

Timber Species in Malay Wood Carving

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Proceedings of the International Seminar Malay Architecture as Lingua Franca, June 22 and 23, 2005, Trisakti University, Jakarta

Abstract

Woodcarving is part and parcel of vernacular Malay architecture and craft in Peninsular Malaysia and Southern Thailand. Timber architecture, boats and canoes, hilts and sheath of weapons, musical instrument and utensils are adorned with carving motifs of flora, calligraphy, geometry, fauna and cosmic features. Apart from the knowledge and skills on woodcarving, selection of timber species is a determining factor in the making of the carving. This study investigates the criteria used by Malay craftsmen in selecting timber species for their carvings. The method of investigation include (1) review of measured drawing reports of timber building from Universiti Teknologi Malaysia archive, (2) interview with woodcarvers on small and intricate crafts, (3) interview with caretakers or residents of the buildings, and (4) literature review on timber species from Forest Research Institute Malaysia archive on timber classification and its characteristics. Information from the drawings, interviews and literature are triangulated to obtain the types of carved components in architecture and crafts, types of timber species and reasons of their selection. It is found that the Malay woodcarvers observed three factors in selecting timber species for their carvings. The factors are availability of timber, physical characteristics and durability, and craftsmen's spiritual beliefs towards the timber species. Most carved building components are made from heavy hardwood species such as *cengal* and *merbau* because of their strength and durability and availability of sawn timber in large volumes. Motifs of flora, calligraphy, geometry, fauna and cosmic features are depicted on to the components as well as to crafts such as weapons, utensils, tools and furniture. However timber species with fine grains and lustrous surfaces and believed to possess strong spirit such as *kemuning* and *kenaung* are carved into hilts of weapons. These criteria address the intrinsic knowledge of the woodcarvers upon the beauty and meaning of tropical timbers and hence in the identity of the carving.

Keywords: woodcarving, hardwood species, vernacular architecture, crafts, spirit of wood

1.0 Introduction

Woodcarving is part and parcel of vernacular Malay architecture and craft in Peninsular Malaysia and Southern Thailand. Timber architecture, boats and canoes, hilts and sheath of weapons, musical instrument and utensils are adorned with carving motifs of flora, calligraphy, geometry, fauna and cosmic features (Figure 1.0). It is an art of partially removing wood from a board or a plank following specific motifs and orders (Ismail, 2001, 2002). It is a craftsmanship depicting the beauty of natural elements, geometry and Quranic calligraphy by incising or cutting the hardwood timber using sharp tools conforming to specific patterns and compositions. Most depictions are



Figure 1.0: Grave-marker, hilt of Tajung kris and door ventilation panel

manifestation of physical beauty into abstract forms. Such skill is gained through apprenticeship whereby an apprentice imitates his master's work but gradually modifies the motifs and eventually produces his own manifestation on to the timber. This pattern becomes the trademark, both for the craver and his architecture or craft.

In carving Malay craftsmen demonstrated high skills of art manifesting abstract ideas into physical beauty. This manifestation developed through a long period whereby skills and knowledge of woodcarving was passed through apprenticeship. By imitating a

carved masterpiece, a woodcarver gradually modifies the motifs and produces his own manifestation onto the timber piece. For example, motif of leaves and buds of *ketumbit* or *getamguri* (both are shrubs) are gradually modified by the carvers to demonstrate their own stylish identity called *air-tangan* but keeping the fundamental motif form (Nik Rashiddin, 1999). This pattern becomes the trademark, both for the craver and for his architecture or craft. Differences in motifs, layouts and perforations occur between one region to another, for example, craftsmen in north-eastern states of Kelantan and Terengganu depicted different flora motifs from the central states of Negeri Sembilan and Melaka. Therefore, the motifs of woodcarving signify the identity of craftsmanship of the carvers in a region.

2.0 Characteristics of Carving

Generally, the carved components are depicted in three incision modes: relief, perforated or a combination of both (Ismail & Ahmad, 2001). Some of the components are wall panels, ventilation panels of door or window, door leaves, railings, gables and their boards, and fasciaboards that dominate the elevation of the buildings. The degree of complexity in carving varies from one component to another; intricate ones include door leaves and wall panels, and simple carvings include bargeboard and fasciaboard. The carvings also signify the status and ownership of the residents and display the skillfulness of the craftsmen. For example, a Terengganu nobleman house is distinguished by its large bargeboard whereas a large-latticed gable portrays a Perak house. As one gets closer to view the components, the distinction is further portrayed by the composition of the carvings and their motifs. As such, a typical elevation of the Terengganu house is adorned with perforated wall and ventilation panels of varying sizes carved in flora motifs; leaves, tendrils and flowers of local plants such as *ketumbit*, *getamguri*, *keraknasi*, *jari buaya*, and *bakawali*. But the carved panels at Perak houses are carved in different flora motifs including sunflowers and *ketola*, and sometimes mixed with cosmic motifs. Within the differences in motif and modes of incision and layout, a common

factor holds the architecture that is it is mostly constructed from heavy hardwood species particularly cengal (*Balanocarpus heimii*) (Ismail, 2002).

The degree of complexity in carving varies from one component to another; intricate or complex ones include door leaves and wall panels, and simple carvings include gableboard and fasciboard. From the carving characteristics including motifs and types of perforation and incision, one could differentiate the architecture of one state over another. For example, a Terengganu house is distinguished by its large gableboard whereas a large-latticed gable portrays a Perak house. As one gets closer to view the carved components, the distinction is further portrayed by the composition of the motifs. As such, the elevation of the Terengganu house is adorned with perforated wall and ventilation panels of varying sizes carved in flora motifs; leaves, tendrils and flowers of local plants such as *ketumbit*, *getamguri*, *keraknasi*, *jari buaya*, and *bakawali* (Ismail, 2000; Ismail & Ahmad, 2001). But the panels at Perak houses are carved in different flora motifs including sunflowers and *ketola*, and sometimes mixed with cosmos motifs. These are regionally specific motifs found in the Malay woodcarvings in Peninsular Malaysia. However, similarities occurs in depicting geometrical motifs on railings of varendah or tall window and fasciboards. Likewise, similar Arabic calligraphy motifs are depicted on door and window ventilation panels.

3.0 Significant of Timber Species

Apart from the skillfulness of the woodcarvers as one of the determining factors in creating the carving, the other factor is the abundance of tropical hardwood species. Thus timber constructions such as house, mosque, palace, entranceway or gateway, tomb and pavilion, and boat are made from heavy hardwood species which are strong and durable and resist the attacks of fungi, powder-post beetles and termites. Inasmuch, many palaces, aristocrat houses and mosques in Terengganu, Kelantan, Pattani in Southern Thailand last for more than 150 years against the hot humid tropical climate (Ahmad, 1997). For examples, aristocratic houses such as Kota Lama Duyong in Kuala

Terengganu town (Mohd Hanif, 1996) and palaces such as Istana Jahar in Kota Baru town are equipped with varieties of relief and perforated carved components. These components served functions such as allowing sunlight into the interior, facilitating flow of breezes into the building, and aesthetically, adding beauty and creating character to the architecture.

This study presents the criteria of selecting tropical hardwoods practice by Malay woodcarvers in the creation of their carvings. The investigation is based on two research questions: (1) what are the timber species utilized by Malay woodcarvers for architectural components and crafts? and (2) What are the factors practiced by the woodcarvers to select appropriate timber for their carving?

4.0 Method

The investigation gathered information from three sources or informants:

1. Report of measured drawings from University Technology Malaysia on timber architecture such as palace, house, mosque and tomb. Five houses, two palaces, three mosques and a tomb were referred to determine the timber species of the architecture. The drawings were analyzed to determine the types of carved components existed in Malay vernacular architecture.
2. Interviews with two woodcarvers, one from Bachok in Kelantan and the other from Kampung Raja in Terengganu, on types of architectural components and timber crafts, types of timber species, and reasons of selection by them. Information on small and intricate crafts such as keris, dagger and utensils are carefully observed and discussed with the woodcarvers. These carvings are either carved or collected by them during their long involvement. In addition, an observation on raw planks and blocks of timber is done at the woodcarvers' workshops that stored the timbers.
3. Interviews with residents or caretakers of the houses to determine the timber species of the building.

4. Literature on timber classification and its characteristics including references from Forest Research Institute Malaysia. The characteristics include density, durability, grain texture, and chemical contents are gathered from the scientific literature.

Information from the drawings, interviews and literature are triangulated to obtain the types of carved components in architecture and crafts, types of timber species and reasons of their selection.

5.0 Results: Factors Influencing Timber Selection

Generally, the Malay craftsmen would apply three factors in selecting appropriate timber for their carvings. The factors include availability of timber, its physical characteristics and durability, and the craftsmen's spiritual beliefs towards the timber species. The hierarchy of selection depends on the type of carved components, for example, the making of house components such as door leaves or ventilation panels is clearly determined by the availability of timber which should easily be obtained in large volume. On the other hand, the Malay craftsmen choose only kemuning or kenaung for making kris hilt and sheath because of their fine interlocked grains and deep yellow sapwoods overlap with dark brown heartwood. In addition, these timbers are regarded as possessing good spirit that must be respected and that will accompany the weapon (Faris & Khoo, 2003; Ismail & Ahmad, 2001).

5.1 Availability of Timber

Tropical rain forests of Peninsular Malaysia produce a variety of quality, durable timber grown in the low-lying undulating land and hills of the Main Range (Appanah, 1993). Heavy hardwood species such as chengal (*Balanocarpus heimii*), balau (*Shorea spp.*), and merbau (*Intsia palembanica*) are the favorite. They are durable species that resist attacks from termite, powder-post beetles and fungi which would lessen their structural properties including flexibility, stiffness and hardness. These timber members are suitable to make large building components such as door leaves, bargeboards,

kingpost, wall panels, and ventilation panels as well as small members include railings and *buah buton*, a cubical feature attached to the lower end of the kingpost. The same timber species are used to make the structural building components such as posts, beams and floorboards as well as the carved components. It is common to find an entire house made from chengal, balau or merbau in the states of Terengganu, Kelantan, Perak and Pahang in the peninsular. For example, a house at Kampong Bolok in Pahang built in 1920s, was constructed wholly from merbau; beginning from the footings, to posts, beams, floorboard, walls, rafters, purlins and upward to include the kingposts.

The timbers are air-dried under a shed or under the houses allowing prevailing winds and the sun to dry them while protecting them from the rain. No preservative treatment is applied to the timber since the resins of most dipterocarps are able to resist the powder-post beetles, termites, and fungi attack (Farmers, 1987). The drying (seasoning) process may take months or even years for some timber species particularly kemuning, kenaung and sena.

Medium hardwoods from the forests such as medan (*Litsea grandis*), kundang hutan (*Bouea macrophylla*) and keladan (*Drybalanops oblongifolia*) are sometimes used for carving door leaves, furniture such as bed and cabinet, and musical instruments such as kenong and kompong. These timbers are more prone to attacks from powder-post beetles and fungi and thus they are placed where they will not come into contact with moisture.

Apart from obtaining timber from the forest, the craftsmen would optimize timber choice by harvesting readily available fruit trees grown in the house compounds and orchards. They would cut large branches or sometimes the trunk of matured trees including ciku (*Achras zapota*), jackfruit (*Artocarpus heterophyllus*), rambai (*Baccaurea bracteata*), belimbing (*Averhorra belimbii*), bacang (*Mangifera foetida*) and kundang (*Bouea macrophylla*). Since these timber pieces are relatively small, the craftsmen would carve them into household tools and utensils and musical instrument in relief motifs of flora and geometry. The tools and utensils include coconut grates, ladles, food containers, biscuit moulds, and rehal (a cradle to place the Quran during readings). The practice of consuming timber from cultivated trees suggests that the Malay craftsmen are attentive to their environment where they live.

Timbers for carving are also extracted from the secondary and coastal forests where a mixture of heavy, medium and light hardwood species grow naturally. Leban (*Vitex spp.*), a heavy hardwood, and sena (*Pterocarpus indicus*), a light hardwood, are the common species obtained from the secondary forest for making sheaths of badek or kris and for carving some house utensils. The craftsmen living in coastal villages would harvest timber from penaga laut (*Calophyllum inophyllum*) and kelat jambu laut (*Syzygium grande*) from the beach forest. They are carved for such elements as boat paddles and grave-markers. Hence, the Malay craftsmen optimize the use of timber found within or adjacent to their living environments

5.2 Physical Characteristics and Durability

In woodcarving, the physical characteristics that govern the suitability of timber are durability, color, grain and texture, and luster. Before working on the timber, first and foremost the craftsmen must select a timber piece that is free from all defects, namely, knots, pith flecks, resin streaks, brittlehearts, checks and splits, decay, bowing and cupping (Nik Rashiddin, 1999). Durability of hardwood is directly related to density; high density generally suggests strong resistance against fungi decay and boring insect attacks. Therefore, chengal, balau, resak and merbau are the preferable species for most house components including structural, elemental and decorative types (Watson, 1928). The buildings that are made from these species are known to last for more than 150 years. The resistance is possibly due to the silica deposits in its storage tissue (Desch, 1981).

In some heavy hardwoods there is no color distinction between sapwood and heartwood, but in the majority the heartwood is more deeply colored (Desch, 1981). On exposure to the air, chengal and balau are light brown to dark red-brown and become darker as they age. On the contrary, the merbau's sapwood is pale yellow sharply defined from the dark red-brown heartwood. Generally, the final finish of the carved timber components made from these heavy hardwoods is finished with sandpaper. In carving house components, the craftsmen is less critical towards the timber color but very selective when carving weapon hilts and sheaths, furniture and musical instruments. As such only kemuning and kenaung with bright yellow sapwoods and dark brown

heartwoods are chosen for the hilts of kris, badek and kerambit (a small knife). These weapons are considered auspicious tools and used only for ceremonial events or special occasions.

Grain and texture are two distinct characteristics of timber; the grain refers to the direction of the fibers, and texture applies to the relative size, and the amount of variation in the size of the cells (Desch, 1981; Smith, 1999). The chengal timber is easy to cut and incise because it has straight fibers and it does not give rise to ornamental figuring. It has fine and even texture and is thus suitable for almost all carvings, from large features such as boat's figure head, to a building's wall panels, to small objects such as rehal. The merbau has a more interesting appearance than the cengal or balau since it has interlocked and sometimes wavy grain and a coarse texture with large vessels and coarse rays (Farmers, 1987). But it is more difficult to incise since it is denser and has a higher hardness, thus it is used for large building components such as posts and seldom used for small crafts such as house utensils.

Lustrous woods such as merbau, kemuning, tempinis (*Sloetia sideroxylon*), kenaung have cell walls that reflect light, particularly on quarter-sawn surfaces (Desch, 1981). The luster is a natural asset that craftsmen would seek to exhibit in carved furniture and small crafts such as kris hilts, knife sheaths, walking sticks, and picture frames. The luster, however, does not last long without finishing coat over the timber surface. For example, craftsmen apply several layers of shellac or varnish to a kris hilt to retain the lustrous surface of the kemuning.

5.3 Spirit of Wood

Apart from tangible characteristics of timber, the Malay craftsmen also select timber based on its spiritual possessing, either a benefiting or cursing value (Farish & Khoo, 2003). Kemuning and kenaung are regarded the most auspicious species because the craftsmen believe that they possess strong spirits that will accompany a weapon such kris, badek, kerambit or spear. A few craftsmen in Kelantan believe that this spirit is compatible with the iron blade. Hence, these timbers are reserved for creating hilts and sheaths of the weapons. As work begins, a craftsman cannot be definite on what style of

kris hilt that a piece of kemuning or kenaung will finally become. Gradually, during the incision process, the timber reveals its grain, texture, and luster and only then the craftsmen know the hilt style the timber will become. The motifs on this hilt would be similar to large architectural components such as leaf of getamguri and jaribuaya, flower of ketumbit and keraknasi, these are shrubs or weeds commonly found in the Malay house gardens (Syed Ahmad, 1992; Ismail & Ahmad, 2001).

6.0 Conclusion

Woodcarving is a significant craft in Malay vernacular architecture and non-architectural elements. It is a manifestation of craftsmen imagination of flora, geometry, calligraphy, fauna and cosmic elements onto timber in abstract but tangible product. It signifies the identity of a regional architecture as well as stylish pattern of the craftsmen from the region. In intangible perspective, it illustrates the belief of the Malay craftsmen toward architecture, devotion to god and contribution to society. To understand the significance of the craft, one need to investigate its physical forms in term of motifs, principal forms and layouts. In addition, it is important to know the characteristics of the timber species from which the carving are built.

Acknowledgement

This research was by a grant from Research Management Center, Universiti Teknologi Malaysia.

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