Place Identity in the eclectic style interiors of vernacular courtyard shop-houses in Heritage City, George Town, Malaysia.

Akram Zwain¹⁾, Azizi Bahauddin²⁾

^{1,2}School of Housing, Building & Planning, Universiti Sains Malaysia, 11800 USM, Pulau Pinang, Malaysia

¹<u>Idazusm@gmail.com</u> ²aziziqt@gmail.com

Abstract

In 2008, UNESCO recognized the shop-houses' in Malaysia and their conservation has been accelerated. In this paper, the vernacular courtyard shop-houses in George Town, Heritage City, Malaysia, have been examined to understand their significance in terms of environmental, cultural and heritage values. This hybrid type of architecture clearly shows the influences of the Chinese, Malay, Indian and European styles; matured and merged together in response to the local environment. In fact, the courtyard was introduced based on Chinese influence. It is an essential typological element in a vernacular shop-house. However, most vernacular shop-houses faced alterations and their deterioration has become a major concern in George Town City.

This study aims to understand the set of identities formed through the interior design of the architectural components of the vernacular shop-houses. It focuses on place identity Penang's typical Vernacular Courtyard Eclectic Style Shop-houses. The study employed a qualitative research method; data were obtained by means of observation and secondary sources. The findings of the study reveals that the formation of typical interior elements Courtyard of the Vernacular Shop-houses significantly contribute to place identity.

Keywords: place identity, vernacular courtyard shop-houses, cultural identity, interior space.

1. Introduction

The objective of this study is to examine the significance of the environmental, cultural and heritage with the place identity values of the vernacular courtyard shop-houses' eclectic style in the Heritage City, George Town, Penang. In 2008, this city was successfully added to the UNESCO's World Heritage list to acknowledge its rich cultural heritage, which constitutes the unique architectural and cultural townscape along the Straits of Malacca (Elnokaly & Wong, 2015,). According to the 'outstanding universal values' (OUV) assessment, it is said that George Town represented a melting pot of multicultural architecture and townscape (Omar & Syed-Fadzil, 2011). This reinforces Penang's status as a world-recognised place showcasing a distinct blend of influences which resulted in a large variety of architecture such as townhouses, religious buildings of different faiths, colonial public buildings and also shop-houses. With the inscription also came the responsibility to conserve these centuries-old vernacular buildings, located within the heritage site of George Town. Yung et al (2014) state that globally, adaptive reuse of heritage buildings have been increasingly recognized as a sustainable approach to

conservation. However, there are many challenges to enhance sustainability, particularly where redevelopment pressures are immense in urban renewal districts in heritage cities of Southeast Asia (Rodwell, 2008) and especially in the George Town City. This is one of the pertinent reasons for this paper: to bring to focus the need to preserve the shop-houses that represent place and culture identity. This paper would focuse on the vernacular type of shop-houses in George Town, Penang.

The vernacular shop-house (*rumah kedai in Malay*) is one of the unique architectural styles, which was found in Southeast Asia, particularly in Malaysia. It was built between 17th and early 20th century (Chen, 2007; Wan-Ismail, 2005). Penang has a long architectural history with approximately 7,000 units of vernacular courtyard shop-houses in George Town Heritage City (Tan, 2015). The author affirms that this city was built 200 years ago during different periods. In George Town Heritage City and within the general straits eclectic style, Penang Heritage Trust (PHT) (PHT, 1990) has identified several building periods. PHT is one of the non-governmental organizations (NGOs) which helps in preserving the existing heritage. Shophouse buildings in George Town are of six main historical styles. These styles include: early Penang Style (1790s-1850s), Southern Chinese Eclectic Style (1840s-1900s), Early Straits Eclectic Style (1890s-1910s), Late Straits Eclectic Style (1910s-1940s), Art Deco Style (1930s-1960s), and Early Modern Style (1950s -1970s) as presented in Fig. 1. The unique architectural and decorative features in each style represent the history of George Town during different periods.



Fig. 1: Six Main Eclectic Styles of Vernacular Shop-houses Source: http://penangshophouse.com.my, 2015

Fig. 1 shows that shop-houses in the Straits settlements have adopted the western architectural style with an emphasis on full-length French windows with a pair of full-length timber shutters, an arched or rectangular transom over the window opening, pilasters of classical orders and plaster renderings. Chen (2007) corroborated that the unique Straits Chinese or Peranakan Chinese form of shop-houses was the result of local influences and colonial modification in an attempt to adapt to tropical climates. Moreover, Tan (2015) stated that the evolution of the shop-house reflects a fusion of cultural identities' influenced by other cultures, such as Malay, Chinese and European influences. This combination of components has helped create a unique place identity of architecture and culture in Penang.

2. Literature Review

2.1. Typical Interior Space Components of Vernacular Courtyard Shop-houses Identity

Interior space components shape the image of a place. In the design process, these elements give identity to the space. Especially, living environments (like houses) directly reflect the cultural identity of the society. Ayalp (2012) writes that vernacular-traditional houses are the physical appearances of a community's cultural heritage, beliefs, life styles and values since these are the outcomes of the people's life and cultural continuity. Vernacular courtyard

shop-houses follow Chinese identity rules-of-thumb in architecture. They are symmetrical narrow layouts and courtyards (air-well) and in-between spaces (Wan-Ismail, 2005). The contemporary description has defined the vernacular shop-house as 'built single, double or triple storey building' (Mohd-Baroldin & Mohd-Din, 2012) with six to seven meters width and 30 meters depth. According to Haromshah (2009), it can be extended up to 60 meters. However, these attached buildings were not erected simultaneously; they were built over time and were adjoined together.

The vernacular courtyard shop-house is undoubtedly an important identity of the George Town Heritage City, Penang. Because of this style, there occurred a place identity independent from other buildings' features in the city. Moreover, not only Chinese and the prevalent colonial ideas of the time, but also the hot and humid character of Penang's local climate (Ahmad, 2011) influenced the original interior design of the Penang heritage vernacular shop-house. Therefore, having key design elements such as courtyards (air wells) and jackroofs can also be found in interior of the buildings. Hence, Ayalp (2012) states that the components of interior space do not only take a role in defining the space, but also expresses the cultural meaning of a place. In a way, they define the place, especially these components; give identity to the interior space. The typical formation has been derived from the Straits Chinese culture's immigrants to Penang.

From such a perspective, the formation of place identity of vernacular courtyard shop-house eclectic style is discussed within the context of cultural identity. Besides, the interior design formation of the vernacular courtyard shop-house is thoroughly discussed in the light of these concepts.

De-Bierre (2006) and Bahauddin, et al (2011) argue that the typical feature is the airwell, which is located inside the central area of the shop-house. The air-well functions as an internal courtyard. It is typical of residences all over China. It was transformed to Air-Well when space became more precious in this case. Therefore, one of the most important features of the interior design of vernacular shop-house is the use of a variety of open-to-sky spaces. These open-to-sky spaces may be backyards, small air-wells and most commonly, internal courtyards. Depending on their size, these courtyards may be landscaped spaces for any number of household activities. Numerous patterns of vernacular courtyard shop-houses can be found in many parts of Malaysia (Tan, 2015). However, the most typical forms are those, which are located in the two Old Heritage Cities in George Town and Melaka.

2.2. Culture and Environment

Ayalp (2012) explains that cultural values are essential in every aspect of our life as they shape our life styles. Cultural values do not only shape our environment but also shape the way we perceive the environment. According to Matsumato (2007), culture is dynamic. It involves a system and consists of rules. These rules are expressed through the community, as well as the self-unit. The system conveys sustainability of the community's vitality. It involves attitudes, values, beliefs, norms, and behaviours. These are shared with groups, interpreted with each member of the community, and transformed to a new generation. However, it has the potential to change. According to Ching and Binggeli (2017), interior design components in the house environment are directly related to the living habits. These living habits are rooted in the cultural values. Moreover, each and every cultural value gains a form in the interior environment. In other words, cultural values give shape to the interior environment. Hence, culture is strongly interrelated with the environment. Culture shapes the environment and it is at the same time shaped by the environment, especially the home environment that is the key and vital place in which cultural values are intensively expressed (Ayalp, 2012). Home environment is the most experienced place in people's environmental perceptions. Man has developed his environmental perceptions with the help of such experiences.

In most of the interior design projects, the focal point is to make people feel at home (Altman & Chemers, 1984). Most advertising projects use this sense as a positive effect. Therefore, the focus of this study is the concept of culture and place identity, especially in the home environment. Cultural identity is discussed in the context of typical interior components

of vernacular courtyard shop-houses eclectic style. The study aims to introduce and discuss the values and meanings of interior space elements, which reflect cultural identity. In addition, the place identity concept is loaded with values and meanings. These relations add many new dimensions to the environment; as such a space becomes a place.

Altman and Chemers (1984) provide examples that are related to interactions between environment and culture. The authors state that different people living in different cultures have different space perceptions. They establish that culture, environment and the individual constitute a whole. They argue that the parts of this whole cannot be discussed independently of each other and conclude that these interactions together constitute a social system. One illustration is that of the environmental perceptions of the Mbuti Pygmes, who live in Africa. The general population lives in the rainforest. Since the living environment is pervaded with a dense layer of vegetation, they hardly see the sun, moon and stars. Therefore, the environment for those who live in such a culture, is more inclined to a horizontal perception rather than a vertical perception. Furthermore, the sky, stars and the sun, which bear religious meanings in several cultures, express no particular meaning in Mbuti Pygmes' African culture. The formations of cultural meanings, which affect the environmental perceptions, have in this culture caused the horizontal space perception to develop more than the vertical space perception. From such a perspective, the unique vernacular courtyard shop-house eclectic style can be seen have had a cultural influence in its continuous use in Malaysia during a prosperous era in the history of George Town Heritage City, Penang from 1790s to 1970s. It was also during the period when George Town experienced an influx of Chinese immigrants (Tan, 2015). It can, therefore, be seen as an element of the country's culture.

2.3. Place identity and space in the home environment

Proshansky, et al (1983) state that there is a complex interaction between a person and a space. They explain:

"The person defines the space; the space defines the person; the person gives meaning to the space the space gives meaning to the person. In other words, there is a complex and bilateral interaction between the person and space in its cultural, psychological, economic and physical dimensions. House, where cultural influences may by intensely observed are spaces where this bilateral interaction can also be easily perceived."

(Proshansky Et Al, 1983:P.7).

Clarke (2008) and Ayalp (2012) identified the cultural elements that affect the house formation. These elements are: (1) Religion (2) Language and these kinds of peculiarities (3) the structure of family and relatives (4) Child raising methods (5) Settlement patterns (6) Land division and landowning systems (7) Nutrition habits (8) Symbolic and Vernacular systems (9) Status defining methods and social identity (10) Cognitive maps, privacy, intensity, territoriality (11) Behavioural organisation in a house (12) Working, business with others and trades. According to Ayalp (2012), these cultural, social and psychological influences, contribute to home and gain its high symbolic and emotional meanings.

A home environment can be defined based on the concept of place rather than space. According to Gieryn (2000), when the human element comes into space, it becomes more of a place than space. Altman and Chemers defined the place as "the space, which is given meaning through individual, group or cultural processes. In other words, people can transform spaces into places over a period" (1984:7). In this manner, over the usage process, people create their own place identities and this transforms spaces into their own places. This process is defined in literature as 'place identity'. Based on this definition, identity is a biological organisation, which develops through adjustment (settlement), assimilation and assessing the social world and moves over time (Twigger-Ross & Uzzell, 1996). Place formation can be described as the attitude, which the individual forms towards a certain environment. The concept of place does not only involve the physical element, but also emotional factors. The concept of place is

fundamental to the individual and space interaction. The place should be perceived as a dimension of space, which comes about in the individual's use of space.

From such a perspective, a home environment can be considered at the heart of our sense of place. On the other hand, place identity does not only affect the perception process, but also shapes the cognition. Many scientific studies have established a relation between place identity and the cognition process. Findings also reveal that the process affects the personal and global identity of the self (Ayalp, 2012; Proshansky et al., 1983). According to Norberg-Schulz and Loci (1979), people perceived the world through types and these types structured our cognitive schemes. Auburn and Barnes (2006) summarised the approach as it is the person's representation or stock of knowledge of the world. It is social in that its typified content arises in and through the community and its history. The typification is under-pinned by language or more precisely 'the Vernacular of the collectivity' (Twigger-Ross &Uzzell, 1996).

Therefore, place identity of the house environment is not only typical in our cognition, but also effective in our community identity. The individual's self-perception is intimately related to the home environment in which he/she spends most of his time (Proshansky et al., 1983). In addition, the house is a vital environment in the formation of place identities. People feel comfortable in places that are concurrent with their place identities (Ayalp, 2012). Also, their psychological, cultural and social satisfaction is affected by their place identities. Understanding the typical vernacular courtyard shop-houses eclectic style is, therefore, essential in understanding and giving shape to recent projects.

3. Methodology

This study employed a qualitative research method to obtain data. Based on observation and secondary sources, qualitative data were collected. Architectural documentation data and visualizing materials (Creswell, 2013) were also used. According to Charmaz and Belgrave (2012), appropriate research methods that are used to understand place identity primarily involve qualitative techniques: participants' observation and mapping a range of physical elements. Therefore, this was supported by the architectural detail studies on the vernacular courtyard shop-houses eclectic style. However, the paucity of literature in this present study stirred the researchers to concentrate more on the primary source via photo shoots. The images were subsequently analyzed in detail, which have been missing in past literature in regard to heritage building shop-houses in relation to culture and place identity. Since the paper focuses on heritage building shop-houses, they are crucial to be investigated. Hence, this study carried out the documentation of architectural identity. The research was conducted on vernacular courtyard shop houses built between 17th and early 20th century.

4. Discussion and Findings

4.1. Typical Interior Space Components in Vernacular Courtyard Shop-house Eclectic Style

Vernacular courtyard shop-house organisation is a reflection of satisfying the basic needs. From the observation in Fig. 2, the courtyard provides a cozy place and the second floor allows a myriad type of greenery available in the shop-house. This finding agrees with Ahmed (1994). The author confirmed that the elements of the vernacular Chinese garden are incorporated into the courtyards and air-wells of almost all Chinese dwellings to provide a positive mechanism for internal ventilation, as well as light through the attenuated structure. The vernacular courtyard shop-house makes it possible to continue this tradition while also providing more sustainable user and environmental friendly urban environments. Also, the findings of the study shows that the vernacular shop-house layout has one or two courtyards.

This agrees with Zakaria, et al (2015). They stated that an important feature of the vernacular shop-house is that it has one or more internal courtyards in each building, which are said to ensure indoor thermal comfort without relying on air-conditioning. Moreover, this was linked to the *Feng Shui*, which is related to the Chinese ancient culture that helps to bring luck, wealth and health to the dwelling. It is practiced by the community of Peranakan Chinese or Straits Chinese. Findings from the study show how the interior space components is linked to place identity. The features or elements display the identity of community of Straits Chinese or

Peranakan. Because of these customs, there occurred a place identity independent from the other cultures in the George Town city. The concept of the courtyard suits their religious and social needs, particularly privacy considerations. The arrangements of the courtyard also provide satisfactory solutions to certain environmental problems. This agrees with Knapp, Ong and Wan (2010). They stated that the house and the garden are inseparable from the vernacular Chinese domestic architecture. However, the form and extent of the courtyard may vary in Malaysia. At that time, the space around the courtyard on the ground floor served as a living hall, which was located half in and outside of the brick masonry wall. At the rear area, there is the toilet, bathroom or areas for bathing and washing clothes, as well as the water tank is placed. It also has a smaller courtyard lined with granite blocks.



Fig. 2: Vernacular Courtyard Shop-house Source: http://www.pinangperanakanmansion.com.my/ Accessed 30/01/2018

4.2. Isometric Vernacular Courtyard Shop-houses Plan

Fig. 3 presents the public, semi-public, and private isometric vernacular courtyard shophouse respectively. These are the three main zones in the electric style shop-houses. From the observation, the first is the public area that accommodates the five- foot-way, the second zone is the semi-public zone; this includes the first half of the room on the ground floor while the third zone is the private zone and consists of the kitchen, toilets, bathroom, dining, and the storage area. From the observation, the courtyard composed of the front courtyard and is usually attractively decorated with plants, improving the ambience of the living space, the parapet wall is a waist-high low-wall with a highly stucco embellishment as well as door-height shutters. It can serve as place identity.

These agree with Knapp, et al (2010). They affirm that vernacular courtyard shop-house architecture depicts an exciting heritage, especially the courtyard styles, popularly known as the courtyard house. From the observation, the study findings show that a parapet wall can be inside the buildings. This disagrees with Tan (2015). They stated that the parapet wall is a waisthigh low wall, usually found at the front façade of the upper floor, the air-well, and the rear terrace as a safety feature next to the open kitchen air well. Yet, in the Late Straits Eclectic style shop-houses, parapet walls are not often shown on the front facades but they are still retained at the central air well below shutters. However, it is a responsibility to fulfil the need to achieve culturally unique semantic content through the typical characteristics of the interior space. By doing this, there is a chance to sustain cultural heritage.

The results also show that the first floor is the fourth zone, which is a private area that covers all the bedrooms. One space can be found after passing through the front entry. Findings show the zones of interior layout which can serve as the place identity of Straits Chinese Shophouses. These findings agree with Ahmad (1994). The author affirms that a typical vernacular

courtyard shop-house eclectic style usually has the first hall (*ruang tamu*), second hall (*tiah gelap*), one or two courtyards or air-wells (*chim chae*), ancestral hall, bedrooms, bridal chamber and the kitchen.

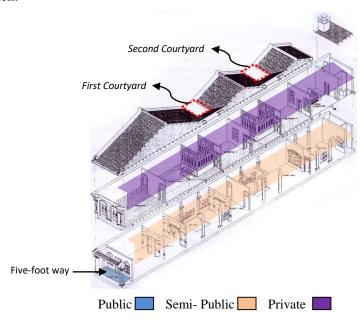


Fig. 3: Isometric Vernacular Courtyard Shop-house Plan Source: http://sunyatsenpenang.com/architecturerestoration/ 2016

4.3. Internal partition Decoration Carved Timber of Courtyard Shop-house

With regard to Fig. 4, the findings show that the first hall space is backlit by the courtyard, which radiates through the two doorways, as well as a carved wooden wall screen. This separates the living hall for the semi-public from a more private area behind that is meant for family members. This agrees with Zwain & Bahauddin (2016). The authors explained that a bright place furnished with a set of table and chairs are reserved for guests to drink tea while having a conversation. This is located next to a rectangular courtyard. Thus, the findings show that the courtyard interior in shop-houses is a multi-functional area. However, the identity of the interior is derived from the cultural living habits. These typical elements are vital to users. These typical elements reflect an image in the users' mind. The cognitive process is formed by vernacular types that are shaped by history. Accordingly, one can easily perceive the effects of cultural identity on the formation of place identity through the typical feature.

Fig. 4 shows the internal partition of decorative carved timber, normally located in the second hall (*tiah gelap*) or between the first hall and the small openings on the screen door. Findings show that it is used by the unmarried nannies to peep at a guest, who will visit their families. One can appreciate the cultural identity of the Straits Chinese being through the internal partition decoration carved timber that allows the nannies under their custody to peep at visitor's received by them. These findings agree with Ahmed (1994). The author affirms that the nannies used this medium because according to the cultural identity, they (nannies) are not allowed to leave the house.



Fig. 4: The Internal Partition Decorative Carved Timber of Courtyard Shop-house Source: http://babanyonyamuseum.com/home-interior/ 2017

The findings of this study show highly decorated carvings. Gold furniture refers to the locally carved furniture gilded in gold leaf, which was favoured by wealthy Peranakan Chinese or Straits Chinese families. There are gold and brown timber screen doors. This cultural treatment is a typical element that defines the place identity of the interior. This is author pertinent element that defined the identity of a wealthy Straits Chinese or Peranakan. It is expected that one of the attributes of the wealthy Straits Chinese is the golden or brown timber screen doors. With regard to the study findings, they define the place, especially these components give identity to the interior space. The typical formation has been derived from the Straits Chinese culture's assimilation to Penang. This agrees with Ayalp (2012). The author stated that the components of interior spaces do not only take a role in defining the space, but also express the cultural meaning of a place. At this point, the typical features of a specific environment become important. Environment (that has a cultural value) is considered as a cultural heritage because of its typical features.

5. Conclusion

Renovation to global trend has made it harder to define identity of place or distinctiveness in developing a city like George Town, where the design and use of domestic space is increasingly influenced by global standards in interior design as manifested in changes of designers' and users' taste toward modern living with international product design and manufacture. Therefore, understanding typical elements that are reflecting cultural identities in a vernacular courtyard shop-house environment is essential in giving shape to recent projects. However, all of these complex community changes create a new vernacular courtyard shop-housing design in George Town city throughout time and changes of ownership. The very first building knowledge and skills were borrowed from the hometown of Strait Chinese or Peranakan Chinese from China. Therefore, understanding typical vernacular courtyard shop-house components that reflect cultural identities in a shop-house environment is essential.

This paper has brought this to the front of the research. It proposes further studies to understand the issues more fully. With this level of awareness, the cultural values in an interior environment have changed to survive within the new lifestyles. The findings of this study have offered a significant understanding of the sustainable architectural values and cultural identities' that may govern the design of the vernacular courtyard shop-houses, which characterises the Peranakan Chinese or Strait Chinese eclectic style architecture. This paper also contributes to the cultural studies that reflect the vernacular architecture of George Town Heritage City, Penang, Malaysia.

Acknowledgment

The authors would like to acknowledge the Universiti Sains Malaysia for funding this research under the Research University Individual Grant (RUi - 1001 / PPBGN / 8016011). The credit also goes to the School of Housing, Building and Planning, Universiti Sains Malaysia for providing facilities to carry out the work.

References

- Ahmad, A. G. (1994). *The architectural style of the Peranakan Cina*. [Online] Available at: http://www.hbp.usm.my/conservation/. [Accessed 22 Sep. 2018].
- Ahmad, A.G. (2011). *Heritage Conservation: Malaysian Architecture: Southern Chinese Architecture*. [Online] Available at: http://www.hbp.usm.my/conservation/ [Accessed 12 Aug. 2018].
- Altman, I., and Chemers, M. M. (1984). *Culture and environment*. New York, USA: Cambridge University, pp.76-118.
- Auburn, T. and Barnes, R. (2006). Producing place: A neo-Schutzian perspective on the 'psychology of place'. *Journal of Environmental Psychology*, 26(1), pp.38-50.
- Ayalp, N. (2011), Cultural Identity and Place Identity In House Environment. In: Traditional Turkish house interiors. *Paper presented at the 2nd International Conference on Urban Sustainability. Turkey.* [online] Turkey: ICUS pp.470-476. Available at: http://www.naun.org/main/NAUN/energyenvironment/17-925.pdf [Accessed 11 Aug. 2017].
- Bahauddin, A., Abdullah, A., & Ting, C. S. (2011), The Cultural Heritage of the Straits Chinese (Baba-Nyonya) Architecture of Malacca, Malaysia. *Paper presented at the 5th World for Graduate Research in Tourism, Hospitality and Leisure Conference*. [Online] Bangkok, Thailand: pp. 66-78. Available at: https://anatoliajournal.com/gradconference/home/archives/5th-conference/ [Accessed 11 July. 2017].
- Charmaz, K., & Belgrave, L. L. (2012). *Qualitative interviewing and grounded theory analysis*. In The Sage Handbook of Interview Research: *The complexity of the craft*: London: Sage Publications, pp. 347-366.
- Chen, V. F. (2007). The encyclopaedia of Malaysia: Architecture. 1st ed. [ebook] Kuala Lumpur: Didier Millet. Available at: https://books.google.com.my/books/about/The-Encyclopedia of Malaysia Architectur.html?id=zZOVQgAACAAJ&source=kp-cover&redir esc=y-[Accessed 20 July. 2017].
- Ching, F.D. and Binggeli, C. (2017). *Interior design illustrated*. 4th ed. New Jersey: John Wiley & Sons, pp.
- Clarke, S. (2008). *Culture and identity*. In Sage Handbook of cultural Analysis: Place, Face & cyber space. [ebook] London: The Sage Publication.
- Creswell, J. W. (2013). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 4th ed (Vol. 4). Thousand Oaks, CA: Sage. Available at: file:///C:/Users/USER/Downloads/Creswell-ResearchDesign.pdf [Accessed 20 Sep. 2017].
- De-Bierre, J. (2006). *Penang Through gilded doors*. 1th ed Areca: Penang, Malaysia: Areca Books.
- Elnokaly, A. and Wong, J.F. (2015). Demystifying vernacular shop houses and contemporary shop houses in Malaysia; a green-shop framework. In *Proceedings of the 30th International conference 2014*. [online] Gujarat, India: *PLEA*, pp. 295-303. Available at: [Accessed 11 July. 2017].
- Gieryn, T. F. (2000). A Space for Place in Sociology. *Annual Review of Sociology*, [online] Volume 26(1), 463-496. Available at: https://www.annualreviews.org/doi/abs/10.1146/annurev.soc.26.1.463 [Accessed 8 July. 2017].
- Haromshah, N. H. (2009). Lecture Week 4: *The Chinese immigrants*. Cyberjaya: Limkokwing University of Creative Technology, [online] p.1. Available at: http://eprints.lincoln.ac.uk/22586/1/Paper_3A_2601_PR.pdf [Accessed 17 Sep. 2017].
- Knapp, R., Ong, A, & Wang, G. (2010). *Chinese houses of Southeast Asia: The eclectic architecture of sojourners and settlers*. 1th ed. Boston, United States: Tuttle Publishing, pp. 145-166.

- Matsumato, D. (2007). Culture, context, and behavior. *Journal of Personality*, [online] Volume 75(6), 1285-1320. p.147. Available at: https://onlinelibrary.wiley.com/doi/full/10.1111/j.1467-6494.2007.00467.x [Accessed 8 October. 2017].
- Mohd-Baroldin, N., & Mohd. Din, S. A. (2012). Documentation and conservation guidelines of Melaka heritage shophouses. *Procedia Social and Behavioral Sciences*. Bangkok: Elsevier. [online] Volume 50, 2012, P. 195. Available at: https://www.sciencedirect.com/science/article/pii/S1877042812031655 [Accessed 12 July. 2017].
- Norberg-Schulz, C., & Loci, G. (1979). Towards a phenomenology of architecture. New York: Rizzoli International Publications, [online] p.20 available at: http://home.fa.utl.pt/~al7531/pedidos/livros/Genius%20Loci%20Towards%20a%20Phenomenology%20of%20Architecture.pdf [Accessed 17 Oct. 2017].
- Omar, N.A.M. and Syed-Fadzil, S.F., 2011. Assessment of passive thermal performance for a Penang heritage shop house. *Procedia Engineering*, [online] Volume 20, pp.205-209. Available at: https://www.sciencedirect.com/science/article/pii/S1877705811029663 [Accessed 4 Aug. 2017].
- Proshansky, H. M., Fabian, A. K., & Kaminoff, R. (1983). Place-identity: Physical world socialization of the self. *Journal of Environmental Psychology*, [online] Volume 3(1), 57-83, p60. Available at: https://sites.googlegroups.com/site/ciudadysubjetividad/descripcion/inicio/textos/Placeidentity_Proshansky_Fabian_Kaminoff.pdf [Accessed 20 Oct. 2017].
- Tan, Y. W. (2015) Penang Shophouses: *A Handbook of features and materials*: Tan Yeow Wooi culture & heritage research studio. 1st ed. Penang, Malaysia: Phoenix Press Sdn Bhd.
- Rodwell, D. (2008). *Conservation and sustainability in historic cities*. 1th ed. UK: Blackwell Oxford Publication, p. 27.
- Twigger-Ross, C. L., & Uzzell, D. L. (1996). Place and identity processes. *Journal of Environmental Psychology*, [online] Volume 16(3), p. 216. Available at: https://www.sciencedirect.com/science/article/abs/pii/S0272494496900171 [Accessed 8 Apr. 2017].
- Wan-Ismail, W. H. (2005). *Houses in Malaysia: Fusion of the East and the West.* 1st ed. Johor Bahru: Universiti Teknologi Malaysia, IBook Publication SDN. BHD, pp. 61-64.
- Yung, E.H., Langston, C. and Chan, E.H. (2014). Adaptive reuse of traditional Chinese shophouses in government-led urban renewal projects in Hong Kong. *Cities*, [online] Valume 39, pp.80-98. Available at: https://www.sciencedirect.com/science/article/pii/S0264275114000353 [Accessed 8 Aug. 2018].
- Zakaria, M. A., Kubota, T., & Toe, D. H. C. (2015). The effects of courtyards on indoor thermal conditions of Chinese shophouse in Malacca. *Procedia Engineering*, [online] Volume 121, 201, p- 468-476. Available at: https://www.sciencedirect.com/science/article/pii/S1877705815028222 [Accessed 12 Oct. 2017].
- Zwain, A., and Bahauddin, A. (2016). The conservation of architectural values in the shophouses, George Town, Penang, Malaysia Case Study: Sun Yat Sen Museum. A paper presented at the Social Sciences Postgraduate International Seminar (SSPIS) 2016 [online] Penang: p. 217. Available at: http://www.soc.usm.my/images/pdf/Proceedings-for-Social-Sciences-Postgraduate-International-Seminar-SSPIS-2016.pdf#page=216