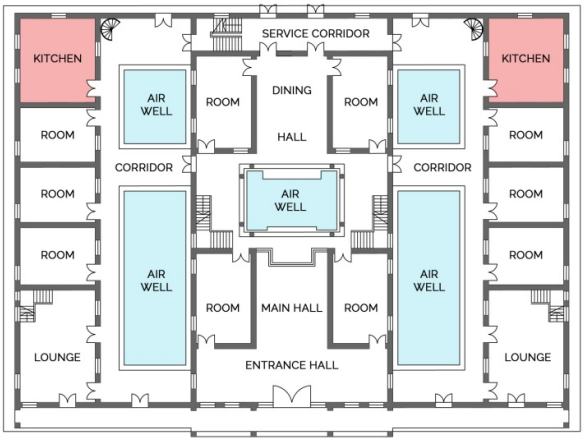
Feng Shui Criteria	Condition
Layout	Kitchen next to toilet Bedroom next to kitchen Master bedroom next to living room
Doors	Toilet near the entrance door Kitchen near the entrance door Three doors and windows in line Backdoor in line with entrance door
Windows	Facing North Facing West
Shape of Room	Polygon Segment L-shape
Staircase	Straight flight Straight towards the entrance door
Ceiling	Sloping ceiling Exposed Beams

4. Findings

Findings reveal that almost all the internal layout of Cheong Fatt Tze corresponds favourably with the Feng Shui criteria derived from the Form School approach except for the window location facing North and West. Table 8 summarizes the findings based on favourable criteria while Table 9 shows the only unfavourable criteria. In both tables, all relevant criteria are highlighted in the plan of Cheong Fatt Tze mansion.

Table 8: Favorable Conditions for *Feng Shui* Criteria in Cheong Fatt Tze Internal Layout.

Cheong Fatt Tze Internal Layout			
Feng Shui Criteria		Condition	Plan
1	Layout	Living room in the central area.	 Ground Floor Living room in the central area able to reduce the circulation space. Segregate between public and private spaces.

Cheong Fatt Tze Internal Layout			
Feng Shui Criteria		Condition	Plan
		Family room in the central area.	 Ground Floor
			Family room in the central area able to reduce the circulation space. Segregate between public and private spaces.
	Layout	Kitchen next to dining room.	 Ground Floor
			Reduce the circulation from kitchen to dining room.
		Kitchen on the perimeter area.	 Ground Floor
			Kitchen on the perimeter area provides well-ventilated space. Reduce pollution from the kitchen to main spaces.

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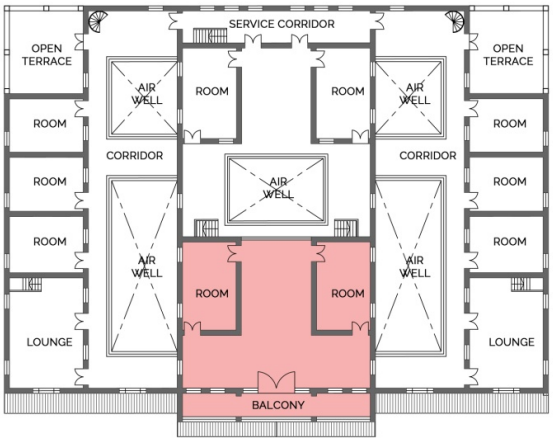
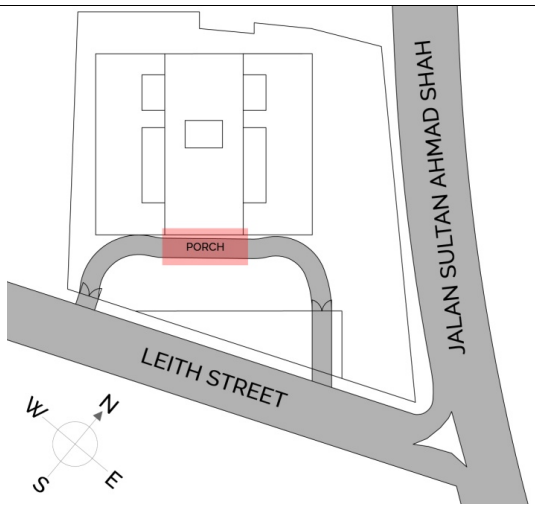
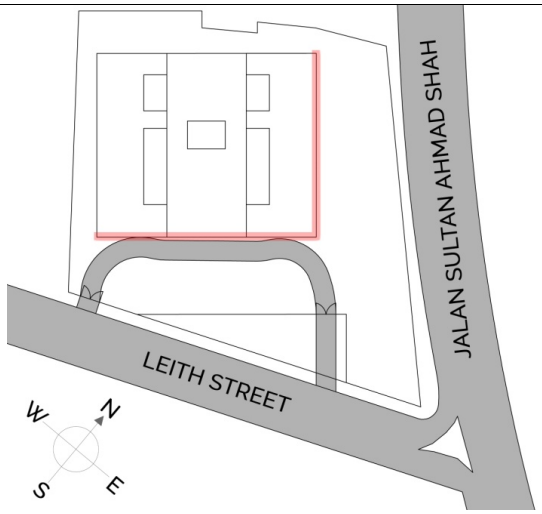
Cheong Fatt Tze Internal Layout			
Feng Shui Criteria		Condition	Plan
		Master bedroom at the upper level.	 Upper Floor
			Master bedroom at upper level provide privacy.
2	Doors	Porch provided at the entrance door.	
			Define and welcoming transition space.
3	Windows	Facing South. Facing East.	
			Exposed to morning daylight.

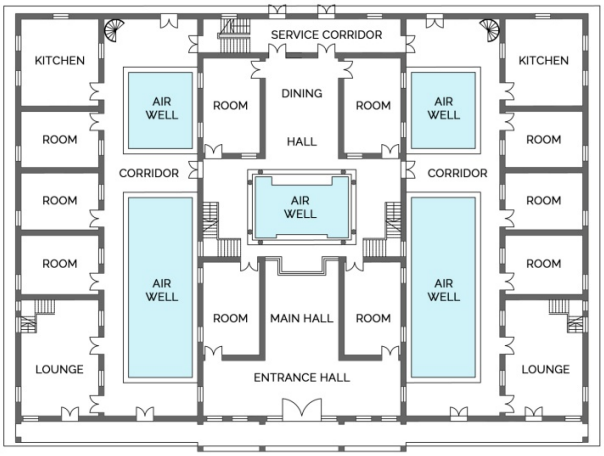
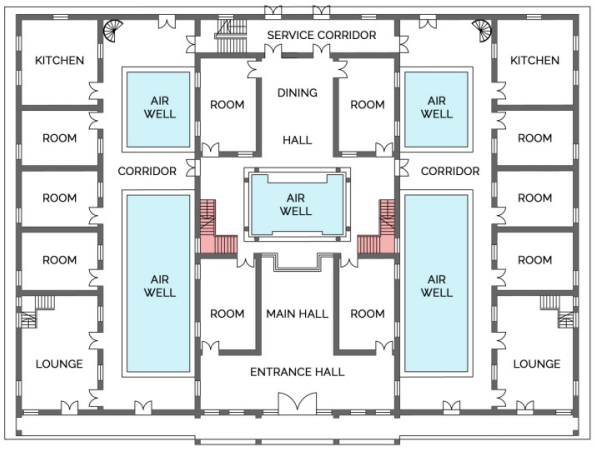
Cheong Fatt Tze Internal Layout			
Feng Shui Criteria		Condition	Plan
4	Shape of Room	Rectangular.	 Ground Floor Rectangular shape able to maximize the total area.
5	Staircase	At the centre of the house.	 Ground Floor Staircase at the centre of the house able to reduce the circulation space.
6	Ceiling	Flat ceiling.	 Unobstructed ventilation flow.

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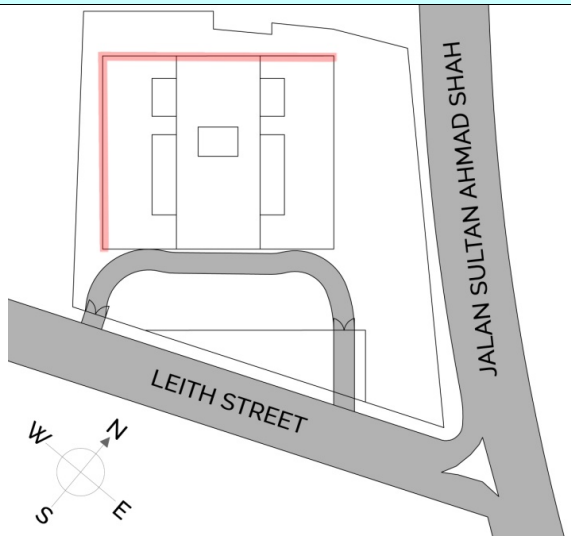
Table 9: Unfavorable Conditions for *Feng Shui* Criteria in Cheong Fatt Tze Internal Layout.

<table>
<tr><th colspan="3">Cheong Fatt Tze Internal Layout</th></tr>
<tr><th colspan="2">Feng Shui Criteria</th><th>Condition</th><th>Plan</th></tr>
<tr><td rowspan="3">1</td><td rowspan="3">Windows</td><td>Facing North.
Facing West.</td><td> 
</td></tr>
<tr><td></td><td>Exposed to evening daylight.</td></tr>
<tr><td>Solution</td><td>  </td></tr>
<tr><td colspan="3">Landscaping at the area facing North & West.</td></tr>
</table>

5. Conclusion

Findings indicate that Chong Fatt Tze mansion's internal layout corresponds favourably to Form School's internal layout criteria. As this study only considers criteria from the Form School approach in assessing the internal layout of the mansion, further studies are recommended to understand if the criteria for Compass School approach mitigates this sole unfavourable condition. Nevertheless, the way the internal layout of the mansion is laid out shows that it corresponds to the favourable criteria espoused by the Form School. This study thus significantly shows the importance of considering *Feng Shui*'s influence in Peranakan architecture as it provides a glimpse of how Chinese traditional architectural theory plays a role in Peranakan architecture historically. Through investigation of *Feng Shui's* Form School approach in Peranakan Architecture, this study hopes to demonstrate the significance of *Feng Shui's* purpose in the built environment of dwellings in hopes of creating a harmonious relationship between environment, architecture and its

inhabitants. Findings on the significance of *Feng Shui*'s influence in Peranakan Architecture of Penang can be used to inform architects, heritage conservationist and cultural researchers on the need to consider *Feng Shui*'s philosophical approach in the built environment to fully grasp the cultural richness of the Peranakan community.

6. Acknowledgements

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