TRADITIONAL MALAYSIAN BUILT FORMS: A STUDY OF THE ORIGINS, MAIN BUILDING TYPES, DEVELOPMENT OF BUILDING FORMS, DESIGN PRINCIPLES AND THE APPLICATION OF TRADITIONAL CONCEPTS IN MODERN BUILDINGS

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SUMMARY

The architectural heritage of Malaysia consists of Malay, Chinese and colonial architecture. These three major components of traditional Malaysian architecture[1] have evolved in sequence and have overlapped from the beginning of the fifteenth century. These building traditions ceased with the emergence of a new architectural movement which was brought into the country in the twentieth century after the nation's independence. This new phase was the development of modern architecture and during this period, many buildings in Malaysian cities were built in the *International Style*, which was popular in many western countries.

The continual process of adopting western styles and images has resulted in buildings which disregard the environmental and climatic factors of Malaysia and this has led to the problem of identity in the development of Malaysian architecture. It was in view of this problem that this research was initiated, coupled with an interest to investigate the underlying principles of traditional built

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[1] For the purpose of this study, 'traditional architecture' or 'traditional built forms' refer to the early building traditions in Malaysia before independence which includes the Chinese and colonial buildings.

forms and an urge to find some answers to the identity problem.

This study is aimed at producing a comprehensive and systematic documentation of traditional built forms and special emphasis has been given to the study of the design principles of each component of traditional architecture in order to recognize their significance and to explore the possibility of adopting them in modern buildings.

Chapter One gives an overview of the main historical events prior to Malaysian independence which had a significant effect on the present form of built environment. The main body of the thesis (Chapter Two, Three and Four) records the history and development of traditional Malaysian architecture, with a substantial part of each chapter devoted to the study of design principles. Chapter Five deals with the development of modern architecture, the identity crisis and an analysis on contemporary built forms. The final chapter (Chapter Six) outlines the importance of traditional design principles and presents some alternative solutions to problems in contemporary designs.

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INTRODUCTION

Malaysia is relatively a young country which has only been independent for thirty-six years. However, in the last two decades, Malaysia had experienced rapid economic growth due to increased production from the agricultural and industrial sectors, which has made Malaysia one of the major exporters of tin and rubber for the world markets. The economic progress and stability has resulted in accelerated growth in the building industry. The rate of urbanisation is relatively high compared to other Asian countries.

Malaysia's population is about 17 million people and consists mainly of Malays, besides the Chinese and other ethnic groups. Traditional Malaysian architecture has a blend of influences which has created its unique building forms. These forms have been borrowed from Malay, Chinese, Indian, and European architectural styles resulting in diverse patterns that are an eclectic expression of Malaysian architectural traditions.[2]

Historically, the Malay peninsula was well known for its strategic geographical position between the Indian Ocean and the South China Sea. It has long been a meeting place for traders and travellers from the West and East. Hence,

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2 HERITAGE OF MALAYSIAN TRUST, *Malaysian Architectural Heritage Survey: A Handbook,* Kuala Lumpur; Badan Warisan Malaysia (unpublished), 1985, page 2.

its history was one of continual interaction with foreign powers and influences.

Malacca was one of the *Indianized Malay kingdoms*[3] and was famous in the fifteenth century for its trading port. The success of Malacca attracted many western powers to monopolize the spice trade in this region. The competition to control the spice trade and the struggle to establish political territories brought the Portuguese, Dutch and British to Malaya. With the discovery of tin and the development of the rubber industry in the nineteenth century, the British established themselves in many parts of Malaya. It was during the British occupation that large numbers of Chinese and Indians immigrants settled in this country.[4]

The continual interaction with foreign powers and influences has resulted in a multi-ethnic society and the architecture of the past can be seen as an intepretation of different cultures, religions and aesthetic requirements of the ethnic people of Malaysia (the Malays, Chinese and Europeans were the dominant ethnic groups).

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[3] Some scholars refer to the Malay-Indian Kingdoms as the Indianized Malay states. The words Malay-Indian and Indianized are used similarly to describe the integration of Malay and Indian cultures. The contact between the two cultures occurred from 300 A.D. onwards when most of the Malay states were exposed to Indian influences. See Chapter One - section 1.2.2.

[4] All the main historical events are discussed further in Chapter One.

The multi-ethnic composition in Malaysia has had a strong influence on the architectural development in the country. Each of these social groups have different cultural backgrounds, languages, customs and architectural history. Although these foreign immigrants brought their own architectural traditions to Malaya, there was also a process of assimilation between foreign architectural styles and local building traditions which resulted in many new forms and building styles. The 'common ground' or unifying factor of these three main architectural styles was their adaptation to the climate. These traditional buildings were designed with special reference to the climatic conditions of Malaysia which has resulted in some excellent building characteristics and design principles.

The years after independence was a period of discontinuity in the development of local traditions. The old building traditions came to a halt when modern architecture was introduced into Malaysia after independence. A new phase took place in the development of Malaysian architecture which was an era of modern, international style architecture. High-rise buildings and modern housing development were extensively built in many urban areas with the adaptation of new concepts in planning, materials and styles, which rigourously replaced the traditional pattern of building.

General Impression of Malaysian Cities

In the urban areas of Kuala Lumpur today, there are many new skyscapers which dominate the skyline and these are making the city gradually lose its original identity and character. In the 1980s, there has been an influx of many high-rise buildings in most Malaysian towns due to the rapid growth of urban development. Ken Yeang remarks that "the conflict of urban change and heritage are physically evident in all the towns and cities in Malaysia today. Present day Kuala Lumpur, Malaysia's largest city, is an architectural polyglot of international high-rises that reflect the affluence of the early 80s".[5] In most Malaysian cities, one can see many new buildings which present a mixture of architectural styles with all kinds of images, including those of Internationalism. Some old towns have become so internationalised that they have lost most of the characteristics that made them unique and indigenous in the first place.

Curtain walling is favoured in many new commercial buildings. These buildings are simply unsuitable for a country with a warm humid climate like Malaysia because of the rapid build up of heat inside the buildings which requires the excessive use of air-conditioning and because of the inordinate amount of glare which needs filtering. But these problems have often been overlooked because these

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5 INSTUTUTE OF MALAYSIAN ARCHITECTS, *Post-Merdeka Architecture,* Kuala Lumpur; Cataloque of Exhibition organized by Pertubuhan Arkitek Malaysia, 1987, page 18.

commercial buildings have been derived or copied from contemporary models taken from Western countries in temperate climates. The general skyline and streetscapes of towns and cities have become so universal with developments that have no sense of place and buildings that are alien to their immediate surroundings. In some cases there is an obvious lack of vocabulary and richness in the treatment of these new building forms.

There are often benefits in new urban developments which improve the standard of living, but for those who are concerned about the environment and the after effects of urbanization, these buildings are seen as a failure in terms of adapting to the local climate and cultural context.

Architectural Issues and Design Problems

The question of identity in architecture is a controversial issue in many third world countries, including Malaysia. Design approaches, in the search for a national identity in architecture, are merely confined to decorative motifs which are superficially applied onto new building facades. Attempts to incorporate traditional elements have resulted in pastiche architecture. Traditional design principles have not been fully understood and have therefore resulted in poor designs.

Many seminars and debates have been held to discuss the issue of identity in Malaysian architecture. The outcome of

these debates was an urgent call for research to be made on various aspects of Malaysian architecture. At present there are not many records or references on the subject of traditional architecture, although steps have been taken to encourage further research to be made into this particular area. The lack of references has led many local architects to adopt western ideas in the planning and construction of many new buildings, including housing, commercial and public buildings. New building technologies and imported materials have made it possible for developers to build tall structures and increase the production of high-rise buildings. For residential buildings, the adoption of western concepts of living has encouraged local people to build houses which incorporate western architectural styles and features. This has resulted in houses which do not respond to the climatic requirements of Malaysia. High-rise building and poor housing design are two major problems in contemporary Malaysian architecture.

The Importance of Research and Reasons for Study

There is a great concern amongst Malaysian architects about the future direction of Malaysian architecture. Having identified the problems in contemporary Malaysian architecture and realising the importance of acquiring knowledge about traditional Malaysian architecture, I was encouraged to carry out research into the subject of traditional architecture and it was hoped that this study would provide some answers and alternative solutions to the problems of modern design. W. Y. Chin notes that "a

thorough research into buildings of our past is necessary so as to render us an in-depth understanding and appreciation of our architecture of the past. The conventional shophouses are expressively a local design feature to this country and to this region alone; a deeper understanding of its derivative will undoubtedly render us a better appreciation of their existing pattern of development which will also help us to design for this building type in the future".[6]

Amos Rapoport remarks that "the assumption behind any historical approach is that one can learn from the past; that study of the past is of value philosophically as well as in making us aware of the complexity and overlapping of things. It can also clarify those elements that are constant and those which change".[7] "There should be extensive research studies on our ancient buildings to enable us to be equipped with a better understanding of their past design philosophy and criteria".[8]

Prior to this study, I had carried out two research projects which have given me some background knowledge about traditional Malaysian buildings and the importance of

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6 CHIN, W. Y., "Towards A National Identity in Architecture," *Majallah Akitek,* Vol. 1, 1981, page 21.

7 RAPOPORT, AMOS. *House Form and Culture,* Englewood Cliffs, N. J.; Prentice-Hall, 1969, page

8 CHIN, W. Y., *op. cit.*, page 22.

adapting buildings to climate. This research has given me the opportunity to explore the field in further detail.

Scope of Work and Overall Objectives

This study is aimed at investigating the important aspects of traditional Malaysian architecture, highlighting the importance of traditional design principles and seeing how some of these could be used to solve problems in modern building designs. In order to derive an understanding of traditional design principles, it is important to discuss the historical context and the origins of traditional architecture and see how these principles have been adjusted to suit the local environment.

This study is also aimed at documenting the evolutionary process of Malaysian architecture which include Malay, Chinese, colonial and contemporary Malaysian architecture. However, Indian architecture is not included due to the fact that there is little indigenous Indian architecture in Malaysia and what there is of little significance. This confines the scope exclusively to the study of the major components of Malaysian architecture. The aims of this research can be specified as follow:-

a. To produce a comprehensive and systematic documentation of indigenous Malaysian architecture, which is disappearing at an alarming rate.

b. To discover the design principles of traditional

Malaysian built forms and to derive an understanding of their practical and philosophical uses.

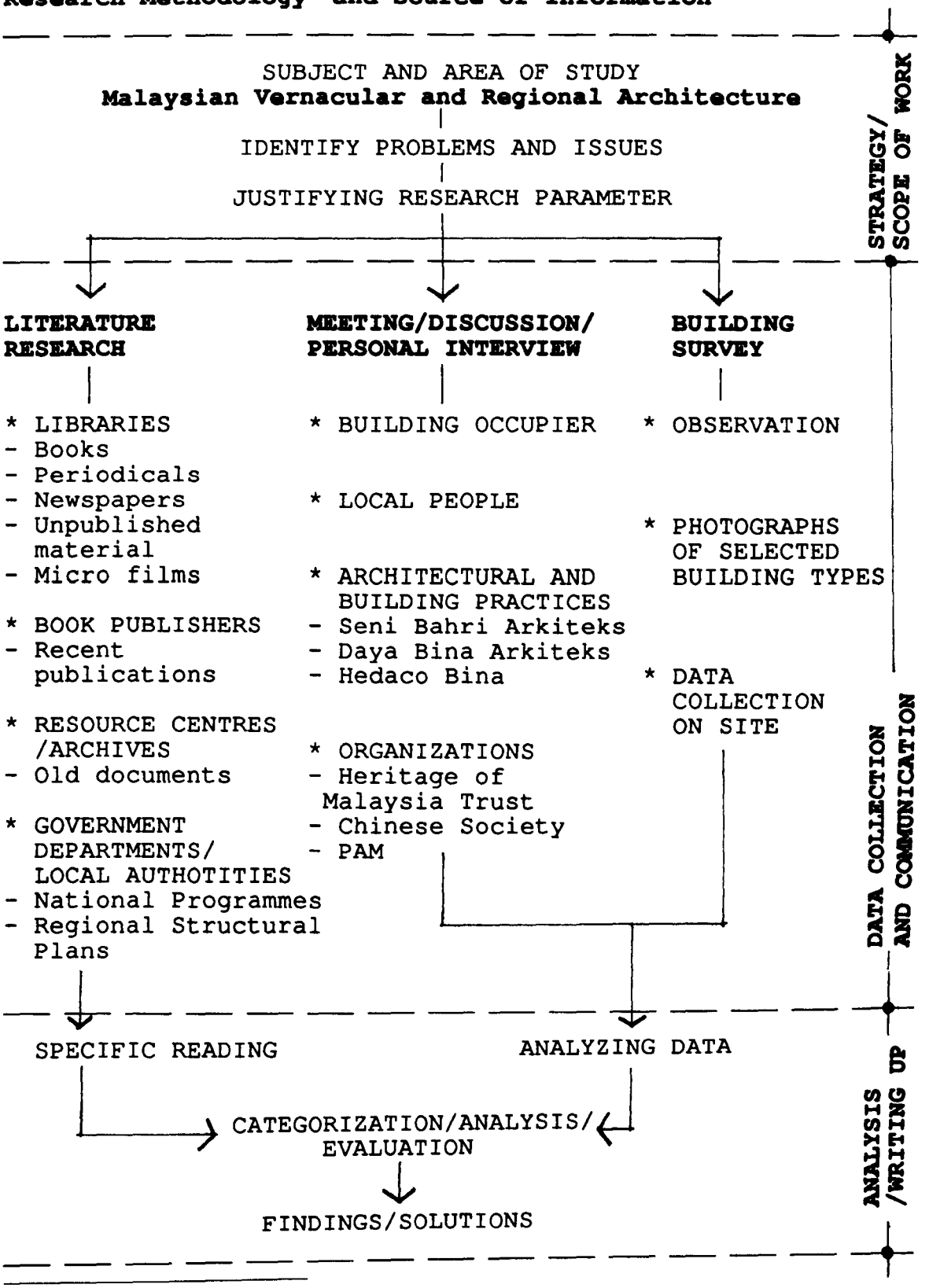
c. To justify the importance, validity and limitations of using traditional forms and design principles in modern buildings.

d. To present alternative solutions to problems in contemporary Malaysian architecture and to recommend the appropriate usage of traditional design principles in modern buildings.

Most of main historical events and architectural developments have taken place on the west coast of the Malay peninsula and all the major cities in Malaysia happen to be located in this area. Therefore, to narrow the area of study, this work only deals with the history and architectural development of buildings in the Malay peninsula (West Malaysia) and excludes studies on buildings in Sabah and Sarawak (East Malaysia).

The choice to focus on the study of traditional design principles with special reference to climatic factors and tropical setting, further narrows the scope into a more manageable and specific subject. Data collection has been made by various means - computer searches, references from books, inter-library loans, site visits, discussions and information from various departments of the Malaysian government.

Research Methodology[9] and Source of Information



[9] The research methodology is based on recommendations outlined in the following publications:- 1. MOORE, Nick, *How To Do Research*, 2nd. ed., London; The Library Association, 1987, 2. CALNAN, JAMES, Coping With Research, London; William Heinemann, 1984 and 3. BELL, JUDITH, *Doing Your Research Project*, Milton Keynes,; Open University Press, 1987.

Structure of Thesis

Chapter One deals mainly with the geographical and historical background of Malaysia and includes all the important historical events in Malaya before the nation's independence. These events are important because they had a bearing on the built forms of Malaysia.

The main body of the research represents a comprehensive and systematic documentation of traditional Malaysian architecture with particular attention given to the study of design principles. The three components of traditional Malaysian architecture - Malay, Chinese and colonial - are dealt with in Chapter Two, Three and Four respectively. Each of these three chapters is structured to contain similar sub-titles, and each sub-title is broken into several other sub-divisions. The four main sub-titles are as follow:-

1. History and origins
2. The main building types
3. Building form and its development
4. Design principles

This has been carried out so as to provide a systematic documentation of the facts and to help one to develop an understanding of the historical development, influences and characteristics of traditional Malaysian architecture. The research framework can also help one to make comparisons or cross references between the three components of Malaysian

architecture with regard to various aspects such as materials, architectural styles and design principles.

Chapter Five discusses contemporary Malaysian architecture which includes Malaysian architecture after independence, the identity crisis, the current problems encountered by contemporary architects and an analysis of contemporary built forms. The final chapter (Chapter Six) attempts to provide some alternative solutions to existing problems in modern design. This final chapter also examines the validity of using traditional design principles in contemporary buildings and recommendations are made to support the appropriate usage of traditional principles in contemporary architecture.

Chapter One

BACKGROUND OF MALAYSIA

1.1 GEOGRAPHICAL BACKGROUND

Peninsular Malaysia is physically a part of the great Eurasian land-mass of which it forms the south-eastern tip, bordered by the South China Sea on the east and by the *Straits of Malacca*[1] on the west. Structurally, the Malay peninsula is made up entirely of a portion of Sunda-land which is the old stable core of South-east Asia.[2] It was believed that during the period of the last Ice Age, the present Malay peninsula and its archipelago was a piece of dry land.

The land of Malaysia covers an area of about 130,000 square miles, occupying the Malay peninsula[3] and the states of Sabah and Sarawak in the north-western coastal area of Borneo island. The two regions are separated by about 400 miles by the South China Sea. Peninsular Malaysia, covering 52,000 square miles, has its frontiers with Thailand while

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1 *Straits of Malacca* is the southern extension of the Bay of Bengal.

2 FISHER, CHARLES, *South-east Asia,* London; Methuen, 1964, page 583.

3 The Malay peninsula is politically divided into twelve states namely Perlis, Kedah, Penang, Perak, Selangor, Federal Territory of Kuala Lumpur, Negeri Sembilan, Malacca, Johore, Pahang, Terengganu and Kelantan.

Sabah and Sarawak, covering about 78,000 square miles, borders the Indonesian state of Kalimantan[4] (see Fig. 1.1).

Lying between latitudes 1 degree and 7 degrees north of the equator, Malaysia enjoys a uniformly hot and wet climate. The south-west monsoon, which prevails from May to September, and the north-east monsoon, blowing from October to April, bring some seasonal differences in rainfall. However there are no great differences in temperature, which are high but not excessive, and rarely rise much above 33 degrees Celsius by day and fall below 15 degrees Celsius by night. In most parts of the country rainfall exceeds 2000 mm a year and there is no marked dry season.

The east coast of the peninsula receives its heaviest rainfall at the height of the north-east monsoon in November to December.[5] The west coast of the peninsula is partly sheltered from the north-easterly wind due to the mountainous terrain which forms a barrier between these two coastal regions. This mountainous terrain is called *Banjaran Titiwangsa* and stretches from the Thailand border to inland Malacca, running roughly parallel to the west coast.

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4 MINISTRY OF INFORMATION, *Malaysian Official Yerbook,* Kuala Lumpur; Kementerian Penerangan Malaysia, 1975, page 7. This annual document contains information on the history and geography of Malaysia, statistical data and reports on various aspects of Malaysian life (culture, economy, social, political system, etc.).

5 TURNBULL, CONSTANCE MARY, *A Short History of Malaysia, Singapore and Brunei,* Singapore; Graham Brash, 1981, page 3.

Although the Malay peninsula is physically part of the South-east Asia mainland, the climate and vegetation are much closer to the climate and vegetation of the maritime islands of South-east Asia. The mountains and most of the higher parts of Malaysia are covered by thick tropical rain forest, while most of the lower ground and coastal areas are covered by casuarina forest on the east coast and mangrove swamp on the more sheltered western shore.

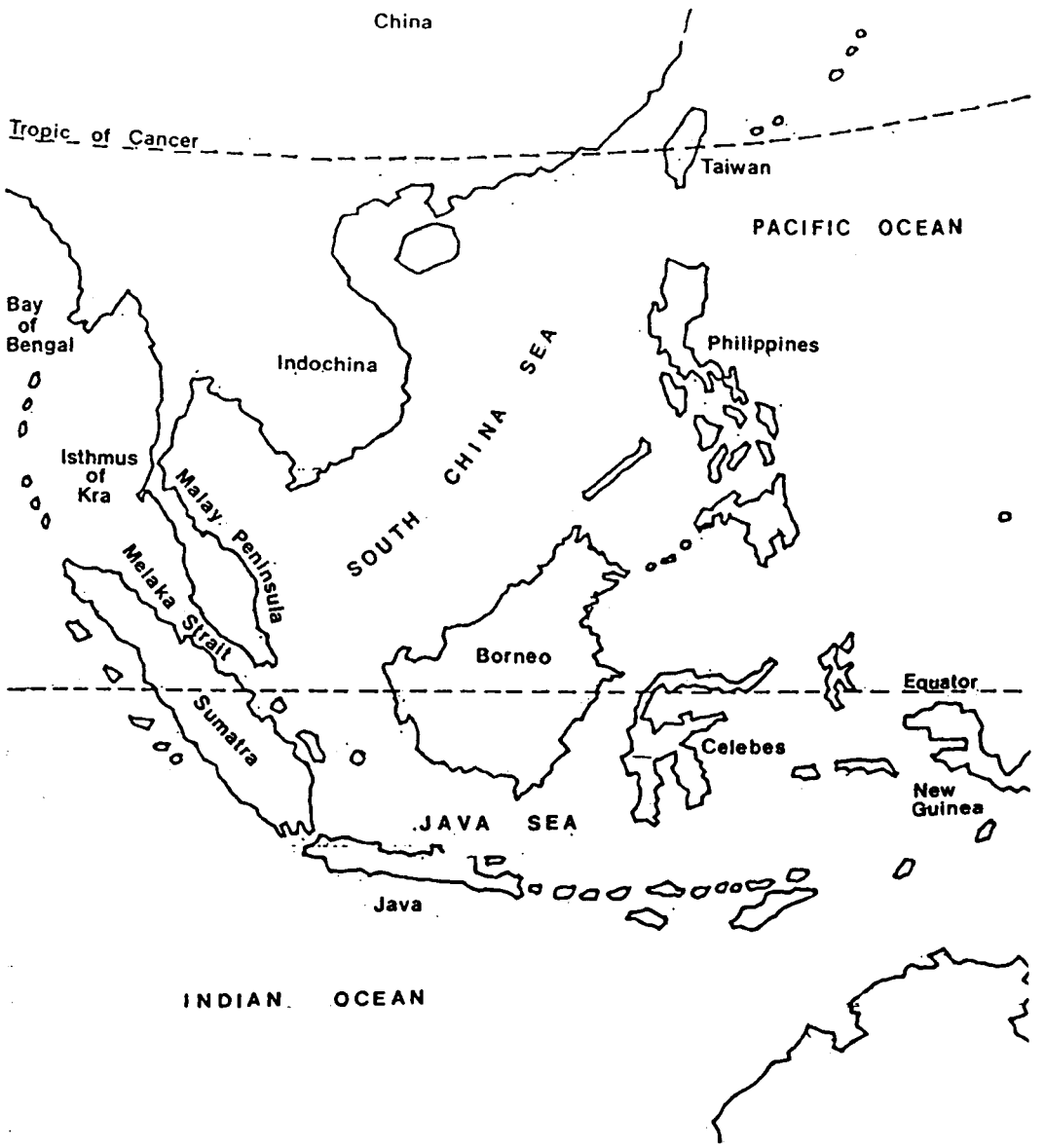

Figure 1.1: *The geographical location of the Malay peninsula.*

1.2 HISTORICAL BACKGROUND

1.2.1 EARLY INHABITANTS AND SETTLEMENTS

Malaysia's prehistory is obscure and extremely vague. There are no dated stone inscriptions in the Malay peninsula or in the Borneo states earlier than the fourteenth century and there is very little written evidence. Scattered fragments of information can be gleaned from the descriptions of Chinese travellers and Arab geographers, but the earliest coherent narratives are the *Sejarah Melayu,* or Malay Annals, and the early Portuguese writings of the sixteenth century.

The earliest relics found in the Malay peninsula date back no more than 10,000 years, but excavations in the Niah caves in north Sarawak in 1958 revealed fragments of a *homo sapiens* skull estimated to be 40,000 years old.[6]

Relics of human habitation going back thousands of years have been found in limestone caves and rock shelters of the northern Malay peninsular foothill region in Kelantan, Kedah, Perak and Pahang. Archeological evidence like crude stone implements and rough pottery fragments indicate that these cave dwellers were part of the *Mesolithic Hoabinhian*[7] culture of the region, but little is known of their ethnic

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6 TURNBULL, CONSTANCE MARY, *ibid.*, page 10.

7 *Mesolithic* refers to a hunting and food-gathering subsistence economy and *Hoabinhian* is named after a province in Tonkin, North Vietnam, where this culture was first recognized.

origin. The archeological evidence suggests that they were probably the first human inhabitants in this region.

Radiocarbon dating from two Malaysian sites, one in Pahang and the other in Perak, tend to indicate that a transition from Mesolithic Hoabinhian culture to *Neolithic*[8] or New Stone Age phase could possibly have taken place from about 2,000 B.C. to 1,500 B.C.[9]

In the study about indigenous people in South-east Asia, Charles Fisher has pointed out that a southward drift of peoples from east-central Asia (Tibet and China) to the south-east Asian region (which includes the Malay peninsula and archipelago) could have occurred shortly before the dawn of recorded history. But although the process shows remarkable continuity in time, the volume of movement has in general been relatively small.[10]

According to Fisher, the migration had occurred in two main alternative routes, namely the direct but extremely difficult route across the northern plateaux and ranges, and the more circuitous but less hazardous sea route through the Malacca or Sunda Straits and the South China Sea.

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8 *Neolithic culture* refers to a food-producing economy based on knowledge of the arts of agriculture and animal domestication.

9 MINISTRY OF INFORMATION, *op. cit.*, page 8.

10 FISHER, CHARLES, *op. cit.*, page 63.

The migration of people from the vast human reservoir of east-central Asia to the Indo-Pacific peninsula and thence into the Malay peninsula and archipelago may have occurred in several successive waves. During the more recent stages of the migration process (which occurred following the advent of agriculture), the latter group of immigrants seized the better coastal and riverine lowlands and sought to push the earlier inhabitants further into the upland jungle and mountainous interior. As a result, the racial pattern in this region seems to be composed of two main types. First, a primitive component, which is rarely recognizable except in a few relatively isolated places, secondly, a more recent type, which is now dominant almost everywhere and is particularly evident among the more advanced peoples.[11]

In the Malay peninsula, the oldest indigenous people still to be found in the West Malaysian forest are the *Negritos*.[12] They are small dark people, possibly from the same stock as *Australian Aborigines*[13] and probably the

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[11] FISHER, CHARLES, page 65.

[12] Negritos are dark-skinned, woolly-haired and broad-headed people who have an average height of between 4ft. 10in. and 5ft. Several distinct groups of true Negritos still survive in isolated localities in the interior upland of the region. In the Malay peninsula they are locally known as the *Semang*.

[13] The true Australian Aborigines or Australoid type is dark-skinned, wavy-haired and further characterized by beetling brows, generally coarse features, and low stature, which averages between 5ft. and 5ft. 2in. in the adult male.

predecessors of the *Melanesian*[14] stock. At the end of the last ice age they probably roamed over a wide area but today they are confined to the hill forest in the north of peninsula Malaysia. The Negrito people were then joined in the peninsula by the *Proto-Malays*[15] in about 1,000 B.C. and in the following centuries by another group called the *Deutero-Malays*.[16]

The Proto-Malays characteristics are very marked among many of the hill peoples of the Malay peninsula and are known as the *Jakun*. The Deutero-Malay type predominates, and it is clear that people of this stock have been in occupation in most of the main coastal and riverine lowlands of Malay peninsula. They were believed to be the last indigenous people to migrate from the south-east Asia mainland to the archipelago via the Malay peninsula and are the main parent stock of modern peninsular Malays, as well as the great majority of the contemporary Indonesian population.

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14 Melanesian or Melanesoid type is believed to be the result of mixing and subsequent development of the two more primitive stocks; the Australoid and Negrito. They are dark-skinned, have a long and narrow head-form, they are woolly-haired and are about 5ft. 5in. to 5ft. 6in. tall.

15 *Proto-Malays* had their origins in Yunnan, south China. They are categorized as the stone age people because they used stones for all their tools and implements. The word *proto* in Greek means first. *Proto-Malays* are also termed as *Nesiot* (or Indonesian).

16 *Deutero-Malays* were basically the same race as the *Proto-Malays* but had acquired a knowledge of metals and used iron weapons and tools. They also came from Yunnan and are commonly known as the metal-age people. They are also referred to as *Pareoean* (or southern Mongoloid). In Greek, *Deutero* means second.

The present day distinctions between the Malay ethnic groups such as the Achehnese, Minangkabaus and the Malays of eastern Sumatra, Buginese and Menadonese of Celebes, the Tagalog and Visayan of the Philippines and the Malays of peninsula Malaysia are essentially cultural in origin. Racially, they are all predominantly Deutero-Malays or *Pareoean* in character and scarcely distinguishable in appearance from one another.

In religion, these original inhabitants of the Malay Archipelago were animists,[17] that is, they believed in the widespread existence of spirits which dwelt in trees, stones, animals or other objects. These spirits affected their everyday lives, and the people had to ensure that the spirits were not displeased or disturbed. Among the important aspects of animism was the belief in *semangat*[18] or "vital force" which exists in both men and things. It was believed that all things have *semangat* from particular objects, such as a certain tree or rock, to the more general, as in the rice-field ceremony, when the spirit of the seed rice was carefully preserved for the following year's crop.

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17 Animism is the most ancient belief of the Malays and there are still instances of its continued influence. See RYAN, NEIL JOSEPH, *The Cultural Heritage of Malaya,* 2nd. ed., Kuala Lumpur; Longman Malaysia, 1971, page 29.

18 *Semangat* is not the same as the soul because it is not exclusive to human beings and its separation from the human body does not necessitate death. For humans, *semangat* is more of the will in oneself. The indigenous Malay people also believed in other forms of spirits like *hantu* (ghost) and *keramat* (spirits inhabited in particular trees or rivers). Offerings may be made at these places in order to placate them.

1.2.2 THE 'MALAY-INDIAN KINGDOMS'

Records and written evidence about the early Malay states in the archipelago can be found in some old Chinese literature and in some reports by early Western travellers. This is where the Malay civilization may have first been established, possibly at the beginning of the first century A.D. Further evidence of their existence has also indicated that these places, in the following centuries, flourished to become the early independent Malay states.

From many of the early independent states, which were established in many parts of the south-east Asian region, only a few expanded their territory and were transformed into larger states. Some of these became even larger and stronger and further developed into powerful Malay empires which had power and dominance over other states in the region. These empires have been identified by historians as the *Indianized Malay Kingdoms* or *Malay-Indian Kingdoms.*[19]

One of the earliest Malay-Indian Kingdoms to be mentioned in Chinese Annals was the Kingdom of *Langkasuka*[20] which was located on the Isthmian portion of the peninsula (Fig.

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19 The term *'Indianized'* is associated with the process which established a cross-cultural link between India and the Malay states. It was the period between the first and the fourteenth century that the Indian, particularly Hindu and Buddhist cultural traits were transferred from the Sub-continent to South-east Asia. The words *'Malay Kingdoms'* are used throughout the text to represent the early commercial and cultural centres established in the Malay archipelago during this period.

20 *Langkasuka* is believed to have been located in the present district of Patani in the south of Thailand.

1.2). Chinese sources, notably from the history of the Liang Dynasty in A.D. 502-566, confirm that Langkasuka was founded at the end of the first century A.D. in the region of what was later called Patani. According to Sheppard, this area developed so rapidly and proved to be of great economic importance because of the coming into existence of an overland trade route or portage across the Isthmus, one end of which seems to have been sited in Langkasuka.[21] It has also been observed that by the third century A.D. many other smaller Malay states are mentioned in Chinese records as extending along the Isthmian tract, and trading markets had been established along the overland route.

While Langkasuka prospered in the south, a group of feudal states, extending along the lower Mekong River (in what is now modern Cambodia), were unified to form a Khmer Kingdom referred to in Chinese dynastic histories as *Funan*[22] (Fig. 1.2). In the third century A.D. this kingdom became a Hinduised empire under the vigorous leadership of a ruler, referred to by Chinese scribes as *Fan Man*. Under his leadership he imposed the authority of *Funan* on the whole of the Isthmian section of the Malay peninsula, including the overland trade route. This control lasted for three hundred years.

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21 SHEPPARD, MUBIN, *A Royal Pleasure Ground: Malay Decorative Arts and Pastimes*, Singapore; Oxford University Press, 1986, page 5.

22 The actual Khmer name for this kingdom is not known. Chinese transliteration of the two Khmer words *Kurun Bnam*, meaning `King of the mountain', are not a translation of a place name but refer to the title of the earliest rulers of the region. The modern Cambodia word *Phnom* is related to the word `Bnam' and also means mountain.

Figure 1.2: *The locations of Malay-Indian Kingdoms.*

The decline and break up of *Funan* in the sixth century led to the rise of many new states. The most important state to emerge after *Funan* was the Indianized maritime empire of *Sri Vijaya*,[23] centred near Palembang, which was a convenient staging port for ships from the west to catch the south-west monsoon for China (Fig. 1.2).

Apart from being a busy trading port, *Sri Vijaya* was also a focus for the Indian religion. I-Tsing from China, who visited this place in the seventh century, remarked that there were more than a thousand Buddhist priests who studied all sorts of subjects there, just like in India. Sanskrit was a common language, while Indian names for the months and the Indian system of measurement were also used. Extremely important was the introduction of Indian religion, art and literature.[24]

Sri Vijaya rose rapidly to power in the latter part of the seventh century, and by the eight century extended its control over the coasts of the Malay peninsula and isthmus, over southern and east Sumatra, west Java and western Borneo, commanding both the Malacca and Sunda Straits, the key route between the China Sea and the Indian Ocean.[25]

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23 In the eighth century, the empire of *Sri Vijaya* consolidated the various Hindu states in the Malay peninsula and neighbouring Sumatra and Java. About the year 850, the *Sailendras* were installed as the *Maharajah* or the king of Sri Vijaya and remained in power until its fall in the fourteenth century. During the reign of the Sailendras, they achieved considerable political and commercial power.

24 RYAN, NEIL JOSEPH, *op. cit.*, page 10.

25 TURNBULL, CONSTANCE MARY, *op. cit.*, page 15.

Vlatseas has also noted in his book that by the ninth century, Sri Vijaya had imposed its rule over fifteen vessel states and principalities of the region.[26]

Kadaram, in the southern part of Kedah state in West Malaysia, was a key point in Sri Vijaya's empire, as the northern port of the Malacca Straits, where ships coming from Sri Vijaya and *Malayu*[27] on south-westerly winds waited for the monsoon to change and carry them west to India. Kedah was a natural landfall for shipping from India, with *Kedah Peak*[28] towering behind, forming an outstanding landmark for shipping. Numerous Hindu and Buddhist temples, particularly in the *Bujang valley,*[29] show that it continued to be an important trading centre for many centuries.

By the beginning of the fourteenth century, Sri Vijaya's authority and prominence in the east-west trade was on the wane. In the adjoining island of Java, another Malay empire was on the rise. This new kingdom was known as the *Empire*

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26 VLATSEAS, S., *A History of Malaysian Architecture*, Singapore; Longman, 1990, page 25.

27 *Malayu* is a state in east of Sumatra (based near Jambi) from which the Malay peninsula took its name and its language. This place was mentioned in Chinese records in 1282 when it sent an embassy to China.

28 Kedah Peak or *Gunung Jerai* is 3,987 feet high and can be seen some thirty miles from the sea. To the Indians it was both a landmark and the home of the gods whom they believed lived at such heights.

29 *Bujang valley* (locally known as *Lembah Bujang*) is an area along the banks of Merbok River and is located to the south of Kedah Peak. Based on archaeological evidence, this valley is believed to have been an important trade centre in the region between the fifth and eighth century A. D. More than forty temple sites have been discovered and a number of temple bases have been restored. The temple ruins are an historical reflection of Kedah's early Hindu influence.

of Majapahit. According to Vlatseas, the ruler of this kingdom launched an expedition to invade the island of *Tumasek*[30] and put most of its inhabitants to death. Most of the islanders managed to escape by crossing onto the mainland and trekking north. Half a century later, their descendents settled in Malacca which at that time was just a small fishing village. A prince of Palembang, originally known by the name of *Parameswara*[31], presided over this village which in time became the most convenient stopping place on the east-west shipping highway.[32]

According to D. G. E. Hall, Malacca was visited by a Chinese envoy, Yin-Ch'ing, in 1403. For peace and security reasons, Parameswara seized this opportunity to apply for recognition by the Ming emperor and seek support against Thailand (who claimed suzerainty over the Malay peninsula). In 1405 he sent an embassy to China and promptly received recognition.[33] Following this event, Parameswara maintained a close relationship with China. When *Cheng Ho*[34] came from China to visit Malacca in 1409, he presented Parameswara

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30 *Tumasek* is the old name of Singapore.

31 *Parameswara* was the founder of Malacca and his name means `prince-consort.' He was the husband of a Majapahit princess.

32 VLATSEAS, S., *op. cit.*, page 27.

33 HALL, D. G. E., A History of South-east Asia, 4th. ed., London; Macmillan, 1981, page 225.

34 *Cheng Ho* was a famous Chinese Admiral who made seven voyages to the Indian Ocean between 1405 and 1431.

with a silver seal, a cap, official robes `and declared him king'.[35]

Malacca's expansion was particularly rapid. Its position was more favourable than Sri Vijaya's for the control of shipping passing through the Straits. As C. M. Turnbull states in her book, `Malacca was ideally situated and revived Sri Vijaya's former role as a commercial centre, political overlord, religious and cultural leader of maritime South-east Asia'.[36] For nearly one hundred and fifty years, Malacca was the pivot around which east-west trade revolved. (Fig. 1.3)

At the end of the fifteenth century, Malacca was reputed to be the premier port in South-east Asia. It was the last maritime empire in the Malay-Indian Kingdom series and was also the last kingdom before the west came to invade this region in the early decades of the sixteenth century.

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35 The story about Cheng Ho's voyages was written in Ma Huan's book called the *Ying-yai Sheng Lan*, or General Account of the Shores of the Ocean. See PURCELL, VICTOR, "Chinese Settlement in Malacca", *Journal of Malayan Royal Asiatic Society*, Vol. XX, Part I, 1947, pp. 116-117 and WINSTEDT, RICHARD OLOF, *A History of Malaya*, 3rd. ed. rev., Kuala Lumpur; Marican, 1968, page 41.

36 TURNBULL, CONSTANCE MARY, *op. cit.*, page 30.

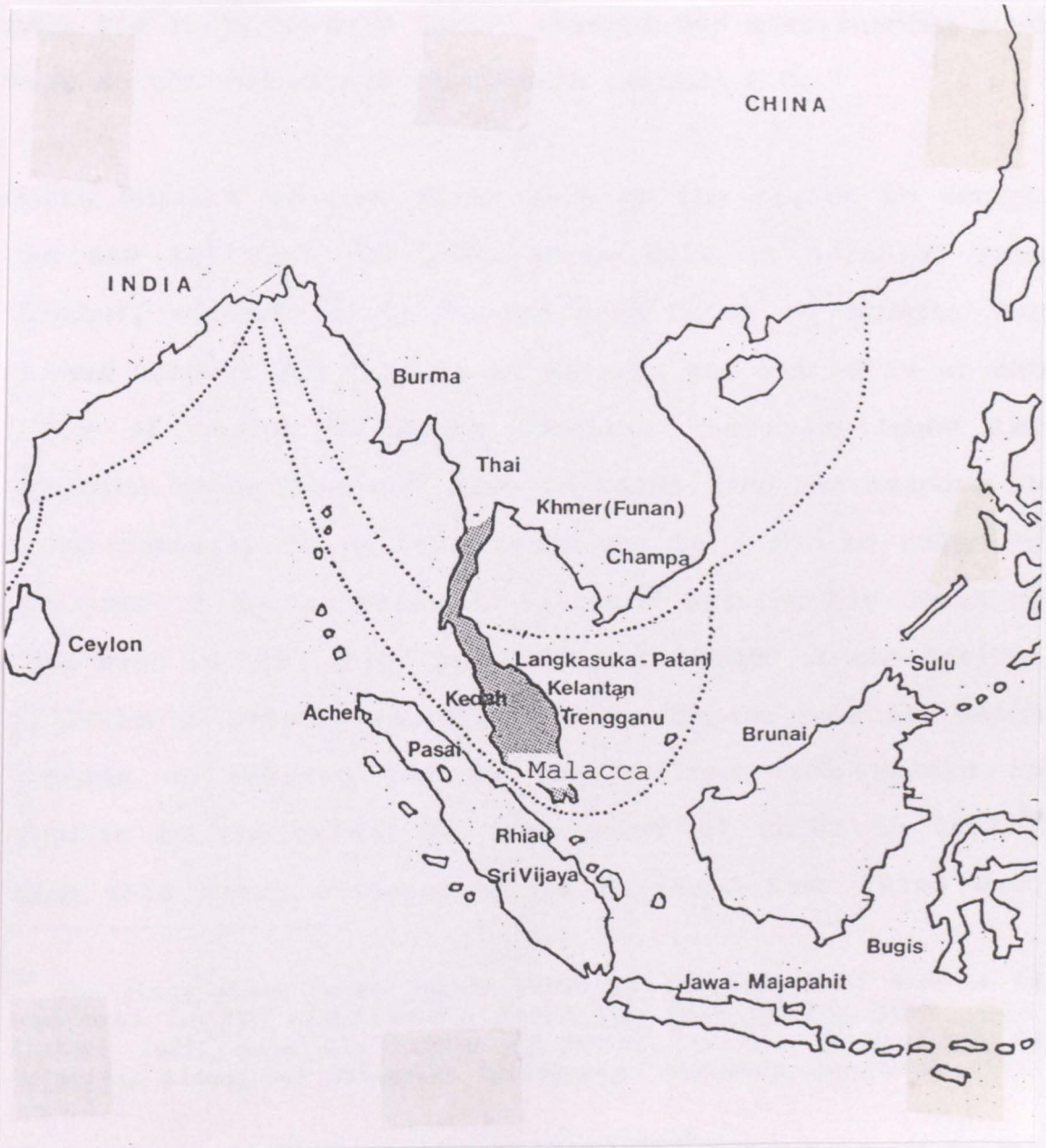

Figure 1.3: *The trading routes and the empire of Malacca.*

1.2.3 THE ARRIVAL OF ISLAM IN THE MALAY PENINSULA

Islam was introduced to South-east Asia from India and not directly from Arabia. It was transmitted to South-east Asia via India through Indian traders and missionaries some time at the end of the thirteenth century A.D.

North Sumatra was the first area in the region to accept the new religion. In 1292, Marco Polo (a merchant from Venice), on his return voyage from China to Europe, had passed through the Straits of Malacca and called in at the state of Perlak in North Sumatra. There he found the religion to be Muslim.[37] Also in Pasai (another seaport in north Sumatra) there is a tombstone to a Muslim ruler by the name of *Sultan Malik As-Salleh*,[38] stating his death to have been in 1297 (Fig. 1.4). Other evidence of the arrival of Islam in Sumatra was provided by Chinese sources, which records an embassy led by two Muslims from Malayu in Sumatra to the Mongol or Yuan court of China in 1282.[39] From this early evidence it is believed that Islam must

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[37] The story about Marco Polo's visit to the island of Sumatra is mentioned in SIR HENRY YULE's book, *The Book of Ser Marco Polo*, London; 1929, page 23, quoted by FATIMI, S. Q., *Islam Comes to Malaysia*, Singapore; Malaysian Sociological Research Institute, 1963, page 8.

[38] *Malik As-Salih* was the first Muslim king of *Samudra-Pasai* in the north of Sumatra. Before his conversion to Islam, his name was *Merah Silau*. He was married to a Muslim princess from Perlak and had two sons, namely *Malik Al-Mansur* and *Malik Az-Zahir*. The story about the Pasai rulers is written in the legendary book of *Hikayat Raja-raja Pasai*.

[39] Chinese sources give definite evidence of Islam's contact with Sumatra at least ten years before the arrival of Marco Polo. The two envoys who went to China were mentioned in 1282 in the *History of the Yuan Dynasty*. From their names (*Hassan* and *Sulaiman*) they were believed to be Muslims.

have first arrived in this region towards the end of the thirteenth century.

Figure 1.4: *The tombstone of Sultan Malik As-Salleh.*[40]

[40] Illustration reproduced from FATIMI, S. Q., *op. cit.*, page 10.

Interestingly, Islam was introduced into this region by relatively harmonious and peaceful means rather than by conquest. The Indian traders and missionaries who first came to spread the new religion naturally wanted it to be accepted and therefore did not force or demand the abolition of the old Hindu customs which conflicted with their new teachings[41]. This lenient and humble approach led to the acceptance of Islam in the region with surprisingly little resistance and also brought about a mixture of Hindu customs in the Malay-Muslim's way of life.[42]

The first historical evidence of Islam in the Malay peninsula can be seen on a stone inscribed with Arabic characters which was established between 1326 and 1386 A.D. at a spot some twenty miles up from the mouth of the Terengganu River on the east coast of peninsula Malaysia[43] (see Fig. 1.5). But the spread of the religion into the interior and to the north was subject to the powerful patronage and influence of the Malacca Sultanate.[44]

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41 RYAN, NEIL JOSEPH, *op. cit.*, page 14.

42 Hinduism was the main cultural influence for many centuries before the success of Islam in the fifteenth century. Islam incorporated the earlier animistic and Hindu influences and the mixture of the three elements has produced the Malay culture. See *ibid.*, page 30.

43 VLATSEAS, S., *op. cit.*, page 40.

44 There were five Sultans in the Malacca Sultanate. The first and most prominent was *Sultan Muzaffar Shah,* followed by *Sultan Mansur, Sultan Alauddin Riayat Shah, Sultan Mahmud* and finally *Sultan Ahmad.* Their reign was between 1446-1511 A.D (see Appendix A).

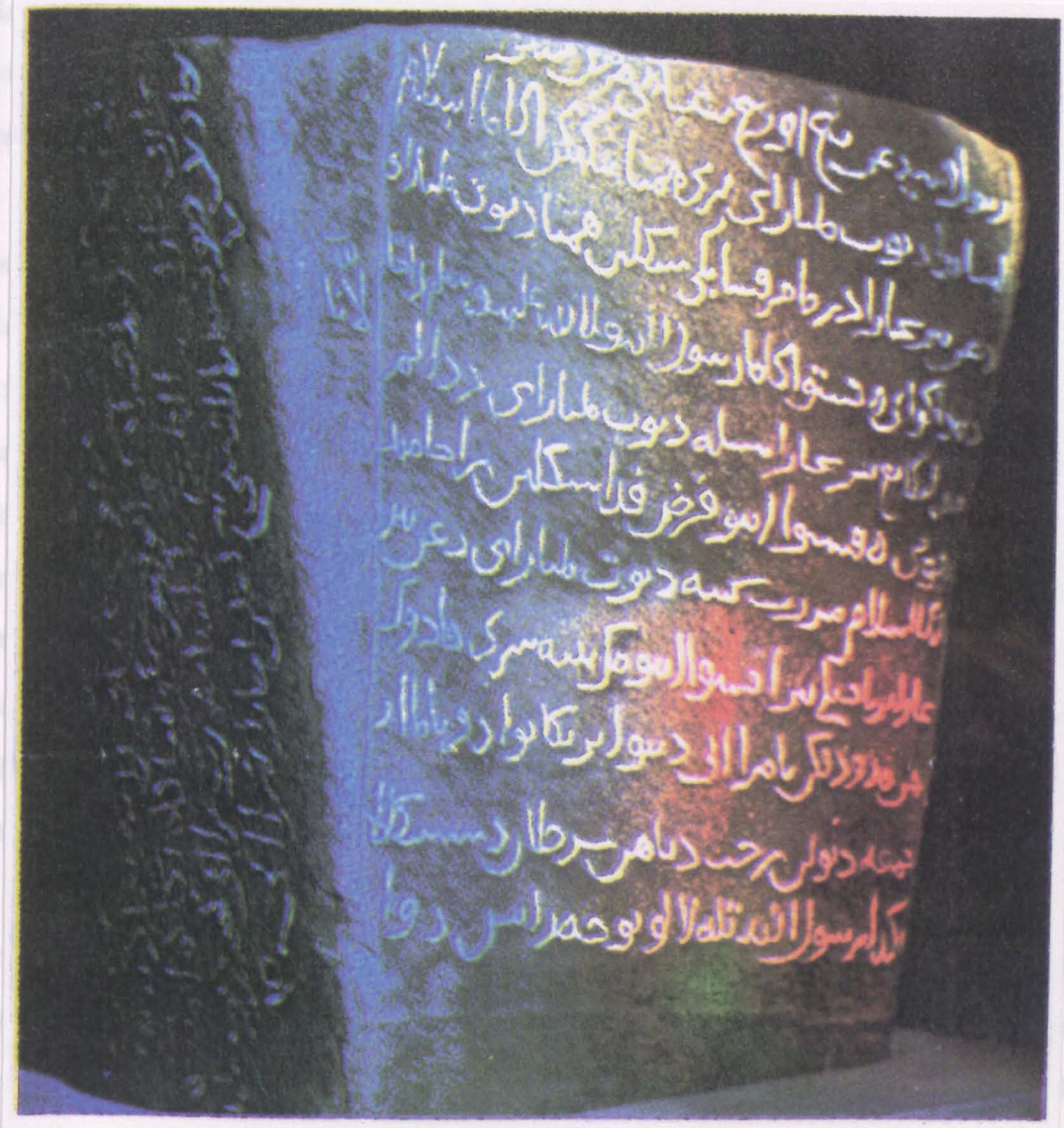

Figure 1.5: *The first historical evidence of the arrival of Islam in the Malay peninsula. This stone was found in the state of Terengganu and is known as 'Batu Bersurat'.*[45]

[45] Interpretations of the date transcribed on the stone (which was written vaguely in Arabic alphabets) have revealed two different results. The first source has translated it as 22nd. February 1303 and another source has recorded it as 8th. July 1323. See HAJI ALI, ENDUT, *Malam Pesat,* Kuala Lumpur; Persatuan Anak-Anak Terengganu Selangor dan Wilayah Persekutuan, page 21.

Islam came to Malacca from North Sumatra in the first half of the fifteenth century. *Parameswara*,[46] the first ruler of Malacca, was converted to Islam at the request of the ruler of the Sumatran Kingdom of Pasai, in return for the recognition of Malacca as a trading post.

According to the Malay Annals, the second Malaccan ruler, *Sri Maharaja Mohammed Shah*,[47] was also converted to Islam after marrying the daughter of the ruler of Pasai. But he was succeeded in 1445 by a Hindu ruler. It would appear that at that time Islam was not generally accepted by all, and when the second ruler died, the Indian Muslim merchants at court instigated the assassination of the rightful successor, a Hindu by the name of *Sri Parameswara Dewa Shah*, and established Raja Kassim on the throne as *Sultan Muzaffar Shah*[48], the third ruler of Malacca.[49]

The people of Malacca began to have faith in this new religion when many of their respectful leaders and influential people in the community embraced Islam by marrying Muslim royalties and Muslim wealthy families from other Malay states in the region. As Professor Brian Harrison has said, "the spread of Islam along the Straits

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[46] *Parameswara* Muslim's name was *Megat Iskandar Shah*.

[47] *Sri Maharaja Mohammed Shah* was the son of *Parameswara*.

[48] With the adoption of Islam, the older Hindu title of *Maharajah* was replaced by the title of *Sultan*. *Sultan Muzaffar Shah* was the first Malaccan ruler to bear the title.

[49] RYAN, NEIL JOSEPH, *op. cit.*, page 14.

of Malacca was largely due in the first instance to marriages between members of royal or merchant families".[50] At the same time, the Indian Muslim traders continued their missionary endeavours to spread Islam among the local community.

During the reign of Sultan Muzaffar Shah (1446-1459), Islam was generally accepted by most of its people and subsequently became the state religion of Malacca. Then as Malacca prospered into a busy trading centre, and with its rapid rise from a city into an empire, Islam was able to spread throughout the peninsula and to the south-east of Sumatra and Java in Indonesia. Professor Brian Harrison has also pointed out that, "with the accession of Muzaffar Shah, Malacca became a spearhead of the further advance of Islam, an advance achieved by growing commercial power and consolidated by judicious royal marriages."[51]

Under the powerful leadership of Malacca's Muslim rulers[52] (Sultan Muzaffar Shah and his successors), Malacca became a natural magnet for Muslim influences as well as the main diffusion-centre of Islam in the South-east Asian region. The Sultanate was kept in power over his large empire until 1511 when the Portuguese came to invade the city of Malacca. This conquest marked the end of the Malacca

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50 HARRISON, BRIAN, *South-east Asia: A Short History*, 3rd. ed., London; Macmillan, 1967, pp. 50-51.

51 HARRISON, BRIAN, page 56.

52 For the full list of Malaccan rulers, see Appendix A.

Sultanate and also the beginning of the colonial period in the Malay peninsula.

The mixture of Islamic religion and Hindu custom, as mentioned earlier, has given Islam in this region some significant features of its own. Even today, many Malay-Muslims in the Malay peninsula still practice some of the Hindu customs in their daily activities and in the way they celebrate some special occasions. Although many Malay-Muslims have now totally rejected anything that contradicts Islamic teaching, many others have accepted Hindu custom as part of their Islamic way of life.[53]

It is also interesting to note that the teaching of Islam in Peninsular Malaysia is almost similar to that in Saudi Arabia but is slightly different from that in many Middle Eastern countries because of the different *sects*[54] and the *school of law*[55] practised there (see Fig. 1.6).

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[53] The Hindu influence in the Malay-Muslim's way of life is best seen in some Malay wedding ceremonies which follows almost exactly the same way that the Hindus perform their weddings. During the ceremony, the bride and bridegroom are usually presented to the public by having them sitting on a beautifully decorated platform (stage). A number of people (normally from close families) will usually come forward to give their blessings (this event is called *tepung tawar*). According to Islamic law, this ceremony is prohibited.

[54] There are two main sects in Islam, namely the *Sunnis* and *Shia*. The Sunnis is the larger of the two and considered to be the orthodox group; and the Shia, whom the Sunnis consider to be heretical. The main difference between the two sects lies in their attitude towards the successors of the Prophet Muhammad.

[55] In Malaysia, the Muslims follow *Shafi'e School of Law*, one of the four great Divisions of Muhammadanism.

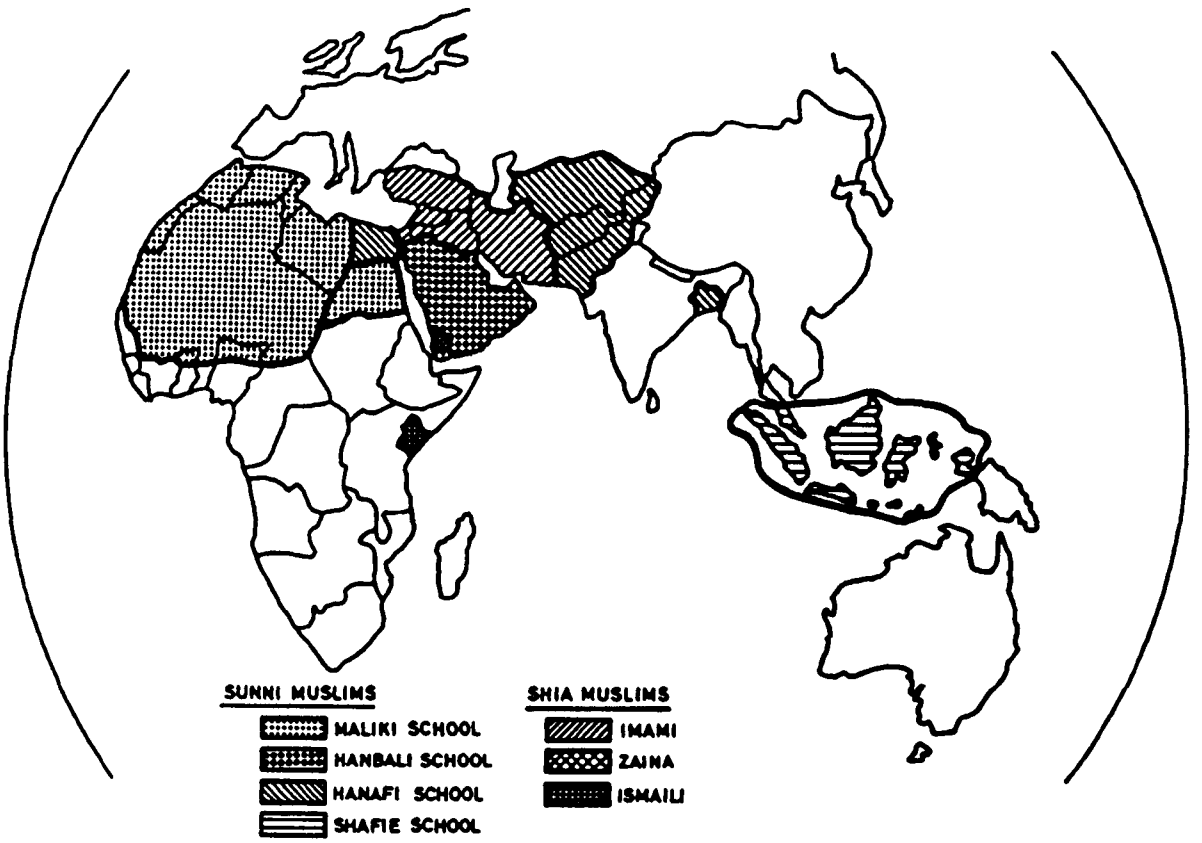

Figure 1.6: *The spread and practice of the four different Muslim School of Laws.*[56]

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[56] Illustration reproduced from RYAN, NEIL JOSEPH, *op. cit.*, page 31.

1.2.4 THE MIGRATION OF THE CHINESE AND INDIANS

i. Chinese Immigration

The Malay peninsula has had trading contacts with China for many centuries. From the time of the establishment of Malacca, the Malaccan rulers placed themselves under the protection of China for defence against Thailand. Chinese admirals also paid official visits to the Malay peninsula during the period of the Ming dynasty. After the fall of the Malacca Sultanate, Chinese traders still continued to come to Malacca and to some other ports in the peninsula. At first there were no settlements of the Chinese in large numbers; their only interest was trade and their community was only concentrated in the town area in most of the established ports in the peninsula, the largest being in Malacca.

It is noticeable that a large number of Chinese people had migrated to the South-east Asian region in the mid nineteenth century when the control of the *Manchu government*[57] was growing less strict and when conditions in China made life less attractive. It is also noticeable that the majority of the emigrants came from the southern provinces of Kwangtung and Fukien, those areas most opposed to the Manchu rule and which were nearest to South-east Asia (see Fig.1.7).

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[57] The *Manchu government* ruled China in 1644-1911 (see Appendix E). The emigration of citizens from China was discouraged by this government because it was an alien government which did not want centres of disaffection established overseas. Emigrants, when they did go overseas, had often to leave their families in China as hostages for good behaviour.

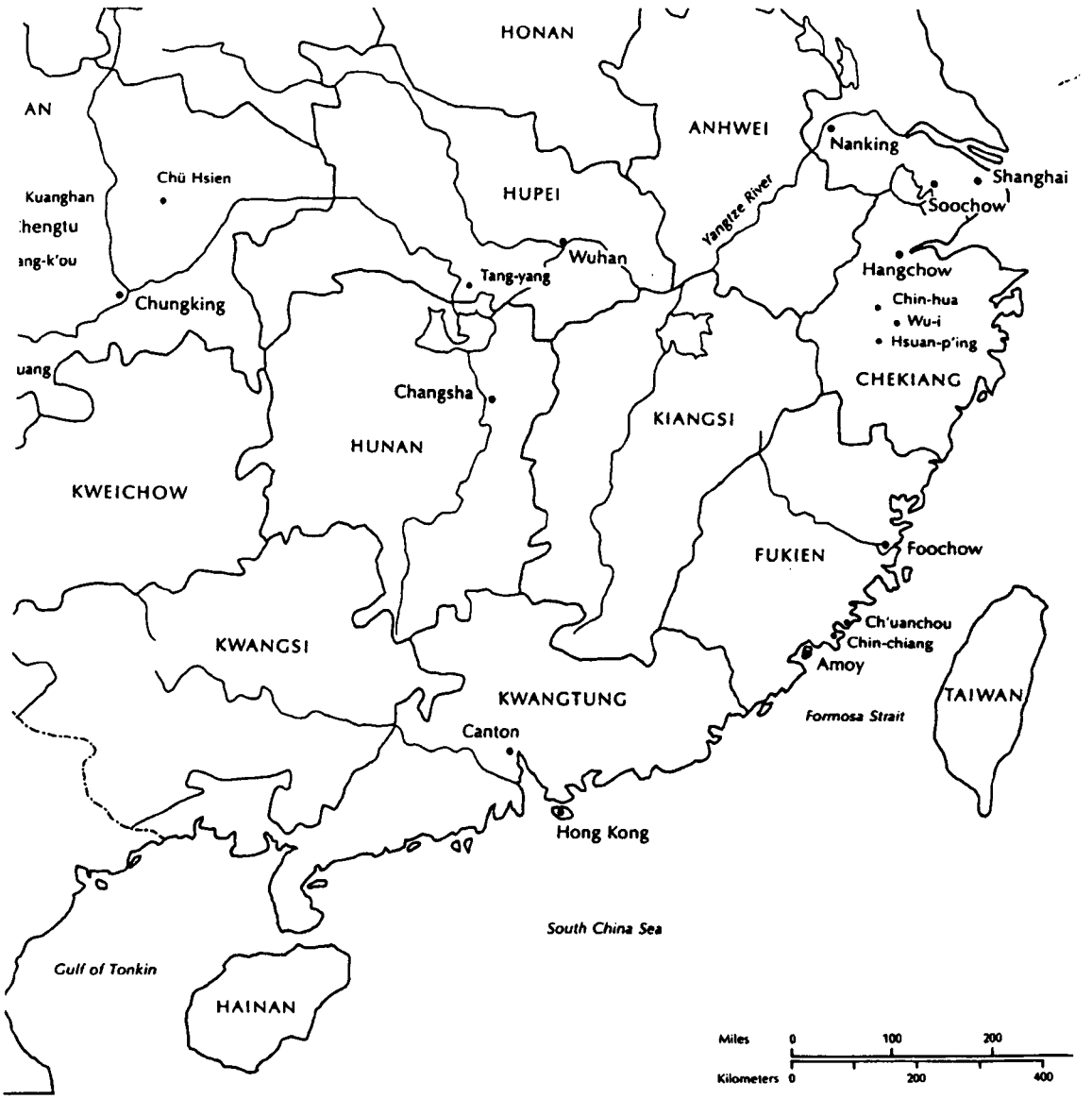

Figure 1.7: *The southern provinces of Kwangtung and Fukien.*

Dissatisfaction with nineteenth century conditions in China and the promise of a better life overseas led to the mass movement of the Chinese population from China. They went to all parts of South-east Asia - to Thailand, Borneo and Indonesia, as well as to the Malay peninsula.

In the Malay peninsula, the Chinese were first attracted to *Penang* and *Singapore*[58] where opportunities were offered for advancement and prosperity in new areas and territories. The Malay government did not seem inclined to interfere with the activities of the immigrants. They were, in practice, allowed to govern themselves. Also, the government provided protection for their goods and possessions as well as adequate accommodation and encouragement for trade.[59] Therefore, many Chinese came to Penang and Singapore and the populations of these two islands increased extremely rapidly. Most of the Chinese who first settled in these islands worked as labourers and craftsmen.

The great influx of Chinese into Malaya came in the second half of the nineteenth century. This was a result of the expansion of the tin mining industry. In the 1840s new tin fields were discovered in Larut in Perak state and in the 1850s in Selangor (which is now Kuala Lumpur). From the

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[58] Penang and Singapore were both free ports with hardly any restrictions on trade (though Penang only kept this status until 1801).

[59] RYAN, NEIL JOSEPH, *op. cit.*, page 18.

1860s onwards, there was a great demand for tin ore to supply the rapidly expanding tin-plate industry in Europe. The Malay peninsula had a plentiful supply of tin ore to meet the demand, while the Chinese immigrants provided the required labour for the operation of the mines.

The Malay chiefs and leaders, who owned the tin mines, employed large numbers of Chinese workers who apparently grouped themselves together into different clans. Very often the Chinese had conflicts among themselves. Their inter-clan quarrels led to civil wars among the Chinese in which the Malay chiefs themselves were involved and took sides. The Chinese soon proved to be uncontrollable by the feudal system of the Malay government.

The Malay government could not control the flood of Chinese, even if they had wanted to do so. The result was that by 1870 the Chinese outnumbered the Malays in Larut, and though they were not yet a fully settled population, Malaya was well on the way to becoming a plural society.[60] In a very short period, Penang island was heavily populated by the Chinese as was the island of Singapore.

These immigrants came in such large numbers and kept so close together in family and clan groups that there was little chance for assimilation to take place between the Chinese and the local people of Malaya. Social contact

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[60] RYAN, NEIL JOSEPH, page 19.

between the Chinese and the Malays has always been very limited and inter-marriage is rare though relationships have generally been cordial. The spheres of interest of the two communities have also been so different; administration and farming on the one hand, business and paid employment on the other.

The Chinese have had their greatest impact on Malayan society in the towns and cities, where most of them live. Presently, they live and work in almost every town and city in the Malay peninsula (though most of them are concentrated on the west coast). In some parts of the Malaysian cities, where the Chinese people are densely populated, one might almost think that one was in China. Today the Chinese are the second largest ethnic group in Malaysia after the Malays.

ii. Indian Immigration

There have been Indians, and Indian influences, in Malaya since the beginning of the Christian era. There is also evidence that India had contacts with the Malay peninsula six or seven centuries before Christ. Chinese chronicles report early trade between India and China, dating as far back as the seventh century B.C.[61] The dating of beads and other articles of trade, discovered at various places on the peninsula, point to some sort of trade and commercial exchange between the inhabitants of the region and the people of India in the pre-Christian era.[62] George Netto has identified three distinct phases in India's long and historic association with the Malay peninsula. According to him, "the first phase ended with the Portuguese conquest of Malacca in 1511. The second phase ended with the arrival of the British in Penang in 1786"[63] and the third phase was the period during the British occupation in Malaya which ended with the nation's independence in 1957.[64]

Since the early centuries, Indian traders and immigrants have been accepted by the natives of the Malay peninsula

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61 GINSBURG, NORTON, *Malaya,* Seattle; University of Washington Press, 1958, page 18.

62 GINSBURG, NORTON, page 18.

63 NETTO, GEORGE, *Indians in Malaya: Historical Facts and Figures, Singapore;* (Published by the author), 1961, page 9.

64 The British occupied Malaya until 1957. During the British occupation, rubber was introduced and as the industry developed, large number of Indian workers were recruited to work in the plantation, to construct buildings, roads, railways, etc. The third phase of India's contact with the Malay peninsula was very much associated with the expansion of the rubber industry.

and have established themselves as influential people who have contributed to the wealth of the country. As Norton Ginsburg said, "the immigrant trader, because of his position and role in the settlement as the source of increased wealth and potential power, was often treated by the natives as an individual of prestige, somewhat equal in rank with the local ruler".[65] The position of the Hindu trader led, apparently, to his acceptance into the family of the local ruler through marriage. This relationship between the Hindu traders and the local ruling families usually led to the adoption by the latter of Hindu ideas of *kingship*[66] and the introduction of Hinduized ceremonials in the local courts.

The first Indian trade centres and settlements were established in the state of Kedah. By the fifth century A.D. there were also Indian settlements in the state of Perak. Several Hindu states seem to have been established in the Malay peninsula with a culture that closely resembled that of the contemporary states of south India.[67] R. O. Winstedt records that the first traders, whose ships visited Kedah and Penang, came from Pallavas in the south of India. They brought their own Pallava alphabet, used Sanskrit for their inscriptions and were the followers of

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[65] GINSBURG, NORTON, *op. cit.*, pp. 18-19.

[66] The local Malay leaders adopted the title of *Maharajah* in their ruling constitution similar to the title given to the king of India.

[67] GINSBURG, NORTON, *op. cit.*, page 316.

Brahma, Shiva and Vishnu.[68] A positive record of the Indian settlement in the Malay peninsula is given by Sanskrit inscriptions found in the state of Kedah, dated sometime in the fourth century A.D. The use of the *Grantha script* of southern India in most of the Sanskrit inscriptions gives a clue to the homeland of the Indians of Malaya in the early period.[69]

Islam was brought to the Malay peninsula by the Indians. This was another catalyst which brought many Indians to the peninsula. At first, only a small group of Indian traders and missionaries settled in the peninsula. Later when Islam was established, further impetus was given to other Muslim-Indian merchants to trade and reside in this country. After the fall of Malacca to the Portuguese in 1511, Indian merchants still attempted some trade with the peninsula but the Portuguese policy was opposed to this, except under licence.[70] The conquest of Malacca by the Portuguese decreased the number of the Indian traders and reduced their involvement in the Malay peninsula. The disastrous fall of Malacca to the Portuguese also marked the end of the first phase of the India's contact with the Malay peninsula.

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68 WINSTEDT, RICHARD OLOF, "A History of Malaya", *Malayan Branch of the Royal Asiatic Society,* Singapore; 1935, page 19 quoted by NETTO, GEORGE, *op. cit.*, page 10.

69 HARRISON, BRIAN, *op. cit.*, page 16.

70 RYAN, NEIL JOSEPH, *op. cit.*, page 21.

It has been observed that few Indians migrated and little has been recorded during the second phase of India's contact with the Malay peninsula. Some Indians began to settle back in Malacca after it had been acquired by the Dutch in 1641. There was also some activity by Indian merchants in Kedah and in Perak where elephants and tin were bought. The events however were regarded as insignificant.

Indians began to settle again in Malaya with the establishment of Penang and Singapore, for these two places were founded by the British *East Indian Company*.[71] Many *Indian convicts*[72] were sent to Penang, Singapore and Malacca to help with the development of roads and harbours in these three early *British settlements*.[73] But the numbers of Indians in the Malay States still remained relatively small until the establishment of rubber plantations at the end of the nineteenth century.

Modern Indian immigration began in 1833 when sugar and coffee estates were developed in Penang and *Province*

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71 The British *East India Company* was founded in 1600.

72 The first group of Indians convicts were transferred to Penang, Singapore and Malacca from Bencoolen in Sumatra in 1825 by the Government of India. They were employed by the British to burn jungle, construct roads, reclaim mangrove swamps and also to build buildings like public offices, hospitals, prisons, churches and temples.

73 In 1826, the three British settlements (Penang, Singapore and Malacca) were incorporated under one government to form the *Straits Settlements*.

Wellesley.[74] Indian workers were brought to work on these estates for a period of three years under the *indenture system*.[75] The recruitment of Indian workers was not regulated by law until 1864. An Indian company accused the British Government that the process of recruiting Indian workers was an illegal activity and publicly denounced it as "a regularly organized system of kidnapping".[76] Due to the conflict, a proper Emigration Act was made in 1872 to allow contracts for labour to be performed in the Straits Settlements and to safeguard the emigrants' interests.[77]

Until 1887 the main planting industry in Province Wellesley was sugar and cane cultivation and up to 1885 Indian workers were recruited to work on those plantations on the indenture system. When coffee planting developed and expanded, the coffee planters found that the conditions enabled them to dispense with long contracts and recruit '*free workers*'.[78] In subsequent years, the number of free workers emigrating from India continued to increase.[79]

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74 *Province Wellesley* was a piece of land opposite the island of Penang; presently known as Seberang Prai.

75 *Indenture system* was a contract labour system.

76 NETTO, GEORGE, *op. cit.*, page 22.

77 KONDAPI, C., *Indian Overseas 1838-1949*, New Delhi; Indian Council of World Affairs, 1951, page 41.

78 '*Free workers*' was the term applied to those workmen who came to Malaya with a free passage from India on condition that they worked in any part of the country to which Indian immigration was authorised by the Indian government. The *free worker* was distinguished from the *indenture worker* because the latter came on condition not merely to work, but to enter into a contract to work.

79 NETTO, GEORGE, *op. cit.*, page 23.

Rubber had been brought to Malaya in the 1870s. Most of the early planters had come from Ceylon because they had experience of rubber planting. Then, as more workers were needed, it was difficult to obtain new workers among the Malays and the Chinese were sometimes difficult to control. As a result, more Indian workers were recruited to work on the new rubber plantations.[80] In 1890, *Frank Swettenham,* a British Resident in Selangor, proposed that entry should only be made to healthy workers who were to be provided with better facilities such as better food and reasonable wages. In 1897, to meet the growing demands by the rubber plantations for Indian labour, all restrictions on Indian emigration to Malaya were removed and the control of migration was transferred from the hands of the Government of India to the Colonial Government. The rubber boom, caused by the great expansion of the motor-car industry in the United States and Europe, inspired the expansion of the rubber planting industry in the Malay peninsula. From 1900 rubber began to displace both sugar and coffee and the size of the plantations increased rapidly.[81]

The slump in the rubber industry in 1930-31 caused many Indians to return to India. In 1938, the Indian government banned the emigration of unskilled labour and by 1947 the

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[80] RYAN, NEIL JOSEPH, *op. cit.*, page 21.

[81] NETTO, GEORGE, *op. cit.*, page 25.

Indian population in the Malay peninsula had declined to about five hundred thousand.[82]

The second generation of Indians provided the growing middle classes with many of its professional members - doctors, lawyers and teachers. There has not been much assimilation or mixing between the Chinese and Indians owing to important religious and social differences. However, there have been more social contacts and intermarriage with the Malays because some Indians are Muslims. Today the Indians form the third largest ethnic group, in Malaysia after the Malays and the Chinese.

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[82] RYAN, NEIL JOSEPH, *op. cit.*, page 22.

1.2.5 THE COMING OF THE WEST

The fundamental basis of trade in the Malay peninsula and its archipelago for many centuries had been the exchange of pepper and spices from the *Moluccas Islands*[83] and textile fabrics from India. There was also the exchange of goods with China, like silk, porcelain and glass ware.[84]

As the Malay peninsula is situated exactly halfway through the sea route between her two great neighbours (India and China), it provides an unavoidable coastline for all mariners passing through the sea route. The importance of the coastline was further emphasized by the monsoonal nature of the winds over the Indian Ocean and South China Sea.[85] These factors made Malacca and the other Malay states along the Straits of Malacca strategic centres for the spice trade. Most of the Moluccas Islands products were brought to Malacca to take advantage of the favourable market conditions and to exchange with goods from other countries.

The fast expanding nature of the spice trade in the Malay peninsula, especially in Malacca, created great interest among the European powers who set out to venture and to

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[83] *Moluccas Islands* are scattered between the islands of Celebes and Papua New Guinea.

[84] See HARRISON, BRIAN, *op. cit.*, page 61 and TARLING, NICHOLAS, *A Concise History of South-east Asia,* New York; Frederick A. Praeger, 1966, page 19.

[85] DALE, W. L., "Wind and Drift Currents in the South China Sea", *(Malayan Journal of Tropical Geography,* Vol. VIII, 1956, pp. 1-31.

deal directly with the trade in the late fifteenth and early sixteenth century. Improvements in technology and advances in geographical learning in Europe also further encouraged many European navigators to explore the Far East.

The Portuguese

The first Portuguese expedition to arrive in Malacca was commanded by *Diogo Lopes de Sequeira* in 1509.[86] The Portuguese were impressed by the city's opulence and commercial bustle. The Malacca royalties received the western visitors graciously, presenting to the Portuguese commander the rich robes which were the customary gift to honoured guests.[87] But the *Indian Gujaratis*[88] in Malacca knew about the Portuguese's trading motifs[89] and already had bitter experience of the violence and bloodshed which Portuguese trading competition had brought to India.[90] The Indians turned the chief minister of Malacca, *Bendahara Mutahir* against the Europeans and persuaded him to execute them. The plot was revealed by the Portuguese and *Lopes de Squeira* managed to escape with most of his crew, leaving

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86 TURNBULL, CONSTANCE MARY, *op. cit.*, page 35.

87 TURNBULL, CONSTANCE MARY, page 37.

88 *Indian Gujaratis* were Indian-Muslims from Gujarat, India.

89 The Portuguese's plan was to gain monopoly of the valuable spice trade in the South-east Asia.

90 A Portuguese expedition which came to India in 1500-01 with orders to establish a trading post, had persuaded the Hindu rulers to expel Muslim traders; this caused a collision between the Portuguese and the Indian-Muslims.

about twenty of their shipmates as prisoners. Two years later *Alfonso de Albuquerque*[91] came to Malacca to avenge the treachery, he rescued his countrymen and seized control of this key centre for the spice trade.

Many troubles had overtaken Malacca during the course of those two years (1509-11). The *Bendahara*[92] and *Temenggong*[93] had been killed, the *Laksamana*[94] disgraced and the Sultan became a recluse. When Albuquerque arrived in July 1511, he found a much troubled and weakened Malacca without effective leadership.[95]

The Viceroy demanded the release of the prisoners, compensation for Portuguese losses and permission to build a fortified trading post. The Malay authorities were divided in judging their counter-action. The *Bendahara*

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[91] *Alfonso de Albuquerque* was as outstanding commander. In the six years of his governorship, he had established the foundations for Portuguese power in Asia.

[92] *Bendahara* was a title given to the chief minister of Malacca. During the reign of the Malacca Sultanate, the *Bendahara* had the power to administer the state and its empire. Professor Brian Harrison refers to *Bendahara* as the chief administrative official, who held the post of 'Lord Chancellor' and 'Lord Treasurer'. See HARRISON, BRIAN, *op. cit.*, page 64. The duty of the *Bendahara* and other Malay officials had been much restricted under the Portuguese rule.

[93] *Temenggong* was a title given to the third most important man in the Malacca Sultanate. He acted as the chief magistrate and shared responsibilities in administrative and state affairs.

[94] *Laksamana* was the title for the chief warrior, senior naval officer or admiral in the Malacca Sultanate.

[95] TURNBULL, CONSTANCE MARY, *op. cit.*, page 38, also see Appendix B for the Malaccan system of leadership.

advised compromise but most of the chiefs and merchants called for resistance, and the counsels of war prevailed. The Malaccan forces were numerically stronger, comprising Malay warriors, supported by able-bodied men from the different foreign communities, estimated to be about twenty thousand troops. Against these, Albuquerque had a fleet of eighteen ships, carrying some eight hundred Portuguese soldiers with three hundred Malabar Indian auxiliaries. After several assaults and encounters, the Portuguese seemed to dominate the battle. The seemingly superior strength of the defending force was illusory. The Malays were defeated due to poor leadership, disunity in the army and lack of explosive munitions. The *Bendahara* himself was too old to be effective and the Sultan, despite his courage and will to fight, was no strategist.[96] By August 1511, the onslaught was over and Malacca was officially handed over to the Portuguese.

The sudden collapse of Malacca at the height of its prosperity also revealed the innate weakness of its personal form of government which was so dependent on strong individual leadership.

Immediately after the capture of Malacca the Portuguese began the work of transforming it into a fortress city. Malacca was to be the first model headquarters of European

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[96] TURNBULL, CONSTANCE MARY, page 38.

rule in South-east Asia.[97] Albuquerque stayed for three months in Malacca to organize the administration and to try to restore trade to a normal footing. The mosque below the hill in the centre of the town was demolished and a tall stone tower was built on the same site. The timber palace of the Sultan on the hill top was replaced by a stone church. The former Malay town was subsequently enclosed in a walled city to house the Portuguese community, government buildings and Christian churches, while the Malays and other Asian communities lived outside the city walls.[98]

The Portuguese authorities had little direct contact with the Asian inhabitants and kept much of the former Malay administration intact. Headmen or *kapitans* were appointed to keep law and order among their own people under the supervision of a Malay *Bendahara*, who held civil and criminal jurisdiction over all the non-Portuguese communities in the suburbs outside the city walls. The *Temenggong* was responsible for the country districts and the *Shahbandar*[99] was put in charge of all non-Portuguese traders.[100]

By the time Albuquerque died in 1515 he had established Portuguese control from the Persian Gulf to Malacca. The

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97 HARRISON, BRIAN, *op. cit.*, page 69.

98 TURNBULL, CONSTANCE MARY, *op. cit.*, page 39.

99 *Shahbandar* was the executive port officer in the Malacca Sultanate.

100 TURNBULL, CONSTANCE MARY, *op. cit.*, page 39.

Portuguese attempted to take over Malacca's commerce intact, but under their own control. The spice trade remained the foundation of this commerce. Indian cottons and other piece-goods imported from Goa were exchanged in Malacca for spices, which were then sent to Goa for shipment with Indian and Ceylonese spices to the Lisbon market. Spices were also exchanged for Chinese silk and porcelain which were shipped from Malacca to Europe.[101]

In the years that followed, there was continuous warfare between the Portuguese and its Asian rivals. This made Malacca an unsafe place for trading. Many traders avoided Malacca and preferred to go to Patani on the peninsula and to Makassar in south-west of Celebes.

The Portuguese administration and trading systems also proved to be inappropriate for the Asian traders. They were unaccustomed to the European method. Many new Malay principalities arose after the intrusion of Malacca and these new forces fought against the Portuguese. To quote Nicholas Tarling, "...and so they (the Portuguese) created a commercial empire of great instability, constantly menaced by rivals and competitors.. ..The Malaccan empire indeed appears to have disintegrated between 1513 and 1528."[102] Constance Mary Turnbull also emphasizes that the Portuguese never had full control over the Malacca Straits

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101 TURNBULL, CONSTANCE MARY, page 40.

102 TARLING, NICHOLAS, *op. cit.*, page 39.

and in the first fifteen years, they suffered repeated assaults by the Malays in their attempts to retake the city. Despite the hazard and danger, the Portuguese, in a time of peace lived in elegant luxury because the spice trade was so profitable.[103] The Portuguese rule over Malacca lasted for one hundred and thirty years.

It was around the sixteenth century that the Portuguese also first discovered the island of Penang. They named her *Pulo Pinaom* (probably because of the abundance of 'pinang' or 'betel nut palm' on the island) and sailors used her as a last stopover to replenish their supplies of fruits and fresh water before embarking on their long ocean voyages.[104]

The Dutch

In seeking to enter directly into the Asian spice trade, the Dutch formed the *Vereenigde Oostindische Compagnie* in 1602 or the United East India Company under the direction of Heeren XVII, who represented the leading cities of the Netherlands.[105]

Early Dutch expeditions ranged widely round Sumatra, Java, Borneo and Celebes. Since they were not strong enough to

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103 TURNBULL, CONSTANCE MARY, *op. cit.*, page 41.

104 MALAYSIAN INSTITUTE OF ARCHITECTS, *Post-Merdeka Architecture: Malaysia 1957-1987,* Kuala Lumpur; Persatuan Akitek Malaysia, 1987, page 14.

105 TURNBULL, CONSTANCE MARY, *op. cit.*, page 50.

dislodge the Portuguese from Malacca, the Dutch attempted to make offensive alliances with Portugal's enemies, notably *Johore*[106] in the south of the Malay peninsula and *Acheh*[107] in the north of Sumatra. In 1606 the Dutch made a treaty with Johore for a joint attack to capture Malacca, but the attempt was unsuccessful.

The main Dutch objectives were *Banda*[108] and the *Moluccas*, where they made treaties with the local rulers. In 1618 a new governor general, *Jan Pieterszoon Coen* set up his base in Jakarta, which was renamed *Batavia* and became the headquarters for Dutch activities in the East.[109]

In 1639 the Dutch made further agreement with the Sultan of Johore for a joint attack on Malacca. The Dutch fleet began its blockade in June 1640. In August Dutch forces landed and forced the defenders to retreat into the fortress. Meanwhile the Johore Malays encircled the town, preventing

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106 The loss of Malacca to the Portuguese did not destroy the Malay power and the Sultan's political standing in the region. New Malay principalities re-emerged in other parts of the archipelago, notably *Johore* (where Sultan Mahmud, Sultan Ahmad and their followers had retreated) and *Acheh*.

107 At the beginning of the sixteenth century *Acheh* was just a small state at the northern tip of Sumatra producing a little pepper and living mainly on piracy. The fall of Malacca stimulated the Muslim rulers of Acheh to take the lead in resisting the Christian Portuguese intruders and then going on to battle with Johore for political and economic leadership in Sumatra and the Malacca Straits. A combination of religious fervour and political ambition made Acheh a powerful force in the region in the sixteenth and early-seventeenth centuries.

108 *Banda* was part of the Malay archipelago and was the source of nutmeg and mace.

109 TURNBULL, CONSTANCE MARY, *op. cit.*, page 51.

refugees from escaping and supplies coming in. Hunger and disease brought great privation to the defenders and weakened the resistant power of the army. The final assault came in January 1641, the Portuguese put up a tough defence but the end was inevitable. Finally the fortress was compelled to surrender.

The Dutch capture of Malacca was part of an overall plan to secure control of the spice trade. The Dutch based their commercial policy upon the monopoly of spice, aiming to exclude Asian and European rivals, to buy as cheaply as possible from Asian producers and to sell at the highest price in Europe.[110] Their prime interest was to corner the spice trade. In 1667, the Dutch conquered Makassar in Celebes, extending their control over the neighbouring islands and finally seizing most of the main spice-producing islands. In the years between 1640-1700, the Dutch power clearly increased in the island of Java, as in other parts of the archipelago. The Dutch benefited from their maritime resources and from the disputes among their opponents.[111]

As the greatest naval power in the seventeenth century, they were far more effective than their Portuguese counterpart in dominating the trade of the eastern

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110 TURNBULL, CONSTANCE MARY, page 56.

111 TARLING, NICHOLAS, *op. cit.*, page 58.

archipelago.[112] For the next century and a half the Dutch endeavoured to maintain an economic monopoly along the coasts of Malaya. Their focus on Batavia and the constricting effects of the Dutch East India Company's trade policy ensured Malacca continued to decline.

The British

The first contact of the English with the Malay peninsula took place in 1786 when Captain *Francis Light*[113] founded Penang, an island off the coast of Kedah, whose Sultan ceded it to the East India Company in return for protection against claims of suzerainty by Siam.[114]

The founding of Penang by the British in 1786, as an entrepot and a base, had an astonishing effect on Malacca and the Dutch power in Malaya. Within a few years Malacca's trade almost ceased and the town was itself occupied by British forces in 1795, only to be returned to the Dutch in 1818. However, with the conclusion of the Anglo-Dutch Treaty[115] of 1824 the town came permanently under British

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112 TURNBULL, CONSTANCE MARY, *op. cit.*, page 56.

113 Francis Light was a frequent visitor to the Royal Court of Kedah. His idea behind the acquisition of Penang was to establish a naval base to safeguard the route to China.

114 The first English ship to arrive in the Malayan waters was in actual fact the *Edward Bonaventure* commanded by Edward James Lancaster. It was recorded that he was a freebooter who was washed up on the shores of the uninhabited Penang island in 1592, but his foray was not followed up by his countrymen. See VLATSEAS, S., *op. cit.*, page 53.

115 In the agreement, the Dutch exchanged Malacca with the British for Bencoolen in Sumatra, Indonesia.

rule. Meanwhile, in 1819, Singapore had been founded and was already showing unmistakable portents of its future prosperity. Together with Province Wellesley, on the mainland opposite to Penang and Dinding, near to the mouth of the Perak river, which was acquired by the East India Company in 1800 and 1826 respectively, the three territories were in 1826 amalgamated to form *the Straits Settlements*[116] with Singapore as its capital from 1832.[117]

The Straits Settlements were primarily concerned with the trade of the Archipelago or even South-east Asia as a whole. Demographically, Penang and Singapore were Chinese cities. But above them was a framework of British financial activity and the British administration was controlled and partly financed from India by the British East India Company.

During the period of the Settlements, most of the Malay states in the peninsula were ruled by loosely organized Islamic Sultanates, traditionally based on the control of river communications, on veneration for the Sultan and on a common faith that yet had not eroded local custom.[118] For political reasons, the British had a policy of non-

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116 The *Straits Settlements* was under the direct rule of a Governor, who also served as the High Commissioner for the Federated Malay States. The Governor was assisted by an Executive Council and a Legislative Council.

117 SANDHU, KERNIAL SINGH, *Indians in Malaya: Some Aspects of Their Immigration and Settlement (1786-1957)*, Cambridge; Cambridge University Press, 1969, page 4.

118 TARLING, NICHOLAS, *op. cit.*, page 178.

intervention in the traditional Malay organization and cultural system.

The disturbances in the states of Perak and Selangor in the struggle for power over tin mines and the dispute among the Chinese tin miners led the British to interfere in the Malay administration system.

In 1874, the British Colonial Office reversed its policy of non-intervention in the affairs of the Malay states and accordingly occupied Perak state, Selangor state and Sungei Ujong (a part of the state of Negeri Sembilan) and appointed a British Resident[119] in each to manage its administration. Pahang state and the remainder of Negeri Sembilan were later incorporated in this system.

To co-ordinate policy and practice, especially in respect of road and railway construction, land alienation and immigration, these four states were consolidated in 1896 into a single federation known as the *Federated Malay States*, and Kuala Lumpur was chosen as the capital.[120]

In 1909 the states of Perlis, Kedah, Kelantan and Terengganu came under British rule as protected states.

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119 Under the British Residential system, the Residents gave advice and expected to it to be followed, but naturally much depended on the good relationship between the Resident and the Sultan. In exchange, the Sultans and chiefs earned a hefty income from taxes, received British protection and limited their decisions to religious matters. See GUELDEN, MARLANE, *op. cit.*, page 31.

120 SANDHU, KERNIAL SINGH, *op. cit.*, page 4-6.

Finally in 1914, the state of Johore also came under British control. These five states were collectively called the *Unfederated Malay States* and each one of them was allotted a *British Adviser*.[121] (Fig. 1.8)

The change of the British policy brought many changes to the Malay States. The formation of the Straits Settlements, Federated and Unfederated Malay States led to growing commercial investments in the Malay peninsula. They were in the form of advances made to the Malay ruling class which monopolised economic activities in the Malay States.

By the middle of the nineteenth century, the economic invasion of the peninsula had begun. The British took over duties which had once been preserved for princes and aristocrats. Some members of both groups, however, were used by the British to effect liaison with the common people. The British also revolutionised the whole system of revenue collection and land administration. The British introduced the practice of the rule of law and established agencies like the police force to maintain political stability in the Malay States.[122] The whole process of political-administrative change also occupied many years.

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[121] In practice, the *British Advisers* in the Unfederated Malay States had virtually the same role as the British Residents in the Federated Malay States.

[122] MINISTRY OF INFORMATION, *op. cit.*, page 10-11.

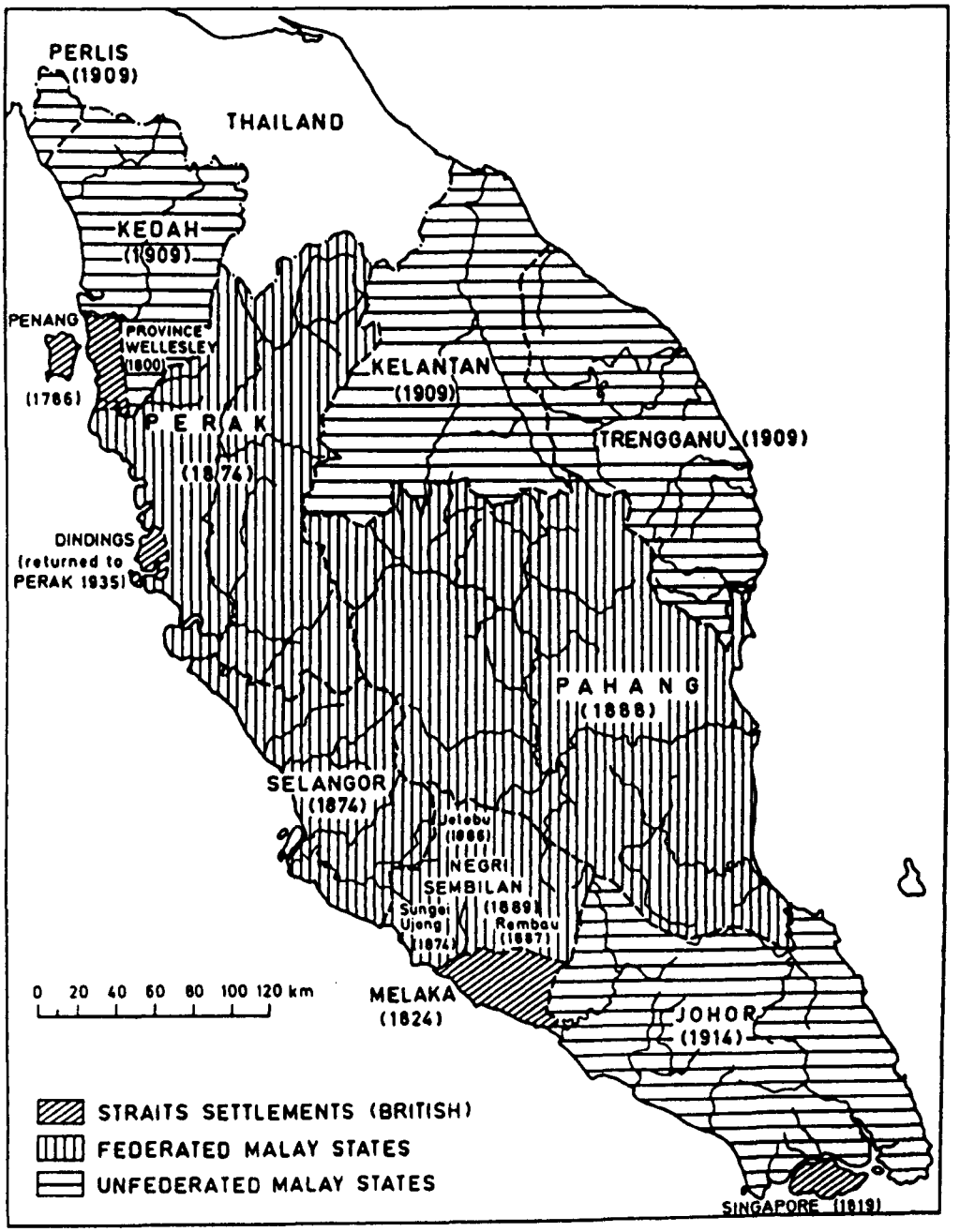

Figure 1.8: *British rule in the Malay peninsula in 1914.*[123]

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[123] Illustration reproduced from TURNBULL, CONSTANCE MARY, *op. cit.*, page 185.

1.2.6 THE INTER-WAR AND POST WAR PERIODS

The First World War had little direct impact on the Malay peninsula. The Germans raided Penang harbour in October 1914 but were destroyed a few weeks later. Britain emerged on the winning side, but the First World War marked the end of its imperial expansion and although it still seemed to be in complete command of its empire in South-east Asia, it was in a sense on the defensive. Relatively its naval power was in decline.[124]

The outbreak of the First World War also saw the gradual beginning of anti-colonial political agitation in Malaya. The immigrant population were among those involved in such activities as they were closely influenced by developments in India and China. But such activities were externally orientated and lacked solidarity. From 1925, however, communist elements had begun to launch a more systematic anti-imperialist campaign which led to the birth of the *Malayan Communist Party* between 1930-31.[125]

The Great Depression of the early 1930s, followed by the outbreak of war in Europe, created a fluid situation in the Malay peninsula. The Malays began to form political organisations. Those established at state level were

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[124] TURNBULL, CONSTANCE MARY, page 216.

[125] MINISTRY OF INFORMATION, *op. cit.*, page 12.

particularly concerned with preserving the interests of the Malays while one organisation - the *Union of Young Malays* - embarked on anti-British activities.[126]

During the war in Europe in 1939, Britain had to weight the possibility of war in the East against dangers on its home front and heavy commitments in fighting in North Africa. It built up its army in Malaya but most of the troops were inexperienced, many of whom were newly recruited in Australia and India. In December 1941, Britain dispatched two warships to Singapore, namely the *Prince of Wales* and the *Repulse,* but no aircraft carrier or other supporting ships were sent to form an effective Far East naval force. Britain planned to build up its force in Malaya by the spring of 1942 but in the meantime it hoped for peace. There was little sense of danger in Malaya and morale was high.[127]

The war in Europe also meant prosperity in Malaya due to an all-out production of its natural resources. As a producer of nearly 40 per cent of the world's rubber and nearly 60 per cent of its tin (mainly for the United States market), Malaya was Britain's most important hard-currency earner.

In July 1941, the United States, Britain and Holland froze Japanese assets and put a complete embargo on trade with

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126 MINISTRY OF INFORMATION, page 12.

127 TURNBULL, CONSTANCE MARY, *op. cit.*, page 217.

Japan, forcing it to choose between abandoning its invasion of China or seizing by armed force the essential war materials it needed from South-east Asia. Having failed to get the embargo lifted by diplomacy, the Japanese government determined to go to war. On the night of 7-8 December 1941 (Malayan time) Japan launched simultaneous and surprise attacks on the American naval base at Pearl Harbour, on the Philippines, Hong Kong and Malaya.[128] Within twenty-four hours the Japanese air force had destroyed most of the Commonwealth planes and seized the north Malayan airfields. Within three days they sank the *Prince of Wales* and *Repulse*. After a two-month campaign, *Malaya*[129] and the North Borneo territories were overrun by the Japanese and Singapore surrendered in February 1942 (see Fig. 1.9).

During the Japanese occupation, the British governing system had been replaced by a new system. The Japanese swept away the legislative and municipal councils in the Straits Settlements and the Malay states. Malaya was linked with Sumatra for administrative purposes until 1944, while

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128 TURNBULL, CONSTANCE MARY, page 218.

129 On 7 January, 1942 the Japanese conquered *Slim River*, forcing the British to abandon central Malaya. Four days later the Japanese took Kuala Lumpur and on 16 January they broke through the Australian lines at the *Muar* river in north of Johore, which was the last defensive position on the peninsula. On the last day of January the last Commonwealth soldiers withdrew across the causeway to Singapore and the island was under siege.

the states of Kedah, Perlis, Kelantan and Terengganu were restored to Thailand in August 1943.[130]

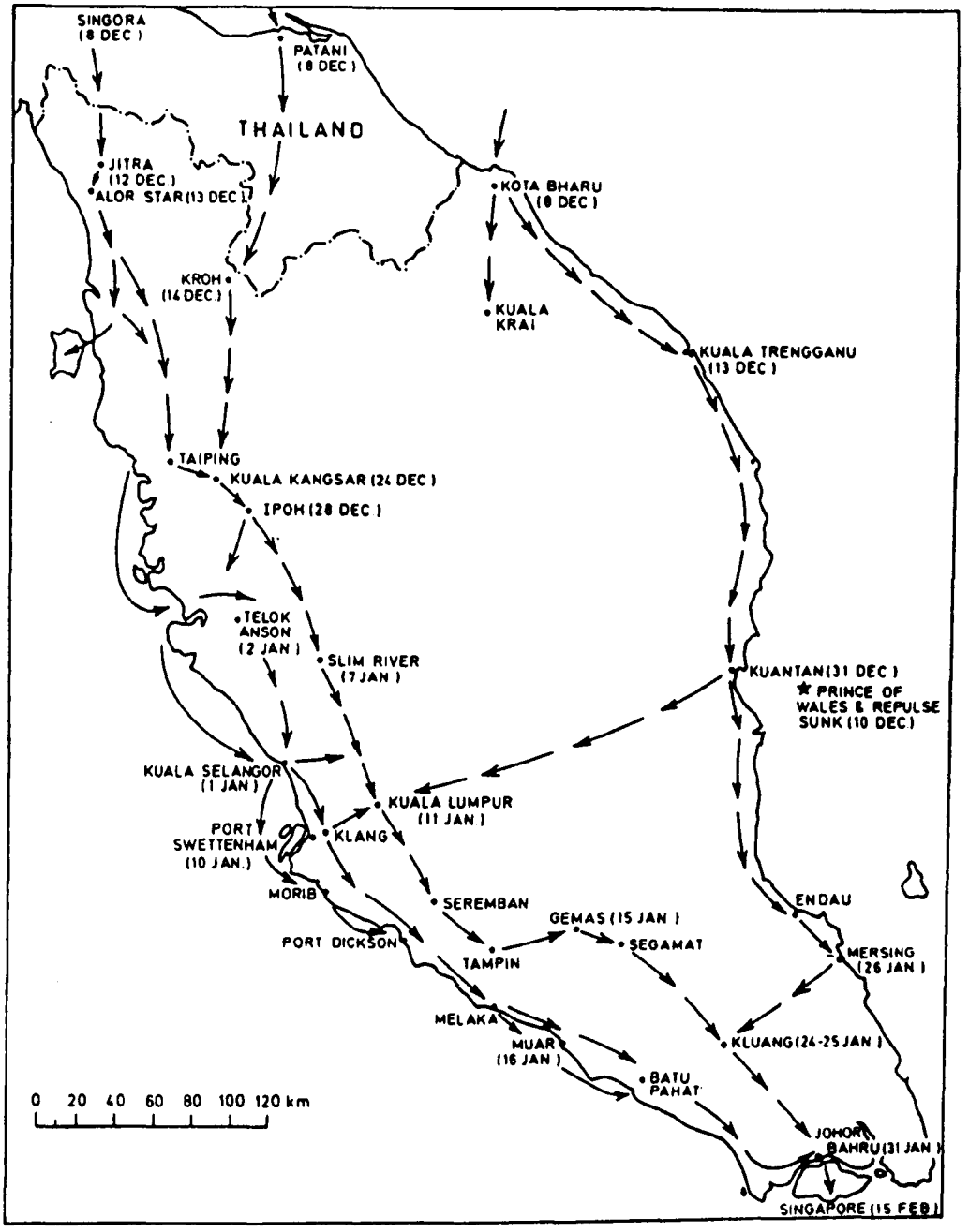

Figure 1.9: *The Japanese invasion 1941-2.*[131]

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[130] See TURNBULL, CONSTANCE MARY, *op. cit.*, page 220.

[131] Illustration reproduced from TURNBULL, CONSTANCE MARY, page 219.

The Japanese planned to retain Singapore as a permanent direct colony and strategic base, but to convert the Malay peninsula ultimately into a protectorate. Unlike other countries in South-east Asia which they overran, the Japanese found no strong Malay nationalist movement which they could built up as a puppet government.

At first, the Japanese intended to replace loyalty to the Malay rulers by allegiance to the Japanese emperor. By doing so, they cut royal pensions, trimmed the ruler's power and suspended the state councils. But within a few months the Japanese came to recognize the sultanates and the aristocracy as the soundest props for their own political power and a better vehicle than the radicals for chanelling the support of the Malay population. In January 1943 the sultan's titles were recognized.[132] Promises were given to restore their pensions, their property was guaranteed, their supreme authority in matters of Malay custom and the Muslim religion was once more acknowledged.

The Japanese also came round to recognizing the necessity for Chinese co-operation in running the economy. In the early days of the occupation many Chinese were treated with

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[132] TURNBULL, CONSTANCE MARY, page 221.

cruelty.[133] The Indians were regarded as desirable friends in fighting the British regime in India, while the Malays as the indigenous people were potential allies in creating a government in league with the Japanese.

In late 1943 and early 1944 the Japanese set up advisory councils in each state and city, comprising the Japanese resident as chairman, the Sultan, and Malay, Chinese, Indian, Eurasian and Arab representatives nominated by the Japanese.[134] Unlike the pre-war state legislative councils, the Japanese advisory councils were purely consultative bodies, meeting merely to receive instructions, usually about the war effort.

Meanwhile the British were making strategies to recapture their colonial territories. From 1943 British officers were parachuted into Malaya or landed by submarine to join the Chinese guerrillas, and large quantities of arms and ammunition were dropped to the Malayan People's Anti-Japanese Army in a pre-arrangement for the coming of Allied forces.[135] The British were still preparing for their

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[133] In several occasions during the occupation, the Chinese were treated with great brutality. In an attempt to root out anti- Japanese and communist sympathizers, who had used Singapore as their centre before the war, the Japanese rounded up the entire Chinese adult male population of Singapore for screening in the first week of the occupation and massacred countless thousands. In another occasion they arrested the entire Singapore city committee and eliminated nearly forty communist guerrilla leaders who assembled from all over Malaya at Batu Caves in Selangor in September 1942.

[134] TURNBULL, CONSTANCE MARY, *op. cit.*, page 223.

[135] TURNBULL, CONSTANCE MARY, page 224.

invasion of Malaya when the war came to an end with the sudden destruction of Japanese cities by atomic bombs in early August 1945 which induced the emperor to surrender.

For the people of the Malay peninsula, the Japanese occupation had abolished the myth of the superiority of the western power. It also broke the grip of British colonial rule over the country. The occupation forced the people of Malaya to fend for themselves. Though the Japanese Military Administration appointed Japanese as heads of various government departments, they merely served as overseers while local men carried out the actual job of running the administration.[136] Local administrators, doctors, lawyers, engineers and technicians proved that they were capable of filling the places vacated by the British.

Despite hardships undergone during the Japanese occupation, a spirit of resistance developed among the Malayan people. There was an awakening of political consciousness that was to bear fruit when the Japanese left. The Japanese occupation, although destructive, had stimulated the people's desire for national independence.[137] Thus, when the British re-imposed their colonial rule after the war, they were met with very strong resistance. The British proposed the pre-war system of Federated and Unfederated Malay States to be replaced by a centralised *Malayan*

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136 MINISTRY OF INFORMATION, *op. cit.*, page 13.

137 MINISTRY OF INFORMATION, page 13.

Union.[138] In the proposal, the status of citizenship was to be open to all born or to be born in the Union or the Colony, or resident there for 10 of the preceding 15 years disregarding the occupation period.[139] The sultans would relinquish nearly all their powers and laws would be made by a central legislative council. Penang and Malacca would form part of the Union but Singapore, on account of its large entrepot trade would become a separate colony.

The Malayan Union and the Colony of Singapore came into operation on 1 April, 1946. Singapore became a separate colony but the proposals for the Malayan Union were not fully implemented. The Malays, who opposed the new constitution, were dissatisfied with the proposals which transferred jurisdiction from the Malay rulers to the British Crown and with the conditions of citizenship which would result in Chinese domination.

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138 The *Malayan Union* proposal was prepared by *Edward Gent*, the head of the Eastern department of the Colonial office in September 1941. In 1942 he became assistant permanent under-secretary for the colonies. He had no previous experience of Malaya and took little account of representations or associations with experience in Malaya. In October 1945, London dispatched an emissary led by *Sir Harold MacMichael* to negotiate the treaties with the Malay rulers in order to pave the way to the new constitution. To read more about the *Malayan Union* see TURNBULL, CONSTANCE MARY, *op. cit.*, page 231-235; WOODCOCK, GEORGE, *The British in the Far East*, London; Weidenfeld & Nicolson, 1969, page 240.

139 TARLING, NICHOLAS, *op. cit.*, page 287-288.

The Malays were led by *Dato' Onn bin Ja'afar,*[140] leader of the United Malays Organisation (UMNO) which rapidly branched throughout Malaya. The British were urged to reconsider their plan and the authorities agreed to negotiate for the revision of the constitution. The result was the creation of an elaborate federal structure, which replaced the Union and the introduction of more restricted citizenship proposals.

The federal scheme brought about the signing of the *Federation of Malaya Agreement* in 1948. Under this agreement, the States and Settlements were to retain their own individuality but were to be united under a strong Central government. The Malay rulers remained sovereign in the Malay states, and Penang and Malacca formed part of the Federation.

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[140] *Dato' Onn bin Ja'afar* was an English-educated District Officer in Johore, grandson and son of chief ministers of Johore. (Later he also became the chief minister of Johore).

1.2.7 THE INDEPENDENCE AND THE FORMATION OF MALAYSIA

The new Federation of Malaya had a strong central government, comprising a *High Commissioner*, a *Federal Executive Council*[141] and a *Federal Legislative Council*.[142] The rulers were to be sovereign in their respective states and considerable authority was given to the State and Settlement governments, particularly where land administration was concerned. A form of *common citizenship*[143] was created for all who acknowledged Malaya as their permanent home and a promise was made that the elections would be held as soon as practicable.

During the period when the Malayan people were actively involved in the struggle for independence, the communists of Malaya launched a campaign of violence and murder in some remote areas in the Malay peninsula. Their main targets were British rubber planters and miners, and those Chinese who actively opposed the communists. To cope with this uprising of communist activities, a state of

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141 There were seven official and seven non-official members in the *Federal Executive Council*.

142 The *Federal Legislative Council* consisted of 75 members, 50 of whom were unofficial.

143 A *common Malayan citizenship* was offered on stricter terms, demanding from immigrants a residence of fifteen out of the previous twenty-five years, a declaration of permanent settlement and the ability to speak Malay or English. Out of a population of approximately 5 million in 1948, some 3.1 million were qualified automatically for federal citizenship of whom 78 per cent were Malays, 12 per cent Chinese and 7 per cent Indians. By December 1951, another 300,000 people or thereabouts (mainly Chinese) became federal citizens by application.

Emergency[144] was declared in June 1948. With the help of large-scale troop reinforcements and British anti-guerrilla operations, the forces of communism were gradually destroyed. By August 1960, the Emergency was lifted.[145]

In 1955 a new Constitution was introduces transferring most of the responsibility of the government to the elected representatives of the people. In the election held in July 1955 the Alliance Party, a coalition of the United Malays National Organisation (UMNO), the Malayan Chinese Association (MCA) and the Malayan Indian Congress (MIC) won 51 out of the 52 elected seats. In 1956 a conference was held in London to discuss the question of independence.[146] As a result of agreement reached at the conference, Malaya achieved internal self-government and arrangements were set in motion for the achievement of full independence by August 1957.

In March 1956 an Independent Constitutional Commission headed by *Lord Reid* was appointed. The Legislative Council then accepted the constitutional proposals which had been finalised after consultation between UMNO, MCA, MIC and the

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[144] Malaya was plunged into a state of *Emergency* following a communist revolt which broke out in June 1948 when three European planters were murdered in Perak. Earlier, the guerrillas embarked on indiscriminate attacks against both European managers and local employees on rubber estates and tin mines, with the object of distrupting the economy. Later in 1951 *Sir Henry Gurney,* the liberal high commisioner was ambushed and killed by communist terrorists.

[145] See MINISTRY OF INFORMATION, *op. cit.*, page 14-15 and TURNBULL, CONSTANCE MARY, *op. cit.*, page 237-239.

[146] MINISTRY OF INFORMATION, *op. cit.*, page 15.

British Government. The Federation of Malaya Agreement was signed on behalf of the Malay Rulers and the British Queen in August 1957.[147] On 31 August 1957, Independence was finally achieved.

Malaysia was established on 16 September, 1963, after more than two years of intensive negotiation and consultation with the people of Singapore, Sarawak and North Borneo. *The Cobbold Commission*[148] was set up in February 1962, to interview people in North Borneo and Sarawak regarding the proposed Malaysian federation. On 1 August, the British and Malayan Government accepted the Commission's recommendations and decided in principle that the proposed federation of Malaysia should be brought into being by 31 August, 1963.

In North Borneo, further constitutional advances were made in June and July 1963 in preparing for the state's entry into Malaysia. The Pro-Malaysia Alliance Party won all the seats in the state elections and on 31 August, 1963, the state gained self-government and was re-named as *Sabah*. While in Sarawak, the elections on the basis of new provisions were completed in mid-August 1963 and the Pro-Malaysian Alliance Party won an overwhelming majority of seats.

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147 MINISTRY OF INFORMATION, page 15.

148 *The Cobbold Commission* was a five man Commission of Inquiry led by *Lord Cobbold,* a former Governor of the Bank of England to ascertain the views of the people in North Borneo and Sarawak.

In September 1963, the *Federation of Malaysia* came into being. Malaysia's constitution derived basically from the former Federation of Malaya, comprising a constitutional monarchy and two-chamber central parliament. Each state had its own ruler,[149] constitution and elected legislative assembly.[150]

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[149] *Governors* in Malacca, Penang and Sarawak; *Yang Di-Pertuan Negara* in Sabah; *Sultans* in the remaining states.

[150] TURNBULL, CONSTANCE MARY, *op. cit.*, page 252.

Chapter Two

INDIGENOUS MALAY ARCHITECTURE

2.1 HISTORY AND ORIGINS

The perishable nature of indigenous Malay buildings, which were mostly built in timber, and the harsh Malaysian tropical climate does not allow any of the timber buildings to last very long. As a result, there are not many remaining examples of indigenous Malay buildings to be found in Malaysia and the oldest timber palace still in use is only about 149 years old. The absence of written reports on the history of Malay architecture prior to the fifteenth century further limits the effort to trace the origins and history of indigenous Malay architecture.

The oldest extant indigenous historical work in Malaysia is *Sejarah Melayu* or the Malay Annals which is presumed to have been written in 1612 by the Bendahara (treasurer), Tun Sri Lanang of Johore.[1] The first description of Malay architecture appears in this record and it describes in considerable detail a cosmopolitan structure (a Malay palace) which was built in about 1465 for Sultan Mansur Shah of Malacca, when the city was at the height of its prosperity.[2] (see Fig. 2.1 and 2.2).

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1 VLATSEAS, S., *A History of Malaysian Architecture,* Singapore; Longman, 1990, page 14.

2 See SHEPPARD, MUBIN, *A Royal Pleasure Ground: Malay Decorative Arts and Pastimes,* Singapore; Oxford University Press, 1986, page 29 and MD. ALI KAMARUDDIN, *The Vanishing Heritage,* a dissertation presented at Institute of Advanced Architectural Studies, University of York (unpublished), 1986, page 15.

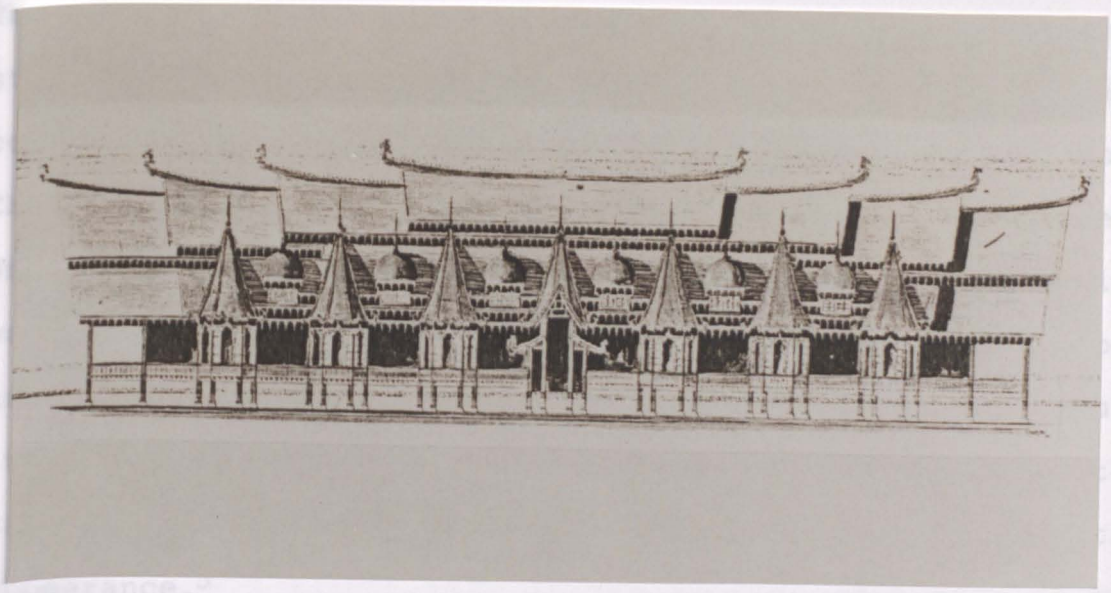

Figure 2.1: *Artist's impression of Sultan Mansur Shah's palace in Malacca.*[3]

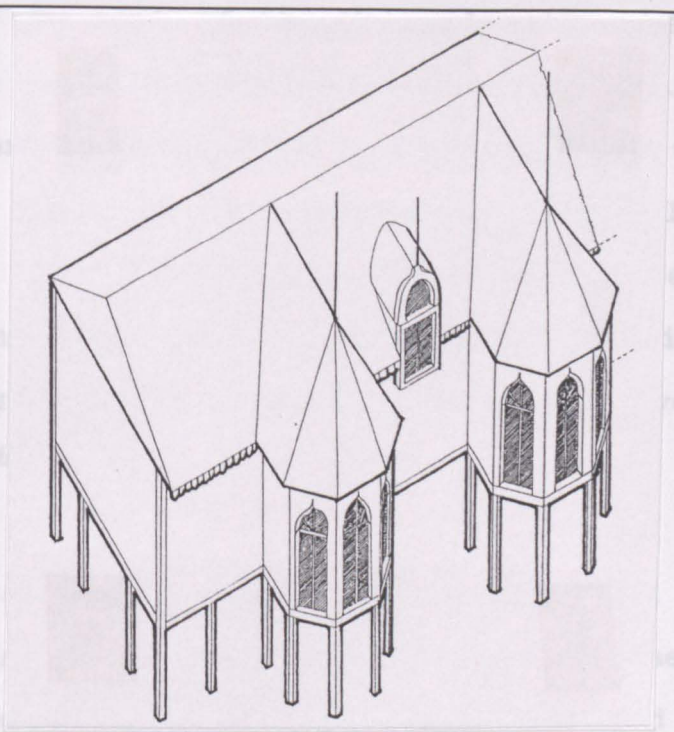

Figure 2.2: *Axonometric showing the reconstruction of Sultan Mansur Shah's palace.*[4]

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3 Illustration reproduced from SHEPPARD, TAN SRI DATO MUBIN, "Traditional Crafts of Malaysia: Traditional Malay Buildings and Their Architecture", *Majallah Akitek*, No. 3, Sept. 1983, page 27.

4 Illustration reproduced from DUMARCAY, JACQUES, *The Palaces of South-east Asia, Architecture and Customs,* Singapore; Oxford University Press, 1991, page 76.

The palace was said to have a raised seventeen-bay structure on wooden pillars, with a seven tiered roof in copper shingles and decorated with gilded spires and Chinese glass mirrors in the Hall of Audience. Unfortunately not long after the building was completed, it was accidentally destroyed by fire. It was then replaced by another palace which was said to have been even finer, but it was demolished by the Portuguese when they came to capture Malacca in 1511, leaving no record of its appearance.[5]

Further in the text of the Malay Annals, there is also a description about another palace which was built at Panchur on the Johore river in 1708 by a Malay ruler who attempted to achieve architectural immortality. The palace was said to measure about one hundred and eighty feet long. It suffered the same fate as many other traditional Malay palaces when it was destroyed by fire only a year after its completion.[6]

The oldest surviving example of a traditional Malay palace is the *Istana Balai Besar* (the palace with the great hall) in Kota Bharu, built in 1844. (Fig. 2.3 and 2.4) It was

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[5] The description of Sultan Mansur's Shah palace was written in the Malay Annals nearly a century after the building was destroyed by the fire. The writer (Tun Sri Lanang) never saw the palace which he described. The account was not very accurate and is believed to have some fictional elements included in the story. See SHEPPARD, TAN SRI DATO MUBIN, "Traditional Crafts of Malaysia: Traditional Malay Buildings and Their Architecture", *op. cit.*, page 27.

[6] SHEPPARD, TAN SRI DATO MUBIN, page 27.

built by Sultan Mohamed II of Kelantan (1839-86) who had decided to leave his previous palace on the island of Saba, where erosion threatened to destroy the palace.[7]

The last Malay timber palace to be built in peninsula Malaysia was at Sri Menanti, in Negeri Sembilan. Works was started in 1902 and completed in 1908, and until 1931 it was the official residence of the head of state, *Yang Di-Pertuan Besar Tuanku Muhammad*.[8] This palace is four storeys high and has a slight tilt in its roof at both ends which shows the *Minangkabau*[9] influence (see Fig. 2.5 and 2.6). The four main wooden pillars are sixty five feet high, and rise from the ground to the top of the central tower. There is a forked projection at the apex of the tower roof, called the *silang gunting*[10] or gable horns, which used to be seen on many old Malay buildings in different parts of the peninsula but is now very rare. These decorative gable horns are a recurring feature in tribal buildings in South-east Asia[11] (Fig. 2.7).

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[7] See DUMARCAY, JACQUES, *op. cit.*, page 76.

[8] SHEPPARD, MUBIN, *A Royal Pleasure Ground*, *op. cit.*, page 29.

[9] *Minangkabau* is a region in the south-west of Sumatra, Indonesia.

[10] *Silang gunting* is a traditional roof feature, normally fitted on top of a gable-end and means `open scissors' in English. The shape as the name implies, is like an open scissors.

[11] WATERSON, ROXANA, *The Living House: An Anthropology of Architecture in South-east Asia*, Singapore; Oxford University Press, 1990, page 7.

Figure 2.3: *Istana Balai Besar in Kota Bharu, Kelantan.*

Figure 2.4: *Entrance to the main hall of Istana Balai Besar, Kota Bharu, Kelantan.*

Figure 2.5: *A sketch of Sri Menanti Palace in Negeri Sembilan (1908).*[12]

Figure 2.6: *The palace of Sri Menanti in Negeri Sembilan - one of the last few remaining examples of traditional Malay palace in the Malay peninsula.*[13]

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12 Illustration reproduced from RAJA TUN UDA, RAJA FUZIAH BTE., *Heritage: The Changing World: Our Heritage and Our Future,* Kuala Lumpur; Dewan Bahasa dan Pustaka, 1990, cover picture.

13 Illustration reproduced from NASIR, ABDUL HALIM, *Traditional Malay Wood Carving,* Kuala Lumpur; Dewan Bahasa dan Pustaka, 1987, pp. 74-75.

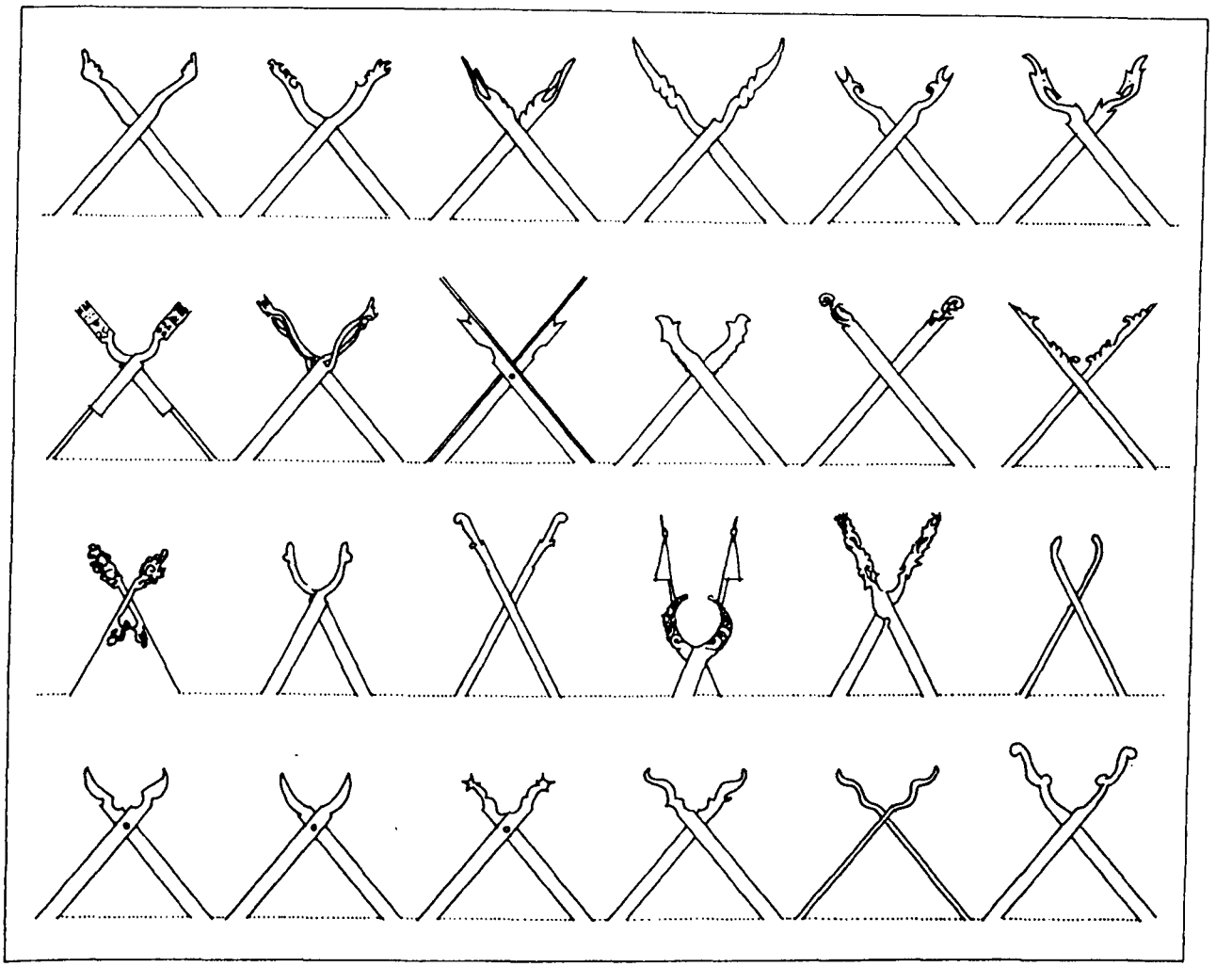

Figure 2.7: *South-east Asia gable horns (compiled from a variety of sources), some of which can be seen on the roof tops of traditional Malay buildings in the Malay peninsula.*[14]

[14] Illustration reproduced from WATERSON, ROXANA, *op. cit.*, page 11.

The oldest existing timber mosque in the Malay peninsula is *Masjid Kampung Laut* in Nilam Puri, Kelantan, which was built some two and a half centuries ago. It was originally built near the mouth of the Kelantan River but in 1966, after rising waters threatened to engulf its structure, the mosque was dismantled and re-erected in the district of Nilam Puri, about five miles from Kota Bharu, the state capital (Fig. 2.8). The architectural influence of this mosque is believed to have originated from the island of Java, Indonesia.[15]

In the fifteenth century, Islam had a strong hold over the empire of *Majapahit* in Java. Due to the spread of the religion, many mosques were built throughout the island and the prototype is the *Masjid Agung* or Royal Mosque of Demak[16] on the north coast of Java. The mosque in Demak was built in 1480 when the state was becoming a powerful Islamic centre (Fig. 2.9).

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15 VLATSEAS, S., *op. cit.*, page 40-45.

16 Demak was one of the earliest Islamic centres in the Malay Archipelago. During the years of its growth as a centre of Islamic religion, its rulers had increased their influence throughout the islands of the Archipelago by sending their traders and fleet of warships as far as the Moluccas in the east and the Gulf of Siam in the north. It is believed that the seafarers of Demak had ventured along the east coast of the Malay peninsula and had been directly involved with the building of the Kampung Laut mosque.

Figure 2.8: *Kampung Laut mosque at Nilam Puri, Kelantan.*

Figure 2.9: *The Royal mosque of Demak, near Semarang, Java. Built around 1480, it was repaired time and again, extended and restored in recent years.*[17]

[17] Illustration reproduced from VLATSEAS, S., *op. cit.*, page 41.

In every existing example of traditional Malay building in the Malay peninsula, there are usually some recognizable building features which give clear indications of the buildings' influence and place of origin. Some features of traditional buildings in the Malay peninsula may seem to belong to a particular area and others may have been derived or originated from another part of the region. Their origins can be traced by looking at the early Malay cultural centres[18], which have similar building forms and features, and see how the two Malay states are related to one another.

The traditional buildings in the Malay peninsula are seen as closely linked with buildings in the early Malay cultural centres in terms of building styles and characteristics which are believed to have been transmitted simultaneously with the migration of its people.

The traditional architectural form and style in the Malay peninsula came primarily from two main sources. One is from the island of Sumatra in Indonesia and the other is from the south of Thailand (Fig. 2.10). The influences on traditional Malay architecture in the Malay peninsula parallels the migration and settlement of the Indonesian

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18 The *Malay cultural centres* referred to here are the *Malay-Indian Kingdoms* which were established in the region in the early centuries (see Section 1.2.2). Physical evidence suggests that the architectural style of the indigenous buildings in the Malay peninsula has originated from these early centres. Their power and dominance over other parts of the Malay archipelago (including the Malay peninsula) had caused the spread of their building traditions.

and Siamese people, which took place when some of the Malay peninsular states were under the rule of the *Sri Vijayan empire*[19] and the empire of *Langkasuka*[20]. Apart from political dominance, these people came to settle in the Malay peninsula and brought with them their cultural and architectural traditions. The architectural styles from these areas have blended with local forms and have also been adapted to the local climate and environment, although some distinct foreign features identify where the style originated.

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19 *Sri Vijaya* was one of the *Malay-Indian Kingdoms* which was based near Palembang in Sumatra, Indonesia (see Section 1.2.2).

20 *Langkasuka* was located on the Isthmian portion of the Malay peninsula. Its modern name is *Patani*.

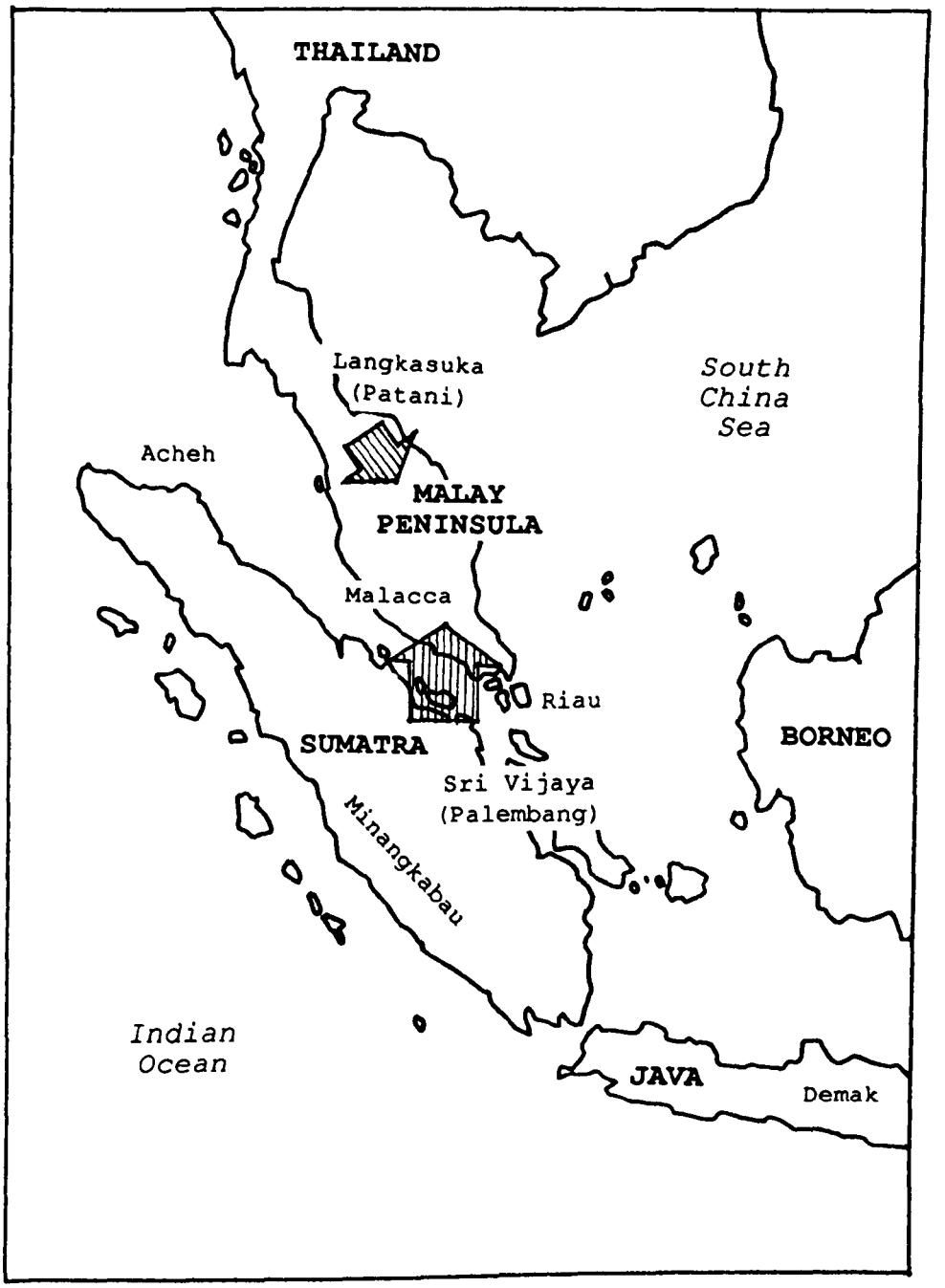

Figure 2.10: *The source of architectural influences in traditional buildings in the Malay peninsula.*

In the Malay peninsula, the different types of building forms can be grouped together and classified into four main regions or distribution zones[21] (Fig. 2.11). These regions also represent the Malay settlement patterns and the allocation of indigenous Malay buildings. They received particular influence from the districts of Minangkabau, Bugis, Riau and Acheh in Indonesia and from the district of Patani in the south of Thailand. The four regional areas are classified as follow :-

i. Southern region - Johore, Malacca and Negeri Sembilan.

ii. Central region - Selangor, Federal Territory of Kuala Lumpur and south of Perak.

iii. Northern region - Perlis, Kedah, Penang and north of Perak.

iv. East coast region - Terengganu, Kelantan and Pahang.

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21 This classification was accomplished by some Malaysian historians and reseachers. It forms an easy way to identify the variations of Malay buildings in different parts of the Malay peninsula. See NASIR, ABDUL HALIM, *Kesinambungan Senibina Melayu Tradisi di Semenanjung*, Kuala Lumpur; University Malaya (unpublished), 1989, pp. 5-10; LIM JEE YUAN, *The Malay House: Rediscovering Malaysia's Indigenous Shelter System*, Penang; Institute Masyarakat, 1987, pp. 20-27; MD. ALI, KAMARUDDIN, *op. cit.*, page xv; SUDIN, PARID WARDI,"The Malay House", *Mimar*, Vol. 2, Nov. 1981, pp. 55-63.

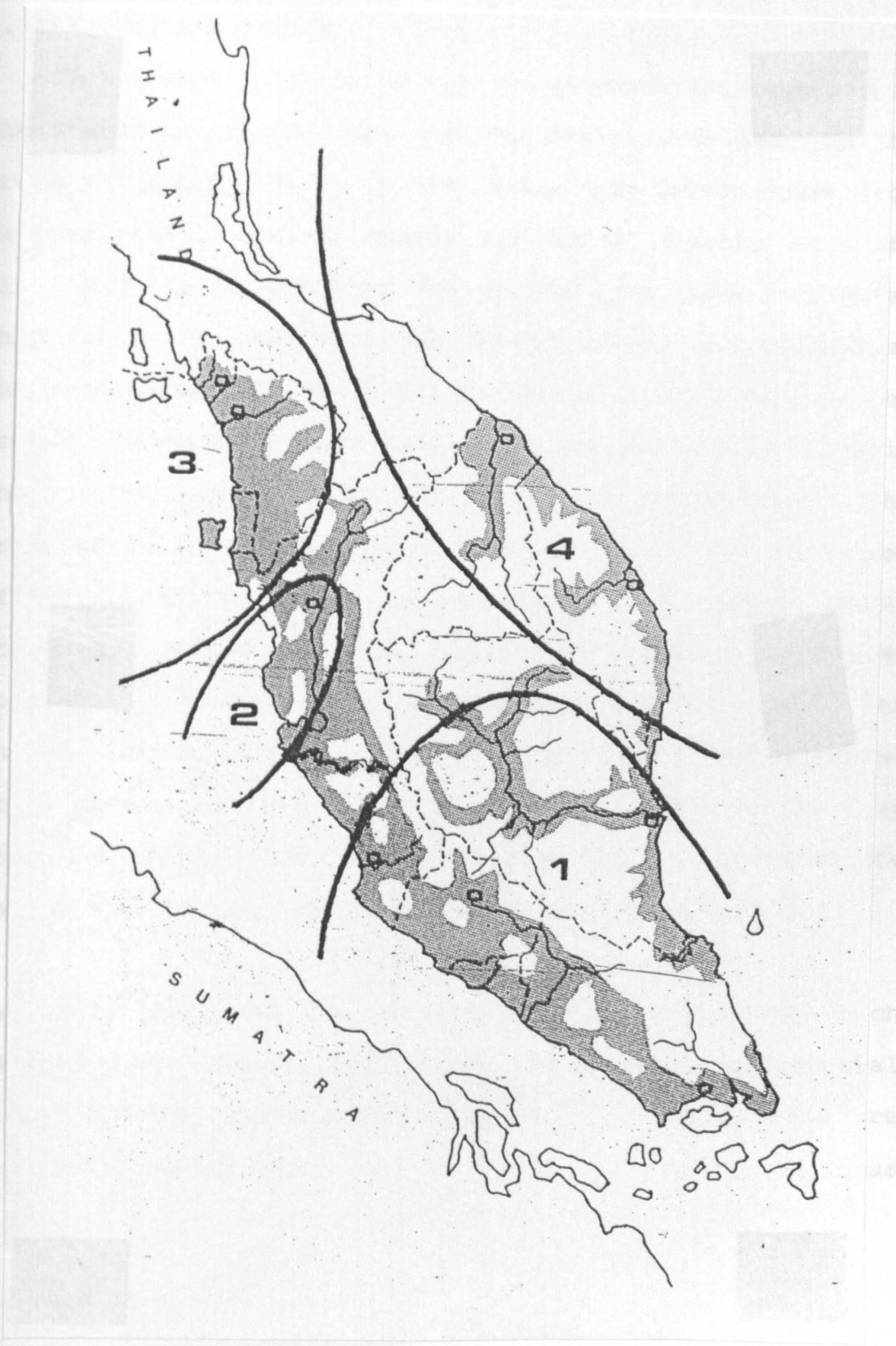

Figure 2.11: *The four main distribution zones of traditional Malay buildings.*

i. THE SOUTHERN REGION

The southern region of the Malay peninsula consists of the states of Johore, Malacca and Negeri Sembilan. In the state of Johore, most of the Malay population come from various ethnic groups, namely the Malay, Bugis, Java and Riau, and the majority of the people come from Indonesia. This factor in some ways has characterized and influenced the architecture of the Malay buildings in this part of the region. Along the south-west coast of peninsula Malaysia there are many old buildings which portray the architectural styles of Bugis, Java and Riau. The influence of Bugis architecture can be identified by the shape of the staggered gable ends (*Tebar Layar Bertingkat*), large side openings, the decoration on top of the gable end, the entrance hall (*Anjung*), which is located at the side of the front house, and the timber pillars which are buried deep into the soil. There is also the use of intermediate supports to strengthen the position of the pillars.[22]

In Johore there are two versions of Malay buildings which adopted the characteristics of the Bugis architectural style. One is called *Bumbung Panjang*[23] of which there are few remaining examples. But the other version, called *Limas*

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[22] NASIR, ABDUL HALIM, *op. cit.*, page 5.

[23] Building with *Bumbung Panjang* is characterized by a long gable roof. This is an indigenous type and has a number of variations depending on locality. See section 2.3.3 Types of Building Form and Regional Variations, pp. 116-122.

Bugis,[24] (Fig. 2.12) still remains a popular version in many Johore Malay houses. Among the important characteristics of Bugis art, which can be seen in the *Limas Bugis* house, is the decoration at the peak of the roof which uses the motif of the head of a lizard.[25]

Figure 2.12: *A typical example of a traditional Malay house in Johore.*[26]

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[24] *Limas Bugis* is a typical house type in Johore characterized by a hip-gabled roof. The word *Limas* exemplified a roof that has an inclination, no matter from what direction it is viewed. This includes hipped roof, hip-gabled roof and pyramidal roof shapes.

[25] NASIR, ABDUL HALIM, *op. cit.*, page 6.

[26] Illustration reproduced from NASIR, ABDUL HALIM, *Traditional Malay Wood Carving,* Kuala Lumpur; Dewan Bahasa dan Pustaka, 1987, page 92.

In the state of Malacca, there is one typical form which applies to most of the domestic dwellings of the Malay people; it is known as *Bumbung Panjang* with *Serambi*[27]. Regardless of whether it is a large house with sixteen pillars or a small house with nine or twelve pillars, every unit has a steep and high gable end (see Fig. 2.13). By contrast, most of the public buildings in Malacca, especially the mosques, have adopted pyramidal roof forms known as *Atap Meru* and often the roofs are constructed in several layers to show their hierarchy and to distinguish them as important buildings in the area (Fig. 2.14).

In the design of the Malaccan house there is not much evidence of Bugis influence and many people argue that there are so many foreign architectural influences on the Malaccan house form, including the Bugis, Chinese, Riau, Java and also influences from western sources. This is undoubtedly true because before Malacca was colonised by the Portuguese, Dutch and British, it was already famous as an international port which indirectly received foreign traders from Persia, Arabia, China, India and also from neighbouring Malay islands.

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[27] *Bumbung Panjang* with *Serambi* is a house with a long gable roof and an additional covered verandah which is used as an entrance hall.

Figure 2.13: *'Bumbung Panjang' (gable roof) with 'Serambi' (attached covered verandah) in a Malaccan house.*[28]

Figure 2.14: *'Atap Meru' of Terengkera mosque in Malacca. The building was built in 1728.*[29]

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[28] Illustration reproduced from NASIR, ABDUL HALIM, *Traditional Malay Wood Carving, op. cit.*, page 85.

[29] Illustration reproduced from VLATSEAS, S., *op. cit.*, page 44.

Strong evidence of these influences can be seen in the use of brick and cement steps, with Chinese decorative tiles replacing the traditional timber steps as a means of entering the main house. This feature can be seen in a house at Merlimau, Malacca (Fig. 2.15), which was built around the year 1900 by two local carpenters together with a Kelantanese carpenter. The house was owned by the former *penghulu*[30] of Merlimau. It shows traces of Chinese and other influences in its design, embellishments and decorations. The house remains in its original state and it has a kitchen which was built of bricks and cement.[31]

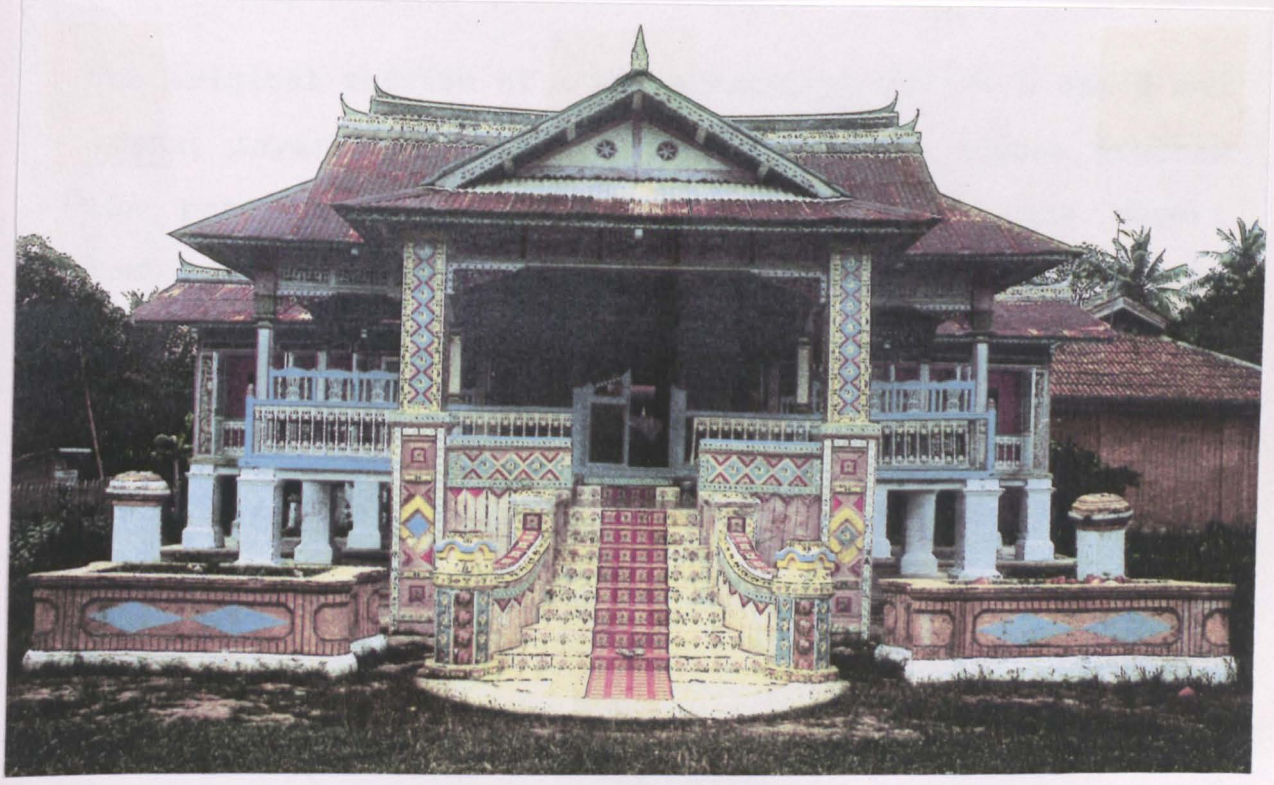

Figure 2.15: *A traditional Malaccan house with its mixture of many foreign elements.*[32]

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30 *Penghulu* is the chief of a Malay village.

31 LIM JEE YUAN, *op. cit.*, page 48.

32 Illustration reproduced from LIM JEE YUAN, page 143.

The state of Negeri Sembilan is unique and differs from all other states in terms of its architecture, much of it distinguished by the `buffalo horn' roof shape which is easily recognisable (Fig. 2.16). Most of the Malay people in Negeri Sembilan, including the leaders and royal families, came from the Minangkabau region of West Sumatra, Indonesia, and they brought along with them the architecture from their place of origin. Although it is obvious that the building forms were adopted from West Sumatra, they were somehow adjusted to the Malaysian context and environment.

The original version of a Minangkabau house has a gable end (*Tebar Layar*) with a very high curve that almost touches the peak of a palm tree (Fig. 2.17), but the Negeri Sembilan version is much lower and has similarities to the shape of the gable end of other Malay houses scattered all over the peninsula. The Negeri Sembilan version of the Minangkabau house had also spread to some small areas in Malacca. An example of Minangkabau house in Malacca can be seen at Kampung Ramuan Cina Kecil, near to the Negeri Sembilan border.[33]

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[33] This house is illustrated in LIM JEE YUAN, pp. 54-55.

Figure 2.16: *A Minangkabau house in Negeri Sembilan.*[34]

Figure 2.17: *The original version of the Minangkabau style. This is a village chief's house at Lima Kaum in the Minangkabau highlands, West Sumatra.*[35]

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[34] Illustration reproduced from LIM JEE YUAN, page 32.

[35] Illustration reproduced from WATERSON, ROXANA, *op. cit.*, page 77.

ii. THE CENTRAL REGION

The central region occupies the south-west of the Malay peninsula and, being close to the south, the architecture of the traditional buildings in this region is very much influenced by its southern counterparts. In the south of Selangor, especially in the area of Baranang, the traditional Malay architecture, particularly the houses, still holds a strong relationship to the architecture of Negeri Sembilan. This is because the people living in this area came from the same ethnic group as the people in many parts of Negeri Sembilan.

In the districts of Kuala Langat and Kuala Selangor there still exist examples of Malay houses with *Bumbung Panjang* which follows exactly the traditional Malaccan house style. It is believed that the architectural influence from Malacca started when Selangor was under the rule of the Malacca Sultanate in the late fifteenth and early sixteenth centuries.[36] It is also recorded in Malay history that the prince of Sultan Mansur Shah of Malacca had become a king in the district of Jeram, Selangor, which gives further evidence of the Malaccan architectural influence in the southern part of Selangor.[37]

Although the Bugis had conquered the Selangor government in the seventeenth century, the Bugis people did not migrate

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[36] During the period of late fifteenth and early sixteenth centuries, Selangor was part of Malacca's large empire.

[37] NASIR ABDUL HALIM, *Kesinambungan Senibina Melayu, op. cit.*, page 7.

to Selangor in large numbers, like the large migration of Bugis people to the states of Johore and Perak. There are not many Bugis settlements in Selangor, compared to those of Minangkabau and Java, so their houses are almost non-existent. The federal territory of Kuala Lumpur, which used to be part of Selangor, has examples of traditional Malay buildings which can be found in the areas of Kampong Baru and Gombak.

iii. THE NORTHERN REGION

The Northern region consists of Kedah, Perlis, Penang and the north of Perak. In the period of traditional Malay rule, the states of Kedah, Perlis and Penang were governed by the Sultan of Kedah and were considered as one large territory under the rule of Kedah's aristocracy. Thus, it is presumed that these three northern states have the same basis in the evolution of their architectural styles.[38]

Currently, there are three types of traditional house which still exist in the states of Perlis, Kedah and Perak. They are the *Bumbung Panjang*, *Rumah Bujang*[39] and *Limas Potong Perak*.[40] There are only a few examples of *Rumah Bujang* left in the state of Perlis and Kedah. One of them can be seen in the village of Kodiang Lama, Kedah.

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[38] NASIR ABDUL HALIM, page 8.

[39] *Rumah Bujang* means 'batchelor's house'. It is the smallest and simplest version of a Malay house with gable roof.

[40] *Limas Potong Perak* is a typical house type in Perak with hip-gabled roof. It is believed to have been copied from Dutch houses during the colonial period.

Being the uppermost geographical territories in the Malay peninsula, the states of Perlis, Kedah and Perak, which border Thailand, are bound to receive influences from the north. In the design of traditional Perlis houses for instance, certain aspects of Malay Patani houses have been adopted. The influence can be seen in the positioning of the main building components. The main house (*rumah ibu*) and the kitchen house (*rumah dapur*) are separated and linked by an intermediate space (*selang*) which is largely uncovered, and the side wall along the open area has a roof on top of it. This feature is very similar to those houses found in the south of Thailand, particularly in the district of Patani.

In contrast to the *Bumbung Panjang* house, the influence of architecture from south Thailand can also be identified by the position of the main entrance which is normally located on the side wall or on the gable end facade. This feature is very unusual in the Malay tradition in the central and southern regions of the Malay peninsula because they never place the main entrance by the side of the house, on the gable end.

In the town of Alor Setar, Kedah, there is a traditional Malay palace called *Balai Besar* (the Large Audience Hall) which displays characteristics of Thai architecture. This building presents a clear indication of Thai influence in the pattern of Malay building within the northern Malay states (Fig. 2.18 and 2.19).

Figure 2.18: *'Balai Besar' of Alor Setar, Kedah - an example of the Thai influence in Malay architecture.*

Figure 2.19: *Details of a column which supports the main roof of the Balai Besar.*[41]

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41 Illustration reproduced from NASIR, ABDUL HALIM, *Traditional Malay Wood Carving, op. cit.*, page 59.

In Penang, which includes Seberang Prai on the mainland, there are still examples of Malay houses in the form of *Bumbung Panjang* and *Bumbung Limas* which have similarities with the houses in the state of Kedah. It is also possible that the architectural influence for these houses might have come from the Bugis, Riau or Acheh in Indonesia, due to the fact that Penang was exposed to the influence of these Indonesian districts.

iv. THE EAST COAST REGION

The states on the east coast of the Malay peninsula were also subject to influences from the north. Evidence can be seen in the design of the roof which has similarities to buildings in the southern part of Thailand.

The east coast region consists of Terengganu, Kelantan and Pahang. In these three states, examples of traditional buildings can be found scattered in many rural areas or *kampung*.[42] Some fine examples of traditional houses can be seen in the remote area of Pulau Duyong in Kuala Terengganu. A few traditional Malay palaces also have been preserved in some urban sites, notably in the new state Museum site in Kuala Terengganu, and around the compound of *Istana Balai Besar* in Kota Bahru, Kelantan. Most traditional houses in this particular region are those of the *Bumbung Panjang* type and the most outstanding examples

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[42] *Kampung* is a common term used to acknowledge a Malay village or a rural settlement.

are known locally as the *Rumah Tiang Enam*[43] (Fig. 2.20) and *Rumah Tiang Dua Belas*.[44]

The architecture of *Rumah Tiang Enam* and *Rumah Tiang Dua Belas* has great similarities to the architecture of traditional houses in the south of Thailand, especially those in the district of Patani.[45]

The most dominant feature of these buildings is to be found in their roofs. The shape of the roof is easily recognisable by the large fascia boards on both sides of its gable ends (side roof edge) which form an upside down 'V'-shaped roof edge cover and is known as *Peleh* or *Pemeleh* (see Fig. 2.21). Mubin Sheppard notes that "the earliest type of Malay house, in Terengganu and Kelantan, of which examples can still be studied, had a high, steepy sloped roof, and a single ridge and ridge covering running the length of the building. A pair of long, wooden gable edges, (gable fascia boards) called *Peleh* or *Pemeleh* were often fitted at both gable ends on the houses of the well to

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[43] *Rumah Tiang Enam* is similar to *Rumah Bujang*. Its direct translation is 'house with six pillars.' The name was derived from the main supporting structure which carries the load of the roof and other non-structural members.

[44] *Rumah Tiang Dua Belas* is a larger version of *Rumah Tiang Enam*. It means 'house with twelve supporting pillars'.

[45] It is noticable that traditional buildings in Patani have similarities to those in Kelantan and Terengganu. Statistics show that almost ninety percent of the population of Patani are Malays and the number of traditional building in this area outnumber those in Kelantan and Terengganu. As one goes further south from Patani the number decreases. Therefore, it is suggested that the building traditions of Patani spread southwards into the states of Kelantan and Terengganu.

do."[46] The same feature was also applied to other building types like traditional Malay palaces and *wakaf*[47] (Fig. 2.22).

Other buildings in the east coast region have no distinct variations to those found in other parts of the peninsula. Most of the ordinary houses in Kelantan and Terengganu took many different roof configurations which include *Limas Bungkus* (hipped roof) and *Limas Potong Belanda* (hip-gabled roof). Most of which shows a mixture of influences especially from the western countries. These different types of building form will be discussed in further detail in the following sections.

In Pahang, there are some good examples of *Bumbung Panjang* houses located in several villages near Temerloh, Kuala Lipis and Jerantut. It is believed that the source of its architecture came from Riau, Bugis and Malacca.

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[46] SHEPPARD, MUBIN, "Traditional Malay House Forms in Terengganu and Kelantan," *Journal of Malayan Branch Royal Asiatic Society,* Vol. 42, Part 2, 1969, pp. 1-2.

[47] The word *wakaf* means *charity*. The Malay community in a *kampung* normally worked together to build a *wakaf*. The building is for communal use and functions as a meeting or resting place.

Figure 2.20: *A typical example of 'Rumah Tiang Enam' in Terengganu.*[48]

[48] Illustration reproduced from RAJA AHMAD SHAH, R. B. S., *Traditional Terengganu Malay House,* Melbourne; University of Melbourne (unpublished), 1980, unnumbered page.

Figure 2.21: *'Pemeleh' at the roof edge of a traditional Malay timber palace in Terengganu.*

Figure 2.22: *'Pemeleh' of a 'wakaf' in Terengganu.*

2.2 THE MAIN BUILDING TYPES

Due to the nature of traditional Malay rural society, not many building types were required by the Malays to run their daily activities. The main indigenous building types are:-

i. Houses
ii. Palaces
iii. Mosques
iv. *Surau*[49]
v. *Madrasah*[50]
vi. *Wakaf*

The first three types are the most important building types to have demonstrated excellence in building. The *surau* was very popular in its usage (until the present day) but is generally considered architecturally insignificant. The last two building types have not developed very much and their use is not very popular at present. Only a few examples of the last two types have survived (although they incorporate some interesting design features), and like the *surau* they are also considered of little architectural value.

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[49] *Surau* is a small mosque designed for daily prayers. It is also a place for learning the *Koran*. The Friday prayer cannot be held here because the size of the building is too small for a large congregation.

[50] *Madrasah* is an Arabic word meaning Islamic school. It is an Islamic learning place where Malay children come to learn the *Koran* and the Malay language using Arabic alphabets. It is also used occasionally by Muslims to hold activities.

2.2.1 TRADITIONAL MALAY TIMBER HOUSES

Traditional Malay houses are the most common building type and are widely distributed in every Malay settlement. They are mostly single storey and are designed largely in timber to cater for small or large family units.

Although new developments have threatened the existence of traditional buildings (especially traditional Malay houses) and forced some to be demolished, many have survived and retained their existence in the older Malay settlements.

Many Malay people, especially the older generation and the Malay folks living in the rural areas throughout the Malay peninsula, still prefer to live in these traditional timber houses. This factor in some respect has prevented the disappearence of this building type. The Malaysian Heritage Trust and local councils have also shown some efforts to save examples of each indigenous building type from being demolished and also to preserve them from deterioration caused by climate and lack of maintenance. (Fig. 2.23).

The main components and interior layout of a Malay house are discussed separately in section 2.3.4 under "The main components of a Traditional Malay House".

Figure 2.23: *A typical traditional Malay house in the East coast region.*[51]

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51 This house was dismantled and moved from its original site by the State government of Terengganu and re-erected in the grounds of the State Museum in Losong, Terengganu, for maintenance and conservation purposes.

2.2.2 TRADITIONAL MALAY TIMBER PALACES

The second major indigenous building type is the traditional Malay palace. These buildings were specially designed to house Malay sultans and their families. The structure of the palaces was largely made from hardwood timber.

Traditional Malay palaces normally had a common gathering area called 'Balai Besar' or Audience Hall which was designed to accommodate royal ceremonies and formal functions with Malay dignitaries and public representatives. The traditional Malay palaces can be regarded as larger versions of the traditional Malay house with every section of the building being extended to accommodate various functions and activities. There are also some auxilliary spaces provided in some of the palaces to cater for other royal activities. Although the palaces may incorporate many additional sections, the conception of space nevertheless follows the same principles as the Malay house. They use the same rectangular plans and roof shapes as houses, except that the materials used in the construction of the building and the choice of roofing materials are of a better quality.

There are not many remaining examples of timber palaces left today and every effort is made to preserve as many of them as possible. A list of remaining examples of traditional Malay palaces is provided in Appendix C.

Istana Jahar in Kota Bharu, Kelantan, is one of the oldest traditional Malay palaces to have survived. The original layout of the palace has been preserved by the Kelantan State government. It was built in 1885 during the reign of Sultan Ahmad I and its original name was `Istana Raja Bendahara'.[52] The front section of the palace (Balai Tarik), which was originally located in a trivial and mountainous area, was hauled to the present site by elephants.

The first owner of the palace was Raja Bendahara[53]. After his death, the palace was handed over to Tengku Long Mansur who ruled Kelantan between 1890-1899. Sultan Mohd IV, who became the third owner, handed it over to Tengku Ismail and subsequently to his niece, Tengku Yahya Petra. The fifth owner of the palace was Tengku Yahya Petra's daughter (Tengku Salwani) who married Raja Azlan Shah[54]. The palace is presently used as the Kelantan State Museum and is located adjacent to Istana Balai Besar.

The original structure of the palace consists of four parallel units, oriented in an east-west direction. The

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[52] The name was changed to Istana Jahar following an occasion when a log of 'Jahar' tree was brought into the palace compound by overflowing flood water which occurred during the big flood in 1908.

[53] Raja Bendahara was the son of Sultan Ahmad I. His actual name was Tengku Long Kundur.

[54] WAN MUSTAFA, WAN NOR ARJUNA BIN, *Kajian Ragam Corak Terhadap Lima Buah Istana Lama Di Kelantan dan Terengganu, Semenanjung Malaysia*, Skudai; University Teknologi Malaysia (unpublished), Sessi 1989/1990, pp. 30-31.

first section is *Balai Tarik*, followed by *Balai Lintang*, *Peranjungan Istana* and Kitchen (Fig. 2.24). Since the flood in 1908, many alterations have been made to the structural layout of the palace.

The latest addition to the palace, which was a double-storey brick structure, was built at the side of the original palace facing south. The lower floor consists of *Dewan Sambutan* (reception hall) and *Balai Penghadapan* (audience hall) and the upper floor consists of *Bilik Hamba Seraya* (servant's room), *Bilik Istirehat* (living room), *Bilik Pakaian* (changing room), *Surau* (praying room) and *Anjung Istana* (balcony). (see Fig. 2.25 and 2. 26)

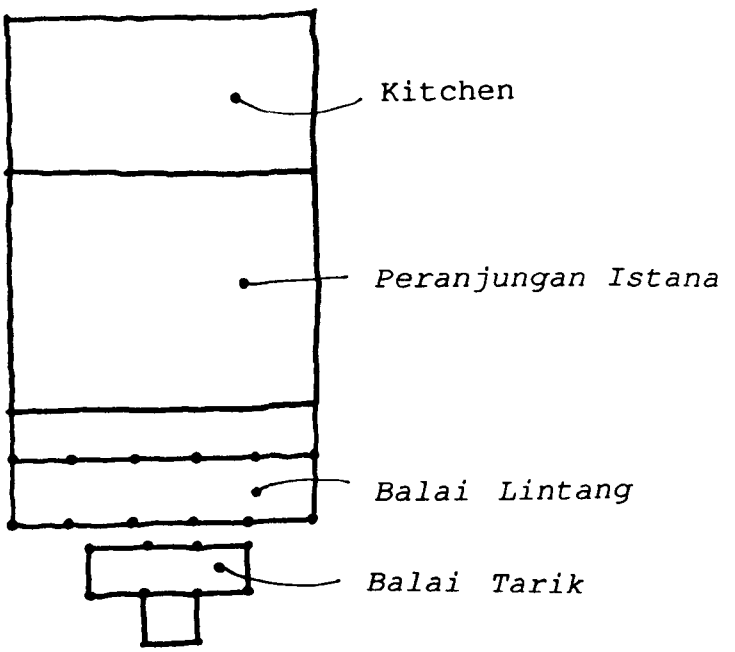

Figure 2.24: *The original floor plan of Istana Jahar, Kota Bharu, Kelantan (1885).*[55]

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[55] Illustration reproduced from WAN MUSTAFA, WAN NOR ARJUNA BIN, page 35.

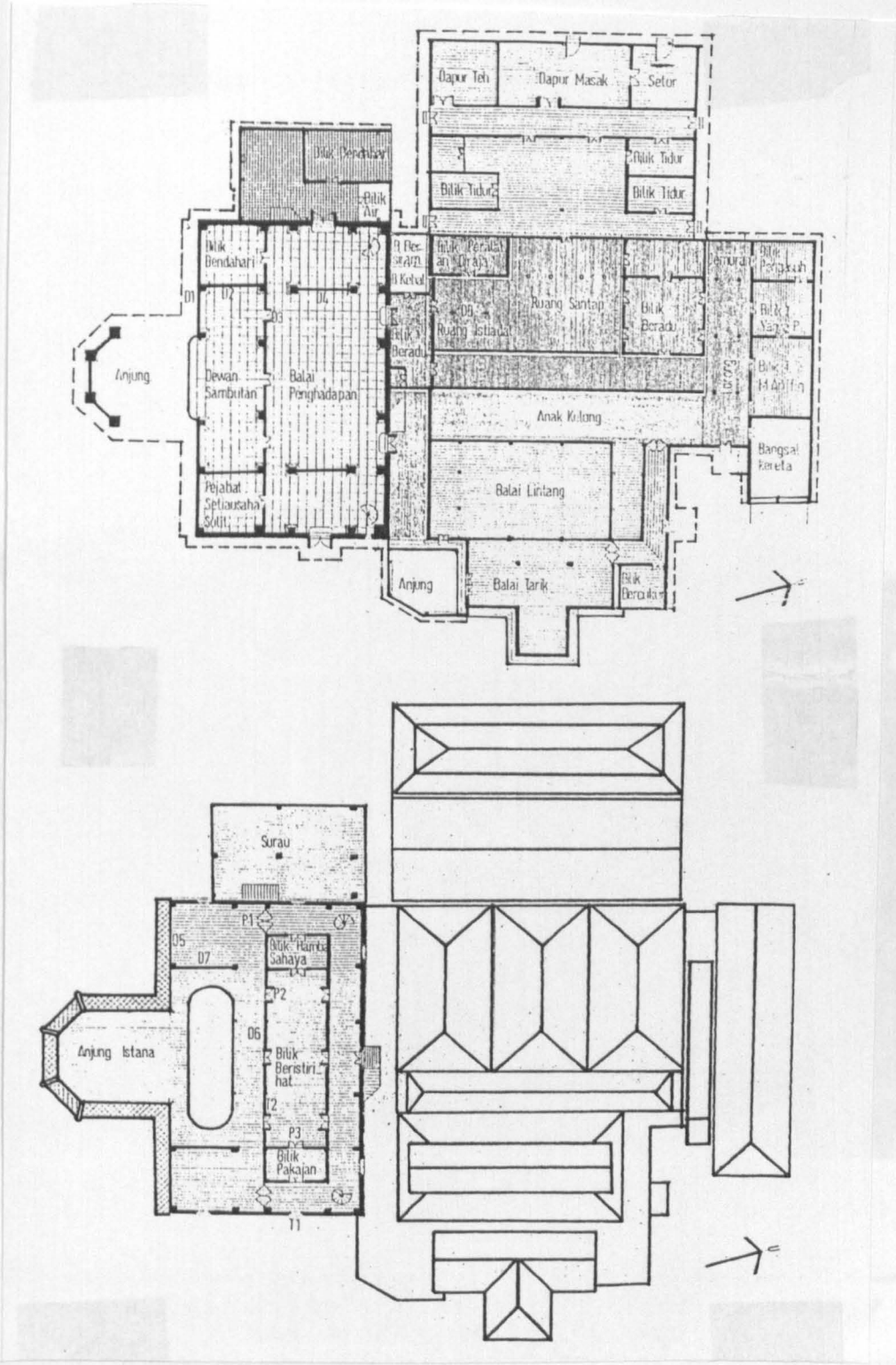

Figure 2.25: *Floor plans of Istana Jahar after alterations.*[56]

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56 Illustration reproduced from WAN MUSTAFA, WAN NOR ARJUNA BIN, pp. 38-39.

Figure 2.26: *Front view of Istana Jahar (presently the Kelantan State Museum).*

2.2.3 TRADITIONAL MALAY TIMBER MOSQUES

The mosque is essentially an Islamic place of worship. For the Muslims, it is considered as the *House of God*. Usually a mosque is built in every large Malay village and town. In the case of a capital town or city, several mosques are usually built around every part of the town, with one being recognised as the central and the largest mosque.

There is usually no limit to the maximum size of a mosque although the minimum size should accommodate at least forty people. If it is smaller than this, it is not entitled to be called a mosque. This is the basic requirement for Muslims to perform their Friday prayers. There should be at least forty permanent local residents[57] who will form a forum for the Friday prayers.

The traditional Malay timber mosques are the third most important building type in the series. There are even fewer existing examples left to be seen. The best examples of traditional Malay mosques are located in the state of Kelantan and Malacca. Both have similar building forms and layouts. Their plans are almost square and the roofs are constructed in a pyramid shape with several layers. It is believed that this is partly because the whole structure of the buildings (only the roofs for the Malaccan mosques) was

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[57] Without the forty permanent local residents, a Friday prayer cannot be held and the people will carry out normal prayers instead (either at the mosque or at home).

constructed in timber and by implementing square plan and a pyramidal roof form, the large mosque could be easily constructed. Thus, the early Malay builders must have understood about the nature and the flexibility of the materials they used.

The primary space of a mosque is the large covered hall, or *dewan,* wherein the faithful will congregate, sitting on the floor in parallel lines facing the direction of *kiblat,* or prayer towards Mecca. This hall, for the purpose of directional clarity and for unobstructed views of the pulpit and front wall, has traditionally been axial and symmetrical (or square) in form. This space may be column-free if this is structurally possible, otherwise columns may be used to further define the rows. Despite the absence of any ritual requirement on the layout of the building, the plan of the central hall is never eccentric or asymmetrical, which results in the massing of the building being typically symmetrical[58] (see Fig. 2.27).

Entrance to this space is usually from the opposite end to the direction of *kiblat,* but entrance may also be from the sides. Entrance may under no circumstance be from the direction of *kiblat*. Entrances to the central hall must

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58 See HASHIM, DAVID MIZAM, "Typology and the Evolution of the Malaysian Mosque", *Majallah Akitek,* Vol. 2, No. 6, Nov./Dec. 1990, pp. 70-82 and LIEW SOOK FOON, "Discovering The Malaysian Mosque", *South-east Asia Building Materials and Equipment,* March 1987, pp. 43-50.

first pass through a threshold[59], where footwear are deposited to ensure the physical and symbolic cleanliness of the prayer area.

In the centre of the *kiblat* wall there must be a *mihrab*[60], which is usually a recessed niche. The *mihrab* serves to identify or emphasize the direction of *kiblat*. The *mimbar*[61] or pulpit is another essential element of the mosque (see Fig. 2.28). It is located either immediately in front of the kiblat wall, although not necessarily in the centre, or within the *mihrab*, if it is large enough to accommodate the *mimbar*.

The minaret, although a common feature on many mosques, is not a functional necessity of ritual. Derived out of the practical need to call prayers, this architectural feature if used, may even be multiplied for stylistic reasons. In traditional Malay mosques, minarets were designed to accommodate the caller. In the case of a mosque without a minaret, a large drum is used as means of calling people

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[59] This threshold may take the form of a covered porch, stairway or lobby.

[60] *Mihrab* is an area where the head of mosque usually stands to lead the prayers. Often the space projects out and forms a small extension to the original building. This extra space at the front of the mosque also phychologically indicates the importance of the leader.

[61] *Mimbar* is a place where sermons are read by the head of mosque before commencing Friday prayers. It may be a two-storey structure, if the size of the central hall warrants it. In a modest mosque, it may take the form of a simple raised dias, like a piece of furniture. In many examples, the *mimbar* is an elaborately decorated timber structure.

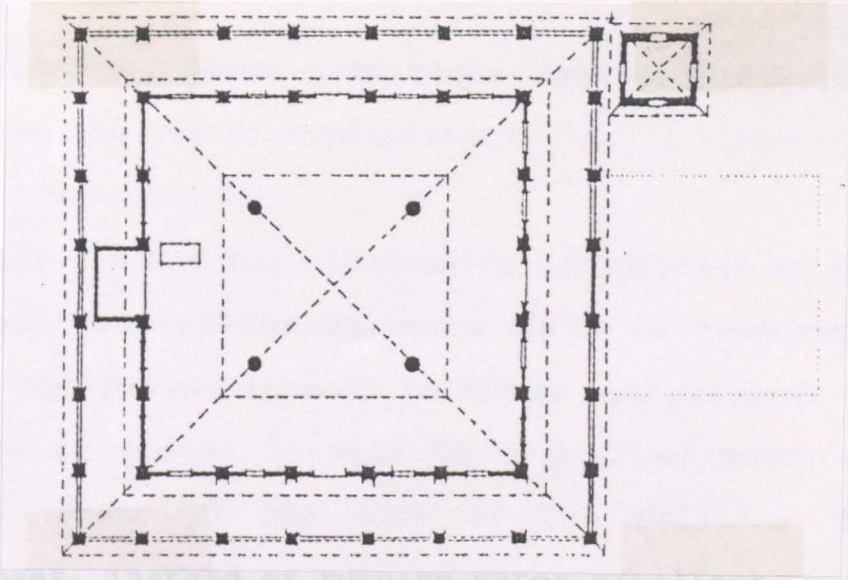

Figure 2.27: *The symmetrical planning of Masjid Paloh, Ipoh, Perak.*[62]

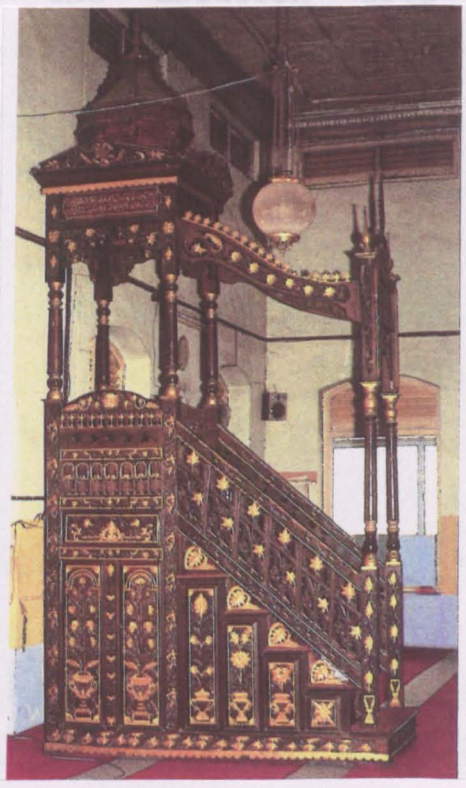

Figure 2.28: *A typical design of a 'mimbar' (pulpit) which can be found in most Malaysian mosques.*[63]

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62 Illustration reporduced from HASHIM, DAVID MIZAM, *op. cit.*, page 70.

63 Illustration reproduced from NASIR, ABDUL HALIM, *Traditional Malay Wood Carving, op. cit.*, page 27.

for prayers. However, these traditions have progressively been replaced by the use of loudspeakers.

There is usually a place for cleaning up (ablutions) at the front or at the side of the building which is frequently used by every Muslim who intends to carry out prayers. In the older type of mosque, a well or a pool of water is placed at the front or the side of the building for ablution purposes, instead of running water pipelines.

The location of the ablution area may under no circumstances be located behind the *kiblat* wall. This is an important ritual necessity as the waste water from this area is symbolically unclean and cannot interrupt the direction of *kiblat*. Bathrooms are also found adjacent to the ablution's area. Separation of men and women in this area, like the rest of the mosque, is compulsory.

2.2.4 THE 'SURAU'

The *surau* is simply a small mosque designed for daily prayers. Friday prayers cannot be held here because the size of the building is relatively small, compared to a mosque, and it is not possible to hold a large congregation. It is only just about the size of a Malay house. The design and layout of a *surau* follows exactly the standard design of a mosque. *Surau* buildings are also orientated facing *kiblat* (the direction of Mecca). Each building usually consists of the usual features of a mosque

like a *mihrab*, a prayer hall[64] (an area where all the Muslims congregate to perform their prayers), an ablutions area, bathrooms and toilets.

Besides being a place for performing daily prayers, the *surau* is also used by the village community as a place to pursue other religious related activities, such as teaching the *Koran*, Islamic lectures, discussions, meetings and wedding ceremonies. This building type is still widely used in both urban and rural areas throughout the Malay peninsula.

2.2.5 THE 'MADRASAH'

A *madrasah* is an Islamic centre for Malay children to learn the *Koran* and Malay language using Arabic alphabets. It is also a venue for daily prayers and for women's activities. The place is sometimes a purpose built building (to cater for the Islamic needs of a Malay community in an area) but sometimes it is part of a religious man's house which is converted into a *madrasah*.

The best example of a *madrasah* building combined with a house is the *madrasah* and residence of Tok Janggut in Langgar, Alor Setar, Kedah (see Fig. 2.29 - 2.32). Tok Janggut was the nickname for Haji Ahmad bin Haji Yassin, a famous Islamic teacher in Kedah. The *madrasah* was completed

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[64] The hall of a surau is comparatively smaller than the hall of a mosque. There is usually a partition, or a curtain hung over one section of the hall, to separate the men's and women's praying areas.

in the 1870's and functions as a prayer hall and accommodates daily religious classes. The home of Tok Janggut was built ten years earlier before being removed to the present site in the 1920's. The high quality of craftmanship and building made it possible to move the building by dismantling the various constructional elements.

The erection and completion of this group of buildings was influenced by religious factors and went through certain constructional rituals as part of the customary laws and culture. The *madrasah* being a prayer place is oriented towards Mecca and was subjected to a high degree of cleanliness. The prayer hall and the *mihrab* is on the first level, the *serambi* or verandah is six inches lower while the *pelantar* or platform is a foot lower than the *serambi* floor.

The house is connected to the *madrasah* by the *pelantar*. This close proximity reflects the duties of Tok Janggut as a caretaker and the religious teacher at the *madrasah*. The heirarchy of spaces in the house reflects the distinct separation of male and female visitors to the house. The *serambi* is used to receive the male visitors and the *rumah ibu* is used to receive the female visitors. Within the *rumah ibu* is a bedroom for the owner of the house. The large spaces of the *rumah ibu* and *rumah dapur* accommodates

the regular `*kenduri*' or formal function that caters for a large group of people.[65]

Nowadays, this building type is not very common because there are so many new Islamic and non-Islamic schools in the country which have been established by the government. These new establishments have indirectly caused the old *madrasah* building type not to be very popular. Only in some remote rural areas, where communication is difficult, does the older type of *madrasah* still exist.

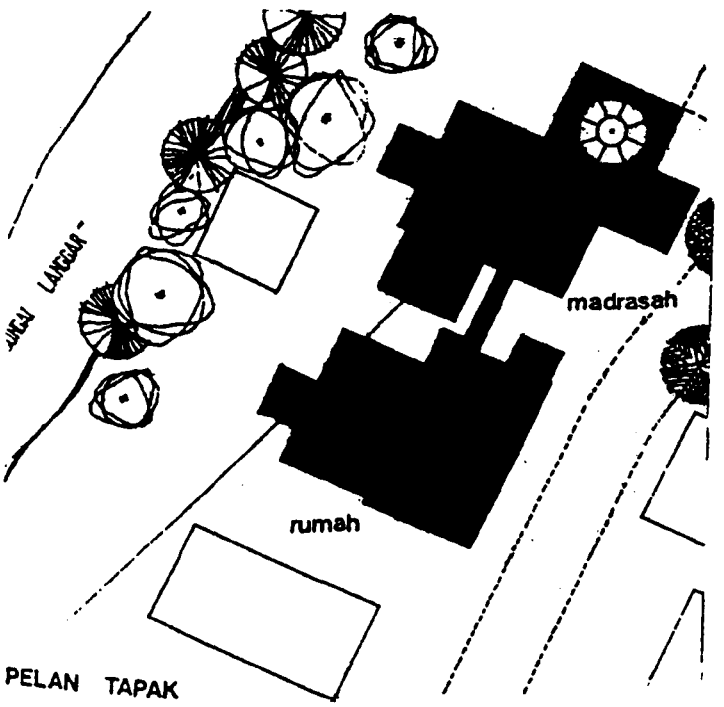

Figure 2.29: *Site plan of 'Madrasah Tok Janggut'.*[66]

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[65] ABDUL MANAF, SITI AMINAH HAJI and others, "Madrasah Dan Rumah Tok Janggut", *Majallah Akitek,* No. 1, 1981, page 57.

[66] Illustration reproduced from ABDUL MANAF, SITI AMINAH HAJI, *op. cit.*, page 57

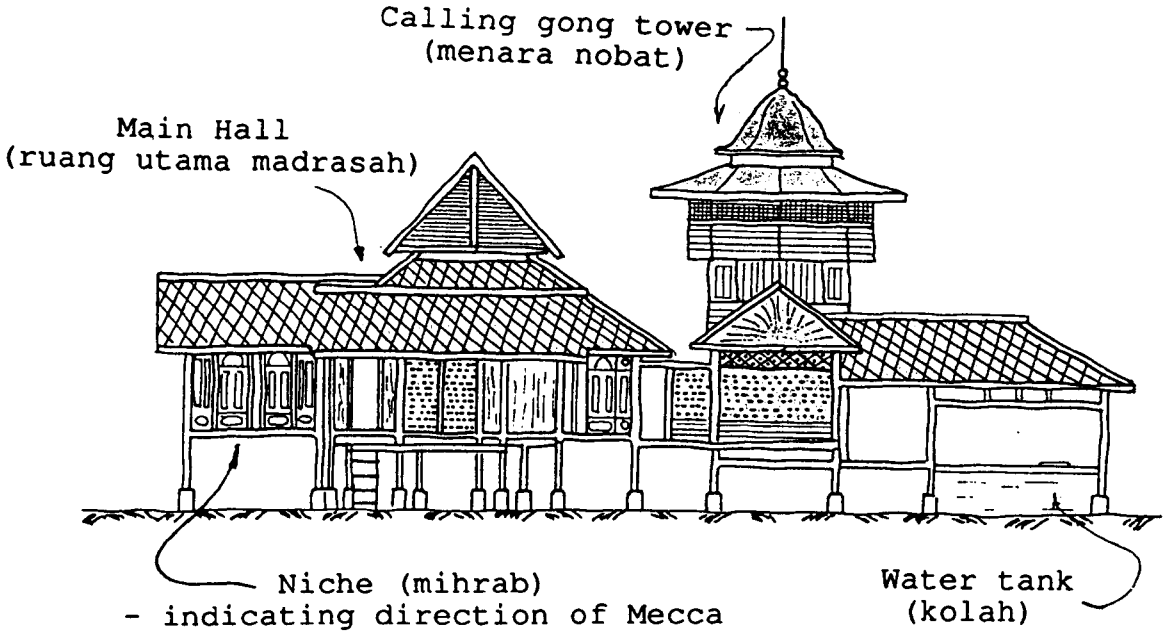

Figure 2.30: *The 'madrasah' and prayer hall of Haji Ahmad (Tok Janggut) at Kampung Makam Langgar in Alor Setar, Kedah.*[67]

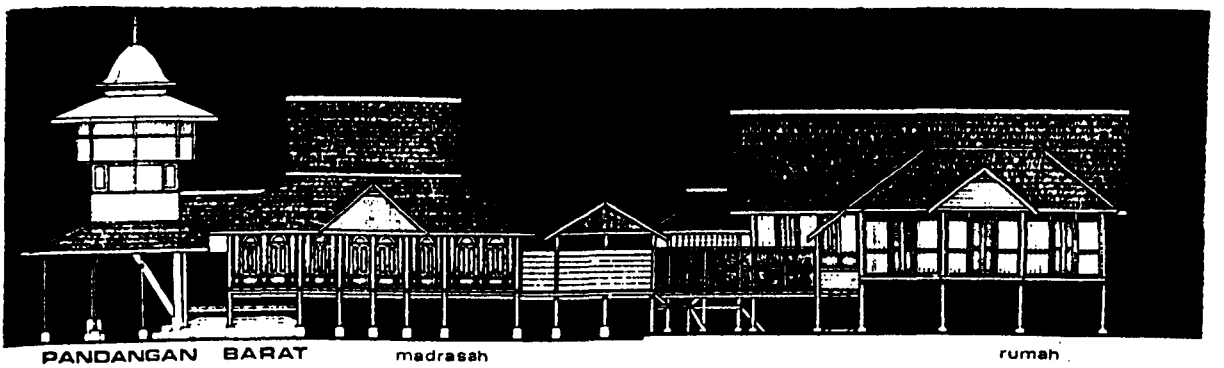

Figure 2.31: *West elevation of the 'madrasah' showing the linkage between the 'madrasah' and Tok Janggut's house.*[68]

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[67] Illustration reproduced from VLATSEAS, S., *op. cit.*, page 23.

[68] Illustration reproduced from ABDUL MANAF, SITI AMINAH HAJI, *op. cit.*, page 57.

Figure 2.32: *The small tower of 'Madrasah Tok Janggut'.*[69]

2.2.6 THE 'WAKAF'

A *wakaf* is an open shelter made for local inhabitants (mainly men) to gather in the afternoon to socialize, rest or to play checkers. They were popular in the *kampungs* and in the traditional ways of life but now (due to the new concept of living), they are not used much any more. This building type has been neglected and many of the remaining examples are left unattended and will deteriorate in time (see Fig. 2.33 and 2.34). Only one or two original versions remain. Although there are many new examples of *wakaf* being built as temporary shelters in parks and recreation centres, the real concept of *wakaf* has changed and the building no longer serves its original purpose.

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[69] Illustration reproduced from NASIR, ABDUL HALIM, *Traditional Malay Wood Carving, op. cit.*, page 24.

Figure 2.33: *A 'wakaf' in Kelantan. This 'wakaf' is located in the compound of Kelantan State Museum (formerly Istana Jahar).*

Figure 2.34: *An old 'wakaf' in Jalan Panji Alam, Kuala Terengganu which is now not used or maintained.*

2.3 BUILDING FORM AND ITS DEVELOPMENT

In studying the development of traditional Malay buildings, it is important first to discover the traditional concepts of a Malay village, or township, which will give a deeper sense of understanding and appreciation towards the Malay concepts of space in the context of a village structure.

2.3.1 DEFINITION OF 'KAMPUNG'

The Malay word *kampung* was first described in the Law of Malacca as a compound of a wealthy person. Used loosely today, *kampung* refers to a village settlement. The development of *kampungs* sometimes extends towards the fringes of other *kampungs* and it is difficult to determine their limits or perimeters[70]. A common method of identifying the extent of a *kampung* is by using the distance up to where Muslim prayer calls can be heard. This is not a very precise method of setting up the boundary, due to the fact that sound can vary with wind direction!

In old terms, the word *kampung* has come to bear two meanings: one, it is used for a collection of houses or two, it may used to denote a single house and its compound[71]. Another old definition of a *kampung* is the

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[70] Until modern times, there was no territorial division for a *kampung*. The smallest administrative unit in the Malaysian political hierarchy is the mukim, roughly the equivalent of the English parish, which forms part of a district. The districts in turn are grouped to form the states. Usually, every mukim consists of a few kampungs which vary in size and distance (subject to the population).

[71] RAJA AHMAD SHAH, R. B. S., *op. cit.*, unnumbered page.

relationship of its inhabitants to a mosque. The mosque becomes a central identifying physical feature and the *kampung* area radiates from the mosque in various directions.

It has also been observed that the old Malay perception of the geographical and political boundaries of *kampungs*, towns and cities is similar to Indonesian predecessors. In the empire of *Majapahit*[72] for instance, the territory of a *kampung* was concerted as radiating in three concentric circles, namely the core regions, the neighbouring regions and the coastal provinces, with the *Kraton*[73] of the prince at the centre[74].

The old Malay spatial perception is focussed on the centre; in other words the centre of spatial attention is on the central institutions like the palace and mosque. The surrounding area was defined as a *kampung* (village), even if it happened to be part of a large town or city. In this context, it is apparent that *kampung* is not a residential ground or a compound as described in the Law of Malacca. The definition of *kampung* as a group of houses in an area is theoretically a more appropriate and acceptable description. This definition is in fact evident in the present *kampungs* which do constitute a collective of

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[72] The empire of *Majapahit* was a Malay Kingdom based in Java, Indonesia. (see Section 1.2.2)

[73] *Kraton* is an Indonesian term for the Sultan's palace.

[74] RAJA AHMAD SHAH, R. B. S., *op. cit.*, unnumbered page.

houses. The same arrangement also applies to all old and new Malay villages throughout the Malay peninsula.

2.3.2 THE STRUCTURE OF A MALAY KAMPUNG

In a Malay village, there is no main street, plaza or main square. There is only an arbitrary system of winding footpaths leading from one house to another. The footpath often varied in width, being wider at a certain points and narrow at others. Every village usually consists of several clusters of houses which are linked together by these minor footpaths. There are about three to five houses and sometimes more houses in a cluster. Trees and shrubs are planted in an aesthetic manner to express the spatial boundaries between each house in a cluster and also to distinguish one cluster from another[75].

Although the village itself does not have a clear pattern, the traditional Malay houses are built according to a clear pattern and order. Almost all of the Malay houses have the general components of a verandah at the front house of the house, a main house containing activity and sleeping areas and the kitchen at the back of the house.

There are no rules as how these houses ought to relate to each other. However, there appears to be a tendency to keep them apart as far as possible and in such a way that views

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[75] See NOONE, R. O., "Notes on the Kampong, Compound and Houses of the Petani Village", *Journal of Malayan Branch Royal Asiatic Society,* Vol. XXI, Part 1, 1948, page 126.

are not obscured. The scattered arrangement of houses appears to have worked successfully in providing ample light and ventilation to each house.

Around a traditional Malay building there is generally no fence to mark the compound or garden. Sometimes the boundary is marked by a row of plants (fruit trees or coconut palms). Whether there is a fence or not will also depend on the rank or status of the owner of the building, his affluence and the nature of his work. Fences, in ancient times, were found mainly around the houses of chiefs.

2.3.3 TYPES OF BUILDING FORM AND REGIONAL VARIATIONS

The building form of the indigenous Malay architecture varies from state to state. Traditional Malay buildings were mostly dominated by the design of the roofs which generally indicates the building's influence and tradition. The roof is the most distinguishable feature in traditional Malay buildings and there are many regional variations. The plans of the buildings normally do not differ so much because most of them utilise the same rectangular shape. The rectangular form of Malay buildings is due to the use of timber construction which is simple to erect and entirely appropriate for domestic activities[76]. Several Malay states in the peninsula have distinguished roof forms

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76 ENDUT, ESMAWEE HAJI, *Search for Identity: A Survey of Malaysian Architectural Forms and Style,* A dissertation presented at Brighton Polytechnic (unpublished), 1989, page 13.

while others were influenced by neighbouring states. Some states also share similar roof forms, due to the fact that they were exposed to the same architectural influences. In order to look closely at each of the various types of roof forms, it is important to identify the main roof types. Basically, traditional Malay roofs can be classified under three broad categories (Fig. 2.35). Each category has a number of variations which can be listed as follows:-

[1]

'Bumbung Panjang' (Gabled roof)

Typical in Malacca and Terengganu

(A)
Rumah Tiang Enam
- *Rumah Bujang*
- *Rumah Bujang Selasar*

(B)
Rumah Tiang Dua Belas
- *Rumah Serambi*

[2]

'Bumbung Limas' (Roof with four sloping sides)

(A)
Atap Meru
(Pyramid roof)

(B)
Limas Perabung Lima
(Hip-gabled roof)

(C)
Limas Bungkus
(Hipped roof)

Limas Potong Belanda
(Terengganu version)

Limas Potong
(Perak version)

Perak Limas Bugis
(Johore version)

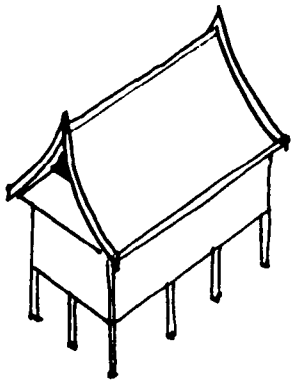
[3]

'Bumbung Minangkabau' (High gable-end roof)

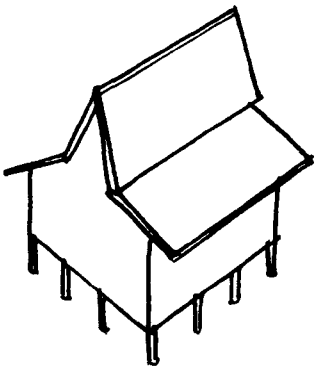
Typical in Negeri Sembilan

(A)
Single *Minangkabau* roof

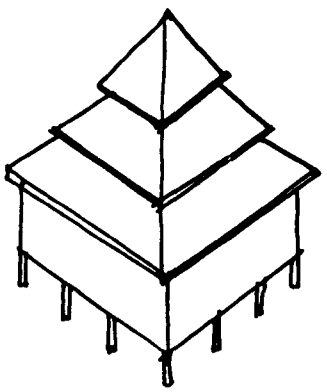
(B)
Minangkabau roof with attic



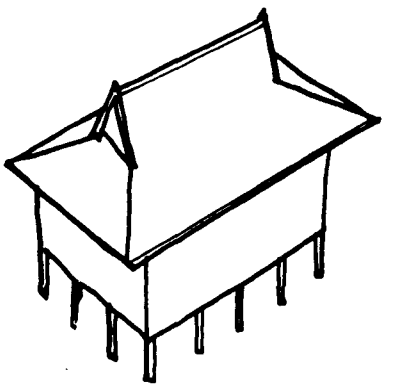
i. *Bumbung Panjang - Rumah Tiang Enam* (Terengganu version)



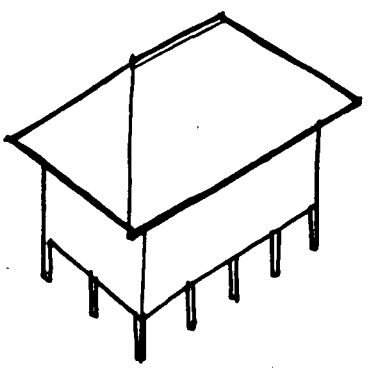
ii. *Bumbung Panjang - Rumah Serambi* (Malacca version)



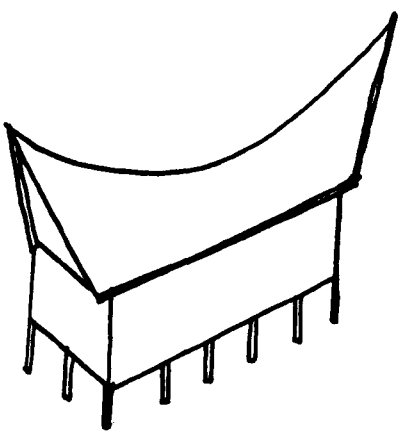
iii. *Bumbung Limas (Atap Meru)*



iv. *Bumbung Limas Perabung Lima*



v. *Bumbung Limas Bungkus*



vi. *Bumbung Minangkabau*

Figure 2.35: *Variations of traditional Malay roof forms.*

i. 'Bumbung Panjang' (Gabled roof)

Bumbung Panjang is the most common and oldest roof type. It is characterised by a long gable roof. Almost all of the oldest examples of Malay building utilised this type of roof form, many of them being over one hundred years old and still in fairly good condition. Malay houses with *Bumbung Panjang* can be found all over Peninsular Malaysia although specific versions of this type can only be located in specific regions. Besides being the most traditional, the *Bumbung Panjang* is also the most highly developed, with a sophisticated building and extension system[77].

The best examples of building with *Bumbung Panjang* can be seen in the east coast region (notably in Terengganu and Kelantan) and in the state of Malacca. This type of roof form is used in some of the older traditional Malay houses and palaces. In the traditional house, the roof is normally a simple gable roof structure supported by kingposts. The most common roofing material used for the *Bumbung Panjang* is *atap*[78]. The roof adopted in traditional palaces is an elaborated version of that used in houses, but with bigger rafters and beams and many intermediate timber supports. On

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[77] ENDUT, ESMAWEE HAJI, *Search for Identity*, page 15.

[78] *Atap* is palm-leaf thatch, using fronds from *nipah*, *rumbia* (sago) or *bertam* plants. *Nipah* is abundant near coastal waters, *rumbia* grows further inland and *bertam* can be found in hilly areas. The thatch is usually sewn together onto a wooden spine and each piece of *atap* is about twelve inches wide and seven feet long. See SUDIN, PARID WARDI, "Traditional Malay Houses of Peninsular Malaysia", *UIA International Architect*, Issue 6, 1984, page 34.

these palaces, *Senggora*[79] clay tiles are used instead of *atap* (Fig. 2.36).

In the state of Terengganu, there are two principle variants of traditional Malay houses with *Bumbung Panjang*. The smaller of the two is called *Rumah Bujang* and is of the *Rumah Tiang Enam* type, a house with six supporting posts. The bigger of the two is a broader and more elaborate house type and is known as *Rumah Tiang Dua Belas* (house with twelve supporting posts) or *Rumah Serambi* (the verandah house).

Both variants often have additional structures built at a lower level on one or both of the long sides, or sometimes at the end. If this additional structure is roofed and is extended for the full length of the house, it is called a *selasar*. A *Rumah Bujang* with a *selasar* added to the side is called '*Rumah Bujang Selasar*'. This distinguishes it from the simple basic type of *Rumah Bujang*.

There is usually an additional structure attached to the *selasar* which can be in the form of a covered balcony or an open platform. This additional structure is usually used as the main entrance to the house with a short flight of stairs connecting the elevated floor to ground level. If this additional structure is an unroofed platform, it is

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[79] *Senggora* is a clay tile imported from south of Thailand. It was popular on the east coast and is normally used in palaces and houses of noble people. It is comparatively more expensive than *atap*.

called *Lambor* and if it is a covered balcony, it is called *Anjong* (Fig. 2.37).

The principal difference between *Rumah Bujang* and the bigger *Rumah Tiang Bua Belas* is the number of supporting posts underneath the house which normally consist of *Tiang* and *Tongkat*. The main supporting posts which holds up the roof structure are called *Tiang*, while the smaller intermediate supports are called *Tongkat*. In calculating the number of posts in determining the house type or size, the *Tongkat* are not counted.

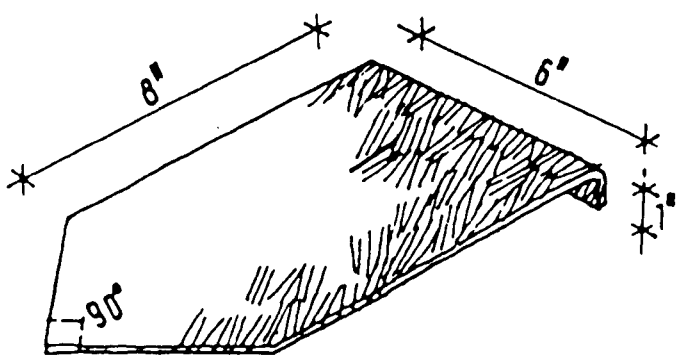

Figure 2.36: *The 'Senggora' clay tile - a typical roofing material for palaces and noble houses in the East coast region.*

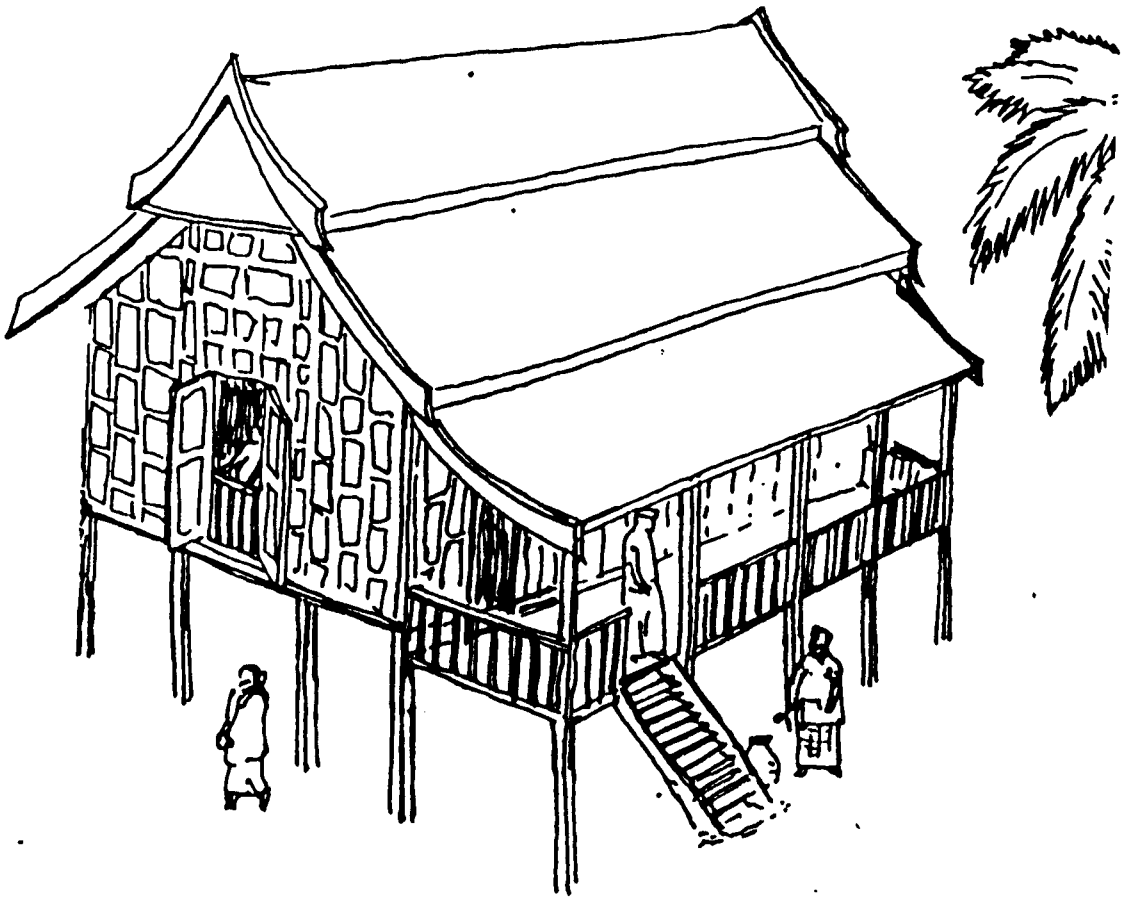

Figure 2.37: *'Rumah Bujang Selasar' of Terengganu is best described as the verandah house. It is similar to the Malaccan 'Bumbung Panjang' with 'Serambi'.*

ii. Bumbung Limas (Roof with four sloping sides)

Bumbung Limas is a general term used to describe buildings with roofs that slope on every side. This include buildings with a pyramid roof, hip-gabled roof and hipped roof. They are known locally as *Atap Meru, Limas Perabung Lima* and *Limas Bungkus* respectively.

iii. `Atap Meru' (Pyramid Roof)

Atap Meru is a symmetrical three-tiered roof and is considered to be an indigenous roof type although its origin is believed to be from the islands of Sumatra and Java of Indonesia. It is also known locally as *Bumbung Bertangkup*.[80] It is not a very popular roof type because Malay people seldom used this type of roof to construct their homes. This is why there are not many existing examples of this roof to be found anywhere in the Malay peninsula.

Existing examples of buildings with *Atap Meru* can be found in traditional mosques, *wakafs* and mausoleums in Malacca and in the East coast region (Fig. 2.38 and 2.39). This roof which is square in plan, influenced the geometry of the central space below, transforming it into a square plan by the structural necessity of its column locations.

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[80] HASHIM, DAVID MIZAN, *op. cit.*, page 77.

Figure 2.38: *'Atap Meru' of Masjid Kampung Keling in Malacca (1728).*[81]

Figure 2.39: *'Atap Meru' of a mausoleum in Ladang, Kuala Terengganu.*

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81 Illustration reproduced from NASIR, ABDUL HALIM, *Traditional Malay Wood Carving, op. cit.*, page 37.

iv. 'Limas Perabung Lima' (Hip-Gabled Roof)

Limas Perabung Lima is a general term used to describe buildings with hip-gabled roof. The words *Limas Perabung Lima* mean 'roof with five ridges'. The name is derived from the shape and construction of the roof, *Perabung* being the ridge covering of a roof.[82] On the sides of the gables, there are usually two layers of roofs, sloping inwards and upwards from the top of the wall, one above the other. The covering of these gables is rhomboid in shape and is not triangular as would be expected, because there is always a triangular space left above, which may be protected by a separate shield of *atap*. The upper roof is practically smaller than the lower roof as its two ridges would eventually meet centrally above. It will be seen now that on such a roof there are five ridges where the *atap* meets - one running the length of the top of the roof, and two sloping downwards and outward just below either end of the central ridge.[83]

Limas Perabung Lima is generally used to cover the main body of the house. Other additional roof structures may be made either by using similar but smaller form or simply using a less complicated roofing method. In Terengganu, buildings with this type of roof form are known as *Limas Potong Belanda* (Fig. 2.40). In other Malay states, this roof type has different names, such as *Limas Potong Perak,*

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82 See NOONE, R. O., *op. cit.*, page 128-130.

83 NOONE, R. O., page page 128-130.

Limas Bugis and *Limas Riau*. *Limas Potong Perak* is popular in the state of Perak and both *Limas Bugis* and *Limas Riau* are most common in Johore.

Figure 2.40: *A typical example of a house with 'Limas Potong Belanda' roof in Terengganu.*

v. 'Limas Bungkus' (Hipped Roof)

Limas Bungkus is not an indigenous roof type and has become more popular on recent buildings. It may have been derived from European influences. Buildings with the *Limas Bungkus* roof are found throughout the Malay peninsula and the roof form has been adopted basically because it is easy to construct. The roof is usually designed without any openings to release heat accumulated within the roof space and has resulted in poor ventilation (see Fig. 2.41).

Figure 2.41: *An example of a house with 'Limas Bungkus' roof.*[84]

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[84] Illustration reproduced from LIM JEE YUAN, *op. cit.*, page 147.

vi. 'Bumbung Minangkabau' (High gable end roof)

Bumbung Minangkabau, whose origins can be traced to Sumatra is mainly popular in Negeri Sembilan. *Bumbung Minangkabau* is very similar to *Bumbung Panjang* except that the edge of the gable roof is stretched high up at both ends to form a curved and tilted roof shape.

There are two principal variations of buildings with *Bumbung Minangkabau* in Negeri Sembilan. One is the simple single Minangkabau roof and the other one is a Minangkabau roof with an attic which consists of two Minangkabau roofs one above the other. The upper roof is usually shorter in length but bigger in size than the lower roof (see Fig. 2.42 and 2.43).

Very low doors are found in buildings with Minangkabau roofs, especially in the palaces and houses of the headmen. It is believed that this is designed to create respect from visitors as one has to bow to enter the building.[85] There is usually no reception area in Minangkabau houses - entry is directly into the main house.[86]

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[85] LIM JEE YUAN, page 30.

[86] See SUDIN, PARID WARDI, *op. cit.*, page 35.

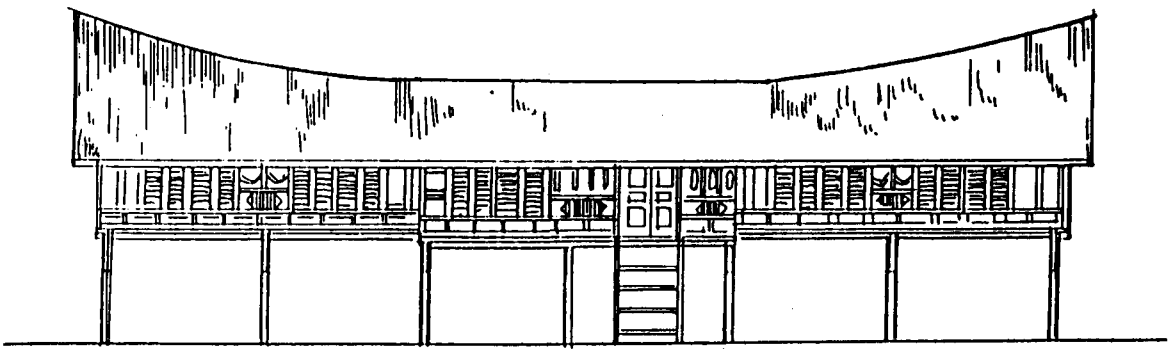

Figure 2.42: *A house with a single Minangkabau roof.*

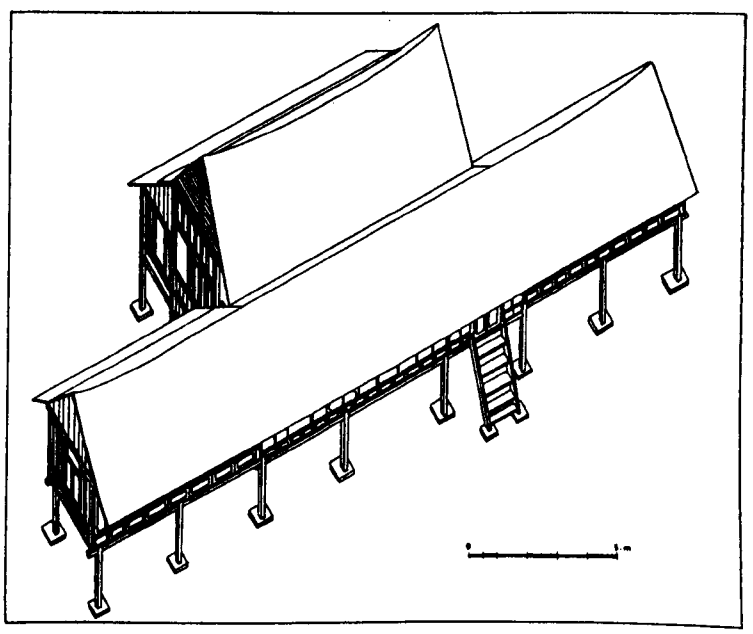

Figure 2.43: *A typical example of Minangkabau roof with attic.*

2.3.4 BUILDING COMPONENTS AND INTERIOR LAYOUT

The Main Components of a Traditional Malay House

The traditional Malay house has a very simple basic layout. It consists generally of three main areas:-

i. *Serambi*[87] - the reception area.
ii. *Rumah ibu* - the main part of the house used mainly for family living and sleeping.
iii. *Rumah dapur* - the kitchen area, also used for dining.

The three main areas are formed by slight floor level changes and positioning of doorways to separate the different areas. The *rumah ibu* has the highest floor level while the *serambi* and *dapur* floor levels are dropped slightly on both sides of the *rumah ibu* (see Fig. 2.44). This is symbolic of the importance of the *rumah ibu* which is considered sacred and contains the main family sleeping, living and praying areas. This innermost part of the house is a private area and is used only by members of the family. It is the heart of the house.

i. 'Serambi' - The Reception Area

This area is located on the front side of the house facing the public street or garden. Sometimes this *serambi* area consists of only a covered raised platform without any

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[87] The *serambi* is normally attached to the *rumah ibu*. In some houses, a smaller projection is attached to the *serambi* (where the entrance steps are located). This small reception area is known as *selasar* or *anjung*.

walls. This raised platform normally runs along the whole or part of the length of *rumah ibu* (Fig. 2.45).

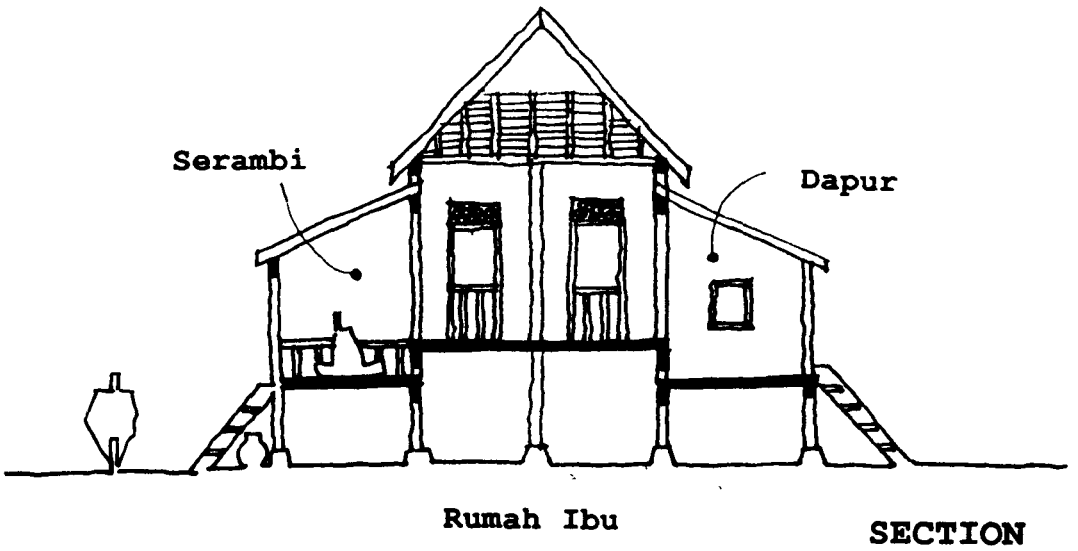

Figure 2.44: *A section showing the level differences between 'rumah ibu' and its adjacent spaces.*

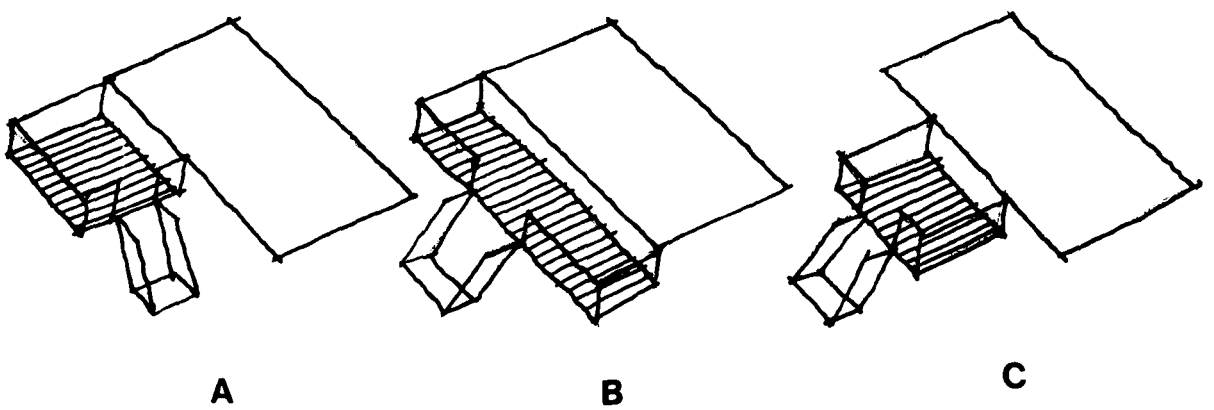

Figure 2.45: *The alternative positions of 'serambi' in a Malay house.*

In most houses the *serambi* is located at the centre, but in some houses it is positioned just on one side of the front section of *rumah ibu*. Its floor is always lower than that of *rumah ibu*. The open *serambi* may serve like a large verandah in front of the house and is used as an open reception and activity area.

Male visitors are normally received in this *serambi* area but females are often entertained in the *rumah dapur*. If the visitors are family relatives or very close family friends they are sometimes entertained by the female hostess in the *rumah ibu*, while the men remain in the front *serambi*. Normally, for the ordinary visitor, the *serambi* is the only part of the house that he or she sees. All the social and religious functions of village life take place in the *serambi* area. This include feasts, gatherings, meals and prayers in which non-family members take part. *Tikar*,[88] a type of straw mat, are spread on the floor for the guests to sit on and food is served during the functions. In houses which do not have a *serambi*, the *rumah ibu* is used, alternatively temporary shelters are built on the ground.

As mentioned earlier, sometimes the *serambi* is not walled. This provides a popular relaxing area for men in the early evening when the tropical air has cooled down. This area

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[88] *Tikar* is made from *Mengkuang* (a pandanus plant) leaves which is very popular in producing household implements. The leaves are carefully selected, dried, dyed into favourable colours and are woven together. All the works are done by hand. The finished product comes in many colours, patterns and sizes.

thus plays another important social role. It provides an interaction area between the household members lounging here and passers-by who stop for a chat or exchange greetings and news. The *serambi* is also used as a sleeping area for the younger unmarried men of the house and other male guests. During the daytime it is used for religious instructions for children and *Koran* reading lessons.

ii. 'Rumah Ibu' - The Main House

The *rumah ibu* is usually the largest area of the house and also has the highest floor level. This part of the house has an open space with hardly any partitions. It contains the main family *sleeping area,*[89] family living, praying and dining areas (Fig. 2.46).

One of the most noticable features of the *rumah ibu* is the absence of full height solid walls, separating or isolating the different activity areas.[90] Partitions are only used during night-time to separate the different sleeping areas for various members of the family. The partitions provide the family members with only a temporary period of privacy.

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[89] The sleeping areas are sometimes defined by a hanging cloth or removable partitions made of carved panels. Depending on the size, some *rumah ibu* may also have one or two permanent rooms built in them. The parents with babies and younger children usually sleep in one part of the *rumah ibu* or occupy one large room in the *rumah ibu*. The elder unmarried daughters and the married daughters, with their husbands, each have parts of the *rumah ibu* to themselves which are either screened off by a cloth hung across the room or are separated by partitions. Unmarried female guests sleep with the unmarried daughters of the hosts.

[90] RAJA AHMAD SHAH, R. B. S., *The Terengganu Timber Malay House,* Kuala Lumpur; Badan Warisan Malaysia, 1989, page 32.

Most of the time during the day, they spent their time together with very little privacy. This creates an intimate relationship among family members. For the Malay community at large, this intimate sensation generates a strong feeling of brotherhood and a sense of sharing among themselves in conducting any social activities and in helping each other getting through any difficulties.

The avoidance of partitions or walls in the rumah ibu was also related to comfort, since better through ventilation and cooling is generated when there are no partitions.

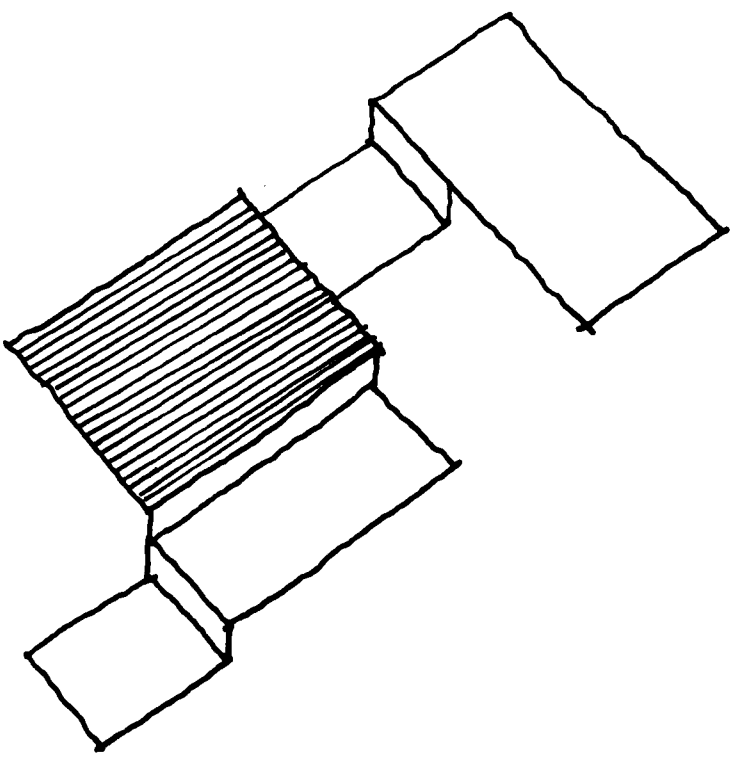

Figure 2.46: *'Rumah ibu' is the main activity area in a traditional Malay house.*

iii. 'Rumah Dapur' - The Kitchen House

The *rumah dapur* is usually located at the rear of the house on the opposite side to the *serambi*. The *rumah dapur* is the place where the female members of the household tend to congregate and spend most of their time cooking. It is easily approached by female visitors using the back entry (Fig. 2.47).

Every Malay house usually has at least two entrances, one at the front and the other at the rear. It is normal practice for female visitors to proceed straight to the rear entrance to seek their female counterparts without first going up to the front reception area. The husband or male visitors are received and entertained at the *serambi* area at the front. It is normal practice for the male and female members to socialize separately. Sometimes if a woman is a very close family friend or a relative, she is entertained in the *rumah ibu* area.

The *rumah dapur* is mainly the cooking area although sometimes part of it is set aside to be used as a dining area. The traditional cooking area is a simple arrangement consisting of a wood fire surrounded by a partially enclosed circle of large rocks on which a *kuali* (a wok) rests over the fire. Between the kitchen floor boards, there are usually small gaps which can allow waste food to be thrown away underneath the house. By doing so, the cleanliness of the kitchen floor can be maintained and domestic animals can also be fed.

A unique feature of the *rumah dapur* is the *para,* a timber grate cantilevered from the wall at waist height and supported by the rafters. This device is used for draining and drying the dishes. Plates, cooking utensils and left-over food are stored on the *para*.[91]

Since the *rumah dapur* is oriented towards the back of the house compound, it normally faces the washing or bathing area, where a well or river is found. It is not uncommon to find this well on the side, or even in the front compound, of the house. If no river runs nearby, clothes are washed at the wells. The well (or river) is also the source of drinking and cooking water. It could be a personal private bathing area or a shared one. The bathers wear a piece of *sarung* (cloth) around their body and bathe by pouring water from a *timba* (a hand water bucket). The abolutions before prayers are also done at the well.[92]

Other spaces commonly found in a traditional Malay house are *selang* and courtyard. The *selang* is a walkway which joins the *rumah ibu* and the kitchen. The rear entrance to the house is usually placed here. The *selang* is a favourite place for socializing (Fig. 2.48).

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[91] GIBBS, PHILIP, *Building a Malay House,* Singapore; Oxford University Press, 1987, page 30.

[92] RAJA AHMAD SHAH, R. B. S., *The Terengganu Timber Malay House, op. cit.*, pp. 33-34.

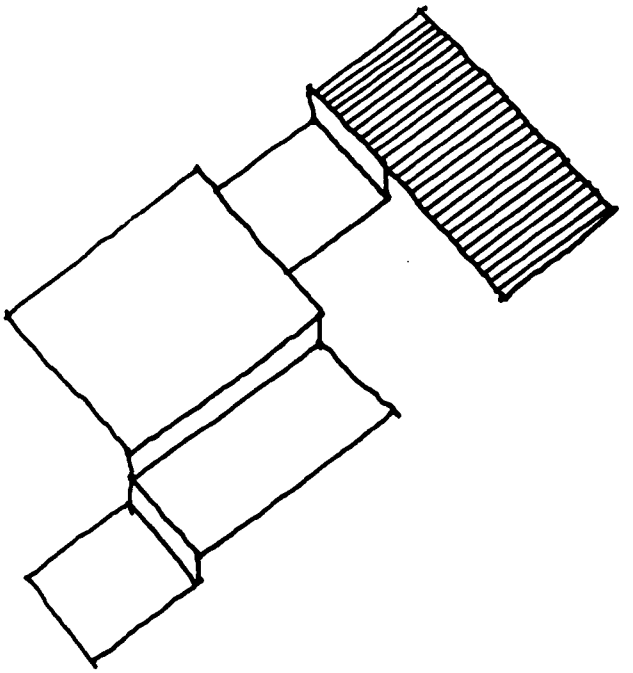

Figure 2.47: *The position of 'dapur' (kitchen) in a typical Malay house.*

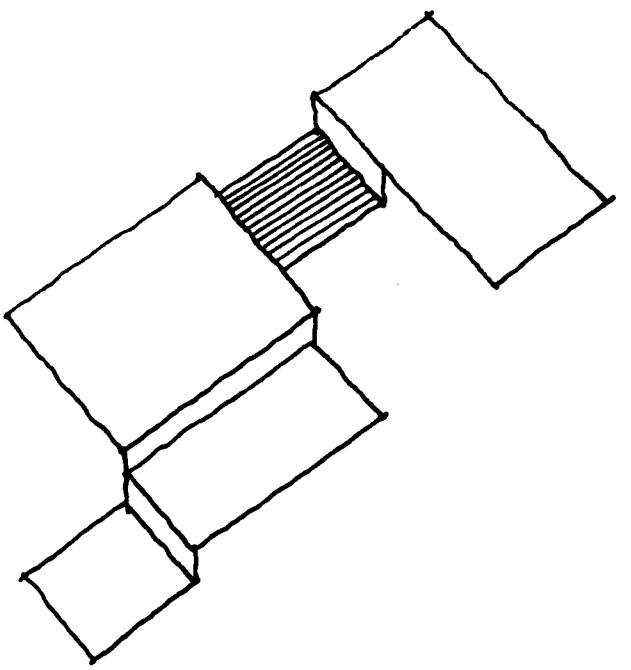

Figure 2.48: *The position of 'selang' in a traditional Malay house.*

The courtyard, which is only found in Malaccan houses, is an open interior space. It joins the main house and the kitchen. The floor of the courtyards are usually raised cement platforms. The washing and drying activities of the house are carried out here (Fig. 2.49).

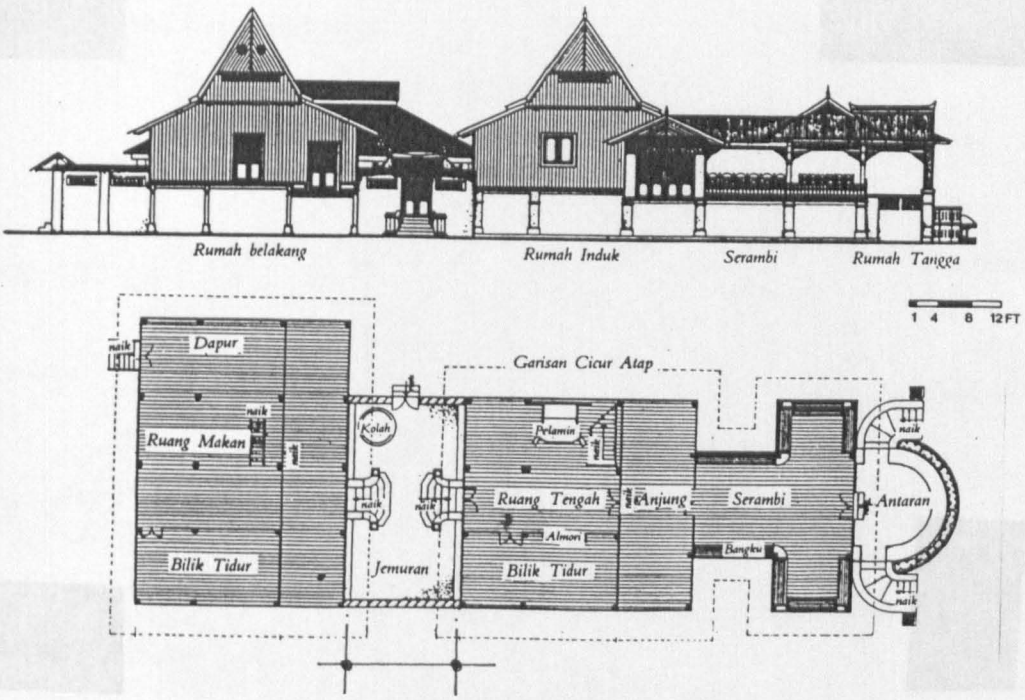

Figure 2.49: *The courtyard of a Malaccan house.*

The following illustration shows some common activities in a typical Malay house. Spaces in the Malay house are multi-functional. The use of space changes at different times of the day and year. There are minimal partitions or interior walls in the house, allowing for flexible use of space, good ventilation and good lighting of the interiors. Minimal furniture is used in the traditional Malay house as most activities are done on the floor (Fig. 2.50).

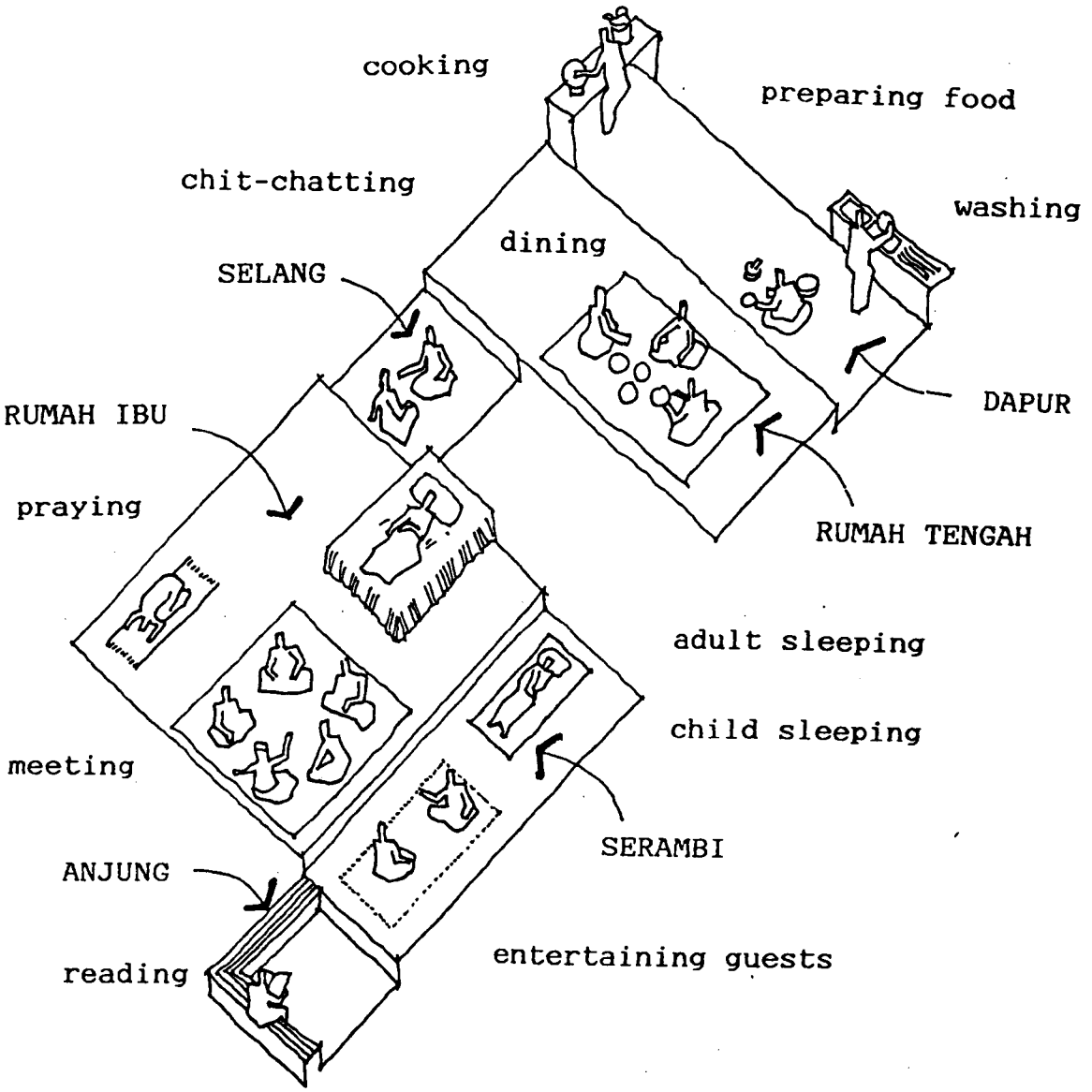

Figure 2.50: *The interior layout of a traditional Malay house.*[93]

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[93] Illustration reproduced from LIM JEE YUAN, *op. cit.*, page 36.

2.3.5 MATERIALS AND CONSTRUCTION SYSTEM

Hardwood timber is the most common material used in the construction of traditional Malay buildings. Timber is readily available and is usually acquired from the woods and forests surrounding the house or *kampung*. The quality hardwood timber types - namely *Cengal*,[94] *Merbau*[95] and *Meranti*[96] - are usually obtained from the nearest jungle. These special types of timber are used for the structure, floors and wall panelling of traditional Malay buildings. Sometimes a lower grade of timber, or other versatile materials like the bamboo, is used for constructing the walls.

The original material used for the roof was *atap* or thatch. Atap made from nipah leaves is the most common. This roofing material is widely used in smaller buildings like houses, *wakaf* and *surau*. For larger buildings, like the Malay palaces, *Senggora* clay tiles or *iron wood shingles*[97] were used.

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[94] *Chengal* hardwood is a genus of *Hopea* and is commercially known as *Merawan*. It is a fine quality timber for common rafters, joists, flooring and framing.

[95] *Merbau* hardwood is a genus of *Intsia*. It is suitable for heavy construction and panelling.

[96] *Meranti* hardwood is a genus of *Pentacme*, commercially called White Lauan and also locally known as *Seraya*. An excellent wood for construction and flooring. Also, another genus, *Shorea*, commercially known as *Red Meranti*, is used for beams, joists, flooring and squared lumber.

[97] *Iron wood shingles* is locally known as *Atap Berlian*. In the nineteenth century, many well-to-do Malay houses in the East coast region (particularly in the state of Terengganu) used iron wood shingles which were brought from Borneo by Terengganu sailing ships.

The predominent constructional system used in traditional Malay buildings consists of a post and lintel timber structure with thatched gable roof. The buildings generally have raised floors and the structural columns rest on concrete or stone footings. The columns are braced by floor joists and roof girders. The structural components are firstly fabricated on the ground and later assembled on the site.

In traditional Malay buildings nails were not used in the jointing of structural components. Various mortise and tenon, lap and dovetail joints were used instead. The joints were usually strengthened by wooden dowels, corbels and *Baji* (wedges). The use of *Baji* to tighten mortise and and tenon joints is an important feature in the construction of Malay buildings (Fig. 2.51). This allows the joints to be easily taken apart and reassembled without damaging the fabric of the building. In the past it was quite common for buildings to be taken apart and reassembled elsewhere when there was a need to move them to another location.[98]

According to Lim Jee Yuan, there is a major drawback in the construction system of the Malay house where there is a lack of diagonal bracing in the structure, as this may cause the building to sway in instances of uneven loading.

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[98] LIM JEE YUAN, *op. cit.*, page 105.

To counterbalance the problem, *tongkats* (intermediate columns) are used to enhance stability.

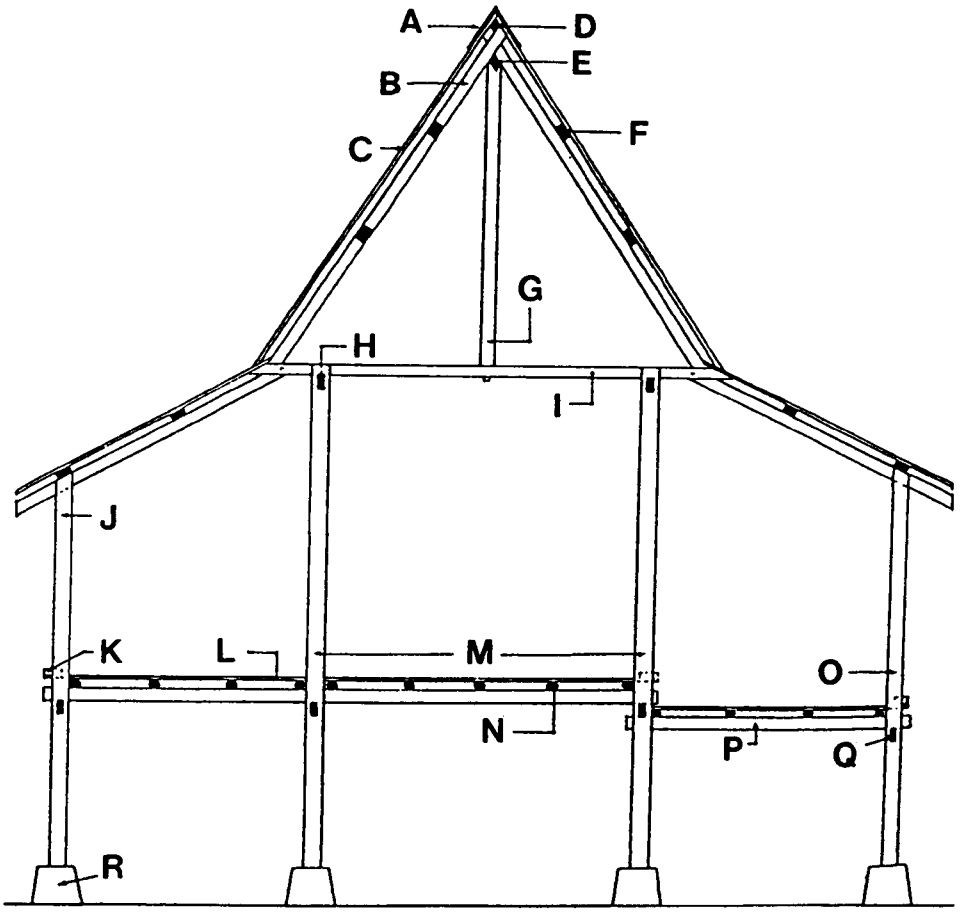

Figure 2.51: *The mid-line section of the basic Malay house.*[99]

A: *Perabung* (ridge covering)
B: *Kasau jantan* (main rafter)
C: *Kasau betina* (subsidiary roof rafter)
D: *Tulang perabung* (coping or roof ridge)
E: *Larian tikus* (tie-beam)
F: *Gulung* (purlin)
G: *Tunjuk langit* (king post)
H: *Alang panjang* (long beam)
I: *Alang pendek* (cross-beam)
J: *Tiang serambi sama-naik* (column for verandah)
K: *Bendul* (threshold)
L: *Lantai* (floor)
M: *Tiang rumah ibu* (main column)
N: *Gelegar* (floor joist)
O: *Tiang Serambi gantung* (column for 'hanging' verandah)
P: *Rasuk* (floor cross-beam)
Q: *Pelancar* (tie-beam)
R: *Batu alas* (base)

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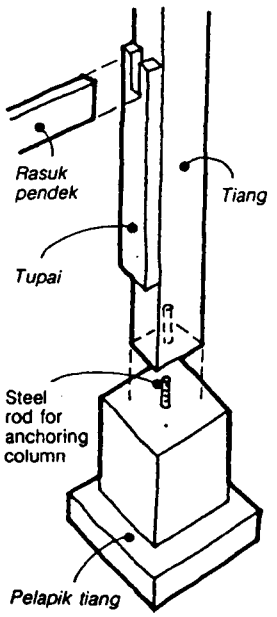
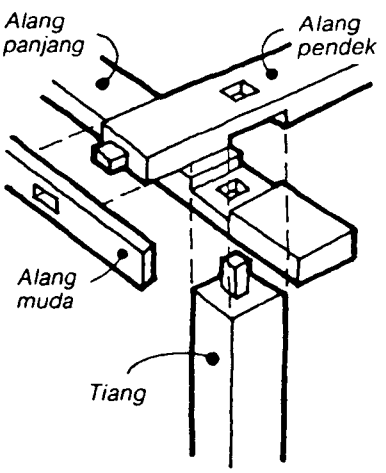
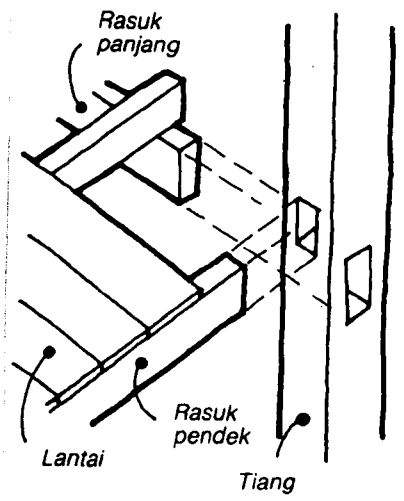
[99] Illustration reproduced from SHEPPARD, MUBIN, Taman Indera, Kuala Lumpur; Oxford University Press, 1972, page 148.



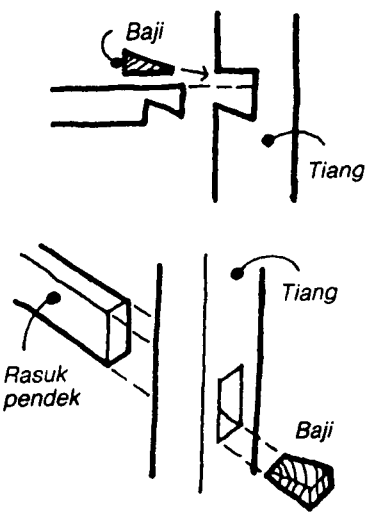
a. Column construction.



b. Cantilever construction.



c. Floor construction



d. The use of *Baji* (wedges).

Figure 2.52: *Construction details of a Malay house.*[100]

[100] Illustration reproduced from LIM JEE YUAN, *op. cit.*, page 104.

2.3.6 BUILDING EXTENSION SYSTEMS

A system of additions takes place when new extensions are added to the basic core of a house. This is based on certain principles that are sound in design, construction and aesthetics, and causes minimal distruption to the original house.

The extension of the main house depends on the needs, means, constraints and socio-economic context of the users. These new parts may be built at various stages[101] and times as the family grows in size. Through adaption and use, users in different parts of the Malay peninsula have evolved a wide range of possible extensions, some of which are peculiar to localities and some are commonly found throughout the peninsula. There are several ways in which a traditional Malay house can be extended. The common types and methods employed in extending houses found throughout the peninsula are as follows:-

i. *Serambi Gantung* System.
ii. *Selang* System.
iii. *Gajah Menyusu* System.
iv. Courtyard System.
v. *Lepau* System.
vi. Parallel System.
vii. *Pisang Sesikat* System.
viii. *Minangkabau* System.

i. 'Serambi Gantung' System.

The *Serambi Gantung* system is an extension made to either the front or the rear portion of the *rumah ibu*. This

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[101] A building may be extended in several stages, subject to the income and increased number of family members.

system usually creates a larger living area. In some houses, a partition wall is built between the two spaces. If the additional space is made at the front of the house, it is normally used as the reception area for male guests. If it is placed at the back, it will form as part of the kitchen. Lean-to roofs are usually used to cover these additional areas (Fig. 2.53-a).

ii. 'Selang' System.

The *Selang* system is a covered walkway used to join the front and the rear section of the house, normally between the main house and the kitchen. The selang creates a break between the different parts of the house and facilitates lighting and ventilation in them. A second entrance to the house is usually placed in this area (Fig. 2.53-b). This system is most popular in the northern states in the west coast of the Malay peninsula.

iii. 'Gajah Menyusu' System.

A *Gajah Menyusu* system makes use of exactly the same building form but is a smaller version attached to one side of the building. This building extension is usually used as the kitchen (Fig. 2.54-a). The use of a smaller but repeating house form for the kitchen expresses the importance of the main house.[102]

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[102] LIM JEE YUAN, *op. cit.*, page 29.

Gajah Menyusu literally means `the baby elephant sucking its mother'[103] and the system was named as such since it was based on two identical forms (one being smaller than the other) which resembled a mother elephant with her baby. This system is commonly found in the northern states of the west coast of the Malay peninsula.

iv. Courtyard System.

The courtyard system is commonly found in Malaccan houses. A courtyard is formed by linking two existing buildings together. The courtyard is usually an open interior space which performs as the wet core of the house. The courtyard also encourages natural lighting and ventilation in the two separate buildings. A second entrance to the house is usually placed here which gives direct access to the kitchen. Potted plants are usually kept here. (Fig. 2.54-b).

v. 'Lepau' System.

A *Lepau* system is an extension that follows exactly the original form of the house. It is normally made on either side of the main house and provides a larger activity space for the *rumah ibu* (Fig. 2.54-c).

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[103] GIBBS, PHILIP, *op. cit.*, page 46.

vi. 'Pisang Sesikat' System.

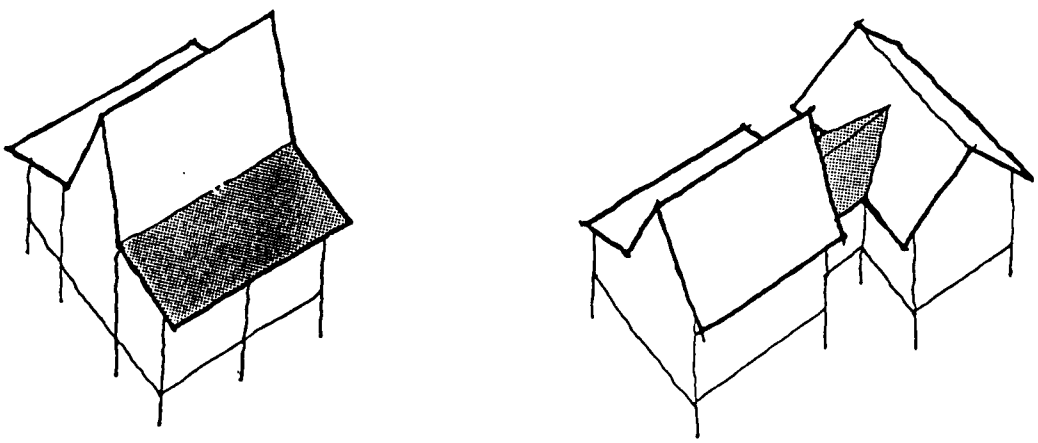
A *pisang sesikat* system is normally a small extension made on one side of the house which incorporated a lean-to roof (Fig. 2.54-d).

vii. Parallel System.

A parallel system embodies two or more similar building forms which are arranged parallel to the main house (Fig. 2.54-e).

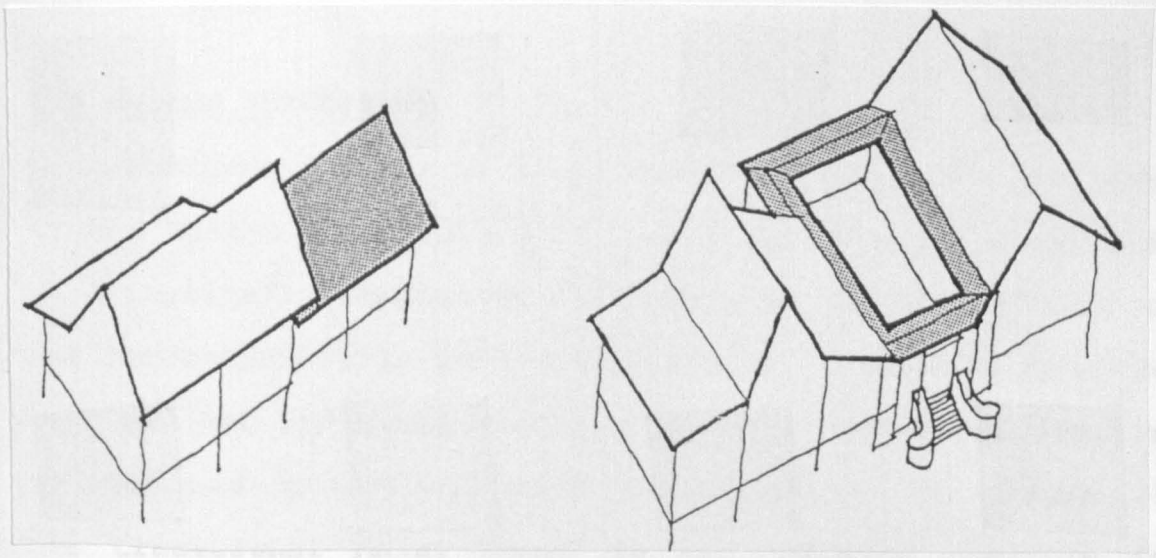
viii. 'Minangkabau' System.

In the *Minangkabau* system, the *serambi* ends of the house are extended on both sides. The roof extension curves upwards and forms the characteristic *Minangkabau* roof (Fig. 2.54-f).



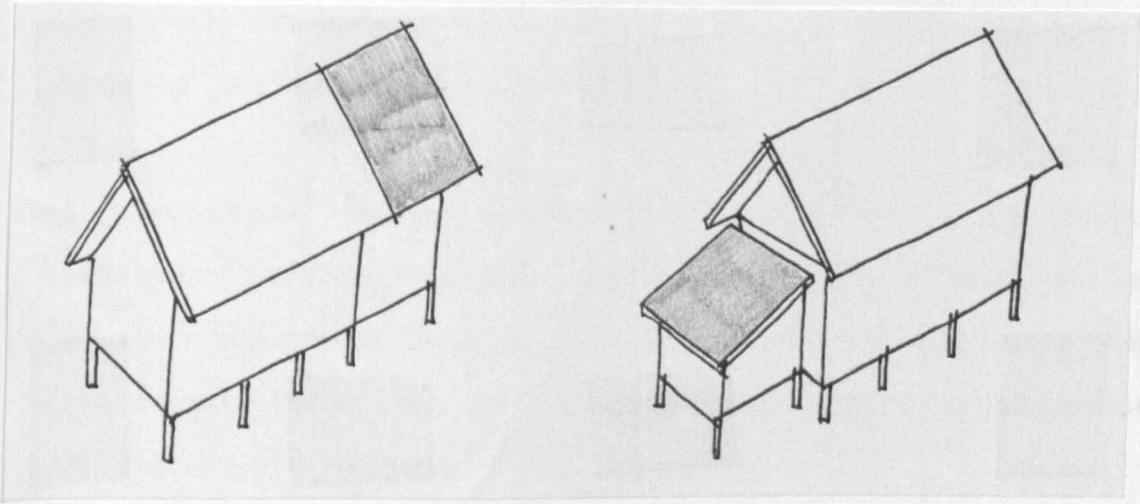
a. *Serambi Gantung* System. b. *Selang* System.

Figure 2.53: *Extension systems of a Malay house.*



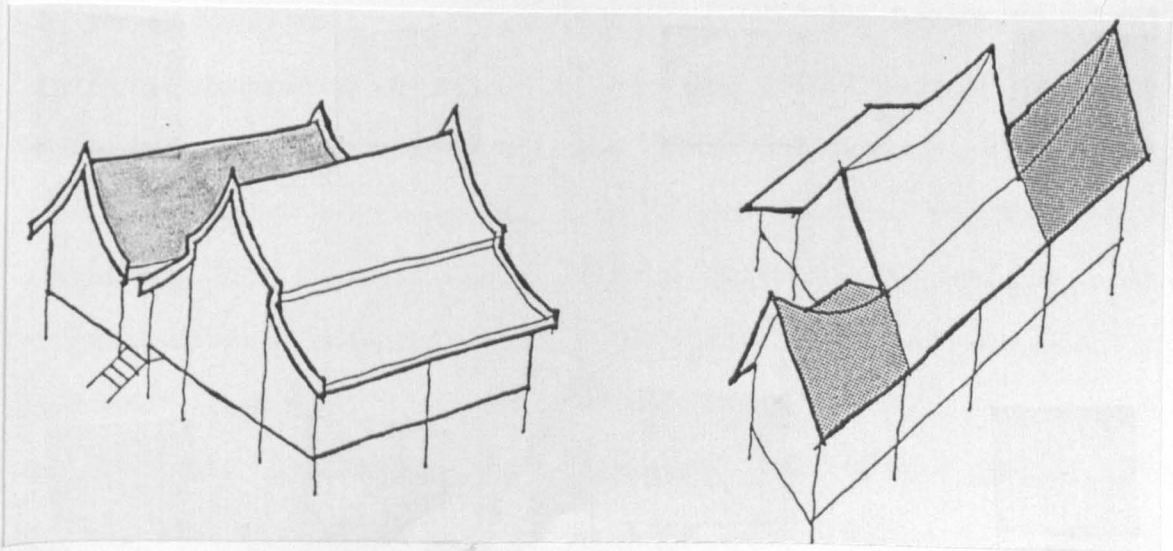
a. *Gajah Menyusu* System.

b. Courtyard System.



c. *Lepau* System.

d. *Pisang Sesikat* System.



e. Parallel System.

f. *Minangkabau* System.

Figure 2.54: *Extension systems of a Malay house.*

2.4 DESIGN PRINCIPLES

Indigenous Malay architecture constitutes a major part of the Malaysian architectural heritage. The building form is climatically responsive and expresses the way of life of its inhabitants. The building is extremely well designed to suit the hot and humid Malaysian climate and to achieve the optimal and multi-functional use of space. The design of the traditional Malay house is particularly flexible in order to cater for the widely different needs of the users and it can be extended in various ways to meet the growing needs of each individual family.

In traditional Malay architecture, the most distinctive vernacular attributes are the raised floor construction, the flexibility of spaces and the use of readily available rain forest materials in the best possible ways to counter the hot, humid climate.

In an environment which is characterised by heavy tropical rains accompanied by flash floods and occasionally seasonal floods, the traditional raised floor is perhaps the ideal and immediate solution to the problem. Due to the high humidity, the raised floor ensures that ground moisture is prevented from reaching the floor area. By this method the occupant can always be sure of a clean, comfortable place to sit on, irrespective of ground conditions below. By having the raised floor, it is also safe from wild animals, if the house is close to the jungle.

The proximity of old Malay settlements to the seas and rivers is all the more reason to have houses constructed with a raised floor.

2.4.1 MALAY CONCEPTS OF SPACE

As the majority of the Malay people in the Malay peninsula have embraced Islam and have used Islamic principles as the basis for conducting their daily activities, the way the Malays use their spaces is very much related to Islamic teachings. Another two important factors, which influenced the Malay conception of space, are culture and climate.

The Islamic religion greatly emphasizes the segregation of men and women.[104] In order to do this, the Malays conduct their daily and social activities by trying to separate as much as possible the interaction between men and women. This is achieved by having two separate entrances and by introducing partitions wherever applicable.

Islam also emphasizes the importance of brotherhood. Therefore the Malay people are very attached to each other and everybody is willing to offer a helping hand within a village community. This closely related attitude among the Malay people led to the absence of any personal space. Spaces in a house for instance are always shared among the family members. This explains why the open plan concept is

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[104] This segregation is applicable to non-family members. Those people from the same family are allowed to mix among themselves.

practiced in the *rumah ibu,* where there is hardly any division or rooms to separate the different activity spaces. There is also hardly any large furniture in the house, as most of the activities in the house are conducted on the floor, such as eating, praying and sleeping. The only element which identifies the main compartments of the house is the slight change of levels. This type of spatial arrangement has led the Malays to have very little sense of privacy in conducting their daily activities. Everybody in the family usually shares their problems and conduct their activities together. The Malay conception of space is very different to the European counterparts which very much emphasize the privacy of the individual within a home. To qoute Raja Bahrin Shah, "All activities within the house are conducted with a degree of mutual regard and respect among the family members that would be unusual in the individualistic Western society".[105]

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[105] RAJA AHMAD SHAH, R. B. S., *The Terengganu Timber Malay House, op. cit.,* page 32.

2.4.2 MAIN CHARACTERISTICS OF BUILDING

Although there are many types and variations in the design of traditional Malay buildings, they still follow a basic pattern and share several common features.[106] The similarities that can be found in these buildings are:-

i. All are raised above the ground.
ii. All have pitched roofs and deep overhangs.
iii. All have open plan concepts.
iv. All are regulated by construction modules.
v. All have several levels for the interiors.
vi. All use similar building materials.
vii. All have large window openings.

i. The Raised Floor

Malay buildings are mostly raised above the ground, principally because the structures are made of timber and need to be protected from ground moisture, possible flood water and from wild animals. The square shape of timber columns ensures that snakes are not able to creep up into the building. The concept of raising the floor above the ground also assists ventilation of the buildings. The space underneath the house also provide sufficient space for general storage and shelter for domestic animals. The air in the shaded area below the floor is relatively cooler,[107]

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106 See SUDIN, PARID WARDI, *op. cit.*, page 34 and ENDUT, ESMAWEE HAJI, *op. cit.*, page 15.

107 The interiors are usually warmer than the spaces underneath the buildings because of the exposure to radiant heat transmitted from the roofs.

and the gaps between the plain edged floorboards allow this cool air to enter the building and thereby reduce the temperature inside.

ii. The Pitched Roof and Deep Overhangs.

The pitched roof and large overhangs provide good protection against driving rain and provides good shading from glare and direct sunlight. The deep overhangs also allow windows to be left open for most of the day-time, even during occasional rain. This allows the interior to be well ventilated.

iii. The Open Plan Layout.

The elongated open plans of traditional Malay buildings allows the easy passage of air and good cross ventilation. There are a minimal number of interior partitions in Malay buildings which restrict air movement in the house.

iv. The Construction Modules.

Almost all traditional Malay houses have a similar rectangular plan. Any extension would normally be rectangular in plan and be built against the long side of the existing house. In some examples, new extensions are smaller in size but still follow a similar building form. If the number of these construction modules is more than two or three units arranged in a similar manner, then a courtyard or a *selang* (an intermediate space) is provided.

This method facilitates cross-ventilation and ensures that the building receives optimum levels of natural light.

v. The Different Heights in Floor Planes.

The spaces within a Malay building are defined by the different height of floor planes. Each compartment in a Malay building has its own floor level. No walls are necessary to separate the different activity areas. The main house (*rumah ibu*) always has the highest floor level. Other sections normally have a lower floor level and each of these secondary areas has its own floor height. The level difference varies from about six inches to one a half feet (Fig. 2.55). Conceptually, this change of level shows the hierarchy and the importance of the spaces.

Figure 2.55: *Change of floor level as viewed from outside a Malay house.*

vi. The Choice of Building Materials.

The selection of materials used in constructing the buildings expresses a balance between the structures and the immediate surroundings. It shows that the Malay people have made full use of their natural resources.

Generally all traditional Malay buildings are made of lightweight construction using timber and other natural materials. This lightweight construction has a low thermal capacity and holds little heat. With low thermal capacity, the buildings usually cool adequately at night.

The *atap* roofing material is an excellent thermal insulator. It allow very little heat to absorb and radiate into the buildings. Similarly, the *Senggora* clay tiles function as a good thermal insulator and also give a cooling effect to the interior at night.

Glass (which is not a very good material to be used in hot climates) is not locally available and rarely found in the construction of traditional Malay buildings. Most openings in traditional Malay buildings are made of perforated timber panels, carvings, louvres or woven palm leaves, which allow natural lighting and air to enter the buildings.

vii. Large Window Openings.

Large window openings are typical in traditional Malay buildings. These large windows are designated to allow as much possible air and natural light to enter the buildings. The size of a window is normally the full height of a door (about seven foot high) and the standard width is approximately three foot wide. The windows are secured by rails and balustrades or sometimes carved wood panels which are located between the floor and rail (Fig. 2.56).

A number of windows are often arranged in a series (sometimes from wall to wall) to form a larger opening and create a sense of openness and visual contact between the internal and outdoor spaces. As the Malay people have traditionally conducted their daily activities on the floor, these full height windows enable them to enjoy the view of the outdoor environment while sitting on the floor and carrying out their daily activities. Conceptually, the immediate surroundings are regarded as being an essential part of the house. Therefore, the large windows are seen as a mechanism to allow a sense of connection between the interior and exterior spaces. These large openings technically facilitate the process of natural ventilation and reduce any form of obstruction to air movement. The use of carved wood panels above the windows (sometimes on the side walls) further enhances natural lighting and ventilation.

Figure 2.56: *The full height window of a Malay house.*

2.4.3 ADAPTATION TO CLIMATE

Climate is the most influencial factor in the design of indigenous Malay buildings. The Malay timber house exhibits a variety of simple responses to the environmental conditions that are unique to South-east Asia. Both ventilation and protection from rain and sun are of primary consideration in the design.

The pitched roof is a logical response to the hot and wet climate. The steep pitch permits rapid removal of rainwater and creates a high sloping ceiling ideal for ventilation. The elevated floors with small gaps between the floor boards allow cool breezes to pass under and through the house, forcing staler, warmer air out through vent holes or through a clerestory, located between articulated roof tiers (Fig 2.57).

The house is lightweight in construction, consisting basically of timber framing with a palm thatch (*nipah, rumbia or bertam*) roof. The gables, whether of the complex roof type or the simpler roof form, both have ventilation apertures in them which open into a void between the roof and ceiling. The side walls are constructed of a variety of open timber screens, slatting, boarding and woven panels (Fig. 2.58).

Normally, the hot Malaysian climate will result in some thermal storage being kept in the light weight timber structure and roof of the timber Malay buildings. The

continuously warm structure would normally take longer to cool down on the short occasions when a cooling breeze is available.[108] The main defence to this conditions is shade, assisted by air movement. Shade is provided for the walls by the relatively large overhang of the eaves and the planting of coconut, palm and other trees around the buildings. Shade under the building provides a permanently cooler space, with lower ground surface temperatures, which assists in below-floor cooling both by radiation and cooling the air under the building.[109]

Buildings features like the openings on roofs, raised floor with small gaps between floor boards, perforated walls (woven bamboo or *bertam* and carved wall panels), large window openings and open plan layout, all facilitate the process of natural ventilation in traditional Malay buildings.

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[108] See *Buildings, Climate and Energy,* pp. 160-162.

[109] *Buildings, Climate and Energy,* page 162.

Figure 2.57: *Vent holes (clerestory windows) and woven panels facilitate natural ventilation in Malay houses.*

Figure 2.58: *Extensive use of woven panels in Istana Kenangan, Kuala Kangsar, Perak.*

2.4.4 ORNAMENTATION AND DECORATIVE ELEMENTS

In traditional Malay buildings, ornamentation and decorative elements are very much related to the customs and religion of the Malay people. As traditional Malay buildings are generally made of timber, Malay artistic workmanship is expressed mainly in the form of wood carving.

2.4.4.1 THE ELEMENTS IN TRADITIONAL MALAY WOOD CARVINGS

The designs used in traditional Malay wood carvings was influenced by a number of factors related to the Malay way of life, customs, religious beliefs, natural environment, climate and topography. The choice of elements used in the carvings was made to suit the needs of the individual as well as the society, while not contradicting the rules of Islam and the customs of the Malay people. Among the elements used in the design of Malay carvings are:-

i. Motifs of living creatures

ii. Floral elements

iii. Calligraphic elements

i. Motifs of Living Creatures

Generally, motifs of living creatures are not widely used in Malay works of art because Islam prohibits the use of living things in decoration. However, remnants of old carvings with animal motifs can still be seen in some of the older traditional buildings in Negeri Sembilan. The carvings which symbolize ducks walking in a row is known as

Itik Pulang Petang.[110] This carving has a philosophical meaning. Another two examples of carvings with animal motifs are *Badak Mudik* and *Ayam Berlaga* (see Fig. 2.59).

The choice of living creatures used in the carvings is normally made from the animals found in the immediate surrounding, such as birds, cocks, hens and water buffalo. Since the carvings are the remnants of the pre-Islamic period, this type of carving is slowly being discarded and it is also no longer suitable for the Malay culture which has taken Islam as its base.

ii. Floral Elements

Carvings with floral elements are the most widely used in traditional Malay buildings. They are used extensively in decorating the windows, railings, beams, partitions and wall panels of Malay buildings. This form of carving concentrates on the use of floral images, normally from flower-producing plants and creeping plants.[111]

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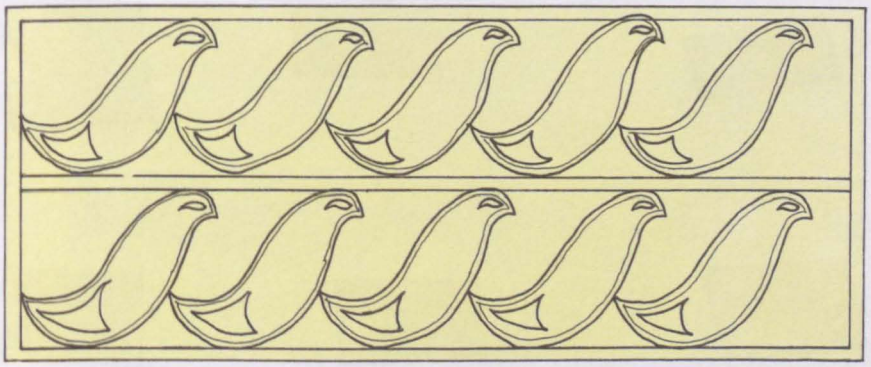
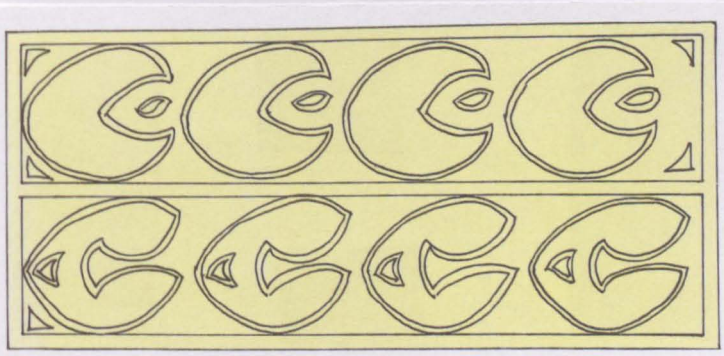
110 *Itik Pulang Petang* literally means ducks returning home in the afternoon. This carving is horizontal in shape and has a graphic representation of ducks walking in a row. The carving tries to display the natural habit of ducks, where the duck in the back row never attempts to overtake those at the front. This motif has a philosophical meaning which encouraged Malay people to follow the ducks' habit, in the sense that they should never be arrogant and always be obedient to the leader.

111 Plants have always been a source of inspiration for Malay carvers. The types of flowers and plants commonly used in the carvings are: hibiscus, waterlily, lotus, sunflower, rose, jasmine, mango flowers, star anise, clove, bamboo shoot, nut, pumkin, lettuce and many others. See NASIR, ABDUL HALIM, Traditional Malay Wood Carving, Kuala Lumpur; Dewan Bahasa dan Pustaka, 1987, page 108.

One of the reasons why this type of carving is so popular, and can be found in almost all of the traditional Malay buildings, is because carvings incorporating floral images are not contradictory to Islamic teaching. Thus, it has been accepted as a legitimate art form and had undergone a long process of development. Some examples of carvings with floral elements are shown in Figure 2.60.



a. *Itik Pulang Petang.*



b. *Badak mudik.*

Figure 2.59: *Carvings with animal motifs.*[112]

[112] Illustration reproduced from NASIR, ABDUL HALIM, *Traditional Malay Wood Carving, op. cit.*, page 68 and page 71.

Figure 2.60: *Examples of carvings with floral motifs.*

iii. Calligraphic Elements

Carvings with calligraphic elements have become another popular art form in many Malay religious buildings. The callighaphic elements take the form of Arabic characters, verses from the *Koran* and local Arabic writing called *Jawi*.[113] (Fig. 2.61)

These types of carvings are normally displayed at a higher position on a wall or placed at the *mimbar* (pulpit) of many mosques throughout the peninsula. The carving with writings, taken from the *Koran,* is regarded as sacred and should be kept safe or placed at a higher position on the wall or *mimbar,* so that it is well above the human body and can be seen clearly. This type of carving can also be found in some of the houses of wealthy people in the states of Kelantan and Terengganu. In these houses, the design of the carvings usually consists of a combination between Arabic transcriptions and floral motifs (Fig. 2.62).

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[113] *Jawi* is a Malay word for the Arabic alphabets. To the older Malay generation, *Jawi* is the more popular mode of writing the Malay language. It was used extensively in the older Islamic institutions. Currently, it is an alternative mode of writing the Malay language which can be written both by using the Western and Arabic alphabets.

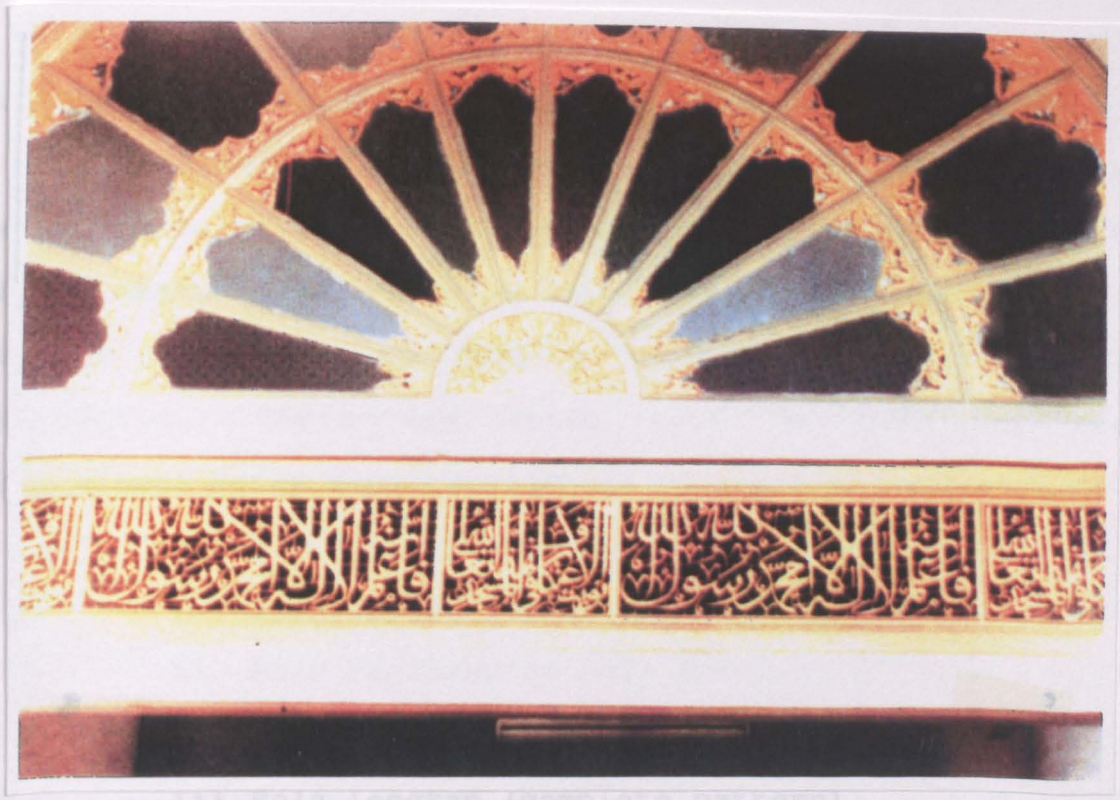

Figure 2.61: *A carving with Arabic transcription in Ladang mosque, Kuala Terengganu.*[114]

Figure 2.62: *A combination of floral and calligraphic elements.*

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114 Illustration reproduced from NASIR, ABDUL HALIM, *Traditional Malay Wood Carving, op. cit.*, page 23.

2.4.4.2 THE PATTERNS IN TRADITIONAL MALAY WOOD CARVINGS

The elements found in wood carvings are usually organised to follow a specific arrangement or pattern. Both the elements and patterns are carefully selected and closely integrated to form a two or three-dimensional composition. There are three main patterns in the traditional Malay wood carvings as follows:-

i. *Pola Bujang* (single pattern)
ii. *Pola Pemidang* or *Pola Bingkai* (screen or frame pattern)
iii. *Pola Lengkap* (complete pattern)

The patterns are usually created by various piercing techniques. Three common methods are called *Tebuk Terus, Tebuk Separuh* and *Tebuk Timbul,* which literally means direct piercing, semi-piercing and emboss piercing respectively.[115]

i.'Pola Bujang' - Single Pattern

Pola Bujang, or single pattern, is a carving that uses a motif in a repetitive fashion. It normally takes the elements of a flower, young fruits, moon, star, sun and sometimes the elements of living creatures. The choice of flowers or fruits used in *Pola Bujang* are usually the types

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115 NASIR, ABDUL HALIM, page 93.

of plants and herbs that have medicinal value and are found growing in the neighbourhood as well as in the jungle.[116]

ii. 'Pola Pemidang' - Screen or Frame Pattern

Pola Pemidang uses simple decorative motifs and the elements found in the pattern are usually less interwined or interlaced. The type of pattern is usually enclosed in a screen or frame. It is commonly found in traditional wooden furniture and household utensils such as cupboards, tables and serving trays. In the structure of a Malay house, this kind of pattern is usually applied on a threshold cap, part of a staircase, roof eaves, and on other parts of the house where this concept of carving is suitable.

iii. 'Pola Lengkap' - Complete Pattern

Pola Lengkap is also known as *Pola Induk,* or the main pattern. This carving is usually the most complicated type with a very high quality product and a remarkable appearance. It is usually made on a very large panel like a partition or wall panel. It combines many intricate design elements to form one complete carving. The most popular combination uses floral and calligraphic elements which can be seen in many traditional Malay palaces and mosques.

The *Pola Lengkap* pattern, with plant and floral elements, incorporates all parts of a plant ranging from the roots, stumps, branches, leaves, fruits, flower buds to flowers.

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116 NASIR, ABDUL HALIM, page 94.

It is arranged in a series of curves, winding, knotting, coiling, interlacing and interwining between one item and another.

2.4.4.3 DECORATIVE ELEMENTS ON TRADITIONAL ROOFS

Other decorative fixtures in traditional Malay buildings are to be found in the design of the roofs. Among the important elements incorporated in the roofs of traditional buildings are the *Buah Butung*[117] (finial), the cosmic motifs on roof walls (*Tebar Layar*) and the continuous wood carving along the roof eaves.

Buah Butung is usually placed at the apex of the roof and is generally made of cengal wood. *Buah Butung* is found in the roofs of Kelantan, Terengganu and Perlis houses. These have intricate carvings at the base and are believed to be influenced by the pinnacles of houses in south Thailand. In other Malay states, they are generally designed in plain vertical forms.

In religious buildings, 'sky pointers' are usually placed on top of domes and resemble the minarets of the Middle East.[118] These sky pointers are also placed at the roof tops of traditional mosques with pyramid roofs. They are

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[117] *Buah Butung* (finial) is usually placed at both ends of the main ridge. It is also known locally as *Petunjuk Langit* or sky pointer. See PERIS, ERIC, *Heritage of Malaysian Architecture*, Kuala Lumpur; American Express, July 1989, page 68.

[118] PERIS, ERIC, page 68.

considered as larger versions of *Buah Butung* and are known locally as *Mahkota Atap* (roof crown). (see Fig. 2.63)

Figure 2.63: *'Mahkota Atap' (roof crown) of Tok Tuan mosque in Kemaman, Terengganu.*[119]

'Sun-burst' motifs are a popular design for roof walls (Fig. 2.64). Different variations of the sun-burst alternate with other cosmic designs, such as stars and crescent moons. The designs in these roof walls, besides being visually beautiful, allow for added ventilation which

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119 Illustration reproduced from NASIR, ABDUL HALIM, *Traditional Malay Wood Carving, op. cit.*, page 20.

is essential for a climate that is generally hot and humid.[120]

The continuous wood carving along the roof eaves (roof fascia) is architecturally used as a softening element to the robust straight line of roof eaves. Examples of this decorative element can be seen in Istana Jahar of Kota Bahru, Kelantan and Istana Kenangan of Kuala Kangsar, Perak.

Figure 2.64: *Sun-burst motif of Balai Besar, Kota Bharu, Kelantan.*

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120 PERIS, ERIC, *op. cit.*, page 36.

Chapter Three

MALAYSIAN CHINESE ARCHITECTURE

3.1 HISTORY AND ORIGINS

In the study of Malaysian Chinese architecture, it is essential to look at the main ethnic and cultural groupings of the Chinese in *Malaya*[1] since different cultural and ethnic characteristics are reflected in the design of Chinese buildings.

In section 1.2.4 of Chapter One, we have seen why and when the Chinese came to Malaya. This chapter attempts to clarify the various Chinese groups and the main architectural influences on Malaysian Chinese architecture.

It is important to note that Malacca was one of the oldest Chinese settlements in the Malay archipelago. The distribution of the early Chinese population in Malaya began with a few small settlements in the town of Malacca, established by the early Chinese merchants who came to trade in the city in the fifteenth century. These settlements in time had become an integral part of the city structure. When Penang and Singapore were founded by the British, new and larger Chinese settlements had emerged. From the British Straits Settlements (Penang, Malacca and

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[1] The term *Malaya* is used (instead of Malaysia) throughout the text because at the time of Chinese immigration, Malaysia had not achieved independence and was historically known as *Malaya*. Only when the British had established full power over the country, the name subsequently changed to the *Federation of Malay States* in 1895.

Singapore), the Chinese spread throughout the Malayan countryside. Many small Chinese traders settled inland permanently and opened shops which became the principal feature of every town in Malaya.

As discussed earlier in section 1.2.4, political instability and over-population in southern China prompted the migration of Chinese people to many parts of South-east Asia. Labour demands and business opportunities in Malaya, after the opening of tin mines and the British presence (which offered protection and local stability), contributed to the great influx of Chinese people into Malaya in the second half of the nineteenth century.[2]

The continuous migration of Chinese people from the fifteenth to the nineteenth century evidently encouraged the Chinese architectural tradition to spread all over *Nanyang*[3] (regions further south of China). In the process of migration, the Chinese brought with them their religious beliefs, god and goddesses, forms of worship, philosophy of living and ethnic customs. Most of these values are reflected in their architecture.

The vast majority of the Chinese people in Malaya trace their ethnic origins from the provinces of south China.

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2 KOHL, DAVID G., *Chinese Architecture in the Straits Settlements and Western Malaya,* Kuala Lumpur; Heinemann Asia, 1984, page 2.

3 *Nanyang* is "The Southern Region"; the area south of the traditional Chinese borders, including Indo-China, South-east Asia and the Malay archipelago.

There are seven major provinces and nine linguistic groups in the south of China (Fig. 3.1). The majority of the emigrant Chinese population in Malaya came from the coastal provinces of Fukien and Kwangtung.[4]

Fukien is one of the smallest and most densely populated provinces. The *Hokkien*[5] Chinese came from the coastal Fukien districts and largely sailed from the city of Amoy (and were occasionally referred to as "Amoy" in Malaya). The Hokkiens in Malaya were historically prosperous and the most settled of all the Chinese in this country. The bulk of the trading and shopkeeping classes in the Malayan towns were Hokkien.[6]

The *Cantonese*[7] of Kwangtung province are the other major group represented in Malaya. They came from the agricultural delta area of the West River of Kwangtung. Merchant-class Cantonese came from the city of Canton, a long established centre of extensive trade.

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[4] See RYAN NEIL JOSEPH, *The Cultural Heritage of Malaya,* 2nd. ed., Kuala Lumpur; Longman Malaysia, 1971, page 17 and KOHL, DAVID G., *op. cit.*, page 1.

[5] Most of the *Hokkien* in Malaya worked as tailors, shopkeepers, merchants and, in some areas such as Kuala Lumpur, were involved in rubber and banking.

[6] KOHL, DAVID G., *op. cit.*, page 3.

[7] In Malaya, the *Cantonese* were found most numerous in the interior regions. They cleared jungle land, worked as carpenters, miners, blacksmiths, shoemakers, artisans and were involved in tin and commerce.

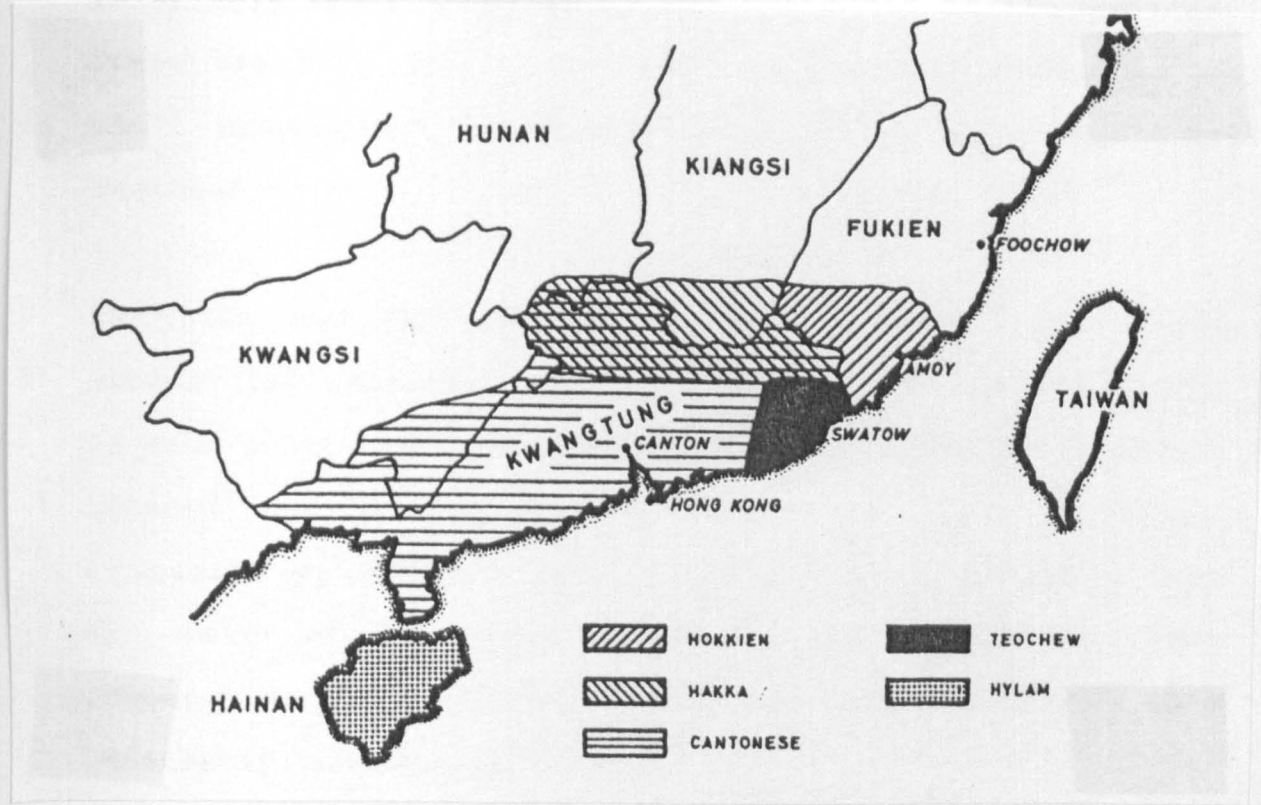

Figure 3.1: *The principal provinces in southern China and the distribution of the main linguistic groups.*[8]

[8] Illustration reproduced from RYAN, NEIL JOSEPH, *The Cultural Heritage of Malaya,* 2nd. ed., Kuala Lumpur; Longman Malaysia, 1971, page 75.

In addition to the above mentioned groups, a small group of Chinese emigrants came from Hainan, a densely-forested island off the south coast of Kwangtung. They have been known as the *Hailams*.[9] Their population in Malaya is relatively small compared to the Cantonese or the Hokkien. There are also other ethnic groups who made their way in small proportions to Malaya; they were the *Hakkas*[10] and *Teochews*.[11]

In China and similarly in Malaya, the two main ethnic groups (the Cantonese and the Hokkien) were not in favour of each other and had a long history of intense controversy between them. In Malaya, they formed two large clan groups, or *secret societies*,[12] known as *Ghee Hin* and *Hai San*. Ghee Hin were predominantly Cantonese while Hai San were composed mostly of Hokkien members. These two groups were constantly involved in feuds.[13]

Apart from the various ethnic groups, the Chinese population in Malaya may be further classified into three

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[9] *Hailams* have their own language and most of them worked as domestic servants, shopkeepers and ran food establishments.

[10] *Hakkas* were mainly miners and artisans.

[11] *Teochiew* or *Tiu Chiu* came to Malaya from Swatow of Kwangtung and were largely farmers, shopkeepers and boatmen.

[12] The *secret societies* in Malaya were rooted in China. See RYAN, NEIL JOSEPH, *op. cit.*, page 124-129.

[13] The disputes between *Ghee Hin* and *Hai San* erupted in violence in 1867 and consequently led to the British intervention in the Malayan political system. See Chapter 1, section 1.2.5 under "The British" and KOHL, DAVID G., *op. cit.*, page 15.

different cultural or life-style groupings which had been established before they began to live permanently in the Malay states. They are the *Baba Chinese,*[14] *Straits Chinese*[15] and *Straits-born Chinese.*[16] These distinctions have existed since the early days of Chinese immigration, and are still valid today.[17]

The *Baba Chinese* had established their community and culture largely in Malacca and are still prominent in the life of the town to this day.[18] *Straits Chinese* and *Straits-born Chinese* mainly lived in the Straits Settlements and in other major towns in the west coast of the Malay peninsula.

In general, the earlier Chinese settlers were mostly Hokkien and they dominated the Straits Settlements while the Chinese who came later, and in a much larger group

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[14] *Baba* Chinese were among the earliest Chinese settlers in Malaya and at that time they were unable to bring their wives and families with them. They married local Malays and formed a distinct mixed race of Chinese men and local wives. They have their own accent, wear clothing that is a mixture of both cultures, prefer Malay food than Chinese and called themselves *Baba*.

[15] *Straits Chinese* are Chinese immigrants who settled in the Straits Settlements (Malacca, Penang and Singapore). They embrace a culture that is Chinese, but modified by generations of life in the Straits.

[16] *Straits-born Chinese* are those born locally of Chinese parentage and who hold to a culture that is still as purely Chinese as possible. Most of them settled in the Straits Settlements. Due to Malaya's economic growth and British assurance of political stability, many of the later generations moved into new towns in the west coast of Malay peninsula to set up businesses.

[17] KOHL, DAVID G., *op. cit.*, page 1.

[18] VLATSEAS, S., *A History of Malaysian Architecture,* Singapore; Longman Singapore Publishers, 1990, page 82.

(because of the boom in tin-mining industry), were mainly Cantonese and are more numerous in the Malay states. The regional location of the Chinese in dominant ethnic groups has influenced the regional styles of Chinese architecture in Malaya.

Urban Chinese in Malaya seem to have congregated within towns along economic lines similar to the practice in Canton, China, where traders and professions were confined to a single narrow lane or sector of the city[19]. The Chinese built-up living and commercial areas are locally known as *Kampung China* or Chinatown (Fig. 3.2).

Basically, Chinatown in Malaya consists of rows of houses and shophouses built up along narrow streets. It is interesting to note that a parallel development also took place in other Chinese settlements in the *Nanyang* region in the fifteenth century. Today, Chinatown is in fact a common feature in all the major towns of South-east Asia.

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[19] KOHL, DAVID G., *op. cit.*, page 11.

Figure 3.2: *A typical example of Chinatown in Malaysia.*

The emigrants and local born Chinese in Malaya developed an architecture which was based on the architecture of their place of origin and incorporated some local and foreign features.[20] It has been observed that there are three architectural influences on Chinese buildings in Malaya. These are as follows:-

i. Southern Chinese architecture

ii. Malay influence

iii. European influence

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20 The mixture of the three influences gave birth to a new building style known as the *Straits Eclectic Style*. This style is discussed under "Main Architectural Styles" in section 3.3, "Building Form and Its Development" .

i. Southern Chinese Architecture

Southern Chinese architecture is prevalent in the provinces of Kwangtung and Fukien and is in many ways based on the grand architectural heritage of China, principally known as *classical Chinese architecture*.[21]

The emigrant Chinese in Malaya have tried to maintain as much as possible of their traditional way of life as it was in China, and implement their architectural traditions to the fullest extent. As there were not many architectural documents available at that time, their arts and architecture were transmitted through memory, work, skill and practice. Chinese craftsmanship has traditionally been handed down from master to apprentice.[22] As the Chinese people in Malaya came predominantly from the provinces of Kwangtung and Fukien in southern China, many of the religious buildings in Malaya have followed almost exactly a similar fashion to the temples in southern China. The Chinese town houses on the other hand, which originated from southern China, have been slightly modified to suit

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21 *Classical Chinese architecture* is a term used to describe traditional Chinese buildings in their original context and discipline. Both J. Edkins and Laurence G. Liu in their studies on Chinese architecture refer to the traditional building practice in China as Classical Chinese architecture. See EDKINS, J., "Chinese Architecture", *Journal of the North China Branch, Royal Asiatic Society (JNCBRAS),* Vol XXIV, 1890, pp. 253-265 and LIU, LAURENCE G., *Chinese Architecture,* London; Academy Editions, 1989, pp. 27-37.

22 IZIKOWITZ, K. G. and SORENSEN, P., "The Tradition of Chinese Building", *The House in East and South South-east Asia: An Anthropological and Architectural Aspects,* London; Curzon Press, 1982, page 25.

the local environment and have developed a different style, due to the mixture of local and foreign influences.

In order to get a specific understanding about southern Chinese architecture and its influence on Chinese buildings in Malaya, it is important to describe the characteristics of classical Chinese architecture in general.

One of the most unique characteristics of classical Chinese architecture is the flexibility in the use of building plans. The building plans of religious and home-oriented structures are seen by the Chinese as interchangeable. As Edkins J. points out, "in classical Chinese architecture there is no distinction of an essential kind between *sacred*[23] and *secular*[24] buildings. ...the palace was a temple and the temple was a palace".[25] The same point has been emphasized by David G. Kohl who notes that "religious and domestic structures can be grouped together, for as the Chinese understand society, the family unit is a microcosm of society as a whole, and vise versa. The plan of a home and of a temple may be identical, and the use of buildings may change from temple to home or school quite easily".[26]

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[23] *Sacred* buildings refer to religious and commemorative buildings which include temples and clan houses.

[24] *Secular* buildings refer to non-religious buildings which include schools, palaces, domiciles and shophouses.

[25] EDKINS, J., *op. cit.*, page 254.

[26] KOHL, DAVID G., *op. cit.*, page 21.

Traditional Chinese buildings are mainly rectangular in plan, are raised on stonework platforms, have timber skeleton structures and are covered by steep roofs with long, projecting eaves.[27] The Chinese have built their buildings systematically in stone, wood, tile, bamboo and plaster throughout their history. Stone[28] is primarily used to provide a base for pillars and as a platform for buildings and monuments. Wood[29] is used exclusively for structures above ground. Most buildings were usually walled with plastered bricks and roofed with terra-cotta clay tiles.

Traditional Chinese buildings can be seen as having a close relationship with nature. This is apparent in the design of temples and houses where gardens and courtyards form an integral part of the overall design. The Chinese are acquainted with the elements in their natural surroundings and strongly believe in natural forces. Conceptually, they believe that man cannot be thought of apart from nature,

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[27] See LIANG SSU-CH'ENG, *A Pictorial History of Chinese Architecture: A Study of the Development of Its Structural System and the Evolution of Its Types,* London; The MIT Press, 1984, page 11 and VLATSEAS, S., *op. cit.*, pp. 82-83.

[28] Conceptually, stone is regarded as belonging to the mystical element "earth", therefore it is only properly used upon or under the ground. Earth is one of the five mystical elements (or five forces of nature) in which the Chinese have a strong faith. These mystical elements are dealt with in section 3.4.1.

[29] Wood is another mystical element. The Chinese have a great respect of nature and have utilized wood as much as possible in its original round shape. Wood is also considered as being suitable for structures above the ground. This conception relates to the actual form of trees which grow vertically off the ground.

nor that individual man is separable from social man.[30] This faith has been incarnated in their architecture which expresses a great sense of harmony between man-made edifices and elements of nature. Joseph Needham remarks that "Chinese buildings are the embodiment of the feeling for cosmic pattern and the symbolism of the directions, the seasons, the winds and the constellations".[31] Although this conception has a diverse interpretation and is taken in different forms in various regions of China, it clearly indicates that the Chinese give great emphasis to the integration of nature in their designs of buildings.

Nearly all Chinese structures are planned around the concept of a walled compound. Courtyards and gardens usually face north or are placed at the rear of the compound. The building (or a group of buildings) are placed at the front or facing south. The courtyards are usually paved with stones or bricks and the gardens are usually beautifully landscaped. These enclosed exterior areas are designed to provide light to the interior spaces, supply fresh air and provide a conveniently quiet area for the building occupants to become acquainted with nature.

Courtyards in southern Chinese cities are slightly different from the general Chinese courtyard pattern. The building plans are mostly deep but narrow and the small

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[30] NEEDHAM, JOSEPH, *Science and Civilization in China,* Vol. 4, Part 3, Cambridge; 1971, page 61, quoted by KOHL, DAVID G., *op. cit.*, page 20.

[31] NEEDHAM, page 20.

frontage does not permit large gardens like those commonly found in the north of China.[32] Thus, the courtyards are reduced in size until, in some instances, they are no more than airwells or lightwells set within the building. In order to give the building a far more identifiable character, loggia or gallery arcades are incorporated into the plain front facades. This feature is apparent in some Malaysian terraces and shophouses which evidently indicates the southern Chinese influence on Malaysian Chinese buildings.

The dominant roof form is an important attribute of traditional Chinese architecture. Five roof shapes have been identified as the Chinese mode for thousands of years,[33] and are used on temples, ascestral halls and homes (see Fig. 3.3). Indicative features of the roofs are the curve at the end of the projecting eaves and the highly-ornamented roof top decoration. David G. Kohl notes three possible sources of the roof curves. It was suggested that the curve could possibly have been inspired by the branches of Chinese fir trees or they may be derived from the bold use of skeleton strokes in Chinese calligraphy or may have came from a foreign source, most probably Buddhism.[34] None of the three posibilities stands out as a more definite source than the others (all are reasonably acceptable). The

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32 KOHL, DAVID G., *op. cit.*, page 23.

33 See LIANG SSU-CH'ENG *op. cit.*, page 11, KOHL, DAVID. G., *op. cit.*, page 26 and LIU, LAURENCE G., *op. cit.*, page 32.

34 KOHL, DAVID G., *op. cit.*, pp. 26-28.

diverse theoretical studies on the possibility make the actual source the subject of speculation. Ornaments on roof tops usually consist of a series of *mythical figures*[35] arranged in a row along the ridge top or capstone. (The subject of ornamentation is dealt with in section 3.4.4)

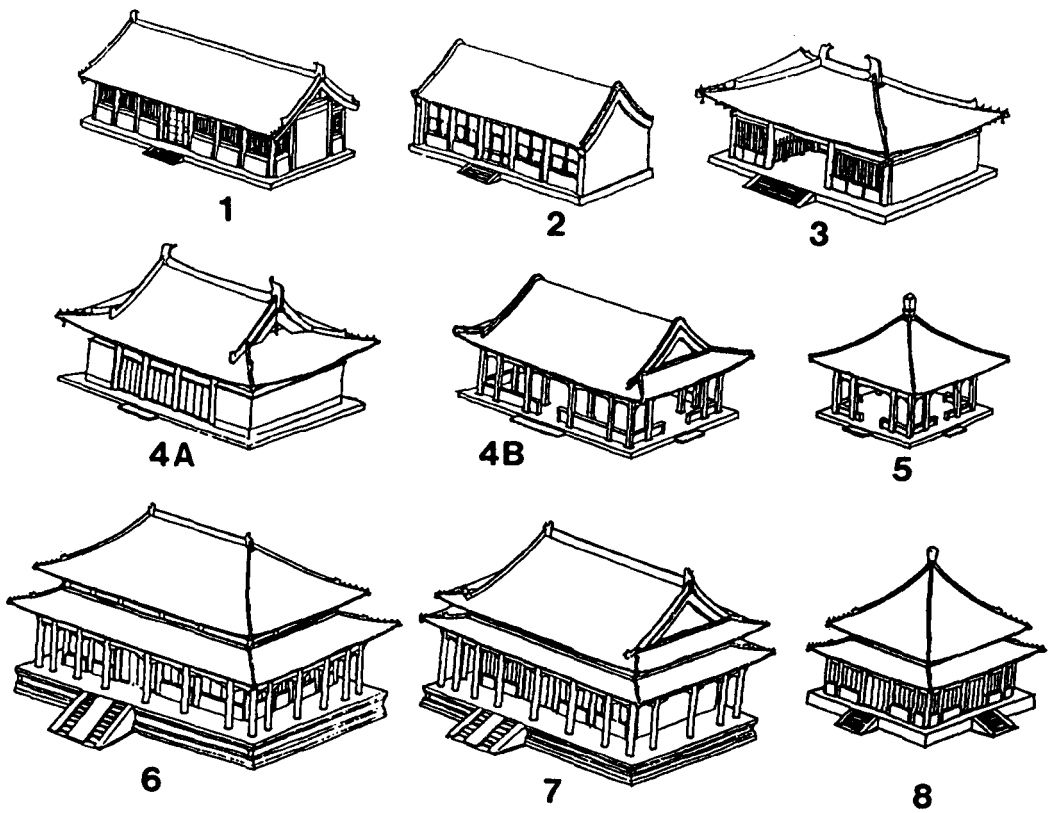

Figure 3.3: *Five types of traditional Chinese roofs:- 1. overhanging gable roof, 2. flush gable roof, 3. hip roof, 4A. and 4B. gable-and-hip roofs, 5. pyramidal roof, 6-8 double-eaved versions of 3, 4B and 5 respectively.*[36]

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[35] Common *mythical figures* found on roof tops of traditional Chinese buildings are dragons, lions, bats, snakes, phoenixes and unicorns.

[36] Illustration reproduced from LIANG SSU-CH'ENG *op. cit.*, page 11.

Exposing the structure is another main characteristic of traditional Chinese architecture. Pillars, rafters and beams in roofs and walls are not hidden, but are exposed and emphasized. They are considered as important elements, not only in their structural form, but also in their visual pattern. The building structures generally stress horizontal, vertical and curved elements.

Colour is also a major component in traditional Chinese architecture. It plays an important role in establishing a harmonious relationship between buildings and nature. For the Chinese, each colour has its own virtue and philosophical meaning which is related to their customs and religious beliefs. Basically, blue signifies peace, red signifies good fortune, green signifies growth, white signifies purity, black signifies sorrow and yellow signifies power, which is regarded as the colour of the Emperor.[37]

Although southern Chinese architecture is considered as part of the grand Chinese architectural heritage (where both generally impose similar building characteristics), it still has some of its own distinctions. These are found in the more elaborate and lightweight curving roofs; the highly-ornamented roof top decorations from Canton and Fukien; the Fukien single-plane cantilevered bracket system slotted into pillars; the smaller courtyards and elongated

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[37] The philosophical meaning of the colours is discussed in detail under "The Chinese Concepts of Space - Feng Shui" of section 3.4.1.

sites of the southern cities and the more elaborate house facades.[38] These features are evident in many Chinese buildings in Malaya, although variations have occurred in some instances due to the mixture of architectural influences.

Both the construction and ornamentation practices of Fukien provinces are seen as the main influence on Chinese buildings in Malaya. The influence is observed in the use of hip-gabled roofs - with their swallow tails, flamboyant coping ends and hip ridge spiral endings - in many monumental structures of Malaya, all of which are formats and characteristics of the Fukien tradition. Mosaic embellishment on free-standing sculptures is believed to derive from Fukien roof top ornamentation. In the structural support of the roof truss system, Fukien type single-plane corbel brackets are employed.[39]

Domestic building types (terraces and shophouses) throughout Malaya are believed to have their origins from the province of Kwangtung, especially the city of Canton from where most of the Cantonese people came. The main characteristics of Malayan Chinese buildings are discussed further in section 3.4.3.

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[38] KOHL, DAVID G., *op. cit.*, page 43.

[39] KOHL, DAVID G., page 187.

ii. The Malay Architectural Influence

Indigenous Malay architecture has a great resemblance in some respect to traditional Chinese architecture. Both the Malays and Chinese have constructed their buildings using the same building material, which is timber. As the southern Chinese region is geographically closer to the Malay region, and is subject to warmer and rainy weather compared to those regions in north of China, buildings (in both the Malay and southern China regions) were generally built with the same objectives, by providing protection against rain, by having steep sloping roofs and large overhangs. The Malays and the southern Chinese people are also very passionate about ornament. Both of them have developed a delightful series of symbolic and decorative elements which are used extensively in their buildings.

The most significant architectural difference between the two cultures is that the Malays have traditionally raised all their buildings well above the ground, while the Chinese have always constructed their buildings on the ground or onto a stone plinth.[40]

As discussed in Chapter Two, traditional Malay buildings are seen as being very responsive to local climatic conditions. Malay building features generally reflect the techniques used in adjusting to climatic requirements. The influence of Malay building practices on Chinese

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[40] KOHL, DAVID G., page 45.

architecture is seen in the use of wide verandah roofs, large window openings, stone bases to columns and the use of tropical building materials. These influences are modifications which are made to reconcile the building with the local environment. It can be assumed that the Chinese have generally observed Malay building traditions and have gradually incorporated some methods which are applicable and correspond to their own requirements.

iii. The European Architectural Influence

The European architectural tradition has greatly influenced the architecture of Chinese buildings in Malaya. A number of building styles were developed during the colonial period in Malaya and will be discussed later under "the main architectural styles". The main influence of Western architecture includes the use of high ceilings, projecting front porches and the use of white stucco. Various other elements have also been incorporated into the construction and building practices of the Chinese such as pediments, fanlights and arches.

3.2 THE MAIN BUILDING TYPES

Traditional Chinese buildings in Malaya can be categorized under three main groups (according to their prototypes in China). A few building types are listed in each category based on their similarities in building functions.

The first group includes religious and commemorative structures, the second group is domiciles and the third is commercial buildings. Religious and commemorative structures include temples and clan houses, cave temples, theatrical stages, Pagodas,[41] memorial arches and tombs. Domiciles include terrace houses, *Sino-Malay Palladian*[42] houses, farmhouses, fishermen's homes, miners' dormitories, cave dwellings and mansions. Commercial buildings include shophouses, market building and *Godowns*.[43] Only the main building types are discussed broadly in this section; they are:-

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[41] *Pagoda* is an octagonal (or circular) structure built as an observation tower to preserve relics, act as an omen of good geomantic conditions or commemorate unusual acts of devotion. Based on the Indian stupa, the form was modified when introduced to China in the third century A. D. It is usually built of an odd numbers of storeys.

[42] *Sino-Malay-Palladian* is a term given to nineteenth century free-standing houses in Malaya which are derived from a combination of influences - Chinese roof over a Palladian elevation with a Malay raised floor. See HERITAGE OF MALAYSIAN TRUST, *Malaysian Architectural Heritage Survey: A Handbook,* Kuala Lumpur; Badan Warisan Malaysia, (unpublished), page 30 and KOHL, DAVID G., *op. cit.*, pp. 158-160.

[43] *Godowns* are warehouses for storing goods either near the sea or in the centre of towns and cities. There are a variety of different *godowns* reflecting their use. See HERITAGE OF MALAYSIAN TRUST, *op. cit.*, page 79.

i. Shophouses

ii. Terraced Houses

iii. Mansions

iv. Temples

v. *Kongsis*[44]

3.2.1 SHOPHOUSES

Chinese shophouse architecture was first developed in Malacca and later spread in Penang and other Malay states. Shophouses were first built by the Chinese for their use, or built by contract for other merchants.[45] The shophouses later became a popular building type in urban areas where a substantial Chinese population had settled.[46] The profusion of shophouses built throughout Malaya followed the great influx of Chinese people who came to settle in the early decades of the twentieth century. Syed Zainol notes that the shophouse type is the basic component of the urban fabric of all Malaysian towns and cities.[47]

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[44] The word *Kongsi* means a clan association's house and temple. Literary, *Kongsi* means a benevolent association on a district or clan basis. In Chinese usage, *Kongsi* included *Hui* (which means a Chinese secret society). Misapprehension among Europeans of the earlier period led to a distinction being made between *Kongsi* and *Hui*. The term *Kongsi*, as widely used in Malaysia, refers to buildings used by either or both groups for the purpose of gathering and worshipping their ancestors. See PURCELL, VICTOR W., *The Chinese in Malaya*, London; Oxford University Press, 1948, page xvi.

[45] KOHL, DAVID G., *op. cit.*, page 77.

[46] The Chinese generally settled in all the major towns and cities in the west coast of the Malay peninsula.

[47] IDID, SYED ZAINOL ABIDIN, *The Alternative Approach in Expressing Malaysian National Identity: Human Aspects in Built Form*, Oxford Polytechnic; A dissertation presented for the degree of Master of Arts in Urban Design (unpublished), 1985, section 4.1.3.

Shophouses in Malaya are built to a basic pattern, both in floor plan and elevation, although both of these aspects have been altered over the course of time.[48] The early shophouses were two storey with the shop was on the ground floor and the house on the top floor. In Kuala Lumpur in the early twentieth century shophouses were built up to three storeys because of the increasing pressure of urban density and land values. However the traditional rhythm of shophouses in relation to the street remained unchanged.[49]

The shophouse as an architectural form is well suited to the social need and business requirements of Chinese traders. They required living accommodation on the first floor while maintaining the ground floor as a shop or office. The shop is at the front of the building while storage space and the kitchen are located at the rear. Upstairs are the living and sleeping areas (Fig. 3.4).

The standard width of the early shophouses is from thirteen to twenty feet. Its depth is at least two or three times its width. The front of the ground floor is designated by law as a public walkway at least five feet deep. Access to the residential parts of the building is through the open front or by stairs at the side leading to the street.[50]

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48 KOHL, DAVID G., *op. cit.*, page 175.

49 MALAYSIAN INSTITUTE OF ARCHITECTS, *Post-Merdeka Architecture: Malaysia 1957-1987,* Kuala Lumpur; Persatuan Akitek Malaysia, 1987, page 37.

50 MALAYSIAN INSTITUTE OF ARCHITECTS, page 17.

There is usually another stair provided in the middle of the building to connect the kitchen with the upper floors. A central air well provides internal light, ventilation and facilitates the collection and disposal of rain water. Sometimes another air well is placed at the rear of the shophouse.

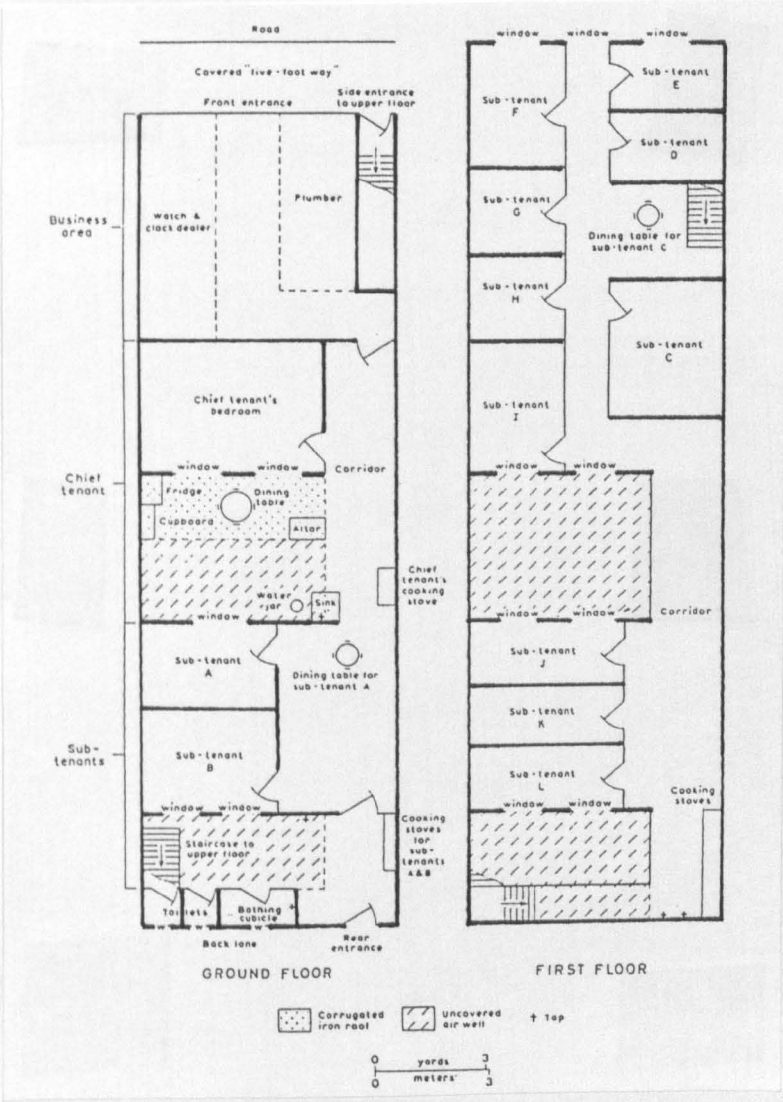

Figure 3.4: *The interior layout of a typical two-storey Chinese shophouse.*[51]

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51 Illustration reproduced from JACKSON, J. J., "The Chinatowns of South-east Asia", *Pacific Viewpoint,* Vol. 16, No. 1, May 1975, page 54.

The early shophouses took on various classical Chinese architecture characteristics, such as curved gable ends, glazed ornamental tiling and stucco decoration. Gradually these characteristics were replaced by European features (Fig. 3.5 and 3.6). As land continued to be subdivided into long, narrow lots, the emphasis was on creating unique facades. Neo-classical elements, derived from the classical architecture of Greece and Rome seemed applicable in the hot Malaysian climate. Therefore, colonnades, porticos and verandahs were utilised for sun and rain protection.

Figure 3.5: *A repetitive facade with European features in the design of early twentieth century shophouses in Jalan Tuanku Abdul Rahman, Kuala Lumpur.*[52]

52 Illustration reproduced from GUELDEN, MARLANE, Kuala Lumpur, Singapore; Times Edition, 1986, page 17.

Figure 3.6: *Two three-storey shophouses in Jalan Bandar, Kuala Lumpur which dated from the early part of this century.*[53]

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[53] Illustration reproduced from FERMOR, ROBERT-HESKETH, *Architecture of the British Empire,* London; Weidenfeld and Nicolson, 1986, page 85. The building facade of both shophouses features characteristics of European architecture with classical pediments, Ionic columns and Venetian windows. The 'Comercial Press' is Kuala Lumpur's oldest printing company.

3.2.2 TERRACED HOUSES

Commonly called link or terraced houses. They are long, narrow, attached houses with several internal air wells and courtyards. Like shophouses, terraced houses are commonly found in great quantities in the inner city.

There are several types of terraced houses but some of the earliest examples have similar design concepts to shophouses in that they have a covered walkway which links all the houses together, though in some cases an extended party wall may block this common walkway.[54] Instead of a commercial space on the ground floor, which is found in shophouses, terraced houses have an entrance hall and living area (Fig. 3.7).

Malaccan terraced houses were the homes of prosperous *Baba* merchants. The floor plans, elevations and ornamentation reflects the desire by Chinese merchants families to model their houses on their peers in China as much as possible, considering their affluence and financial status as well as the availability of local or imported materials and craftsmen.[55] Terraced houses are comparatively deeper in plan than shophouses. The number of air wells included in

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[54] ENDUT, ESMAWEE HAJI, *Search for Identity: A Survey of Malaysian Architectural Forms and Style,* Brighton Polytechnic; A dissertation presented at School of Architectural Studies and Interior Design (unpublished), page 43.

[55] MITCHISON, LOIS, *The Overseas Chinese,* London; The Bodley Head, 1961, page 32 qouted by KOHL, DAVID G., *op. cit.*, page 145.

each terraced house is also greater than those normally used in shophouses.

Fine examples of traditional terraced houses can be found along *Tun Tan Cheng Lock* road in Malaccan Chinatown. The most well preserved house owned by Mr. Chan Cheng Siew has been converted into a Baba-Nyonya Heritage Museum.[56]

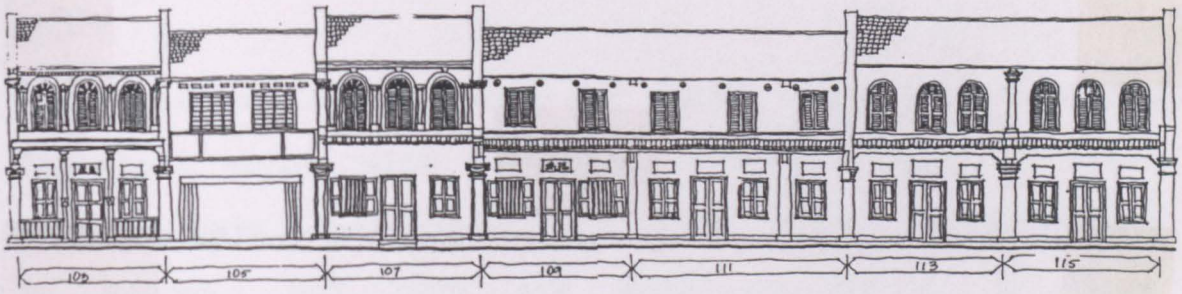

Figure 3.7: *Terraced houses in Malacca and Penang.*

56 See PERIS, ERIC, *Heritage of Malaysian Architecture,* Kuala Lumpur; American Express, July 1989, page 19.

3.2.3 MANSIONS

There are two general types of Chinese mansion in Malaya. One is the European-Chinese mansion and the other is the courtyard mansion. The first was built in a mixture of styles heavily favouring the European influence while the second was built based on the Ch'ing dynasty courtyard mansion type. Both were built in the nineteenth and early twentieth centuries by wealthy Chinese or *towkays*.[57]

The European-Chinese mansions were built in European classical styles with Palladian ornaments. Many of these mansions have adjoining gardens which resemble summerhouses in Europe, and some are seen as having a close approximation to Greek temples.[58]

Examples of this building type are found in the Straits Settlements and Kuala Lumpur and invariably have European architectural features like pediments, Tuscan columns, pilasters, porches, fanlights and Venetian arches. Two good examples of European-Chinese mansions are Loke Residence and Bok House which were built in Kuala Lumpur in 1862 and 1929 respectively. The Loke Residence (also known as Wisma Loke) is believed to be the first brick mansion built in Kuala Lumpur.[59]

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[57] *Towkay* is a Chinese merchant or businessman in Malaya.

[58] See PARKINSON, C. N., "The Homes of Malaya", *Malayan Historical Journal*, Vol. 2, Dec. 1955, page 127.

[59] PERIS, ERIC, *op. cit.*, page 15.

An example of a courtyard mansion is the Thio Tiauw Siat residence in Penang (Fig. 3.8). Built in 1881 by a team of craftsmen from China, it was believed that Thio engaged workers to built an exact replica of a well-to-do family house in China. The house is a double-storey building with the interior spaces arranged around a central courtyard with two major halls transverse to east-west axis of the house. There are five courtyards all together within the house and the rooms are all connected by corridors. The building is surrounded by a ten-foot high wall and has two entrances. The main entrance is roofed by oversized cantilivers in the Fukien style.[60]

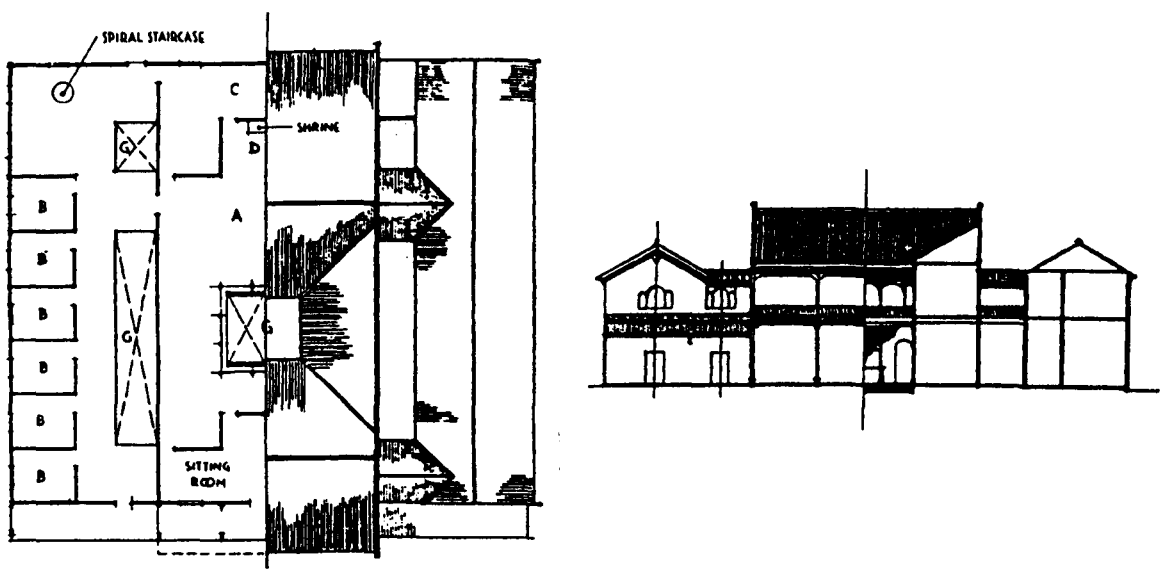

Figure 3.8: *Sectional plan and elevation of Thio Tiauw Siat mansion in Penang (1881).*[61]

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[60] For a further description of the house see KOHL, DAVID G., *op. cit.*, pp. 163-166.

[61] Illustration reproduced from KOHL, DAVID G., page 164.

3.2.4 TEMPLES

In Malaya, temples are used by the Chinese to worship their gods and ancestors, unlike in China where temples are also used to worship the Emperors. As David G. Kohl notes, "Most Malayan temples are lacking of relationship to Imperial religious edifices. They are dedicated to a local combination of Buddhist images, Taoist heroes, spirits and Confucian maxims"[62] (see Fig. 3.9). It is important to note that the Confusion, Taoist and Buddhist religions together form the basic belief of the Malayan Chinese. Confucian teachings have influenced the Chinese code of moral behaviour. Taoist and Buddhism deals more especially with the Chinese attitude towards the gods, life after death and the supernatural.[63]

Temples in Malaya are also dedicated to local Chinese deities, such as *Tua Peh Kong*, the Hokkien God of Prosperity. Tua Peh Kong is the most popular god in Malaya. He is purely an overseas god and represents the spirit of the pioneers.[64] Tua Peh Kong is also known by the Cantonese

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62 KOHL, DAVID G., page 85.

63 For more details about Chinese religions and deities see RYAN, NEIL JOSEPH, *The Cultural Heritage of Malaya*, 2nd., ed., Kuala Lumpur; Longman Malaysia, 1971, pp. 74-101.

64 RYAN, NEIL JOSEPH, page 101.

as *Tai Pak Kung*; the God of Carpentry and the guardian god of a particular town.[65]

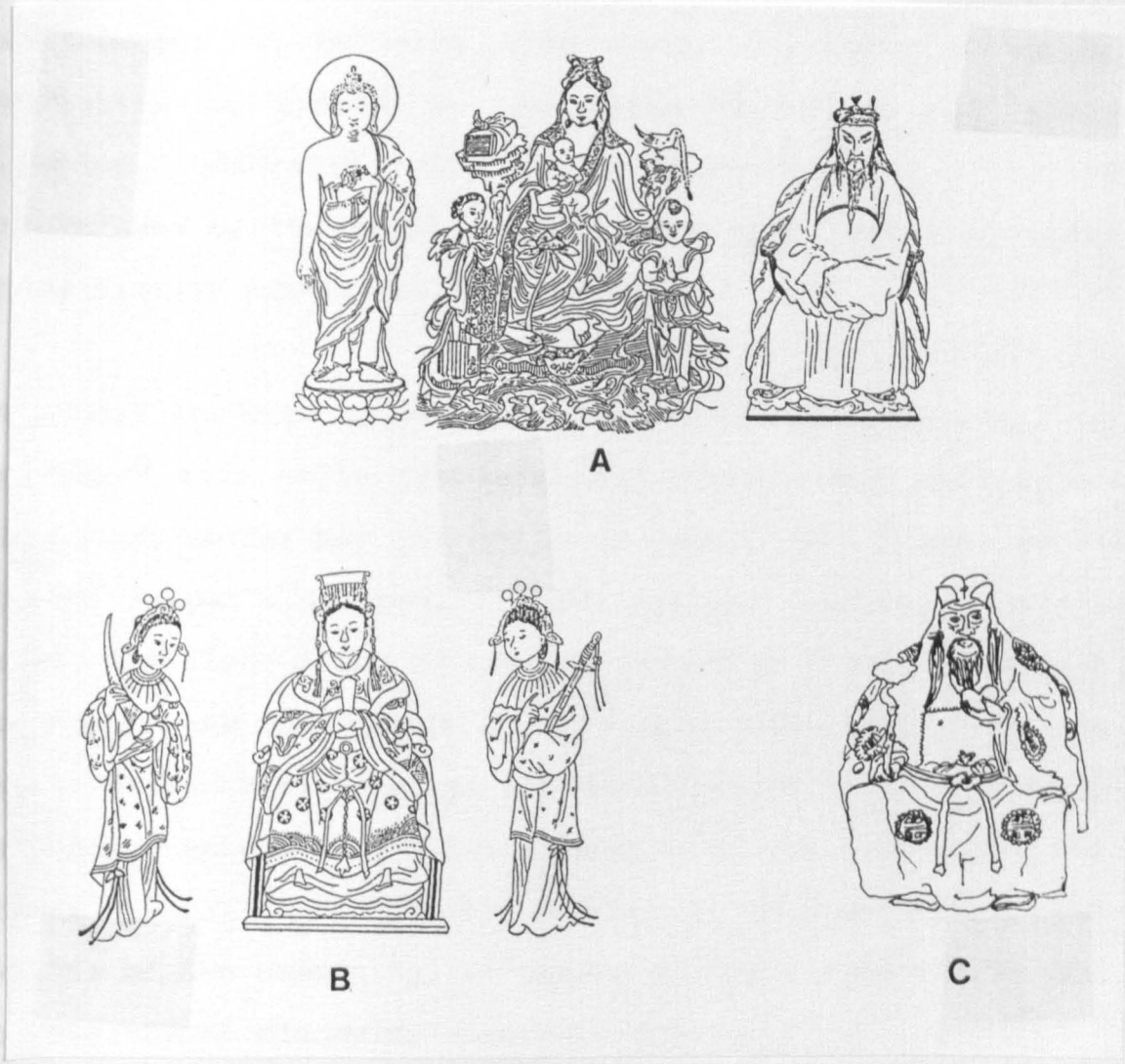

Figure 3.9: *Images which are commonly found in Malayan Chinese temples - a) Buddhists images b) Taoist divinities c) Toh Peh Kong, the God of Prosperity.*[66]

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[65] It is noted that the Taoist, Buddhist and folk beliefs are inextricately mixed, and deities representing any of these faiths or cults are found interchangeably in temples throughout the region. See COMBER, L., *Chinese Magic and Superstitions in Malaya,* Singapore; Donald Moore, 1969, page 83, quoted by KOHL, DAVID G., *op. cit.*, page 84.

[66] Illustration reproduced from KOHL, DAVID G., *op. cit.*, pp. 86-88.

The design of Malayan temples are based on the three major Chinese religions: the Buddhist, Taoist and Confucian. Each religion seems to have its own requirements regarding the arrangement of building components. But only a slight variation is traced in the basic layout of the three temples. Generally, the floor plans and construction techniques of the temples remain consistent and they share many similar architectural features.

The main interior spaces of Malayan temples are:- the *main palace,*[67] side halls for ancestral tablets and courtyards. Secondary spaces may include an air well, bell tower, smoke tower, keeper's quarter, fortune tellers' office and store room. The floor plans of temples vary from a complex series of halls and courtyards to a simple plan with only two small halls (designated as the main palace) and without any secondary space (Fig. 3.10). The size of the temple and its floor plan is practically determined by the extent and wealth of the community, or patron of the temple and by the popularity of the deity enshrined therein.[68]

Every Malayan town invariably has at least one or two Chinese temples. They often stand alone, although in some cases, they may be part of complexes which include other exterior fixtures, like memorial arches, pagodas and gardens.

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[67] *Main palace* is the main hall with altar.

[68] KOHL, DAVID G., *op. cit.*, page 88.

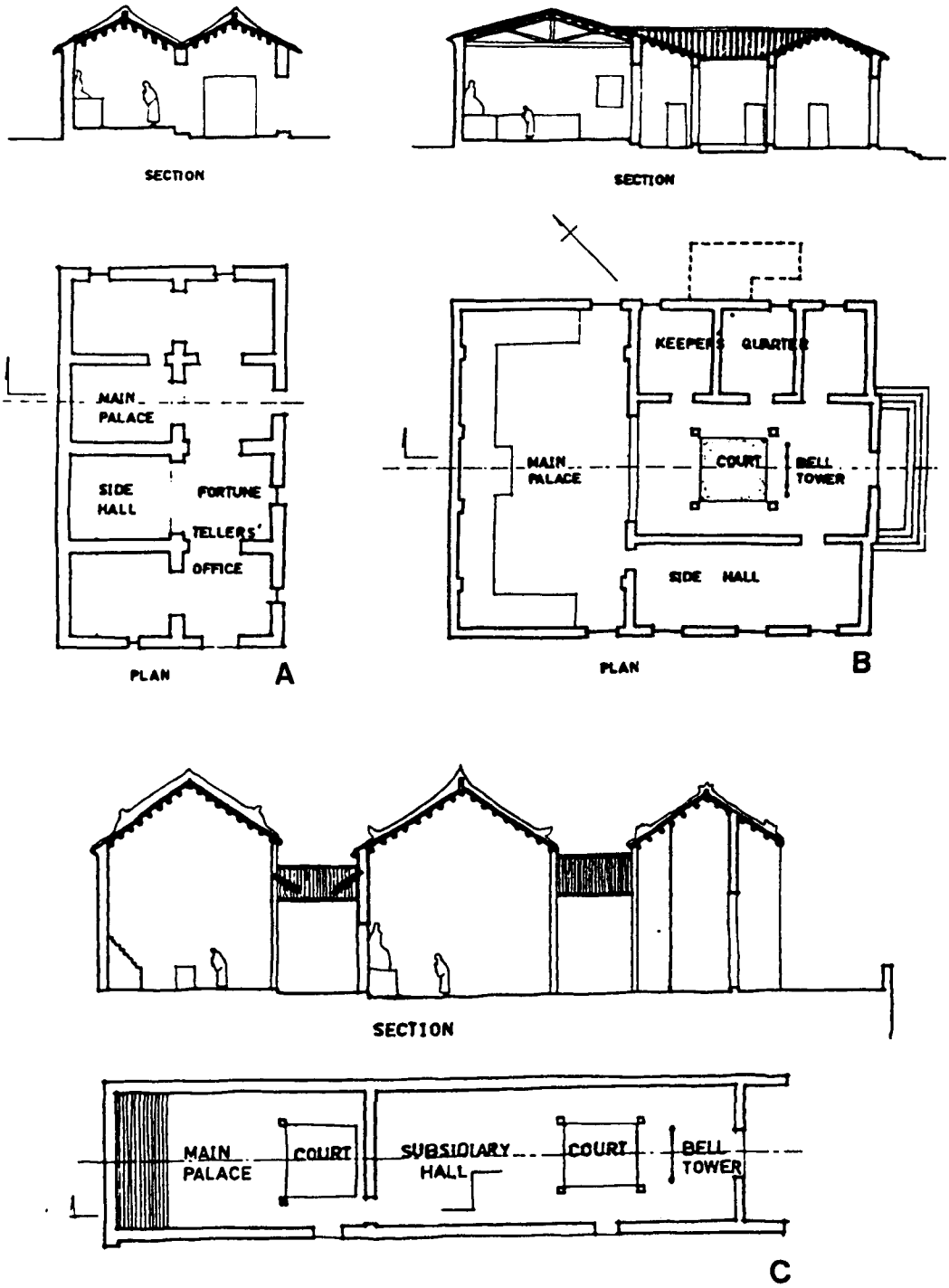

Figure 3.10: *Three examples of Malayan Chinese temples:-*
a) A temple without a courtyard.
b) A temple with one internal courtyard.
c) A temple with two internal courtyards.

The oldest permanent Chinese temple in Malaysia is the *Cheng Hoon Teng Temple*[69] of Malacca. Its history reflects various stages of construction and renovation. Its origin is obscure, but it is known that is was restored in 1625 and 1648, when it was probably moved and rebuilt on its present site by *Capitan China,*[70] *Li Wei King.* The complex of halls and courtyards occupies about 49,520 square feet.[71]

Kek Lok Si Temple in Penang is another old Chinese temple. The building has also been restored, repaired and redecorated a number of times. It was built in 1904. Additional temples and pagodas have been added at different times throughout the twentieth century.

3.2.5 "KONGSIS"

Kongsis are public buildings used by the various cultural and ethnic groups to conduct their social and ritual activities. Normally each Kongsi is designated for one clan or Chinese association. The function of the Kongsi can be listed as follow:-

i. To provide facilities for the worshipping of ancestors.

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[69] *Cheng Hoon Teng Temple* is also known as the "Bright Clouds Temple".

[70] *Capitan China* is the leader of the Chinese community in each settlement on Malaya, most particularly in Malacca.

[71] KOHL, DAVID G., *op. cit.*, pp. 83-84.

ii. To preserve the records of the clan's accomplishments.

iii. To promote harmony and well-being among fellow clansmen.

Basically, Kongsis serve exactly the same purpose as temples in providing facilities for worshipping, with additional facilities for social interaction and the execution of public ceremonies.

Kongsis normally have similar building components to temples and they also appear in the same structural and ornamental forms. This similarity in building use is even more enhanced by the fact that Chinese buildings are interchangeable in their function.[72] Additional structural components to Kongsi buildings are theatrical stages and porticos.

The theatrical stage is a common feature in most Kongsi buildings in Malaya. It is where theatrical performances, like Chinese Opera and *Drama*,[73] are held during festival days. The theatrical stage is a separate building which faces the Kongsi. The roof is supported by pillars and three sides of the stage are open. The stage is usually

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[72] KOHL, DAVID G., page 85.

[73] Chinese Drama combines speech and song, music and dance, originally developed during the time of the Ming dynasty (1368-1644). See RYAN, NEIL JOSEPH, *op. cit.*, pp. 116-119.

elevated about four feet above the ground and the floor may contain trap doors to aid the performance.[74]

The portico is also an important element in Kongsi buildings, particularly in Penang. A typical Penang Kongsi house, which has a dominant porch (or portico), is the Khoo Kongsi building. The portico of the Khoo Kongsi is placed right in front of the main palace. It is also elevated several feet above the ground with columns supporting its roof. The portico forms an open entrance hall and is connected to the main palace by a set of stairs (see Fig. 3.11).

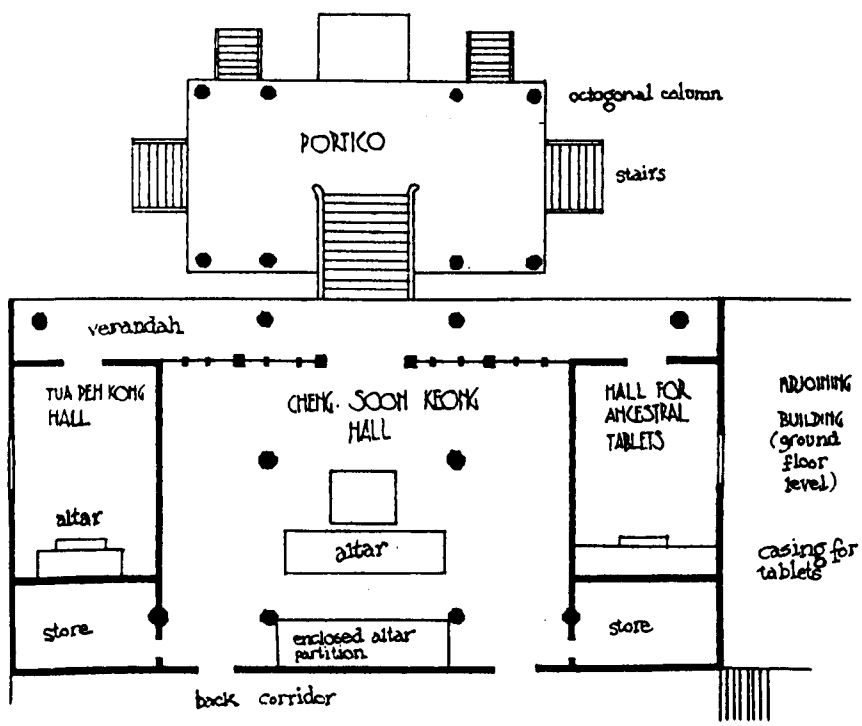

Figure 3.11: *Floor plan of Khoo Kongsi in Penang.*

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74 MIRAMS, D. G., *A Brief History of Chinese Architecture,* Shanghai; Kelly and Walsh, 1940, page 41 quoted by KOHL, DAVID G., *op. cit.*, page 113.

The actual building of Khoo Kongsi was originally designed and built with a double Imperial roof in an ostentatious display of grandeur. Unfortunately, fire destroyed this original structure in 1901 before it was ever occupied. It was rebuilt in 1906 with a single roof in a supposedly more modest Fukien style.[75]

The building is generally seen as having mixed building characteristics. The porch is influenced by European architecture, the roof form and ornaments are taken from southern Chinese architectural traditions and the raised platform has images of Imperial buildings of China.

It should be noted that Imperial structures are normally raised on a solid basement while this Khoo Kongsi building is raised on pillars. This has indefinitely given the notion that the raised structure may have been derived from the Malay architectural tradition instead.

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[75] KOHL, DAVID G., page 94.

3.3 BUILDING FORM AND ITS DEVELOPMENT

In studying the building forms of Malayan Chinese buildings and their development, reference will constantly be made to southern Chinese architecture or classical Chinese architecture, due to the fact that they were the major influences and the basis of Malayan Chinese architecture.

3.3.1 MAIN ARCHITECTURAL STYLES

The most eminent and popular of all Chinese architectural styles in Malaya is the *Straits Eclectic Style*. Other building styles which have developed in Malaya and contain a mixture of Chinese and other influences are those classified as *Chinese Baroque*, the architecture of Chinese-European Villas and *Sino-Malay-Palladian*.

i. THE STRAITS ECLECTIC STYLE

The architecture of Chinese buildings in the Straits Settlements is referred to by many architectural scholars as *Straits architecture* or *Straits Eclectic Style*. This style dates from the fifteenth century when Chinese traders and merchants came to the Straits Settlement of Malacca bringing with them their traditions on architecture.[76] Adaptations to suit the tropical climate, combined with the influence of Malay and European architecture, has created an urban architecture that is unique to the town of Malacca. This architecture spread to Penang, Singapore and

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[76] HERITAGE OF MALAYSIAN TRUST, *op. cit.*, page 35.

later to the whole of Malaysia. It developed throughout the colonial period and has inevitably incorporated features from European architectural styles. This new building style also continually evolved with local environmental constraints in mind. It may be summarized that the so-called *Straits Eclectic Style* is a mixture of Chinese architecture, Malay building traditions and European architecture (which includes Renaissance, Mediterranean, English and Dutch influences) with some variations manifested within the long period of Western colonisation.

Terraced houses and shophouses are the most abundant building types in Malaya and they experienced many changes in the development of building styles. They are recognized as having developed their own building characteristics. It can be noted that the *Straits Eclectic Style* is generally applicable to these two particular building types. Many of the Chinese religious structures in Malaya experienced little change from their original form and have closely followed the traditions of Chinese architecture. Within the general *Straits Eclectic Style,* several building periods can be identified:-

i. Pre 1884

Early Chinese shophouses in Kuala Lumpur were simple *atap* huts or brick structures with an *atap* roof, built by Chinese merchants to service the tin miners.

The town houses built in Malacca during the mid-eighteenth century were constructed with more permanent materials and do not have the architectural feature of the *five-foot walkway;*[77] instead they have a lower secondary roof. Buildings are usually much less ornately decorated, with more use being made of wood on the facades. The houses are usually only two-storeys with a variety of building heights. After the mid-eighteenth century, the buildings were either two or three-storeys and ornately decorated with plaster figures. The upper floors usually overhang the walkway. Though these building may be attributed to a later period, there is a possibility that the buildings were renovated and extended to accommodate new owners and were actually built much earlier.[78]

ii. Post 1884

In 1881, there was a great fire in Kuala Lumpur which destroyed most of the buildings constructed of timber and atap. After the great fire, it was decided that new buildings need to be built using more permanent and durable materials (i.e. bricks structures and tiled roofs).

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[77] Five-foot walkway is locally termed as *Jalan Kaki Lima*. It is a pedestrian corridor which is found in front of both terraced houses and shophouses.

[78] HERITAGE OF MALAYSIAN TRUST, *op. cit.*, page 35.

In 1884, Sir Frank Swettenham, the British Resident of Selangor introduced Building Regulations[79] and decreed that the original atap hut structures were to be rebuilt in bricks or wattle with tiled roofs. Allowance for a five-foot covered passageway by the roadside was also to be made.[80] Variations in facade treatment to terraced houses and shophouses include:-

a. Utilitarian (1800-1900s) - Simple wooden shutters with a minimum of decoration. Chinese style derivative.
b. Neo-Classical (1910-1930s) - Elaborate Greek and Roman columns, ornately decorated window, frame details, pediments, parapets and cornices.
c. Art Deco/Art Modern (1930s-1940s) - Simplified lines, geometric patterns.
d. Post World War Two/Modern (1950s-1980s) - No ornamentation, totally utilitarian.[81]

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[79] The introduction of Building Regulations by Frank Swettenham was presumably following Sir Stamford Raffles' instructions to the Town Planning Committee of Singapore in 1822. His instruction reads "*..all houses constructed of brick or tile should have a uniform type of front, each having a verandah of a certain depth, open at all times as a continuous and covered passage on each side of the street.*" Although it is not known whether Raffles' instructions have a direct influence on Swettenham's enforcement on the Building Regulations, Swettenham was certainly familiar with the architectural development of both Singapore and Penang. Therefore, it was suggested that there was a connection between the two planning administrators. See EMRICK, M., "Vanishing Kuala Lumpur: The Shophouses", *Majallah Akitek*, No. 2, 1976, page 29.

[80] MALAYSIAN INSTITUTE OF ARCHITECTS, *op. cit.*, page 15.

[81] See HERITAGE OF MALAYSIAN TRUST, *op. cit.*, page 36.

ii. CHINESE BAROQUE

This style had been introduced to Malaya in the nineteenth century by Chinese immigrants. This is a purer form of Chinese architecture than is found in the *Straits Eclectic Style*. The building techniques and ornamentation are seen as direct copies of the architectural traditions of southern China. Buildings using this style are the Buddhist and Confucian temples; Kongsis and courtyard mansions.[82]

iii. `EURO-CHINESE' STYLE - THE ARCHITECTURE OF THE CHINESE -EUROPEAN VILLA

Buildings under this category are mainly neo-classical mansions commissioned by rich Chinese during the end of the nineteenth century and the beginning of the twentieth century. Although some Chinese architectural principles are incorporated and considerations were also given in adapting to the local climatic conditions, the European architectural features seem to dominate the general appearance of these buildings. It has been speculated that wealthy Chinese merchants and businessmen travelled around Europe and were inspired by what they saw in the design of European architecture. They came back and tried to superimpose the characteristics of European architecture in their own newly built mansions.

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82 HERITAGE OF MALAYSIAN TRUST, page 38.

iv. 'SINO-MALAY-PALLADIAN' STYLE

This building style generally refers to free-standing Chinese houses or bungalows which have adopted characteristics from the Malay architectural tradition, European architectural styles and equally the characteristics of Chinese architectural traditions. Such buildings are characterized by raised floors and high ceilings which make them a distinctive tropical building type (Fig. 3.12).

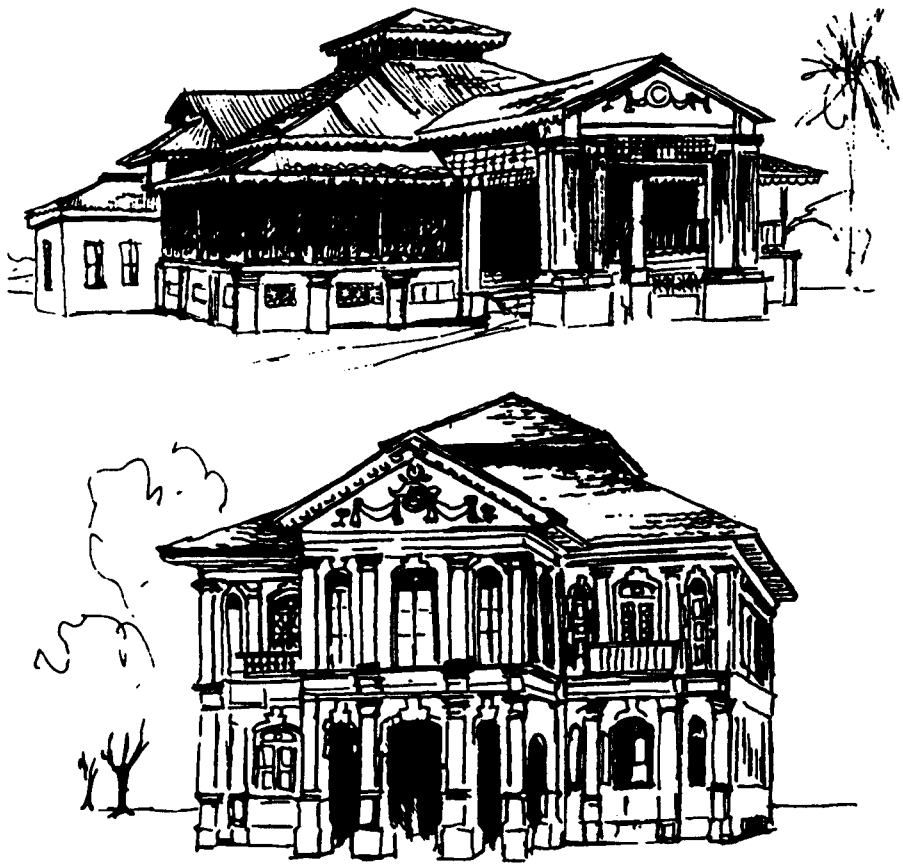

Figure 3.12: *Sketches of 'Sino-Malay-Palladian style' houses in Penang.*[83]

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[83] Ilustration reproduced from KOHL, DAVID G., *op. cit.*, page 157 and page 159.

3.3.2 PLANNING

The planning of Chinese buildings in Malaya is generally based on the spatial concepts of classical Chinese architecture. It reflects the daily needs and aesthetic requirements of Chinese people.

The basic planning of classical Chinese architecture involves the use of the *Jian*,[84] or standard room module, as a basic unit which may be expanded or repeated to form either individual buildings or groups of buildings. The *Jian* is a rectangular space defined by walls or columns which separate it from adjoining rooms or spaces. A hall or *Ting* is created by extending the *Jian* along a longitudinal or horizontal axis. Sometimes halls were grouped around a courtyard to form different building configurations.

The building units (the halls) are normally organized in symmetrical and orthogonal orders and are axially planned. The longitudinal axis is considered more important than the horizontal axis. Almost all halls and courtyards are arranged along or parallel to the longitudinal axis or path in an orthogonal order.[85]

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[84] The concept of the Jian originates as far back as the Shang Dynasty 1766-1122 B.C. (for full list of Chinese dynasties, see Appendix E). More than ten buildings having rectangular foundations were discovered in an excavation at Yinxu, the Shang capital at Anyang. The bases for columns on the foundations were laid out in straight lines and set at equal intervals. This archeological finding indicates an early use of the *Jian* concept in building construction.

[85] See LIU, LAURENCE G., *op. cit.*, pp. 27-28.

The most common arrangement of units places the main hall at the centre of the major axis. Other halls were located to the left and right of this main structure. As a result, a horseshoe courtyard is formed. The same organizational concepts are applicable to both public and private buildings. This type of spatial organization is evident in traditional Chinese buildings in Malaya and the best example is seen in the spatial arrangement of temples or clan houses.

In addition, it has been observed that ample spatial provision or a substantial land area is usually needed to work out this type of arrangement. Therefore, public buildings like the temples and clan houses in Malaya are usually planned within a large area with few site constraints.

The planning of terraced houses and shophouses on the other hand is worked out within specific dimensions and limited spatial provision. As a result, interior spaces are carefully planned and squeezed into the series of elongated and narrow sites. Gardens and courtyards are reduced in size to form air wells.

3.3.3 MAIN BUILDING COMPONENTS AND INTERIOR LAYOUT

Analysis of the floor plans of traditional Chinese houses reveals that the space allocated for the performance of domestic duties and for social interaction between the members of the household is determined by the Chinese concept of space.[86] The main building components which apply to all traditional Chinese houses are:-

i. Ancestral hall
ii. Shrine
iii. Sleeping quarters
ii. Courtyards and airwells
iv. Dining room
v. Kitchen

i. Ancestral Hall

The ancestral hall is an important space in every traditional Chinese house. This is the place where parents and ancestors (for countless generations of family history), are honoured daily and where tablets are set up for each deceased individual. The hall may be part of the main sitting room, or may be separated as an independent space solely dedicated for ancestral worship. It normally consists of an open area with tablets placed on a table or backing a wall. The tablets are usually decorated with small implements like vases, fumed incenses, candles or lanterns. Sometimes an alter is also placed here.

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86 KOHL, DAVID G., *op. cit.*, page 131.

This ancestral worship had been practiced for generations, and will be continually practiced as the Chinese believe that a man's life after death depends on the continuation of his family, and on his male descendents regularly worshipping his tablets in the family ancestral hall.

ii. Shrine

The shrine is usually a prominent element located towards the front of the house, whereas ancestral halls are more often secluded and protected in traditional Chinese homes. In terraced houses and shophouses in Malaya, shines are usually placed at the side of the large columns next to the five-foot walkway.

Shrines in houses are dedicated to the household spirits. The spirits are portrayed by pictures or images conspiciously displayed in the house. They are worshipped as a group on the fifteenth day of the first and twelfth moon with offerings which are afterwards distributed amongst servants and dependents.[87]

iii. Sleeping Quarters

In single-storey houses, bedrooms are usually secluded and set far back into the house. For two-storey houses, bedrooms are usually placed on the upper floor. In large detached houses, bedrooms are either grouped together and

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[87] LOW, JAMES, *The British Settlement of Penang,* Kuala Lumpur; Oxford University Press, 1972, page 313 qouted by KOHL, DAVID G., *op. cit.*, page 134.

arranged around an internal courtyard or in a row along an external wall. They are usually connected by corridors.

In Malaya, bedroom furnishings may include simple beds, a chest of drawers, portable boxes and a toilet table. These items may simply be painted or covered with carvings, inlay work or painted designs. Carved blackwood furniture with marble panels from Canton has also been popular and used by well-to-do Malayan Chinese families.[88]

iv. Courtyards and Airwells

The courtyard garden is one of the primary features of traditional Chinese houses. House and garden are considered inseparable in traditional Chinese domestic architecture.[89] The form and extent of the couryard may vary (Fig. 3.13).

In Malaya, the elements of the traditional Chinese garden are incorporated into the courtyards and airwells of almost all Chinese dwellings. There are five major components of Chinese garden design; these include plants, water, paths, rockeries and architectural elements. According to Chinese tradition, plants like pine, plum and bamboo[90] have a

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[88] See KOHL, DAVID G., *op. cit.*, pp. 133-134.

[89] NEEDHAM, JOSEPH, *Science and Civilization in China,* Vol. 4, Part 3, Cambridge; 1971, page 59. quoted by KOHL, DAVID G., *op. cit.*, page 131.

[90] For the Chinese, pine, plum and bamboo are known as the three friends. Bamboo represents the scholar, who wisely bends under pressure, like bamboo does under the winter snow. Both, however, spring back when the pressure is removed. Plum is the first bloom of spring, signifying new hope and life. Pine trees are symbolic of longevity and perseverance. See KOHL, DAVID G., *op. cit.*, page 131.

symbolic significance and are widely used in Chinese private gardens and courtyards. Water, paths, rockeries and architectural elements all have their own significance and are used together to create a series of vistas which are to be discovered and enjoyed.

Figure 3.13: *An airwell and a courtyard in traditional Chinese houses.*[91]

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91 Illustration reproduced from YEANG, KEN, *Tropical Urban Regionalism: Building in a South-east Asian City,* Singapore; Concept Media, 1987, page 23.

v. Dining Room

A room that has an opening onto a courtyard may serve as a dining area. The room is usually located adjacent to the kitchen. For two-storey buildings, kitchens are usually located on the ground floor. Furniture in this room may include a dining table and cabinets. The cabinets may hold prized possesions like porcelain, bronze and lacquer objects. Walls may be adorned with paintings.

vi. Kitchen

In traditional Chinese houses, kitchens are preferably separated from the main house. This however depends on the type and configuration of the house and building site. In many old Chinese houses of Malaya, kitchens are separated from other spaces by the introduction of air wells. The reason for the separation is because there is a danger of fire possibly emanating from the kitchen and igniting the timber structures of the house. Within the confines of the kitchen space, one invariably finds an image of the kitchen god. Tradition has it that this kitchen god knows most about the activities of the family, and makes an annual report to the gods prior to the Lunar New Year.[92]

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92 KOHL, DAVID G., *op. cit.*, page 134.

3.3.4 MATERIALS AND CONSTRUCTION SYSTEM

Timber is the most important building material used in traditional Chinese architecture. The Chinese have developed a sophisticated technique of using timber for the building's structural elements. The tradition of using timber for building structures was followed through in the early Chinese buildings of Malaya.

The earliest Chinese buildings in Malaya were constructed of timber and *atap*. This include shophouses, shrines and temples. Beginning from mid-1820s, the structures were gradually replaced by more durable and permanent materials, like mud bricks and mortar, but many buildings still retained the *atap* roofs. As tile roofing became more readily available, and as economy permitted, *atap* roofs were eventually replaced. Examples of buildings originally constructed using *atap* and timber structures can be seen at the Snake Temple in Penang and Kwan Yin Temple in Kuala Lumpur. Both were replaced at a later date by permanent materials.[93]

Walls can be constructed of five different materials, the simplest being hard-packed rammed earth. Mud bricks, rubble or dressed stone are used in more sophisticated walls, while dark fine-textured "green" bricks, with finely-applied white mortar are used for temples or in wealthy houses. Stucco is usually used to form sculptured bas-

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[93] KOHL, DAVID G., page 77 and 83.

relief panels beneath the eaves or under the coping of gable walls.[94]

Tiled roofs in Malaya are made either of unglazed red clay, manufactured locally, or of glazed ceramic, imported from China. The unglazed red clay roof tiles are most common in the buildings in Penang. They are also used in the Kwan Yin Temple at Kuala Lumpur and in the Cheng Hoon Teng Temple at Malacca, as well as countless other temples in Malaya. The pattern of tiling adopted on temple roofs appear to closely follow the ridge and furrow techniques used in Chinese practice.[95] In the mid-nineteenth century, many temples and houses were built and furnished with materials imported from China.

The Chinese have historically achieved a very high standard in timber craftsmanship. The finest work can be seen in the highly-skilled timber bracket system. Timber has an advantage in that it can easily be standardized. Although the bracket system may look sophisticated, the use of standardized timber components has inevitably speeded up the process of construction.[96]

The first attempt to compose the major written works on the construction of Chinese buildings was made during the Han

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[94] KOHL, DAVID G., page 173.

[95] KOHL, DAVID G., page 100.

[96] LIU, LAURENCE, *op. cit.*, page 27 and pp. 29-30.

dynasty (206 B.C.-221 A.D.) and by 995 A.D. the Chinese had established a proportional relationship between parts of a building, which can be divided into upperwork, middlework and lowerwork units.[97] The weight of the roof is generally transferred onto columns via a series of timber brackets which forms a collar around the building[98] (Fig. 3.14).

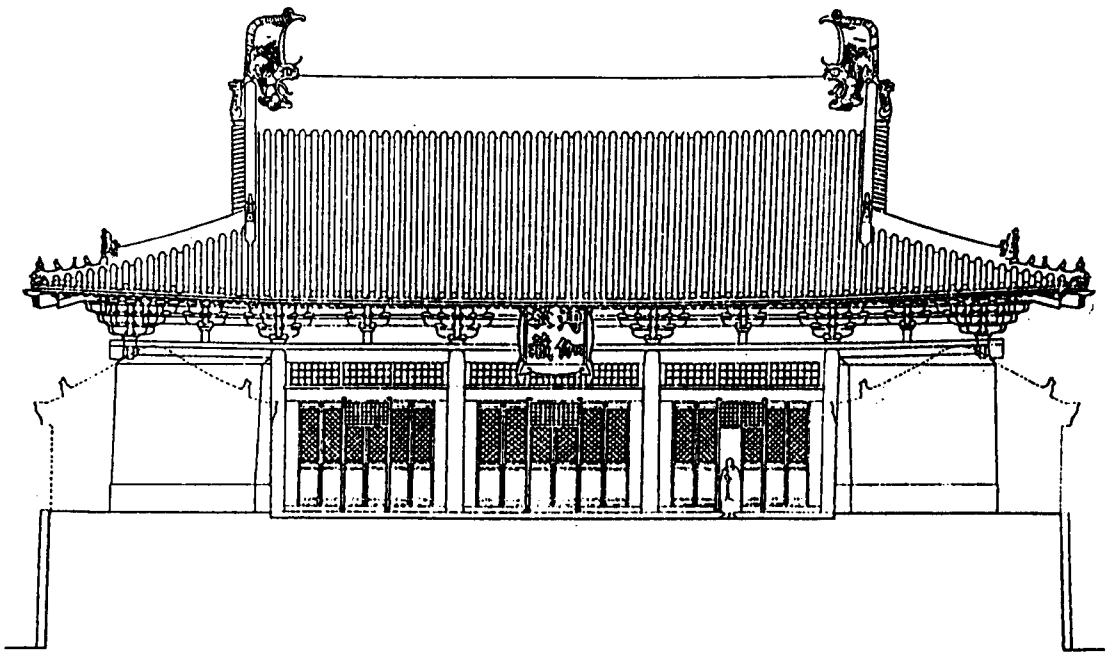

Figure 3.14: *Front elevation of a building in China built in the eleventh century.*[99]

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[97] The upperwork unit is the area above the cross beams. The middlework is the area between the base and the cross-beams which includes the pillars and the lowerwork is the platform. Specific ratios were established to control these three units and other components in the rafter and bracket assemblies. See KOHL, DAVID G., *op. cit.*, page 21 and NEEDHAM, JOSEPH, *op. cit.*, page 82.

[98] VLATSEAS, S., *op. cit.*, page 83.

[99] Illustration reproduced from LIANG, SSU-CH'ENG, *op. cit.*, page 59.

The proportional relationship between parts of a building was developed further during the Sung dynasty (960-1279 A.D.) and has subsequently led to the production of one of the two most important manuscripts about the construction of traditional Chinese buildings known as *Ying-zao fa-shi*[100] (Building Standards).

Principles formalized in the *Ying-zao fa-shi* have dominated Chinese architecture (since the Sung dynasty), in both Imperial and provincial buildings. According to the *Ying-zao fa-shi,* there are eight grades of standard dimensions used for different sizes of buildings. These standard dimensions, known as *ts'ai* are generally used in preparing the structural components of the building support system. The depth of each *ts'ai* is divided into fifteen equal parts, called *fen,* and the width (thickness) of a *ts'ai* is equivalent to ten *fen*. When two *ts'ai* are used one above another, a small block of six *fen* in height (called *ch'i*) is used to fill in the gap between the two *ts'ai,* resulting

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100 *Ying-zao fa-shi* or *Ying-tsao fa-shih* (Building Standards) was published in 1103. It was compiled by Li Chieh, superintendent of construction at the court of Emperor Hui-tsung (ruled 1101-1125) of the Sung dynasty. Of the 34 chapters, 13 are devoted to rules governing the design of foundations, fortifications, stone masonry and ornamental carving, 'major carpentry' (main structural components like columns, beams, brackets, rafters, purlins, etc.) and 'minor carpentry' (non-structural components like doors, windows, screens, ceiling, etc.). The rest of the text contains definitions of terms and data for estimation of materials and labour. The last 4 chapters contains drawings illustrating various kinds of designs in carpentry, stonework and ornamental painting. See LIANG, SSU-CH'ENG, *op. cit.*, pp. 14-18.

in a *tsu-ts'ai*,[101] or "full *ts'ai*", of 21 *fen* in depth (see Fig. 3.15).

Every measurement in traditional Chinese buildings (built during the Sung dynasty) which includes the height and breadth of a building, the dimensions of every member of the structure and the rise and curve of the roofline is measured in terms of *Fen* of the eight standard timber modules (*Ts'ai*).[102] (Fig. 3.16)

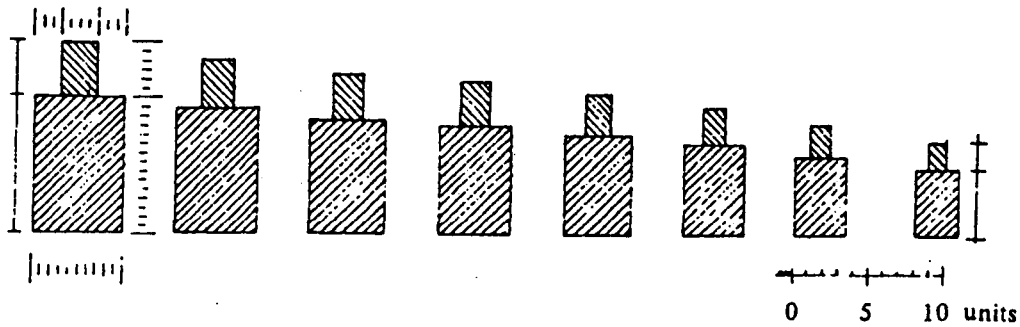

Figure 3.15: *"Ts'ai", the standard timber for all construction is graded into eight classes.*[103]

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[101] *Tsu-ts'ai* is a combination of one *ts'ai* (15 *fen* in depth) and one *ch'i* (6 *fen* in depth) and measures 21 *fen* in depth and 10 *fen* in width.

[102] LIANG, SSU-CH'ENG, *op. cit.*, page 15.

[103] Illustration reproduced from IZIKOWITZ, K. G. and SORENSEN, P. (eds.), *op. cit.*, page 29.

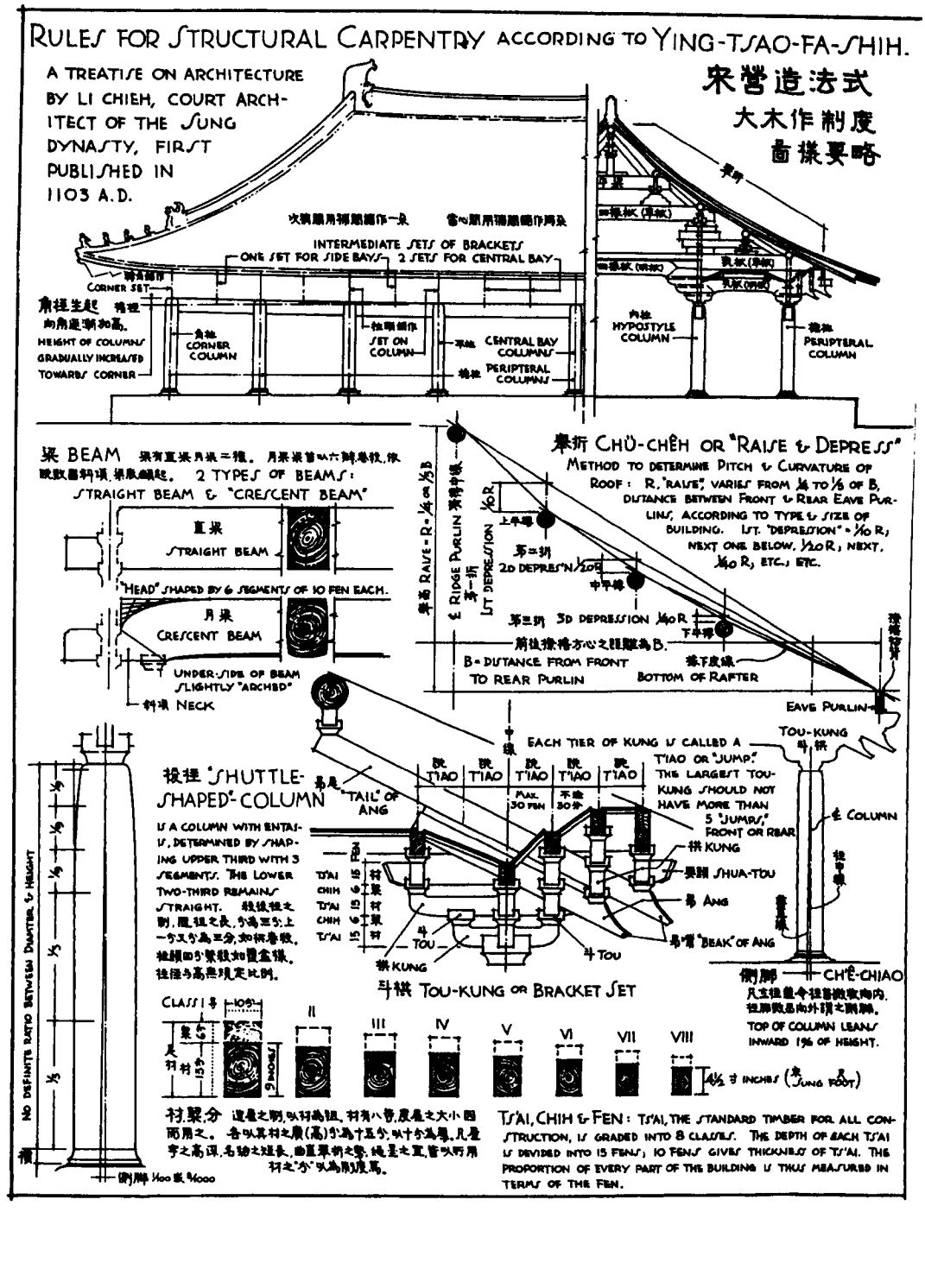

Figure 3.16: *Rules for structural carpentry according to Ying-zao fa-shi.*[104]

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104 Illustration reproduced from LIANG, SSU-CH'ENG, *op. cit.*, page 16.

The eight standard dimensions (*Ts'ai*) represent eight different sizes, therefore the size of *fen* varies with the size of *ts'ai*. The biggest dimension is 9 by 6 inches, and consequently the *fen* unit is 0.6 inches. This size is used for the biggest buildings with ten to twelve pillars in the front, the long side. The next grades are gradually smaller until the last, the eighth, which is 4.5 by 3 inches with a *fen* of 0.3 inches. This dimension is used for small pavilions with complicated brackets.[105]

In traditional Chinese building, timber brackets are part of the structural system which supports the main roof. A set of brackets is known as *tuo-kung*[106] and according to *Ying-zao fa-shi* it consist of three important members: *tou* (bearing block), *kung*[107] (bracket arm) and *ang*[108] (flower arm - see Fig. 3.17).

The second most important manual about the construction and structural design of traditional Chinese buildings is the

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105 See IZIKOWITZ, K. G. and SORENSEN, P. (eds.), *op. cit.*, page 28.

106 A set of *tou-kung* may be called a "column set", "intermediate set" or "corner set" depending on the position it occupies.

107 There are four kinds of *tou* and five kinds of *kung*, determined by their functions and positions. But structurally the most important members of a set are the *lu-tou*, or major bearing block, and the *hua-kung*, or arms extending out from it to form cantilevers to both front and rear, at right angles to the facade of a building.

108 *Ang* is a long slanted lever arm on the principal bearing block (lowest in a bracket set).

Kung-ch'eng tso-fa tse-li[109] (Structural Regulations). *Kung-ch'eng tso-fa tse-li* is practically a revised and elaborate version of *Ying-zao fa-shi* and not many changes were made to the basic principles of Chinese buildings. In this second manual, the *Ying-zao fashi*'s measuring system (*ts'ai, ch'i* and *fen*) has been improved and renamed as *tou-k'ou*[110] system (Fig. 3.18).

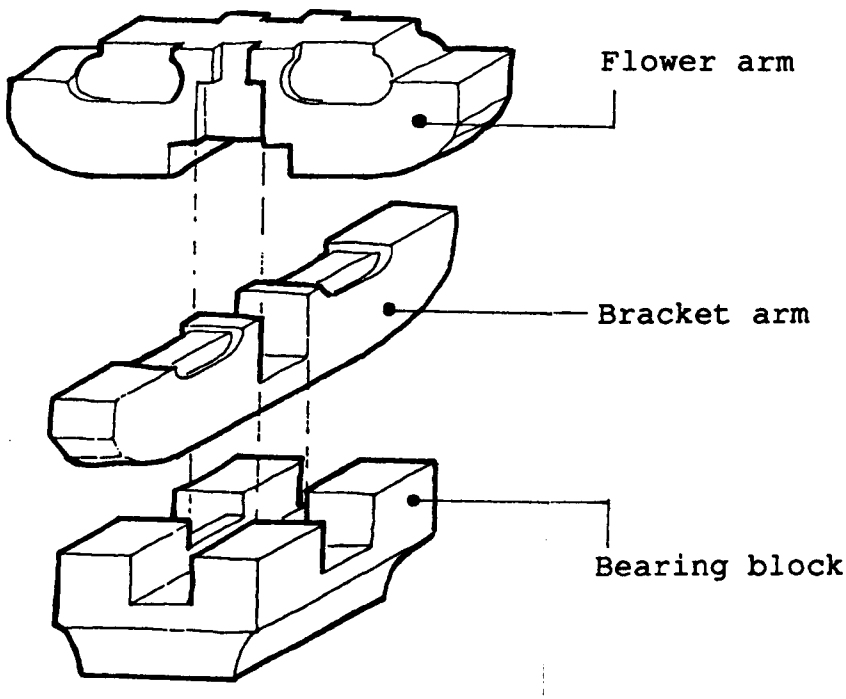

Figure 3.17: *A set of 'tou-kung' (brackets).*

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[109] *Kung-ch'eng tso-fa tse-li* (Building Regulations) was published in 1734 by the Ministry of Construction of the Ch'ing dynasty. It is far more bulky and not as well organized as the *Ying-zao fa-shi*. It has 71 chapters - the first 27 chapters dealt with the rules for constructing 27 kinds of buildings, the next 13 chapters are devoted to the timber bracket system, 7 chapters about non-structural components and 24 chapters on the estimation of materials and labour. See LIANG SSU-CH'ENG, *op. cit.*, page 18.

[110] *Tou-k'ou* is the "mortise of the *tou*" or literally "block mouth". The system of measurement is similar to the *ts'ai* system. 6 *fen* of *ch'i* is equivalent to 0.6 *tou-k'ou*.

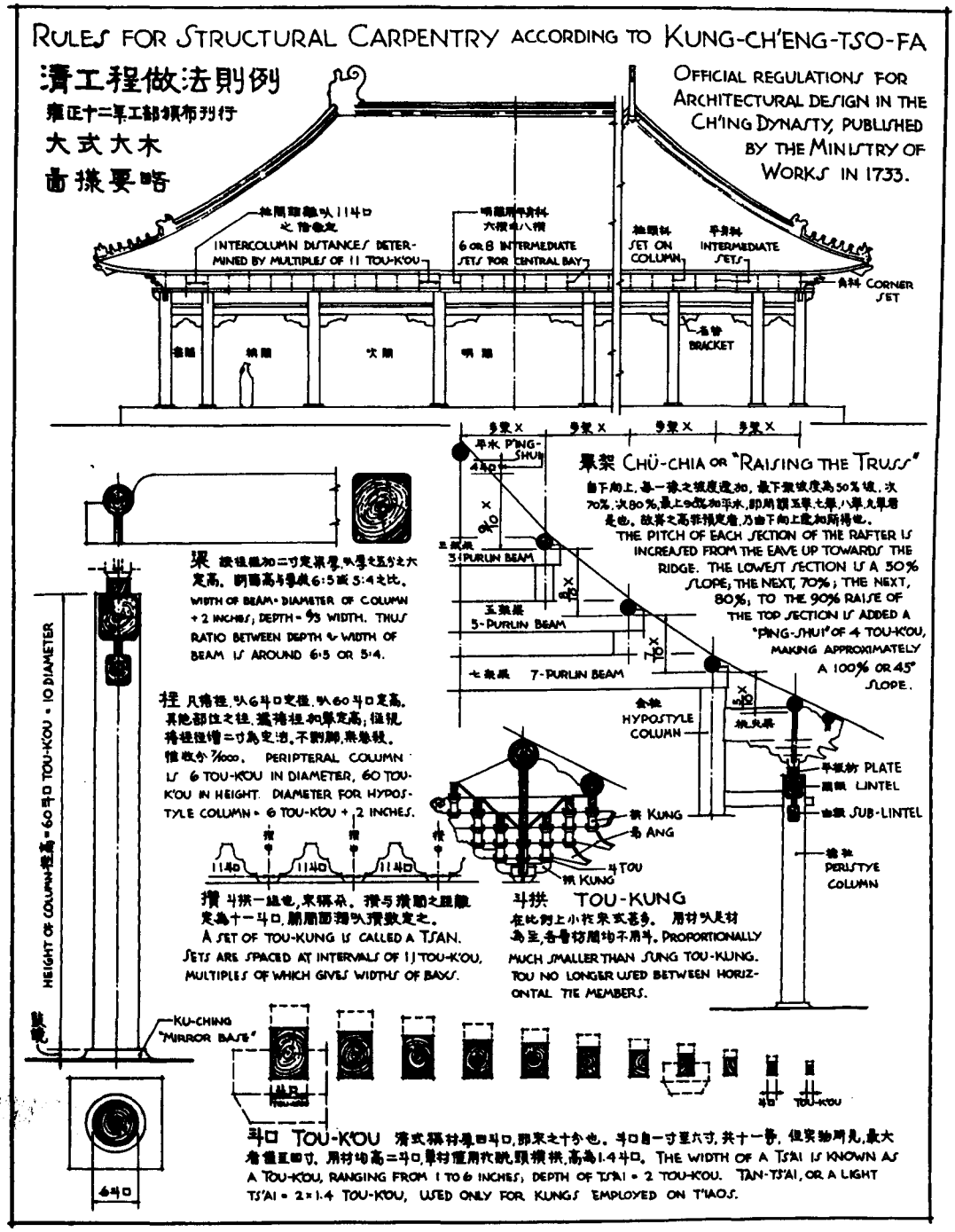

Figure 3.18: *Rules for structural carpentry according to Kung-ch'eng tso-fa tse-li.*[111]

111 Illustration reproduced from LIANG, SSU-CH'ENG, *op. cit.*, page 19.

Although there were no instructions for details, such as the shaping of the *kung* and *ang* in this book, this drawback however is fortunately overcome by the existence of numerous examples of Ch'ing dynasty architecture that can be conveniently studied.

It is interesting to note that many of traditional Chinese buildings in Malaya (mostly public and religious structures) were built according to the principles outlined in the second manuscript.

3.4 DESIGN PRINCIPLES

3.4.1 CHINESE CONCEPTS OF SPACE - 'FENG SHUI'

Almost all Chinese people believe in the forces of nature and have adopted the *Feng Shui*[112] principles in the design of their buildings. Feng Shui is a special branch of Chinese art and is not part of any religious teaching and was almost universally considered and applied in all localities with different building types.[113] This concept is much related to building and architectural features for it is believed that the prescribed siting, dimensioning and orientation of a town or dwelling will give good fortune.[114]

The Chinese believed in the existence of five forces of nature. They are the earth, wood, water, fire and metal. These elements have their own symbolic meanings and are used to correspond to the *Eight Trigrams*[115] or Geomancy (the eight points of the compass). In her study of Chinese

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[112] *Feng Shui* (literally meaning fire and water) is the pseudo-physical science that combines Chinese philosophical, religious, astrological, cosmological, mathematical and geographical concepts to adapt the residence of the living and the dead so as to harmonize with the cosmic order.

[113] See LIU, LAURENCE G., *op. cit.*, page 29.

[114] HERITAGE OF MALAYSIAN TRUST, *op. cit.*, page 31.

[115] *Eight Trigrams* is used interchangeably with Feng Shui. It means the art of divining the future for good or ill fortune. Eight Trigrams are occult mysterious signs consisting of various combinations of straight and broken lines arranged around a circle which represents the earth's surface. Figuratively, these eight groupings of three parallel lines each denote the evolution of nature and its circle changes. Usually, the round Taoist symbol of creation is in the centre of the eight groupings. See LIP, EVELYN, *Chinese Geomancy,* Singapore; Times Books International, 1979.

Geomancy, Evelyn Lip discusses how the Five Elements are related to the Eight Trigrams and how they are associated with animals and the seasons. In this context, Feng Shui may be regarded as associated with symbolism in the decorative and structural elements of Chinese buildings and may also express the significance of Chinese culture.

The orientation of Chinese buildings are very much influenced by the Feng Shui concept. According to Laurence G. Liu, the Feng Shui concept of orientation does not only apply to Chinese buildings, but even to tombs and cities.[116] The climatic conditions of China require buildings to face south to take advantage of the south-easterly winds and sunshine. As the Chinese people have been accustomed to the cosmic aspect of nature since the dawn of history, it is best to choose a building site that faces south. This is considered to be the best orientation both practically and spiritually.

In Feng Shui, it was believed that a site should be surrounded on three sides by higher land to provide protection from inclement weather or from an enemy. The lie of the land should be gently sloping and, if possible, there should be a river or valley nearby to allow surface water to drain easily. The concept of Feng Shui, the art of adapting a building so as to harmonize with the local environment and its climatic conditions, was based on the

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116 LIU, LAURENCE G., *op. cit.*, page 29.

idea that people should live and work in harmonious surroundings, a principle of almost universal appeal.[117]

Colours are used in Chinese buildings in Malaya as they have been used in China. Every colour has its own philosophical meaning and is related to the Feng Shui principles. By knowing their meanings one can understand the significance of each colour and their principal uses in Chinese buildings. The philosophical meanings of colours are as follows:-

i. Yellow is a symbol of the earth and is regarded as the property of the Emperor. It signifies grandeur, power, state and is restricted to the use on Imperial roofs. In Malaya, this colour is used for garments of Taoist priests, for burying the dead and for geomantic blessings.

ii. Red symbolizes virtue, truth and sincerity, and is associated with prosperity and good fortune. It is also associated with the south, an auspicious direction and is related to the fire of the Five Element. Red is widely used in the painting of house walls, interior decorations and generally on pillars. As in China, red has been the most popular colour used in buildings. It is used to paint doors and to ward

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117 LIU, LAURENCE G., page 29.

off all evil influences. The colour is also regarded as an emblem of joy and festivity.

iii. Green is associated with water and it is a common colour for beams, brackets and wall openings. It is also considered to be related to wood whose foliage evokes the energy of potent growth, youthfulness, prosperity and harmony with other colours.

iv. White generally represents sorrow, mourning and death. It is the colour of autumn and indicates the western point of the compass.

v. Black is the colour of the north and metal. Metaphysically it is the colour of calamity, guilt and evil influence.[118]

The following chart shows how the Eight Trigrams are related to the Five Elements and how they are associated with the animals and the season (Fig. 3.19).

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[118] See KOHL, DAVID G., *op. cit.*, pp. 42-43 and HERITAGE OF MALAYSIAN TRUST, *op. cit.*, page 33.

TRIGRAM	ELEMENT	ASSOCIATED ANIMAL	EMBLEM	ASSOCIATED SEASON	ASSOCIATED TIME OF DAY	INTERPRETATION
Qian	Metal	dragon, horse	heaven	late autumn	early night	strength, roundness and vitality
Kuen	Earth	mare, ox	earth	late summer early autumn	afternoon	nourishment or squareness
Zhen'g	Wood	galloping horse or flying dragon	thunder	spring	morning	movement, roads or bamboo sprouts
Ka'n	Water	pig	moon and water	mid-winter	midnight	curved things, wheels, mental abnormality, danger
Gen	Wood	dog, rat and birds	mountain	early spring	early morning	gates, fruits seeds
Shui	Wood	hen	wind	late spring, early summer	morning	growth, vegetative force
Li	Fire	toad, crab, snail, tortoise	lightning	summer	midday	weapons, drought and brightness
Dui (Yi)	Water and Metal	sheep	sea-water	mid-autumn	evening	reflections and mirror images

Figure 3.19: *The relationship between the Eight Trigrams, the Five Elements, animals and the four seasons.*

3.4.2 MAIN CHARACTERISTICS OF BUILDING

Traditional Chinese buildings in Malaya have some distinguishing features which can be seen as typically Malaysian. Although many of the main building characteristics have been largely derived from southern Chinese architectural traditions, some features have developed locally and have been structurally adjusted to accommodate the new environment and climatic conditions. The main characteristics of Chinese buildings in Malaya can be listed as follow:-

i. The five-foot walkway.
ii. Airwells.
iii. High ceilings.
iv. Deep overhangs and overlapping roofs.
v. Full height windows.
vi. Timber bracket system.

i. The Five-Foot Walkway

The most important design feature of Malaysian Chinese terraced houses and shophouses is the *Jalan Kaki Lima* or "five-foot way". The five foot way not only gives protection to the pedestrian from the intense tropical sun and the occasional rainfall, but acts as a transitional space between the private space (the area in the terrace and shophouses) and the public space (the main footpath and the road). Pedestrians freely walk in this area, taking shelter from the weather. It also acts as a social and activity area for the shop. The activities of the shop may

sometimes sprawl out to encroach this space and sometimes beyond it to the pavement.[119]

ii. Airwells

The air well is the most versatile feature in Chinese houses. It immediately conjures a picture of light, natural draught and a feeling of openness, especially in the interplay of light and shade from the sun and moon throughout the day and night. This effect is further enhanced by a few potted plants. Because the air well is a vertical opening, it appears to be independent of obstructions that may prevent natural draughts entering from above into the house.[120]

iii. High Ceilings

In old Chinese terraced houses and shophouses, the ceiling of the lower floors is comparatively higher than the average floor to ceiling heights of modern houses. The height measures twelve feet or more, whereas the standard floor to ceiling height is not more than ten feet. This high ceiling is an effective way of improving natural ventilation to the interior.

iv. Overlapping Roofs

Two tier roof structures are quite common in some of the older shophouses. A smaller roof known as the *Jack roof*

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[119] See IDID, SYED ZAINOL ABIDIN, *op. cit.*, section 4.1.3, pp. 55-57.

[120] TANG CHOW ANG and YEO KHEE HUA, "Old Row Houses of Peninsular Malaysia", *Majallah Akitek,* No. 2, 1976, pp. 23-24.

(Fig. 3.20 and 3.21), overlaps the main roof to give an opening between them for better ventilation. These openings are often alternated with a fixed panel.

Figure 3.20: *Jack roof and double-tiered roof designed to encourage natural ventilation.*

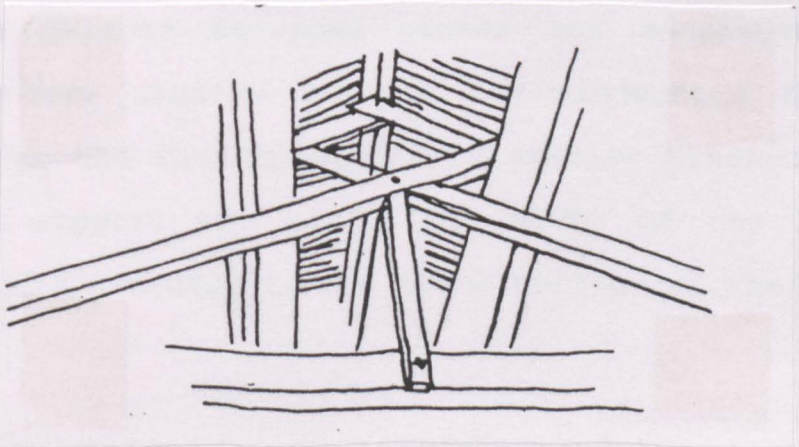

Figure 3.21: *Interior framing method of Jack roof.*[121]

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[121] Illustration reproduced from KOHL, DAVID G., *op. cit.*, page 152.

v. Full Height Windows

The use of full height windows is another typical feature of Chinese buildings in Malaya. These large windows are widely used on the front facades of row houses and display a variety of designs ranging from Palladian motifs to classical elements.

vi. Timber Bracket System

There are not many examples of Chinese buildings left in Malaya that demonstrate the actual use of the timber bracket system. Many of the more recent Chinese buildings only incorporate this construction technique merely as a decorative symbol. This timber support system was most popular in China and only a few early Chinese buildings in Malaya show the original use of timber brackets in providing protection to the walls below.

In some Malayan terraced houses and shophouses, timber brackets are used to support the projecting first floor structures and in some others, a smaller bracket system is used to support the projecting eaves of the lower roof which forms a canopy to the front portion of the building.

3.4.3 ADAPTATION TO CLIMATE

The adoptation of typical full height windows in Chinese shophouses is evidence of the priority given to internal ventilation and lighting. They may not have the same purpose as in the Malay houses, i.e. to allow a fuller sense of connection to the outside environment. Still they contribute to the efficiency of the dwelling by incorporating local characteristics and adapting to local climatic conditions.

The design of air wells enables the confined interiors of terraced houses and shophouses to have a better penetration of light and internal ventilation. In addition to this, the ceilings of these houses are always high (about twelve feet or more) which increases air circulation within the unit.

There is also an extensive use of ventilation and shading devices in traditional Chinese buildings of Malaya. The devices used include louvres on windows shutters, ceiling and wall vents, grills and jack roofs.

Latticework on the upper portion of room partitions, commonly found in traditional Malacca houses, encourages natural ventilation in the rooms. A ceiling vent is sometimes provided to accelerate heat transfer, thus permitting the desired room temperature to be reached quickly and maintained thereafter.

3.4.4 ORNAMENTATION AND DECORATIVE ELEMENTS

Ornamentation and decorative elements in Malayan Chinese buildings are mostly found in the design of their roofs. Generally, the decorative elements are more numerous on the roofs of temples and clan houses than on terraced houses and shophouses. The majority of temple and clan house roof tops in Malaya are decorated in the Fukien or Minnan style, utilizing the *Chien Nien* (cut and paste) technique. The roof ornamentations are in the form of miniature sculptural figures which are designed to attract good fortune to the temple and its community.

The roof top images may be prefabricated before placement or modelled *in situ* on the roofs. In both systems, wires are normally used to create the basic model of the sculptures, cement or mortar are used for the infills and their bases and bits of coloured pottery (porcelain chips) and cut glass are adhered onto the sculptures to finish off the sculptures. All sculptural figures are arranged in proportion and sometimes grouped together to represent subjects from mythology and history. Free-standing sculptures are normally slightly inclined towards the front, so that the viewer at ground level sees the figures in proper perspective (Fig. 3.22). The sculptural making process is normally done by employed and trained Chinese artisans whose background is from Fukien or Kwangtung.[122]

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122 KOHL, DAVID G., page 99.

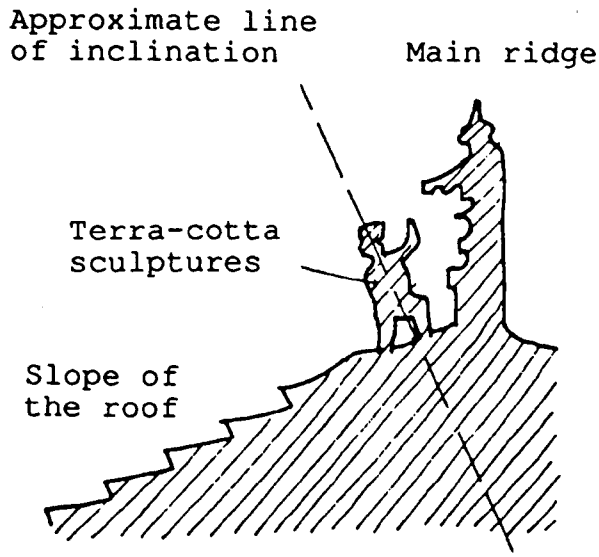

Figure 3.22: *The leaning position of a sculptural figure on a traditional Chinese roof.*

Most sculptural figures found on the facades and roofs of Malayan Chinese buildings are exemplified in the form of animals, people (representing gods) and plants. All of them have symbolic meanings which are used to ward off evil forces from entering the building, or denote special qualities of the owner.[123] Typical figures found in Malayan Chinese buildings are *Chi-lin*, dragon, dragon-horse, Three Star Gods, phoenix, tortoise, carp, rat, snake, bat and peacock. These figures are used widely in the embellishment of ridges, eaves, gables, walls and columns of traditional Chinese buildings. Each figure has its individual meaning which enhances the good and well-being of the building's occupant. The philosophical meanings of the mystical figures are as follows:-

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[123] HERITAGE OF MALAYSIAN TRUST, *op. cit.*, page 31.

i. "CHI-LIN"

Chi-lin is a horse-like or deer-like quadruped in Chinese mythology. They have a spiny dorsal fin, a fluffy tail, fish scales for skin and a single horn. The figure of *Chi-lin* is commonly found on the central ridge of the main roof. It is located along the ridge or at the ridge end and is decorated with mosaic.[124]

ii. DRAGON

A dragon symbolizes life and is the most honoured animal in China. It is the chief of 369 reptiles and mythologically is a composite of many animals - serpentine body, teeth of a carnivore, legs and claws of a bird and a composite head. It is often said to have nine resemblances - head of a camel, horns of a deer, eyes of a rabbit, ears of a cow, neck of a snake, belly of a frog, scales of a carp, claws of a hawk and palms of a tiger.[125] Associated with the "metal" element and affiliated with the north-east. It is the emblem of vigilance, the minister of the will of the gods and the guardian of treasures. Ascribed with the power of transformation and invisibility, it is also the symbol of Imperial power.[126]

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[124] See KOHL, DAVID G., *op. cit.*, page 96 and page 193, also see HERITAGE OF MALAYSIAN TRUST, *op. cit.*, page 32.

[125] WILLIAMS, C. A. S., *Outlines of Chinese Symbolism and Arts Motifs*, 3rd. ed., New York; Dover, 1976, page 133 quoted by KOHL, DAVID G., *op. cit.*, page 97.

[126] See KOHL, DAVID G., *op. cit.*, pp. 195-196.

iii. DRAGON-HORSE

Half-dragon and half horse, this creature carries the symbol of the Eight Trigrams on its back. It is often thought of as a unicorn and the omen of a wise ruler on the throne.[127] This figure is used mainly as ridge ornamentation and on facades of Malaysian temples and kongsi houses.

iv. THREE STAR GODS

The Three Star Gods represent an auspicious wish for wealth, posterity and longevity. *Shou Lao,* God of Longevity, is seen as an old man with a staff in his right hand and a peach, symbol of long life, in his left. *Tsai Shen,* the God of Wealth and Affluence, holds a sceptre sword, which is a symbol of all that you wish. The third God is the God of Happiness and Prosterity, and is depicted holding a child.[128]

v. PHOENIX

Phoenix is the king of all birds. Adorned with everything that is beautiful among others of the spicies. A conglomerate creature, it resembles a swan, unicorn, bird, snake and fish. Fairies feed on its eggs and since it does not prey on living creatures, it is popular with Buddhists.[129] As an emblem of beauty, it only appears at

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[127] KOHL, DAVID G., page 97 and page 196.

[128] KOHL, DAVID G., pp. 95-96.

[129] KOHL, DAVID G., page 97 and page 206.

times of peace and prosperity. It presides over the southern quadrant of the heavens and is associated with the sun, warmth and harvest. This devine bird is often depicted facing the sun.

vi. TORTOISE

This animal is an emblem of longevity, strength and endurance. It also symbolizes winter. Tortoises may be found kept in Buddhist temples for meritorious feeding by devotees.

vii. CARP

Carps are symbol of success, for through great endeavour, they struggle against river currents to swim upstream. The carp as an ignorant fish, symbolically represents humans, who may be changed into beings of intellect and power symbolized by the dragon. Legends says that if the carp successfully leaps the rapids of the Yellow River, they become dragons. Therefore, they may be depicted either in a fish form or as fish with dragon heads. Carp are often found on the centre ridges of side halls, and are often included in friezes.

viii. RAT

The rat is associated with the "wood" element and affiliated with the east. A symbol to the Chinese of timidity and meanless. It is also a symbol of industry and prosperity, on account of its ability to locate and hoard abundant supplies of food.

ix. SNAKE

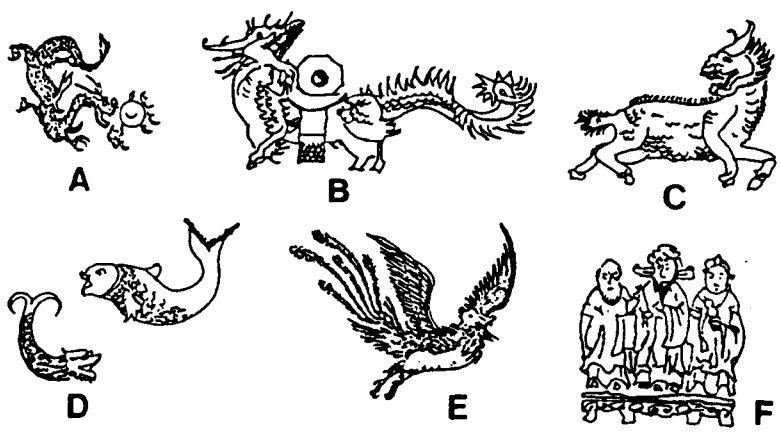
The snake is associated with the "metal" element and affiliated with the north-east. It is an emblem of cunning, evil and flattery.

x. BAT

The bat is a symbol of good luck and signifies loyalty and longevity. It is found mainly on the facades of terraced houses in Malacca and Penang.[130]

xi. PEACOCK

The peacock is not a native bird of China. It was introduced in Malaya by the Malayan Chinese and is an emblem of beauty and dignity.



(a) Dragon with pearl, (b) dragon horse, (c) *Chi-lin*, (d) carp, (e) pheonix, (f) the Three Star Gods.

Figure 3.23: *Symbolic figures commonly used for roof ridge ornaments in traditional Chinese buildings.*[131]

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130 HERITAGE OF MALAYSIAN TRUST, *op. cit.*, page 31 and page 88.

131 Illustration reproduced from KOHL, DAVID G., *op. cit.*, page 96.