

Ornaments and Woodcarving Design of Traditional Malay Houses: Comparative Study of Rumah Limas Johor in Tangkak, Muar, Batu Pahat, and Pontian

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ABSTRACT

Ornaments and woodcarving are decorative elements widely used in traditional Malay houses, including Rumah Limas Johor. In Johor, four districts still have their Rumah Limas, particularly in Muar, Tangkak, Batu Pahat, and Pontian. The decorative elements among these four districts may look quite similar, but they essentially have very compelling and unique differences. These uniqueness's are each district's identity, and each of these identities would have gone unnoticed and disregarded if it had not been documented, analysed, and revealed. Fifty houses of Rumah Limas Johor are set to be the case study to be visited, examined, photographed, and analysed. Data collection and interviews were done and discussions were conducted with local woodcarvers for verifications. The study revealed that all four districts have some similarities but also have dominant and outstanding differences, especially in woodcarving typology, motifs chosen, and also additional ornaments, even though they are all in the same state. The finding also shows that the most prominent uniqueness is in the kepala tingkap (window transom), where each district has many houses that have similar and distinguish design compositions and materials among other houses within the district, yet all four districts' design compositions are remarkably different from each other, which makes it dominant to each district, which we may see it as their own identity. This study also contributes the term of "rapat bertaut" where a piece of jerjak tingkap (window grille) panel uses a pattern that is beautiful standing alone but becomes even more beautiful when it meets and sandwiched closely with other panels with the same pattern design.

Keywords: ornament, woodcarving, Rumah Limas Johor, traditional Malay houses, carving motifs

INTRODUCTION

Rumah Limas Johor is the identity of the traditional Malay houses in Johor, Malaysia, and it is commonly decorated with ornaments and woodcarvings. Decorative elements found in Malay traditional houses are considered a manifestation of an understanding between aesthetics and functions, where it represents the beauty and uniqueness of Malay arts, symbols, and philosophy, as well as the masterpiece of the local craftsmen, woodcarvers, or even carpenters

(Ab Rashid et al. 2019). Despite the rapid development and modern design paradigms of the twenty-first century, the preservation of traditional Malay vernacular architecture, particularly the unique ornaments and woodcarvings of Johor, remains essential to maintaining regional identity.

Ezrin Arbi (1997) stated that even though traditional architecture is mistreated as primitive or outdated, the truth is, it has constantly been the key source of references in social and cultural studies by architects, historians, and anthropologists. Due to that, it is really significant to investigate and document the traditional artefacts, including the ornaments and woodcarvings in traditional houses, as they are the manifestation of the community, society, belief, philosophy, and cultural practice.

Architecture is the manifestation of society and its cultural practice. Through architecture, a place can exhibit the society's way of life, belief, philosophy, the uniqueness of culture, and heritage. *Genius Loci*, which means "the genius of the place," enhances the deity or spirit of a particular place. Every place has its own interesting and unique qualities that have a sense of belonging that creates a "sense of place", not only physical but also spiritual; henceforth, it is the responsibility of the architect to be aware of those unique qualities and elements of design to enhance rather than destroy them. Sustaining heritage buildings is essential to the evolution and development of a nation, including these traditional Malay houses, as they can be the identity of the locals. Upholding heritage is significant both for physical and spiritual reasons, as it influences the community (Mohd Sabrizaa 2015).

The architecture of traditional Malay houses has developed and evolved over generations, adapting to the cultural, environmental, and practical needs of life in Malaysia (Lim 1987). Across the country, each state features its own distinct style of traditional Malay house, reflecting regional identity (Iryani et al. 2020). These unique styles are often characterised by decorative elements such as intricate carving ornaments. Ornaments are decorative objects made from materials like wood, stone, metal, or glass, while woodcarving is the skill used to create wooden ornaments.

Issues and Problem Statement

The carving ornament features intricate carvings commonly used to enhance and complement the architectural character of traditional Malay houses. Today, it is increasingly incorporated into contemporary building designs to evoke a sense of traditional Malay identity and cultural heritage. However, in certain applications, these ornaments and woodcarving components have been inappropriately used in modern contemporary designs, not only creating visual disharmony but also potentially distorting the nation's architectural heritage and identity due to some issues (Nazrul Helmy et al. 2024).

One of the biggest issues that became a challenge in sustaining local Malay architectural heritage in Johor is regarding the identity conflict (Hanita et al. 2022). This is also due to the abandonment of traditional houses that come with ornaments and woodcarving, which are supposed to be the reference for younger architects, craftsmen, builders, and woodcarvers (Hanita et al. 2023). When all traditional houses, particularly Rumah Limas Johor, are left undocumented, the original heritage will then be lost forever. It is sad to see that in the future there will be no documentation of typology that indicates the uniqueness of each district. Obviously, there are similarities and dissimilarities among these four districts. These similarities and dissimilarities contribute to the enrichment of the aesthetic value, theory, and philosophy of the Malay traditional houses. Economically, heritage buildings have the advantage of generating revenue through business and tourism accomplishments (Sabrizaa et al. 2018).

Regeneration and adaptive reuse of architectural elements regarding the ornaments and woodcarvings, such as local motifs, arrangement, and design compositions, can be an attractive business strategy for stakeholders, investors, and researchers, which may lead to prosperity, economic growth, a good reputation and sustainable tourism. Having distinctive characteristics in traditional houses may also create an identity that enables them to attract tourists (Sabrizaa et al. 2018).

Unfortunately, this could not happen if the study on traditional houses were not done, and the houses were damaged due to ageing or even destroyed in the rush to modernise and develop hastily in order to keep up with the latest architectural style. It is feared that in the future, the architectural decorative elements will be solely based on a replicative copy of foreign elements. This is unacceptable and offensive as it does not respect the true history and does not refer to local design values, and as being foreign to Johor (Hanita et al. 2020). Norhaiza Noordin (2017) worried that robust influences of non-local design and identity shall dominate and overshadow our own heritage.

Conflicts of identity congruently happen when younger and modern generations of Johor local carvers adopted woodcarving motifs' typologies from other states such as Kelantan and Terengganu, as well as from foreign countries such as India, Myanmar and even Bali. This would create injustice to Johor heritage and the authenticity of historical artefacts, which are cherished for a longer period of time. Most young Johor woodcarvers learnt carving from the East Coast and Indonesian carvers, and some may have adopted Balinese motifs in their carvings which, regrettably, do not represent the local identity (Abu Bakar Yatim 2015). This issue of identity crisis should not be taken for granted; it needs attention and to be addressed seriously. All the existing local woodcarving motifs, designs, and compositions need to be identified and studied, while the typologies must be revealed and documented to acknowledge the fact that the woodcarvings belong to traditional Malay houses in Johor and have existed in these houses for more than 100 years.

METHODOLOGY

The methodology of this research comprised a set of case study design and data collection methods which involved field study and interviews. The research started with obtaining information about the traditional Malay houses that can be found throughout Johor focusing in Muar, Tangkak, Batu Pahat, and Pontian.

Fifty houses were chosen as a case study to run site visits and inventory. These houses and woodcarvings were examined, observed, photographed, and documented. All 50 houses were chosen based on their age and distinctive woodcarving ornaments in significant, huge placements. In addition to the owner's identity and address, the residents of the house were interviewed to gather details on the year the house and the woodcarvings were constructed, as well as the influences and purposes of the carvings. Ample relevant photos were also taken.

Interviews and analytic reviews were also conducted with professionals consisting of four Johor woodcarvers: Elias Robani, Tuzelan Ahmad, Mohamad Arman Md. Amin, Abu Bakar; and one woodcarving expert, Norhaiza Noordin, the Adiguru Malaysia and Malaysian senior woodcarver. Data gathered from the site visits were then analysed with narration and interpretation from prominent Johor woodcarvers. To obtain more satisfying results, the data were evaluated, and woodcarving samples were discussed with experts for verification.

An additional method used is an ethnographic study, a qualitative research methodology within anthropology and the social sciences, which seeks to understand the experiences, behaviours, beliefs, and social structures of an ethnic or community (Zabulis et al. 2025). Semiotic study is also one of the methods used; nevertheless, words, symbols, or any signs in communication do not have a definite meaning (Ibrahim and Sulaiman 2020). Table 1 shows 50 case study houses according to districts, showing the placement of woodcarving and also the year it was built.

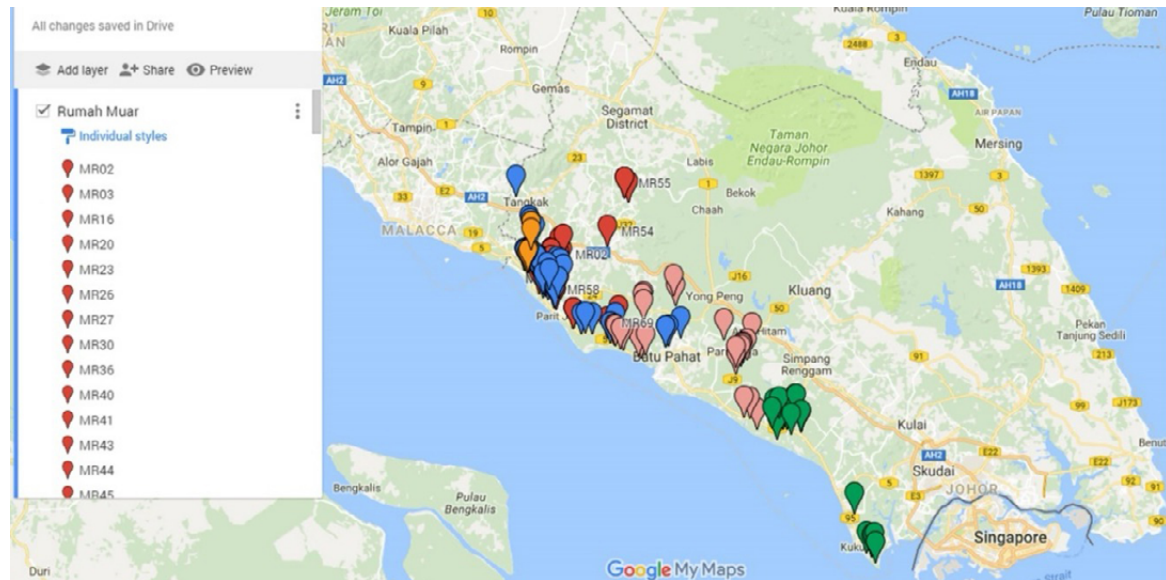


Figure 1 GPS map showing the locations of the 50 case study houses during the site visit, where red shows houses in Muar, orange in Tangkak, brown in Batu Pahat, and green in Pontian.

Source: Author's collection.

Table 1 Case study houses in Muar, Tangkak, Batu Pahat and Pontian (N = 50).

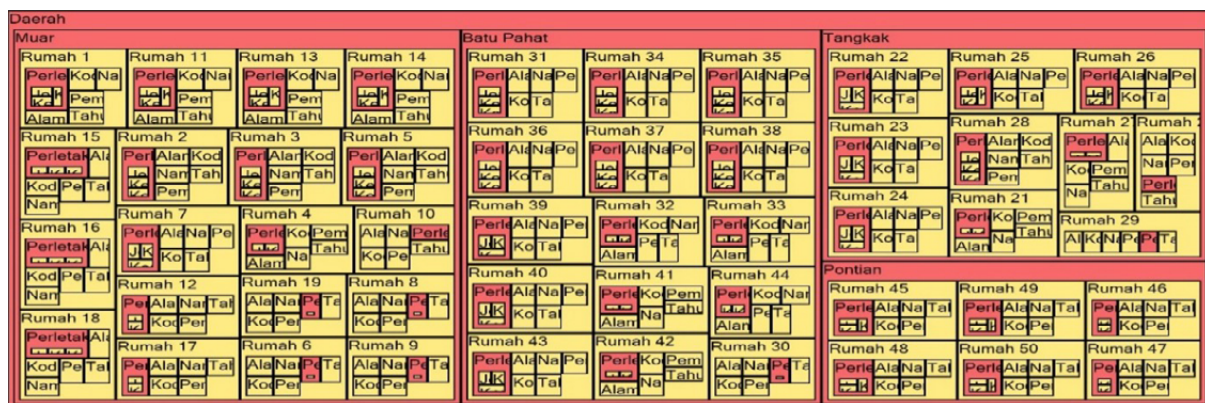
No	District	Owner name	Year	House code	ID	JT	KT	KP	CA	JS	ADB	PL	TL	PPS	PC
1	Muar	Hj Omar	1820	House 1	MR26	1	1	1	0	0	0	1	0	0	0
2	Muar	Mohd Nor Mumba	1840	House 2	MR44	1	1	1	1	0	0	0	0	1	0
3	Muar	Mastijah	1860s	House 3	MR43	1	1	0	0	0	0	0	0	0	0
4	Muar	Abd. Ghani	1900s	House 4	MR61	1	1	0	1	1	0	1	1	1	0
5	Muar	Ibrahim/Pak Wahab	1906	House 5	MR40	1	1	1	1	0	1	0	0	0	0
6	Muar	Adibah	1909	House 6	MRH06	1	0	0	1	1	0	1	1	1	0
7	Muar	Sukaini Kasan	1900s	House 7	MR49	1	1	1	0	0	1	0	0	0	0
8	Muar	Adnan Kasan	1900s	House 8	MRH28	1	0	0	0	1	1	0	0	1	0
9	Muar	Taib Kasan	1910	House 9	MR65	1	0	0	0	1	1	0	0	1	0
10	Muar	Masnot	1925	House 10	MRH22	1	0	0	1	1	1	0	0	0	0
11	Muar	Hj. Sirat	1922	House 11	MRH10	1	1	1	1	0	1	0	0	0	0
12	Muar	Perjumpaan Dato Onn	1920s	House 12	MRH11	1	1	0	1	0	0	0	1	0	0
13	Muar	Othman	1920s	House 13	MR50	1	1	1	0	0	0	1	0	0	0
14	Muar	Mohd Akib	1925	House 14	MR30	1	1	1	0	0	1	0	0	0	0
15	Muar	Ghani Suboh	1926	House 15	MRH09	1	1	1	1	0	1	0	0	0	0
16	Muar	Dumpam	1940s	House 16	MR56	1	1	1	0	0	0	0	0	0	0

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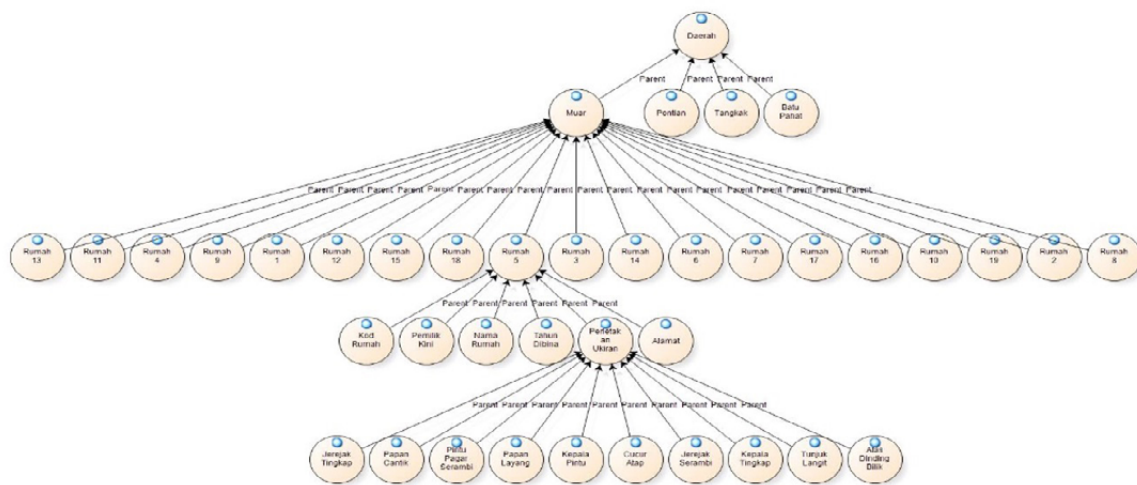
Table 1 (continued)

No	District	Owner name	Year	House code	ID	JT	KT	KP	CA	JS	ADB	PL	TL	PPS	PC
17	Muar	Ahmad Sirat	1940s	House 17	MR54	1	1	0	0	0	0	0	0	1	0
18	Muar	Adnan	1940s	House 18	MR46	1	1	1	0	0	0	0	0	0	0
19	Muar	Hassan Tomo	1940s	House 19	MR16	1	0	0	1	0	0	1	1	1	0
1	Tangkak	Harun Daud	1800s	House 20	TKH07	1	0	1	0	0	1	0	0	0	0
2	Tangkak	Hassan Hj Jaib	1890	House 21	TK03	1	0	1	0	0	1	0	1	1	0
3	Tangkak	Che Ngah	1909	House 22	TKH10	1	1	1	1	0	0	0	0	0	0
4	Tangkak	Mat Yusof	1910s	House 23	TKH06	1	1	1	0	0	1	1	0	0	0
5	Tangkak	Haji Ali	1925	House 24	TKH08	1	1	1	0	0	1	1	0	0	0
6	Tangkak	Hamzah	1927	House 25	TK02	1	1	1	1	0	0	1	1	0	0
7	Tangkak	Sidin (Jaafar Onn)	1927	House 26	TK04	1	1	1	1	0	1	0	0	0	0
8	Tangkak	Melah Longgok	1927	House 27	TKH01	1	1	1	0	1	0	1	0	0	0
9	Tangkak	Abd. Aziz	1930s	House 28	TKH05	1	1	1	0	1	1	1	1	1	0
10	Tangkak	Othman Saad	1962	House 29	TKH09	1	0	0	0	0	0	0	0	0	0
1	Batu Pahat	Tahir Hj Salleh	1893	House 30	BP14	1	0	0	0	0	0	1	1	0	0
2	Batu Pahat	Isnin Ujan	1900s	House 31	BP18	1	1	1	1	1	0	0	0	1	0
3	Batu Pahat	Imam Abd Rahman	1900s	House 32	BP20	1	1	0	1	0	0	0	0	1	0
4	Batu Pahat	Rosli Abd Latif	1900s	House 33	BPH08	1	1	0	0	0	0	1	1	0	0
5	Batu Pahat	Basir Tugi	1900s	House 34	BP24	1	1	0	0	0	1	1	0	0	0
6	Batu Pahat	Hj Ahmad	1918	House 35	BP29	1	1	1	0	0	0	0	0	0	0
7	Batu Pahat	Sayuti Sidek	1918	House 36	BP25	1	1	1	0	0	0	0	0	0	0
8	Batu Pahat	Mat Dogak	1925	House 37	BP16	1	1	1	1	0	0	0	0	0	0
9	Batu Pahat	Hj Taib Abdullah	1925	House 38	BP26	1	1	1	1	0	0	1	0	0	1
10	Batu Pahat	Hj Ghani - Hj Taib	1934	House 39	BP10	1	1	1	0	0	1	1	0	1	0
11	Batu Pahat	Gku Hj Abd Kadir (Rumah Jan)	1935	House 40	BP27	1	1	1	1	0	1	0	0	0	0
12	Batu Pahat	Hj Moin	1940	House 41	BPH05	1	1	0	0	0	0	1	0	0	0
13	Batu Pahat	Suboh	1950s	House 42	BP11	1	0	1	0	1	1	1	1	1	0
14	Batu Pahat	Kasnon	1950s	House 43	BP06	1	1	1	0	0	0	1	0	0	0
15	Batu Pahat	Sahab Yanni	1960s	House 44	BP17	0	1	1	1	0	1	0	0	1	0
1	Pontian	Md Noor Daeng Telibah	1930s	House 45	PT09	1	1	1	0	0	1	1	1	0	0
2	Pontian	Daeng Marpunah	1936	House 46	PT10	0	1	1	0	0	0	0	1	0	0
3	Pontian	Daeng Talamah	1945	House 47	PT13	0	1	1	0	0	1	1	1	0	0
4	Pontian	Hj Abd Rahman Kasan	1946	House 48	PTH02	1	1	1	1	0	1	1	0	0	0
5	Pontian	Hj Rostam	1950	House 49	PT18	1	1	1	0	0	1	0	0	0	0
6	Pontian	Abd Latif Omar	1956	House 50	PT14	1	1	1	0	0	1	1	1	0	0
n						47	40	36	20	8	23	24	14	14	1
Percentage (%)						94	80	72	40	16	46	48	28	28	2

JT = *jerjak tingkap* (window grille); KT = *kepala tingkap* (window transom); KP = *kepala pintu* (door transom); CA = *cucur atap* (roof eaves); JS = *jerjak serambi* (veranda railings); ADB = *atas dinding bilik* (upper room wall); PL = *papan layang* (fascia board); TL = *tunjuk langit* (finial); PPS = *pintu pagar serambi* (veranda gate); PC = *papan cantik* (decorative fascia).



This figure is intended to illustrate the complexity and hierarchical arrangement of the analytical framework rather than for granular, item-by-item reading.



Since this is a multiple case study, the NVivo application is used to gather, organise, and analyse large amounts of data more systematically and efficiently and to generate the findings to help obtain accurate results, producing matrix coding and tree mapping as shown in Figures 2 and 3. Figure 2 specifically provides a macro-level visual overview of the coding hierarchy rather than a granular, item-by-item representation.

ANALYSIS AND DISCUSSION

All 50 traditional Malay houses were analysed and discussed based on the design composition typologies and also design principles but not on the detail of the motifs as it has been done in previous research. The findings are detailed in this section.

Design Composition Typologies

Comparison of Design Composition Typologies on Ornaments and Woodcarving Between Districts

The list of typologies for each placement, apart from the coding given, the quantity of houses that fall under the same typological category will be calculated to obtain a percentage by finding the typical sum. These are for the purpose of finding the identity. To find a typical typology for each district, then the quantity of houses must be detailed also by district.

Consequently, for each design composition typology for each layout, the quantity of houses is written according to the districts belonging to the same typology; for example, MR-5 is MR for Muar and five houses under the same typology, while TK codes for Tangkak, BP for Batu Pahat and PT for Pontian are written for the purpose of obtaining a typical percentage in finding identity for woodcarving in each district before getting the identity of woodcarving for the state of Johor.

Upon analysis of all the design composition typologies on these woodcarvings, notable discrepancies between districts have been observed in the head of the window typology. The head of the window typology has been found to have significant differences between districts that dominate and typically represent each of the districts. The design composition typologies on woodcarving for the head of the window in the Muar district is predominantly horizontal composition, with 64.3%, of which 43% is horizontal under the louvres (*kekisi*). Nevertheless, for the Tangkak district, 57% of the woodcarving design compositions for the head of the window are decorated with ornament, which is colourful glass in the shape of a semi-circle. As for the Batu Pahat district, the woodcarving design composition on the head of the window is fuller and richer and has a combination of flora and cosmos motifs. The floral motif is located above, while the cosmos motif is below, in a semi-circle composition where the percentage is 86%. In the Pontian district, the woodcarving design composition on the head of the window is mostly horizontal and located under the square-coloured glass ornament, which is 67%. These four districts can be said to have their own identity in the design composition, and this is shown in Figure 4.

Interpretation on the Comparison of Ornaments and Woodcarving Design Composition Typologies Between Districts

There is a significant difference in the typology of the woodcarving design composition on the head of the window as shown in Figure 4. Although there are differences in the composition of the design, the similarities seen between the four districts are in the design principle, which is symmetrical on the vertical axis with a balanced arrangement, as can be seen in the figure.

The difference in typology exists due to the influence of the era, namely the year the house and the woodcarving were built, as well as the ethnic influence present in each district. The presence of Javanese and Bugis communities in Johor is due to historical, cultural, and geographic connections within the Malay Archipelago, where some also came through transmigration and settled down in Johor. Over time, they settled and integrated into Malay society, though many have maintained aspects of Javanese language, customs, and cultural practices. Although the influence of Islam is seen as more dominant than the influence of ethnicity, this way of ethnic life to some extent influences the production of the design composition. Woodcarvings on the head of windows in Muar are simpler because history explains that Muar was explored earlier, so the design is simpler and easier compared to districts such as Batu Pahat, which is more complicated in design. History explains that Batu Pahat was explored relatively late; therefore,



Figure 4 Comparison of woodcarving design composition typologies on the head of windows between districts.

Source: Author's collection.

its existence is newer, and the inclusion of Javanese ethnicity can also be one of the reasons why the carving on the head of window is more recent in design and has the influence of the Javanese people, who are more skilled in craftsmanship and carving.

The Javanese people are forest settlers and planters who have a long free time between planting and waiting for harvest. The waiting period has been used to produce more interesting carvings compared to the people from the Bugis ethnic group, who spend a lot of time at sea. Woodcarvings found in the Pontian houses, where Pontian was once visited by Bugis ethnic immigrants, are only on a panel, very different from the carvings in Batu Pahat, which have been inhabited by the Javanese people. This is because, unlike the Javanese people, the Bugis people sail and look for seafood, and there is no time like the Javanese people, who are indeed on the mainland, have an extensive period between planting and waiting for the harvest time to be used for carving. The way of life of the Javanese people in Batu Pahat, who go in and out of the forest and garden, also gives them the advantage of getting abundant and quality wood. Additionally, in Javanese society, the craft design exhibits ethnomathematical concepts related to lines and angles, as well as fundamental geometric forms including triangles, quadrilaterals, and circles (Pramudita and Rosnawati 2019). This ethnomathematical concept also explains why the Batu Pahat woodcarving design compositions are more intrigue and manoeuvring.

Javanese culture is indeed built as a result of acceleration with its natural and cosmological environment. Likewise, the visualisation of the design composition is not merely to beautify but also as an expression of its love and respect for the natural environment (Budi et al. 2021).

This also explains why Batu Pahat houses owned woodcarving design composition on the head of the window is fuller and richer and has a combination of flora and cosmos motifs. As for the Pontian houses, the advantage of the Bugis people who sail makes it easy for them to have access to colourful glass to be placed alongside the wood carvings on the windows of their houses (Elias Robani 2018). Three dominant endogenous aspects, which are still being practised by the Bugis community, are religious, social, and behavioural (Liyana Mahfuzah et al. 2024). Three important elements that had to be the foundation of architectural design are comfort, robustness, and beauty. The beauty of the building is usually used in an ornament (Kapita 2020).

Bugis culture remains strong in some areas like Pontian; assimilation is a complex process influenced by factors like Islam, local culture, government policies, and the inherent advantages of being part of the Malay Bumiputra group in Malaysia (Rahilah Omar et al. 2009; Kotarumalos 2019). Any ornament or woodcarving motifs that contradicted Islamic teachings were gradually abandoned and changed to more acceptable forms, particularly those emphasising geometric, linear aesthetics, and abstract elements. This transformation reflects an ideological shift away from animistic influences (Siti Aisyah and Normaisarah 2023). Not to forget the fact that the Bugis are seafarers, or some might see them as pirates; they brought strong geometric and linear aesthetics, reflecting seafaring, navigation, and cosmological symbolism, which is also seen in the design composition. Plus, having the advantage of sailing makes it easy for them to have access to colourful glass from other regions. Geometrical shapes for the glasses are easier to cut and arrange. Geometry is the most highly sought-after pattern because it requires the human mind to enhance creativity through mathematical thinking with repetition and symmetry (Juliana Adlin et al. 2024). This shortened the time, as Bugis people spent most of their time at sea rather than decorating their houses.

Robani (2018) also stated that for the Tangkak district, the woodcarvings are almost the same as in the Muar district, but it has Chinese influence because most of the craftsmen are Chinese. This can be seen in the use of glass that exists from the Chinese community who came to Tangkak.

Design Principle

Analysis on the Design Principle of Woodcarving Layout

Almost all of the woodcarvings found in all the placements in the case study houses applied the principle of symmetrical and balance. There is a vertically symmetrical design layout, which is balanced left and right on the vertical axis, and it is also symmetrical on both the vertical and horizontal axes, which is balanced left and right on the vertical axis and also balanced on the top and bottom on the horizontal axis. The woodcarvings on the window transom and the door transom are all vertically symmetrical, as shown in Figure 5, while the woodcarvings on the window grille (*jerjak-jerjak tingkap*) are balanced on both axes, namely symmetrical on the vertical and horizontal axes as shown in Figure 6.

Interpretation of the Study on the Woodcarving Layout Design Principle

Although there are variations in the design composition of the window grille (*jerjak-jerjak tingkap*) from each district, the obvious similarity is that the design principle is symmetrical and balanced for both vertical and transverse axes. It can be concluded that the principle of the design layout is in line with the definition of beauty in the handicrafts of the Malay world, which is balanced, representing the meaning of beauty. This balanced composition is achieved through symmetrical repetition, and it is a common method to achieve unity in composition (Kamarudin and Said 2009; Syed Zulflida 2004). It is clear that even though creativity is cultivated with

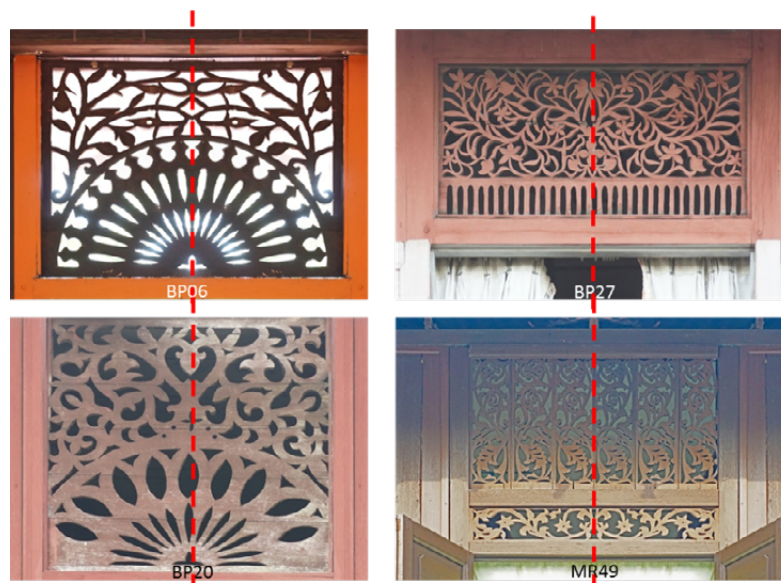


Figure 5 Woodcarvings on the window transom and door transom in a vertically symmetrical design layout, which is balanced left and right on the vertical axis.

Source: Author's collection.

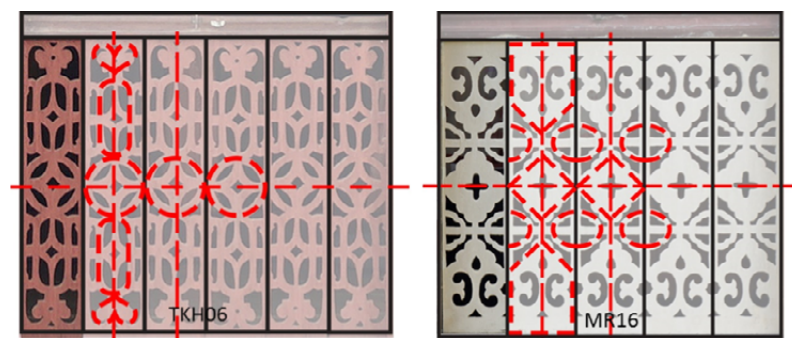


Figure 6 Woodcarvings on the window grille (*jerjak-jerjak tingkap*) are balanced on both axes, namely symmetrical on the vertical and horizontal axes.

Source: Author's collection.

variation, it does not run away from the basics of normality, which is the importance of balance in design, making Johor carving no exception. Norhaiza Noordin (2017) also said that it is pleasing to the eyes when it is balanced, as it has harmony and order. A person is beautiful because she is balanced; if the left side is different from her right, she will not be attractive. The best creation of Allah SWT and there is no need to dispute. Therefore, this same theory is also applied to the principle of layout and design composition of woodcarving, including for carvers in the state of Johor.

From the point of view of the carving design on these window grilles, a special design feature happens when these two-panelled panels are brought closely together; they will produce a new pattern. A piece of *jerjak tingkap* panel uses a pattern that is beautiful standing alone but becomes even more beautiful when it meets and is sandwiched closely with other panels with the same pattern design.

Since the design of this pattern is very dominant in case study houses, it is important to give it a special term, considering the creativity of the designer as the carver to think of a pattern that can stand alone without being joined with other panels, while when closely connected with

other panels, the pattern is linked to form a complete pattern. Therefore, this study contributes the term to the discovery of this pattern as “*rapat bertaut*,” typically as the pictures of *jerjak tingkap* in Figures 7 and 8.

From the analysis and discussion done from the literature review, case study and interviews, the key findings are summarised as follows:

Woodcarving Ornaments as Affinity with Ethnography and Historical Context

Johor has long been a meeting point of Malay, Javanese, and Bugis cultures due to migration, intermarriage, and political alliances. Javanese settlers introduced Hindu-Buddhist motifs of animals and mystical creatures, which later blended with Islamic belief in Johor. Bugis settlers brought strong geometric and linear aesthetics due to aniconism and Islamic teachings on figurative imagery. In the case study houses, the geometrical design appears on the squarish colourful glass ornaments above the woodcarvings. The composition of mixing the woodcarving and glass ornaments denotes nobility or power, the power that the Bugis people believe in. The waving design reflects their historical context and lifestyle, spending a lot of time at sea and experiencing the sea waves.

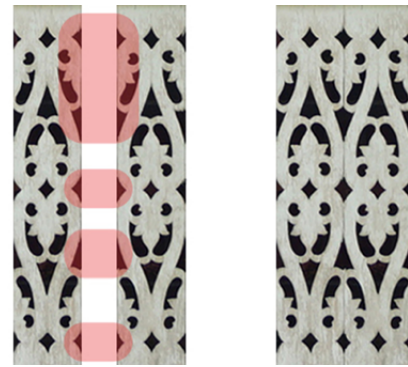


Figure 7 Even though the panels are carved one by one, when they are arranged closely, the pattern will merge.

Source: Author's collection.



Figure 8 *Jerjak tingkap* panel uses a pattern that is beautiful standing alone but becomes even more beautiful when it meets and is sandwiched closely with other panels with the same pattern design. The term for the discovery of this pattern is named as “*rapat bertaut*.”

Source: Author's collection.

Woodcarving Ornaments as Affinity with Semiotic Perspective, Stylistic and Influences

Javanese influence: More curvilinear, cosmic, floral and vegetal because Johor Javanese are forest settlers and planters. Symbolic emphasis on fertility, protection, food and spiritual guardianship.

Bugis influence: Preference for geometric, angular composition; however, it has curves like wave motifs in repetitive patterns. Motifs often symbolise resilience, order, and communal unity, and the journey of life and experience.

In Johor, Bugis elements are visible in strong geometric and linear aesthetics, reflecting seafaring, navigation, and cosmological symbolism due to the fact that they are seafarers. Plus, having the advantage of sailing makes it easy for them to have access to colourful glass from other regions, which is a result of trade and colonial influence. The colourful glass as an ornament also symbolises beauty; in Bugis belief, the beauty of the building is usually used in an ornament. However, the semiotic perspective for the woodcarving and ornament placement and function for all case studies is consistent and similar: it is on top of doors, and doors act as a protective symbol, which is united for all houses.

Woodcarving Ornaments as Affinity with Design Composition and Principle

Johor woodcarving design compositions' obvious similarity is that the design principle is symmetrical and balanced for both vertical and transverse axes, regardless of which districts or ethnic influence. It can be concluded that the principle of the design layout aligns with the definition of beauty in the handicrafts of the Malay world, which is balanced, representing the meaning of beauty. This balanced composition is achieved through symmetrical repetition, and it is a common method to achieve unity in composition. It is also said that it is pleasing to the eyes when it is balanced, as it has harmony and order. A person is beautiful because she is balanced; if the left side is different from her right, she will not be attractive. The best creation of Allah SWT and there is no need to dispute.

Woodcarving Ornaments as Affinity with Assimilation and Hybridity Synthesis

Johor woodcarving does not directly copy Javanese or Bugis forms, but synthesises them into a distinct regional identity. These “rapat bertaut” carvings in Johor can be read as a visual metaphor of unity-in-diversity, echoing both Javanese cosmological interconnection and Bugis communal solidarity. This hybridity reflects Johor's historical role as a cultural crossroads, where motifs are adapted and reinterpreted into a uniquely Johor-Malay aesthetic.

Woodcarving Ornaments as Affinity with “Genius Loci”

“Genius loci” or “spirit of place” refers to the unique atmosphere or identity that characterises a particular location, which in this case is Johor. It encompasses both the tangible and intangible qualities that give a place meaning: its landscape, history, memory, and human engagement. In Johor, a southern Malaysian state shaped by deep maritime traditions and layered ethnicities apart from Malay, Javanese and Bugis, there are also Chinese who came with glass as an ornamental material complementing the woodcarving. These centuries of cultural interchange mean that woodcarving ornaments serve as more than decorative embellishments. They are carriers of genius loci, physical articulations of place-bound identity, spiritual cosmology, and environmental harmony.

CONCLUSION

The findings revealed a significant difference in the typology of the woodcarving design composition on the head of the window and some variations in the design composition of the window grille, but with obvious similarities between the four districts. As for the head of the window, although there are differences in the composition of the design, the similarities seen

between the four districts are through the design principle, which is symmetrical on the vertical axis with a balanced arrangement, as can be seen in the figure.

These differences exist due to the influence of the era and also the ethnic influence present in each district, with different skills from different ethnicities, apart from the influence, background and experience. While for the window grille, although there are variations in the design composition of the window grille, the obvious similarity is that the design principle is symmetrical and balanced for both vertical and transverse axes. It can be concluded that the principle of the design layout is in line with the definition of beauty in the handicrafts of the Malay world, which is balanced, representing the meaning of beauty.

In Johor's multicultural setting, historical cross-cultural exchange between Malay, Javanese, and Bugis communities occurred organically through migration, intermarriage, and shared religious frameworks. Today, however, the assimilation of ethnic traditions is often driven by top-down narratives of cultural unity that overlook nuance. Instead of encouraging pluralism through dialogue and mutual enrichment, this assimilation tends to erase the specificities that differentiate one ethnic group's artistic expressions from another's. What emerges is a homogeneous design language that, while perhaps visually harmonious, is devoid of cultural specificity, rendering once-distinct traditions indistinguishable from one another.

While ethnic assimilation and cultural hybridity can, in some contexts, lead to rich new forms of artistic expression, the uncritical fusion of diverse traditions without a grounded understanding often results in superficial hybridity rather than meaningful synthesis. True assimilation should emerge from mutual respect and deep intercultural dialogue, not from commercial convenience or aesthetic mimicry. Otherwise, the result is not a celebration of diversity but a flattening of distinct identities into indistinguishable forms.

In conclusion, the current trajectory of woodcarving design in many regions raises critical questions about cultural ownership, artistic integrity, and the future of intangible heritage. This is why this kind of research is needed to assist this architectural heritage with the ethnic assimilation understanding. The findings of this study are expected to contribute to knowledge related to architectural design and heritage value, in addition to benefiting the architectural profession, culture, and society, as well as the country, considering that wood carving is a traditional heritage art that needs to be appreciated.

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